

|                      |          |                 |                        |             |                           |
|----------------------|----------|-----------------|------------------------|-------------|---------------------------|
| 4/27/2014<br>DATE IN | SUSPENSE | PRG<br>ENGINEER | 4/28/2014<br>LOGGED IN | WFX<br>TYPE | PMAM1409855832<br>APP NO. |
|----------------------|----------|-----------------|------------------------|-------------|---------------------------|

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
- [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
- [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.

Martin Staelens  
 Print or Type Name

Signature

Production Engineer  
 Title

4-2-14  
 Date

mstaelens@legacylp.com  
 e-mail Address



April 3, 2014

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

Re: Application for Authorization to Inject  
Cooper Jal Unit #414  
Jal Mat, Langlie Mattix Fields  
Lea County, New Mexico

Ladies and Gentlemen:

Attached is the referenced application to convert the Cooper Jal Unit #414 to water injection into the Yates, 7-Rivers and Queen formations from 3028' – 3682'. Attached are the following:

- 1) The "Application for Authorization to Inject" Form C-108. (2 pp)
- 2) The "Injection Well Data Sheet". (2 pp)
- 3) Two maps with the first showing the wells and leases within two miles of the proposed injection well and a half mile radius around the proposed well. The second map clearly shows all wells within a half mile radius of the proposed well which defines the well's area of review. (2 pp)
- 4) A table of all wells within the half mile radius around the proposed injection well. Note there are no wells which have been plugged and abandoned within this half mile radius. (1 p)
- 5) An affidavit of publication signed by the publisher that notice of the application was published in a newspaper of general circulation in Lea County, New Mexico. A copy of the newspaper notice is also included. (1 p)
- 6) Current and proposed wellbore diagrams of the Cooper Jal Unit #414. (2 pp)
- 7) Geological data on the Cooper Jal Unit #414, including a log section. (4 pp)
- 8) Engineering data on the Cooper Jal Unit #414. (1 p)

If there are any questions regarding this application or if any additional information is needed, please contact me at (281) 465-8387 or by email at [mstaelens@legacylp.com](mailto:mstaelens@legacylp.com). Thank You.

Sincerely,

Martin Staelens  
Production Engineer

Attachments as listed above

**APPLICATION FOR AUTHORIZATION TO INJECT**

- I. PURPOSE:   X   Secondary Recovery            Pressure Maintenance            Disposal            Storage  
Application qualifies for administrative approval?   X   Yes            No
- II. OPERATOR: Legacy Reserves Operating LP  
ADDRESS: P.O. Box 10848, Midland, Texas 79702  
CONTACT PARTY: Martin Staelens PHONE: 281.465.8387 ext. 224
- 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?   X   Yes            No  
If yes, give the Division order number authorizing the project: R-4019, R-4020
- V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.
- VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.
- VII. Attach data on the proposed operation, including:
1. Proposed average and maximum daily rate and volume of fluids to be injected;
  2. Whether the system is open or closed;
  3. Proposed average and maximum injection pressure;
  4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,
  5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).
- \*VIII. Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval.
- IX. Describe the proposed stimulation program, if any.
- \*X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted).
- \*XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.
- XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.
- XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.
- XIV. Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.
- NAME: Martin Staelens TITLE: Production Engineer  
SIGNATURE:  DATE: 4-3-14  
E-MAIL ADDRESS: mstaelens@legacyp.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.

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NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

Side 1

## INJECTION WELL DATA SHEET

OPERATOR: Legacy Reserves Operating LP

WELL NAME & NUMBER: Cooper Jal Unit # 414

WELL LOCATION: 330' FSL & 2550' FEL  
FOOTAGE LOCATION

UNIT LETTER

24  
SECTION

T-24S  
TOWNSHIP

36E  
RANGE

### WELLBORE SCHEMATIC

### WELL CONSTRUCTION DATA

#### Surface Casing

Hole Size: 12-1/4"

Casing Size: 8-5/8", 24#

Cemented with: 250 sx.

*or* 335 ft<sup>3</sup>

Top of Cement: Surface

Method Determined: Circ

#### Intermediate Casing

Hole Size: \_\_\_\_\_

Casing Size: \_\_\_\_\_

Cemented with: \_\_\_\_\_ sx.

*or* \_\_\_\_\_ ft<sup>3</sup>

Top of Cement: \_\_\_\_\_

Method Determined: \_\_\_\_\_

#### Production Casing

Hole Size: 7-7/8"

Casing Size: 5-1/2", 15.5#

Cemented with: 890 sx.

*or* 1461 ft<sup>3</sup>

Top of Cement: Surf

Method Determined: circ

Total Depth: 3750'

#### Injection Interval

3028' To 3082'

Perforated

*OK 3750' Perforation*

**INJECTION WELL DATA SHEET**

Tubing Size: 2 3/8" 4.7#, J-55 tbg

Lining Material: Internal Plastic Coating

Type of Packer: Arrowset 1X

Packer Setting Depth: 2960'

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

Additional Data

1. Is this a new well drilled for injection? \_\_\_\_\_ Yes X No

If no, for what purpose was the well originally drilled? \_\_\_\_\_

Oil Production

2. Name of the Injection Formation: Yates, 7-Rivers and Queen

3. Name of Field or Pool (if applicable): Jal Mat, Langlie Mattix

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. \_\_\_\_\_

NO

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

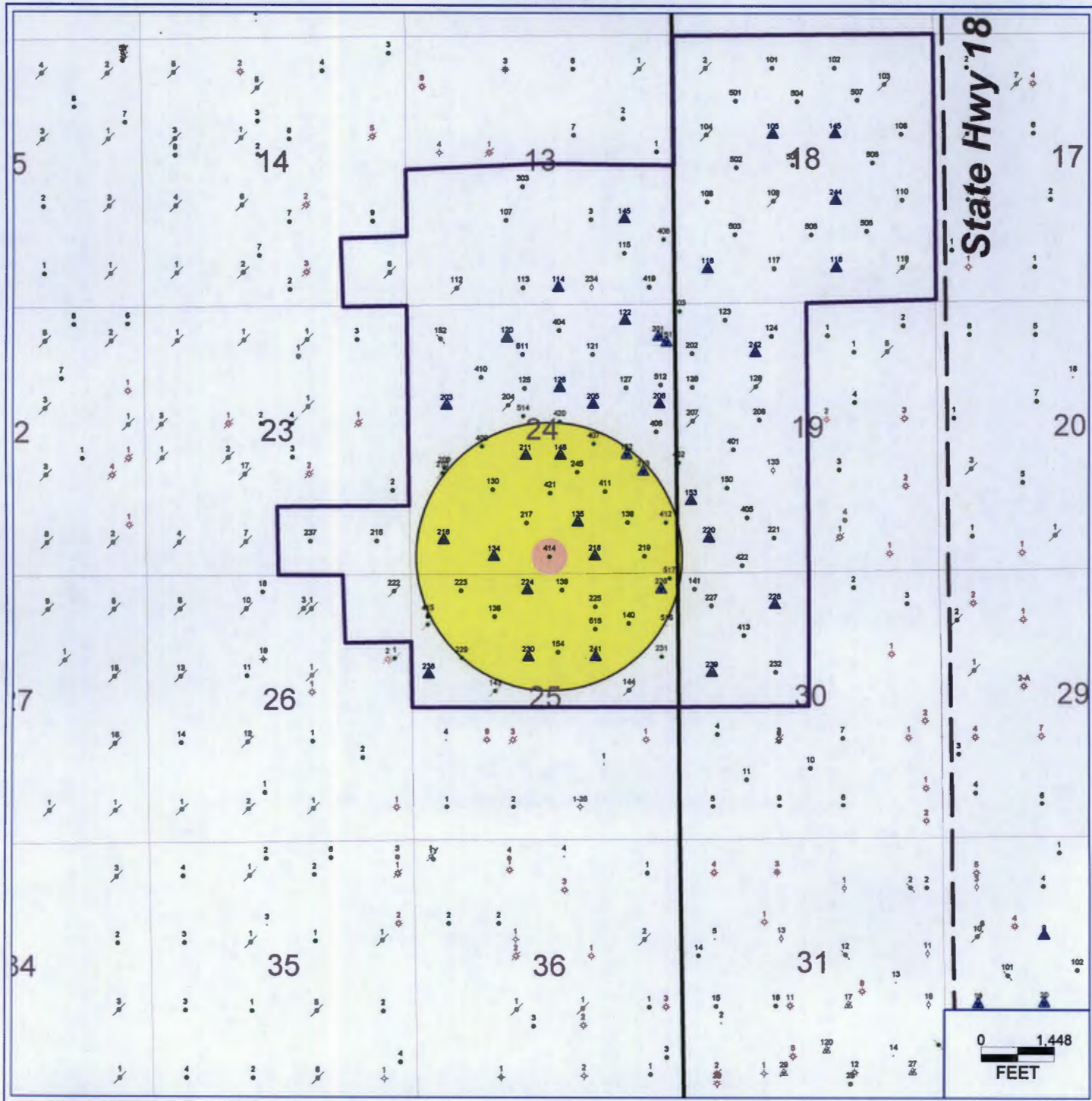
Tansill (above Yates) @  $\approx$  2900'. No known Tansill production in Cooper Jal Unit.

\_\_\_\_\_  
\_\_\_\_\_

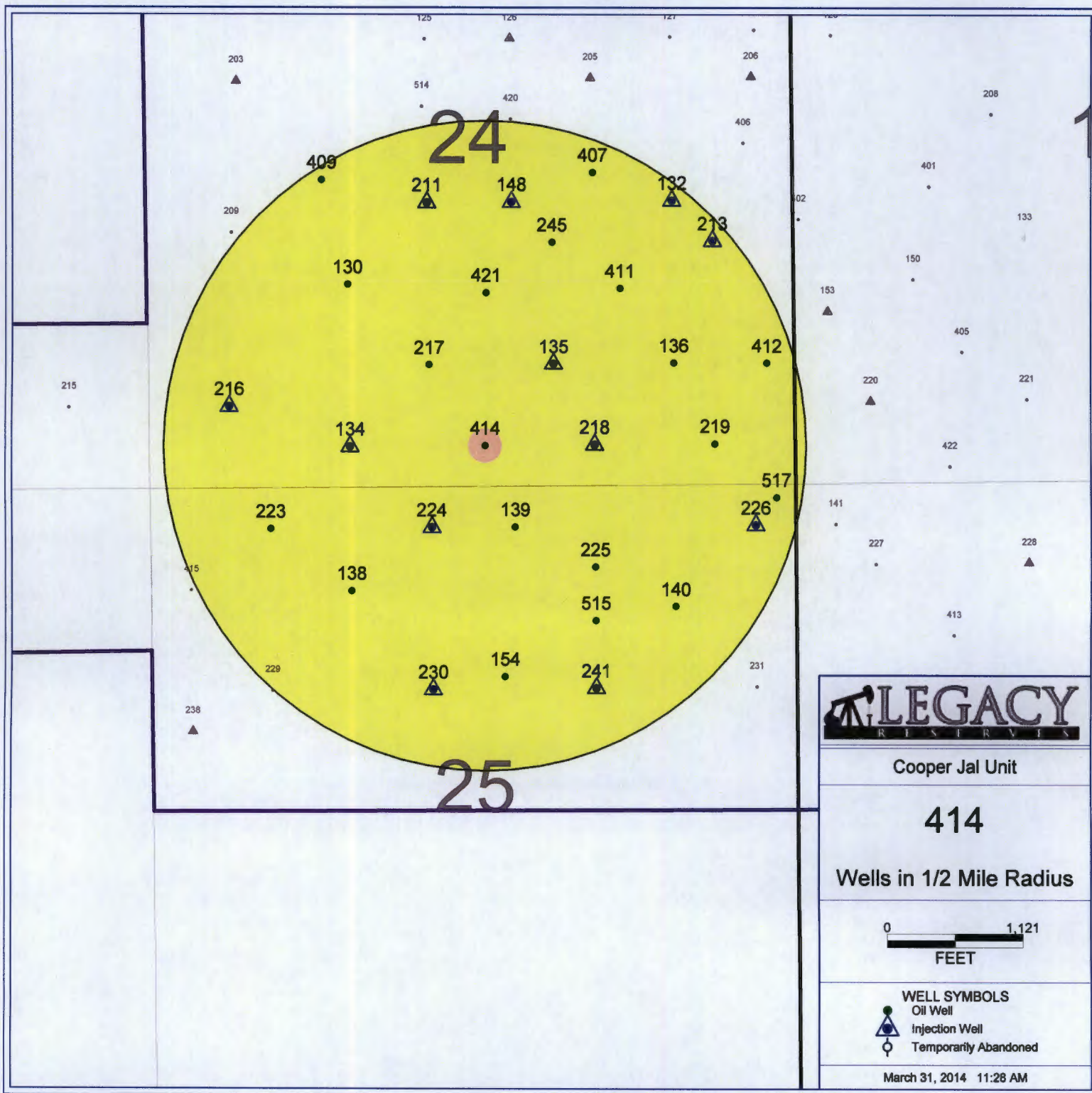


# Cooper Jal Unit

## #414









|           |                       |
|-----------|-----------------------|
|           | <b>Location:</b>      |
| Footage:  | 330 FSL & 2550 FEL    |
| Section:  | Sec. 24, T-24S, R-36E |
| Block:    |                       |
| Survey:   |                       |
| County:   | Lea, New Mexico       |
| Lat:      |                       |
| Long:     |                       |
|           | <b>Elevations:</b>    |
| GL:       | 3,312'                |
| KB:       | 3,324'                |
| KB Calc:  | 12'                   |
| ck w/log? | Yes                   |

### Wellbore Diagram

|                   |              |
|-------------------|--------------|
| Well ID Info:     | CJU #414     |
| API No:           | 30-025-32571 |
| Init. Comp. Date: | 10/1/1994    |

|              |                                                              |
|--------------|--------------------------------------------------------------|
| Hole Size:   | 12-1/4"                                                      |
| Surface Csg: | 8-5/8", 24#, CF-50 ST&C                                      |
| Set @        | 430'                                                         |
| Cement w/    | 250 sx Class C w/2% CaCl <sub>2</sub> (14.8 ppg, 1.34 cf/sx) |
| Circ:        | Yes                                                          |
| TOC:         | Surface                                                      |

[illegible]

|        | Tubing Detail (top to bottom)         |         |       |
|--------|---------------------------------------|---------|-------|
| Joints | Description                           | Footage | Depth |
| 110    | 2-7/8" 6.5#, J-55, 8rd EUE tbg        | 3,445   | 3,445 |
| 1      | 2-7/8" Lift Sub                       | 4       | 3,449 |
| 1      | 3-1/2" Stator                         | 35      | 3,484 |
| 1      | 2-7/8" SN                             | 1       | 3,485 |
| 1      | 2-7/8" 6.5#, J-55, 8rd EUE tbg        | 31      | 3,516 |
| 1      | 2-7/8" x 5-1/2" TAC w/10,000# Tension | 3       | 3,519 |
|        |                                       |         |       |
|        |                                       |         |       |

| Rod Detail (top to bottom) |                           |         |       |
|----------------------------|---------------------------|---------|-------|
| Rods                       | Description               | Footage | Depth |
| 1                          | 16' x 1-1/4" polish rod   | 16      | 16    |
| 1                          | 1" steel KD rod           | 25      | 41    |
| 2                          | 4' & 6' x 1" KD Pony Rods | 10      | 51    |
| 136                        | 1" steel KD rod           | 3,400   | 3,451 |
| 137                        | 1" Rotor                  | 28      | 3,479 |
|                            |                           |         |       |

**QUESTION**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**ANSWER**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

|                   |                                                                                                    |
|-------------------|----------------------------------------------------------------------------------------------------|
| <b>Hole Size:</b> | <u>7-7/8"</u>                                                                                      |
| <b>Prod. Csg:</b> | <u>5-1/2", 15.5#, CF-50 LT&amp;C</u>                                                               |
| <b>Set at:</b>    | <u>3750'</u>                                                                                       |
| <b>Cement:</b>    | <u>540 sx Class H w/gel (12.8 ppg, 1.94 cf/sx)</u><br><u>350 sx Class H (15.6 ppg, 1.18 cf/sx)</u> |
| <b>Circ:</b>      | <u>Yes</u>                                                                                         |
| <b>TOC:</b>       | <u>Surface</u>                                                                                     |

**Updated:** 02/12/14 MCB



Field: **Cooper Jal Unit**

|           |                       |
|-----------|-----------------------|
|           | <b>Location:</b>      |
| Footage:  | 330 FSL & 2550 FEL    |
| Section:  | Sec. 24, T-24S, R-36E |
| Block:    |                       |
| Survey:   |                       |
| County:   | Lea, New Mexico       |
| Lat:      |                       |
| Long:     |                       |
|           | <b>Elevations:</b>    |
| GL:       | 3,312'                |
| KB:       | 3,324'                |
| KB Calc:  | 12'                   |
| ck w/log? | Yes                   |

[illegible]

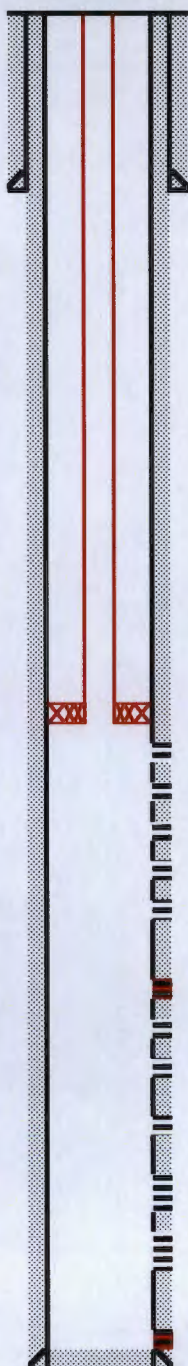
| Tubing Detail (top to bottom) |                           |         |       |
|-------------------------------|---------------------------|---------|-------|
| Joints                        | Description               | Footage | Depth |
| 1                             | 2-3/8", 4.7# J-55 IPC tbq | 2,959   | 2,959 |
|                               | 2-3/8" x 5-1/2" Pkr       | 1       | 2,960 |
|                               |                           |         |       |
|                               |                           |         |       |
|                               |                           |         |       |
|                               |                           |         |       |
|                               |                           |         |       |

| Rod Detail (top to bottom) |             |         |       |
|----------------------------|-------------|---------|-------|
| Rods                       | Description | Footage | Depth |
|                            |             |         |       |
|                            |             |         |       |
|                            |             |         |       |

**Updated:** 03/31/14 MLS

**CJU #414**  
**PROPOSED**

### Wellbore Diagram



|      |       |
|------|-------|
| PBTD | 3717' |
| TD   | 3750' |

|                   |                                                              |
|-------------------|--------------------------------------------------------------|
| Reservoir:        | Cooper Jal                                                   |
| Well ID Info:     | CJU #414                                                     |
| API No:           | 30-025-32571                                                 |
| Init. Comp. Date: | 10/1/1994                                                    |
| Hole Size:        | 12-1/4"                                                      |
| Surface Csg:      | 8-5/8", 24#, CF-50 ST&C                                      |
| Set @             | 430'                                                         |
| Cement w/         | 250 sx Class C w/2% CaCl <sub>2</sub> (14.8 ppg, 1.34 cf/sx) |
| Circ:             | Yes                                                          |
| TOC:              | Surface                                                      |

Tansill @ 2927

Inj. Packer 2960'  
Yates @ 3020'  
3028'-3036'

3042'-3050'

3059'-3084'

3100'-3113'

3146'-3174'

7-R @ 324  
3294'-3304'

3357-3362'

3479'-3487'

3507'-3513'

3527-3539

Queen @ 3608'  
3610'-3617'

3672-3682

|                    |                                                                                      |
|--------------------|--------------------------------------------------------------------------------------|
| <b>Hole Size:</b>  | 7-7/8"                                                                               |
| <b>Prod. Csg.:</b> | 5-1/2", 15.5#, CF-50 LT&C                                                            |
| <b>Set at:</b>     | 3750'                                                                                |
| <b>Cement:</b>     | 540 sx Class H w/gel (12.8 ppg, 1.94 cf/sx)<br>350 sx Class H (15.6 ppg, 1.18 cf/sx) |
| <b>Circ.:</b>      | Yes                                                                                  |
| <b>TOC:</b>        | Surface                                                                              |

## Geological Description

Yates, Seven Rivers and Queen Formations, Artesia Group

Cooper Jal Unit #414

### Geologic parameters

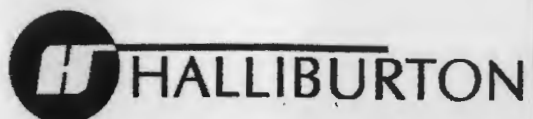
- Average Depth:** Top of Yates formation averages approximately 3000' subsurface.
- Average Thickness:** Gross thickness from top Yates to base Queen is approximately 700-800'. Net porous intervals vary from 30 to 100' in several horizons.
- Reservoir and trap:** Reservoir units in the Yates, Seven Rivers and Queen formations are arkosic sandstones with variable amounts of dolomite and anhydrite cements. Trapping is a combination of structure over low amplitude anticlines and stratigraphic pinchouts of porous units. Porosity varies laterally and vertically due to occlusion by anhydritic and calcareous cements.
- Reservoir Quality:** Porosity: 4%-18%; Permeability: 0.5mD to 100mD.

### Advantages for water injection:

- 1) This well is a corner well of a 5-spot, 20 acre pattern which will have a producer in the center. The 20 acre pattern is an ideal size to achieve an efficient recovery for this type of water flood.
- 2) The injection interval is deep below the surface, allowing for generally low surface water injection pressures because of the great hydrostatic fluid column.
- 3) To our knowledge, there is no evidence of any faults to the surface in this area. It can be expected that the impermeable Salado and Castile salt and anhydrite layers between the Rustler and Yates formations will provide a sufficient barrier to any fluid migration to potential underground sources of drinking water.
- 4) The Yates, 7-Rivers, and Queen formations are sufficiently porous and permeable to allow for a high volume of water injection capacity without approaching or exceeding fracture pressures. A 15% HCL acid stimulation using up to 10,000 gallons over the entire perforated and open hole injection intervals is planned prior to initiating water injection.

Planned maximum injection rate: 2,000 BWPD

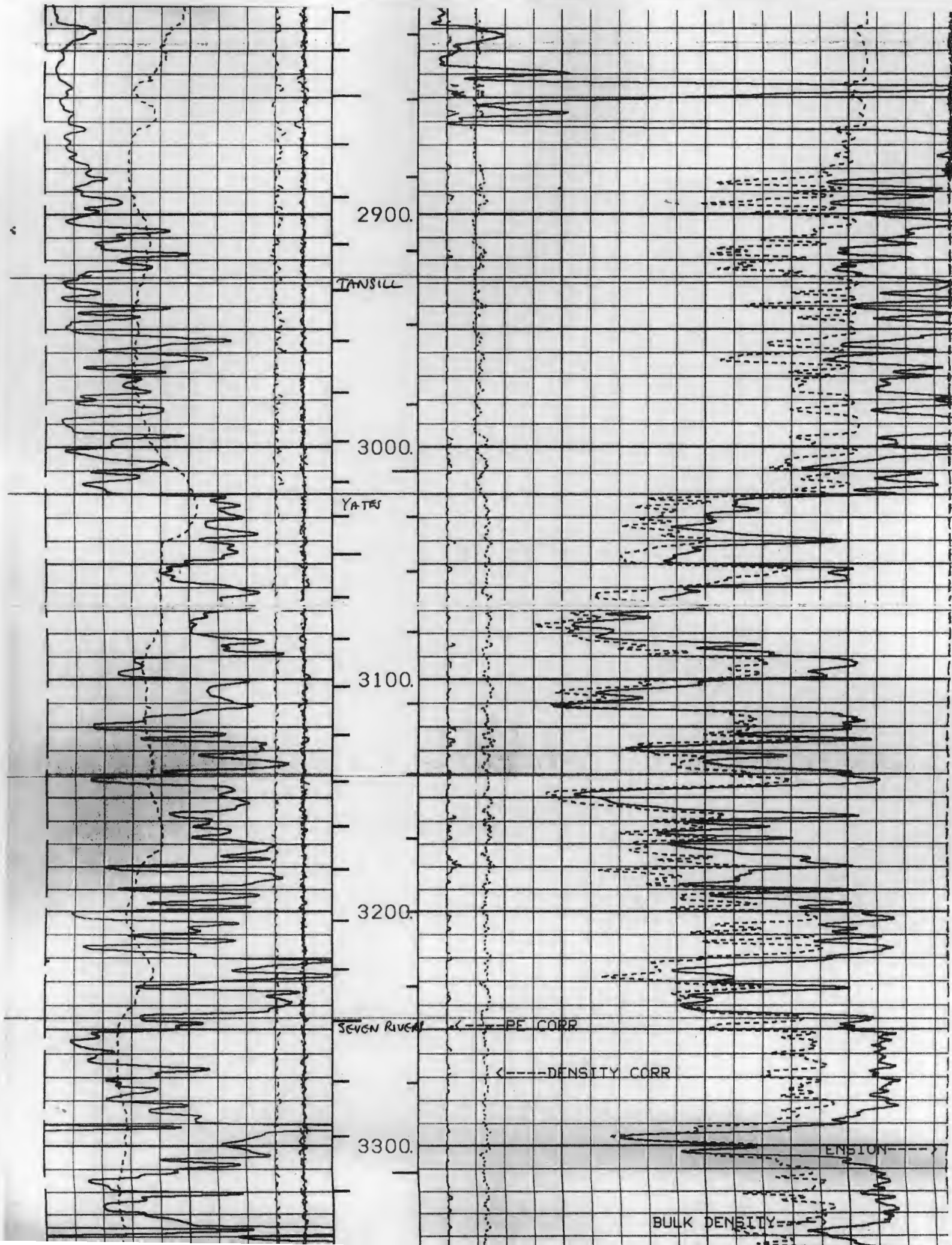
Planned maximum injection pressure: 1,200 psi



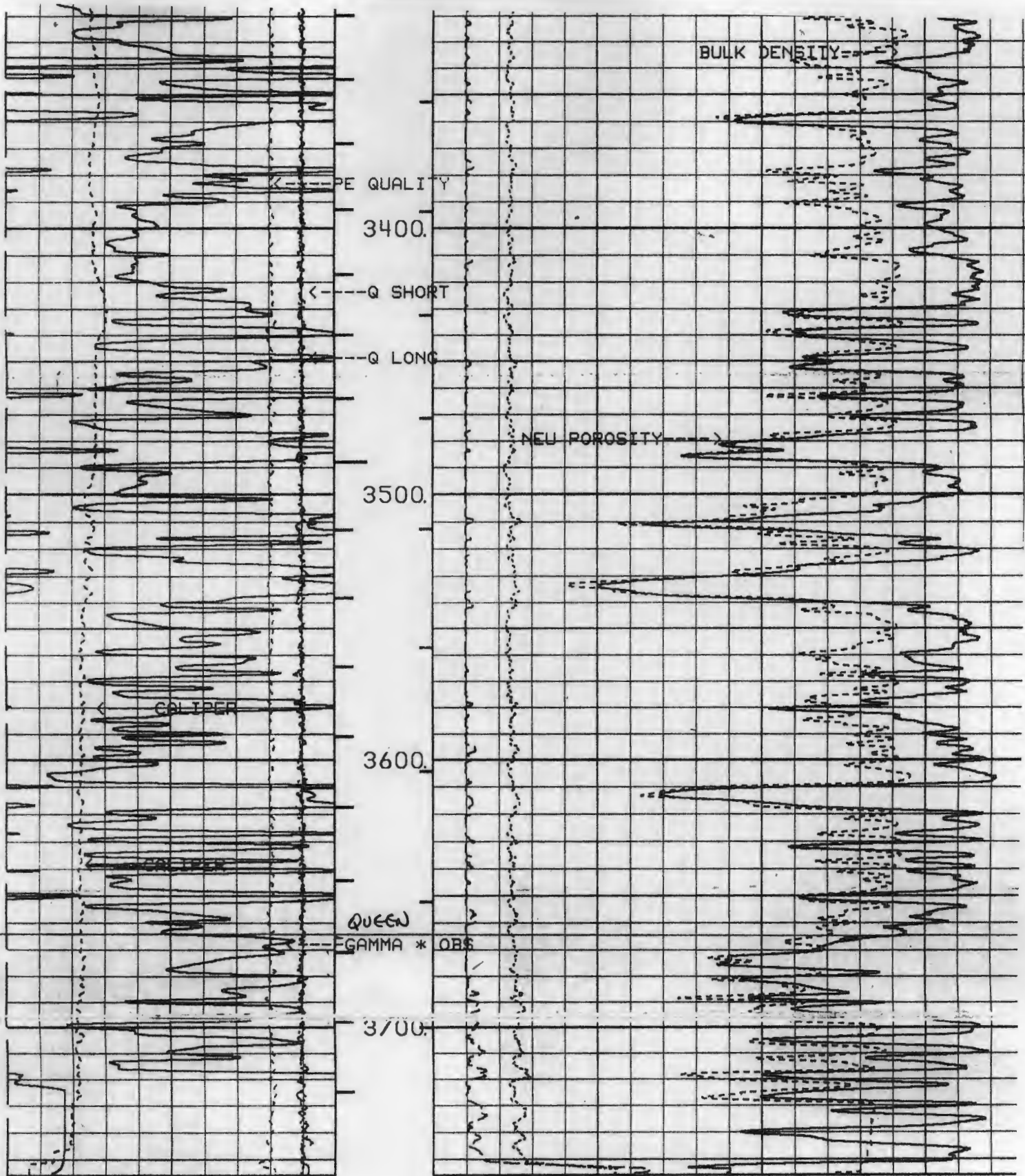
# SPECTRAL DENSITY DUAL SPACED NEUTRON SPECTRAL GAMMA LOG

|                        |                                              |                      |                  |
|------------------------|----------------------------------------------|----------------------|------------------|
| COMPANY                | TEXACO E AND P INC.                          |                      |                  |
| WELL                   | COOPER JAL UNIT NO. 414                      |                      |                  |
| FIELD                  | TANSILL YATES SEVEN RIVERS<br>QUEEN GRAYBURG |                      |                  |
| COUNTY                 | LEA                                          | STATE                | NM               |
| API NO                 | 30-025-32571                                 | OTHER SERVICES       |                  |
| LOCATION               | 330 FSL AND 2550 FEL                         | DL.-MSFL<br>CS.      |                  |
| SECT 24                | TWP 24-S                                     | RGE 36-E             |                  |
| PERMANENT DATUM        | G. L.                                        | ELEV. 3312           | ELEV.: K.B. 3324 |
| LOG MEASURED FROM      | K. B. 12                                     | FT. ABOVE PERM DATUM | D.F. NA          |
| DRILLING MEASURED FROM | K. B.                                        |                      | G.L. 3312        |
| DATE                   | 8/30/94                                      |                      |                  |
| RUN NO.                | ONE                                          |                      |                  |
| DEPTH-DRILLER          | 3750                                         |                      |                  |
| DEPTH-LOGGER           | 3750                                         |                      |                  |
| BTH. LOG INTER         | 3747                                         |                      |                  |
| TOP LOG INTER          | SURFACE                                      |                      |                  |
| CASING DRILLER         | 8.625#430                                    | e                    | e                |
| CASING-LOGGER          | 430                                          |                      |                  |
| BIT SIZE               | 7.875                                        |                      |                  |
| TYPE FLUID IN HOLE     | BRINE                                        |                      |                  |
| DENS. : VISC.          | 10.1 : 31.0                                  | :                    | :                |
| PH : FLUID LOSS        | 9.0 : NA                                     | :                    | :                |
| SOURCE OF SAMPLE       | MUD PIT                                      |                      |                  |
| RM # MEAS. TEMP.       | 0.06 #77                                     | e                    | e                |
| RMF # MEAS. TEMP.      | 0.06 #77                                     | e                    | e                |
| RMC # MEAS. TEMP.      | NA #NA                                       | e                    | e                |
| SOURCE RMF:RMC         | MEAS.:MEAS.                                  | :                    | :                |
| RM #BHT                | 0.04 #111                                    | e                    | e                |
| TIME SINCE CIRC.       | 11 HOURS                                     |                      |                  |
| TIME ON BOTTOM         | 1:14 PM                                      |                      |                  |
| MAX. REC TEMP.         | 111 # TD                                     | e                    | e                |
| EQUIP. : LOCATION      | 52555:HOBBS                                  | :                    | :                |
| RECORDED BY            | BAEZA                                        |                      |                  |
| WITNESSED BY           | WELBORN                                      |                      |                  |









| PE QUALITY |     |
|------------|-----|
| 8          | -2  |
| Q SHORT    |     |
| -4.5       | 0.5 |
| Q LONG     |     |

| PE CORR      |     |
|--------------|-----|
| -0.1         | 0.9 |
| DENSITY CORR |     |
| 0.0          | 1.0 |
| TENSION      |     |
| 0.0          | 1.0 |

**ENGINEERING DATA**  
**COOPER JAL UNIT #414**

Planned maximum injection rate: 2,000 barrels of water per day (BWPD)  
Planned average injection rate: 800 barrels of water per day (BWPD)  
Planned maximum injection pressure: 1200 pounds per square inch (psi)

Injection will be within an entirely closed system.

Produced water compatibility: Water will be injected into, and produced from the Yates, 7-Rivers and Queen formations. Make-up water will come from the lower Queen and Grayburg formations. All of these waters are compatible and are currently commingled at the surface without any compatibility issues.

## Goetze, Phillip, EMNRD

---

**From:** Mindy Cassard <mcassard@legacylp.com>  
**Sent:** Tuesday, July 01, 2014 3:02 PM  
**To:** Goetze, Phillip, EMNRD  
**Cc:** Martin Staelens  
**Subject:** Injection Permit - Cooper Jal Unit #414 API #30025325710000  
**Attachments:** Supplement documents to complete - 414 convert to inj.pdf; Certified Receipts - convert to inj 414.pdf

Mr. Goetze,

Attached is the additional requested information for the Injection Permit for well #414 Cooper Jal Unit API #30025325710000.

The attached documents include the following:

- Wellbore Diagram for all the offset wells
- Corrected offset well list
- Edited Geological Summary
- List of Active and Inactive water wells from New Mexico Office of State Engineer.
- Certified receipts of notification to offset surface owners

Please feel free to contact Martin Staelens at 281.465.8387 or [mstaelens@legacylp.com](mailto:mstaelens@legacylp.com) with any questions or clarification.

Thank you,

Mindy Cassard

**Legacy Reserves LP**

The Woodlands, Texas

281.465.8387 office

**TABLE OF WELLS WITHIN HALF-MILE RADIUS AREA OF REVIEW AROUND COOPER JAL UNIT #414  
LEA COUNTY, NEW MEXICO**

| API Number     | Operator                     | Lease Name      | Well Number | COMP TYPE | Sec | Twp | Range | SPUD DATE  | TD   | STATUS |
|----------------|------------------------------|-----------------|-------------|-----------|-----|-----|-------|------------|------|--------|
| 30025096430000 | LEGACY RESERVES OPERATING LP | COOPER JAL UNIT | 130         | OIL       | 24S | 36E | 24    | 4/2/1954   | 3550 | A      |
| 30025096390000 | LEGACY RESERVES OPERATING LP | COOPER JAL UNIT | 132         | INJ       | 24S | 36E | 24    | 4/7/1954   | 3555 | A      |
| 30025096440000 | LEGACY RESERVES OPERATING LP | COOPER JAL UNIT | 134         | INJ       | 24S | 36E | 24    | 6/25/1954  | 3570 | A      |
| 30025096410000 | LEGACY RESERVES OPERATING LP | COOPER JAL UNIT | 135         | INJ       | 24S | 36E | 24    | 2/5/1954   | 3575 | A      |
| 30025096400000 | LEGACY RESERVES OPERATING LP | COOPER JAL UNIT | 136         | OIL       | 24S | 36E | 24    | 4/21/1954  | 3540 | A      |
| 30025096570000 | LEGACY RESERVES OPERATING LP | COOPER JAL UNIT | 138         | OIL       | 24S | 36E | 25    | 6/12/1954  | 3547 | A      |
| 30025096610000 | LEGACY RESERVES OPERATING LP | COOPER JAL UNIT | 139         | OIL       | 24S | 36E | 25    | 5/8/1954   | 3565 | A      |
| 30025096620000 | LEGACY RESERVES OPERATING LP | COOPER JAL UNIT | 140         | OIL       | 24S | 36E | 25    | 5/27/1954  | 3520 | A      |
| 30025096420000 | LEGACY RESERVES OPERATING LP | COOPER JAL UNIT | 148         | INJ       | 24S | 36E | 24    | 3/6/1954   | 3550 | A      |
| 30025262840000 | LEGACY RESERVES OPERATING LP | COOPER JAL UNIT | 154         | OIL       | 24S | 36E | 25    | 4/19/1979  | 3655 | A      |
| 30025097870000 | LEGACY RESERVES OPERATING LP | COOPER JAL UNIT | 211         | INJ       | 24S | 36E | 24    | 3/9/1950   | 3244 | A      |
| 30025096230000 | LEGACY RESERVES OPERATING LP | COOPER JAL UNIT | 213         | INJ       | 24S | 36E | 24    | 2/23/1950  | 3220 | A      |
| 30025096340000 | LEGACY RESERVES OPERATING LP | COOPER JAL UNIT | 216         | INJ       | 24S | 36E | 24    | 5/12/1951  | 3210 | A      |
| 30025096260000 | LEGACY RESERVES OPERATING LP | COOPER JAL UNIT | 217         | OIL       | 24S | 36E | 24    | 2/13/1950  | 3244 | A      |
| 30025096240000 | LEGACY RESERVES OPERATING LP | COOPER JAL UNIT | 218         | INJ       | 24S | 36E | 24    | 8/1/1949   | 3250 | A      |
| 30025096220000 | LEGACY RESERVES OPERATING LP | COOPER JAL UNIT | 219         | OIL       | 24S | 36E | 24    | 11/29/1949 | 3208 | A      |
| 30025096480000 | LEGACY RESERVES OPERATING LP | COOPER JAL UNIT | 223         | OIL       | 24S | 36E | 25    | 11/3/1950  | 3188 | A      |
| 30025096460000 | LEGACY RESERVES OPERATING LP | COOPER JAL UNIT | 224         | INJ       | 24S | 36E | 25    | 5/14/1950  | 3230 | A      |
| 30025096500000 | LEGACY RESERVES OPERATING LP | COOPER JAL UNIT | 225         | OIL       | 24S | 36E | 25    | 12/14/1949 | 3188 | A      |
| 30025096510000 | LEGACY RESERVES OPERATING LP | COOPER JAL UNIT | 226         | INJ       | 24S | 36E | 25    | 4/30/1950  | 3223 | A      |
| 30025096490000 | LEGACY RESERVES OPERATING LP | COOPER JAL UNIT | 230         | INJ       | 24S | 36E | 25    | 11/14/1950 | 3183 | A      |
| 30025096530000 | LEGACY RESERVES OPERATING LP | COOPER JAL UNIT | 241         | INJ       | 24S | 36E | 25    | 7/1/1951   | 3580 | A      |
| 30025096250000 | LEGACY RESERVES OPERATING LP | COOPER JAL UNIT | 245         | OIL       | 24S | 36E | 24    | 11/16/1949 | 3208 | A      |
| 30025325690000 | LEGACY RESERVES OPERATING LP | COOPER JAL UNIT | 407         | OIL       | 24S | 36E | 24    | 7/29/1994  | 3750 | A      |
| 30025325700000 | LEGACY RESERVES OPERATING LP | COOPER JAL UNIT | 409         | OIL       | 24S | 36E | 24    | 8/11/1994  | 3750 | A      |
| 30025328580000 | LEGACY RESERVES OPERATING LP | COOPER JAL UNIT | 411         | OIL       | 24S | 36E | 24    | 7/6/1995   | 3800 | A      |
| 30025328920000 | LEGACY RESERVES OPERATING LP | COOPER JAL UNIT | 412         | OIL       | 24S | 36E | 24    | 5/20/1995  | 3800 | A      |
| 30025325710000 | LEGACY RESERVES OPERATING LP | COOPER JAL UNIT | 414         | OIL       | 24S | 36E | 24    | 8/21/1994  | 3750 | A      |
| 30025334590000 | LEGACY RESERVES OPERATING LP | COOPER JAL UNIT | 421         | OIL       | 24S | 36E | 24    | 7/27/1996  | 3800 | A      |
| 30025391010000 | LEGACY RESERVES OPERATING LP | COOPER JAL UNIT | 515         | OIL       | 24S | 36E | 25    | 10/16/2008 | 3801 | A      |
| 30025390990000 | LEGACY RESERVES OPERATING LP | COOPER JAL UNIT | 517         | OIL       | 24S | 36E | 25    | 8/29/2008  | 3810 | A      |

*31 active - 0 PEA*



Field: **Jal Mat & Longline Matrix (Yates, 7-Rivers, & Queen)**

CJU #130

### Wellbore Diagram

|             |                      |
|-------------|----------------------|
|             | <b>Location:</b>     |
| Particular: | 1980 FBI & 1980 FBI  |
| Location:   | Sec. 54.1-24. R. 302 |
| State:      |                      |
| County:     |                      |
| City:       | San Jose, Mexico     |
| Lat:        |                      |
| Long:       |                      |
|             | <b>Directions:</b>   |
| Co.         |                      |
| St.         | S. 302               |
| Off. Code:  |                      |
| Off. Name:  | code                 |

|           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|           | <b>History</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 20-Apr-54 | CO started 3470 - 3550 (7 RWRS On; Fract w/ oil 2,000 gals & 6,000 gal sand) @ P = 234<br>began /barring/                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 30-Apr-71 | Converted to injection well                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 6-Jun-73  | Shut injection gradually                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 15-Jun-83 | CO 31910 - 627 (Iron Buildup; Parasitic /Formation/). Side jet at nozzle CH 34701 -<br>35627 used 3000 gals 15% H <sub>2</sub> SO <sub>4</sub> @ 3000 gals mutual solvent & 110 gals Chelated acid<br>using 15000' rock and 4 slugs. Initiated 2 1/2" long hole @ 3222-227. Core depth over<br>hole with 27 ton cast. Ditch out & set log to 3470. RH well set on 2 3/8" C/L. Could<br>not pump PWR to pressure test @ 3447. Riser jet @ 3418. Initiated injection at 203<br>began /17-680 psi/                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 2-May-83  | CO 31910 - 627 (Iron Buildup; Parasitic /Formation/). Side jet at nozzle CH 34701 -<br>35627 used 3000 gals 15% H <sub>2</sub> SO <sub>4</sub> @ 3000 gals mutual solvent & 110 gals Chelated acid<br>using 15000' rock and 4 slugs. Initiated 2 1/2" long hole @ 3222-227. Core depth over<br>hole with 27 ton cast. Ditch out & set log to 3470. RH well set on 2 3/8" C/L. Could<br>not pump PWR to pressure test @ 3447. Riser jet @ 3418. Initiated injection at 203<br>began /17-680 psi/                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 2-May-83  | CO 31910 - 627 (Iron Buildup; Parasitic /Formation/). Side jet at nozzle CH 34701 -<br>35627 used 3000 gals 15% H <sub>2</sub> SO <sub>4</sub> @ 3000 gals mutual solvent & 110 gals Chelated acid<br>using 15000' rock and 4 slugs. Initiated 2 1/2" long hole @ 3222-227. Core depth over<br>hole with 27 ton cast. Ditch out & set log to 3470. RH well set on 2 3/8" C/L. Could<br>not pump PWR to pressure test @ 3447. Riser jet @ 3418. Initiated injection at 203<br>began /17-680 psi/                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 20-Jun-84 | CO fill from 3253 - 3385. Returned well to production                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 23-Oct-84 | CO fill from 3182 - 3300. Returned well to production.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 14-Feb-86 | Tagged into 3227. Did not C/O RI. Lamezzed tag 2 in. Added rods & changed out pipe<br>PWOP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 18-Nov-81 | Replaced 1 1/2" P/Well into 21,000 gals 2% acid. Swab back. Replaced 50 - 3/4" rod<br>with 1 1/2" P/WOP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 5-Jul-82  | POOH water pump. Stranded tag and tool 33 yellow, 7 blue, 13 double green, 16<br>single green and 27 red. Riser at 3 1/4" well south bit @ 2 - 3 1/2" on 2 7/8" tag & tagged<br>out @ 3248. Drilled C/O & CBP @ 3425. RH at 2nd well north bit @ 21,000 gals<br>20,000 - recovered formation. Initial 25,000 to 30,000 in 1 1/2 day-time days, but were out<br>RH at 3rd and south bit drilled 17,014 to 710 @ 3789 in 1 1/2 hrs. Run C/O. If more<br>710 to 2385 to 3007 CH shows at 3780-870. P/Well Values (C/S): 3470 - 3480 = 3234<br>401 = 7.41; 3281-48 = 3288-3302 3437-3447 & 3422-421, 81 ft. 2 JHPF, 122<br>holes. Hydrotest 3 1/2" tubing in hole to 7000H, use 5 1/2" down bit packer at 3375.<br>Fract /Langite /stone /P-Wells/ pipes (3437-3442) & open holes (3472-3500) at<br>34,319 20,040 much sand. 34,319 25,000 100% 100% 100% 100% 100% 100% 100%<br>Jensen pipes (3046-3302) & 27,788 20,040 much sand. Pump 17,544 at 25 psi<br>1800. 10000. Cleared out trace sand to 3780. RH with new super mass tubing, pump<br>down, PWOP                                                                                                                                                                                                                                                                                                                                                                              |
| 18-Oct-82 | POOH w/ partial rod 1 1/2" /18" body /stone/. POOH w/ tubing & pump. RH with tubing,<br>pump & rods. PWOP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 31-Oct-86 | POOH w/ partial (study) /stone/ 23rd - 78" rod. Lead rod string down pitting. RH w/ tubing,<br>pump & rods. PWOP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 5-Mar-88  | POOH water, pump was stucked. POOH w/ tubing. Pump down 3 badly stuck<br>on 3227 of this pump & rods. PWOP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 7-Jul-88  | POOH w/ partial 98 3/4" rod, rods, pump. POOH with tubing - replaced 20 bed<br>tubing pipes. Hydrotest tubing - found hole on joint above RH. RH with pump and rods.<br>PWOP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 18-Aug-77 | POOH water, wells used. POOH w/24 struts. Continuous out of hole with tag and<br>connecting rods. RH water and plug, set log 2947. Lead & test C/S/L. Hole<br>water and plug. RH well 344 to 3470. POOH water. P/Well Values @ 3222-3048 3078<br>82, 3088 94, 3100 97, 3130 98, 3148 94, 3174 48, and 3208-3238. P/Well 7<br>- RH w/ 3248-47, drilled 84, & 3202-3238. P/Well 25,000 100% 100% 100% 100% 100%<br>10" of C/S/L on tag, RH well and test C/S/L. Hole, POOH w/ RH, P/Well water string<br>and P/Well set PWR @ 2282. nipple up trace, stack, tool and test C/S/L and trace. Hole.<br>Trace well with 210,000 gals of sand and nitrogen, dissolve to bottom. ISP @ 2300, 15 min<br>@ 2140, 10 min @ 2080, 15 min @ 2040. Check P/Well in well, 400 PSI. Run back 70<br>total 580.5 gals. out of, ending P/Well @ 280, 400 PSI. Swab back 80 580.5 gals w/2% oil<br>out, ending P/Well @ 300 PSI. Swab back 80 580.5 gals. ending out of 20%, ending<br>P/Well @ 70 PSI. 200 PSI. Used new down, nipple down free stack, release PWR. POOH lying<br>down free string. RH well and tag & 3273, clean out to C/S/L on top CBP @ 3415.<br>Successful down. RH well and tag. RH well. POOH lying down 50 ft work string. Continue<br>tubing down work string, run after first Lamezzed tag. RH injection TBS setting to<br>7000 PSI. NO BOP. set TAC, 3415H. RH w/ pump and rods. space well out, hanging<br>out, well pumping |
| 14-Nov-11 | POOH with 2 1/2" x 1 1/2" RWRS. RH w/ 2 1/2" x 1 1/2" RWRS pump. PWOP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 25-Nov-11 | POOH with partial 78in - 3/4" rod (surface finish down to pitting). PWOP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 27-Oct-13 | POOH in 17E air                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

| Tubing Detail Size to Instrument |                               |          |       |
|----------------------------------|-------------------------------|----------|-------|
| Joint                            | Description                   | Feet/ton | Costs |
| 75                               | 2.375" Schedules              | 2,383    | 2,383 |
| 1                                | 1.315" x 1.315" TAC - 2042    | 1        | 2,345 |
| 18                               | 3.540" Schedules              | 602      | 2,894 |
| 1                                | 1.315" Schedules steel used   | 31       | 2,895 |
| 1                                | 1.315" steel Couple - 2042    | 1        | 2,895 |
| 1                                | 1.315" x 6" flange            | 6        | 3,000 |
| 1                                | 1.315" x 20" Schedules        | 20       | 3,000 |
| 4                                | 2.375" Schedules flange or BP | 128      | 3,146 |

\*These figures are not to be used as a guide.  
 \*Some tubings should always be specified.

| Wood Detail Step to Install |                            |           |         |
|-----------------------------|----------------------------|-----------|---------|
| Roofs                       | Insulation                 | Foamboard | Details |
| 1                           | 1-1/2" x 32' joists nail   | 21        | 22      |
| 2                           | 1-1/2" x 1-1/2" batts nail | 5         | 22      |
| 3                           | 4 x 2" batts nail          | 4         | 26      |
| 4                           | 7/8" batts                 | 1,300     | 1,378   |
| 5                           | 3/4" batts                 | 1,520     | 2,707   |
| 6                           | 5/8" x 2" x 16' batts nail | 16        | 2,717   |

Fluorine Ltd.  
Model: 21014-6028

|                 |                        |
|-----------------|------------------------|
| Manufacturer    | 2nd Unit & Length Unit |
| WHS ID Number   | C-33 0120              |
| API No.         | 30-025-000-03          |
| Int. Comm. Code | 42201004               |

|             |           |
|-------------|-----------|
| Male Size:  | 11"       |
| Start Date: | 1/10/2011 |
| Set #:      | 201       |
| Comment:    | 10/10/11  |
| Class:      | 10        |
| TOC:        | 10/10/11  |

Hole Size: 7/8"  
 Prod. Co.: 3-167, 1-168, 1-169  
 Cat # 2577  
 Comment: 258 mm  
 Cite: 16  
 100: 1000000

Case back on 300-337. Stay'd w/27 and 28.

YOC @ editor by City

2000

1987-1990  
1991-1994  
1995-1998

2001-2002  
2002-2003  
2003-2004

2000-2001  
2001-2002  
2002-2003

9128-3128  
9128-3128

2004-2005  
2004-05

2000-2001  
 2001-2002

9. 1994年10月1日起，凡在我国境内销售货物的单位和个人，均应按销售额的一定比例缴纳增值税。

1087-00

**1304-1307**

30-40 30-40  
30-40 30-40  
30-40 30-40

**1997-1998**  
 1997-1998

1999

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**CALL NUMBER**  
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| WELLBORE SCHEMATIC AND HISTORY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |
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| <b>CURRENT COMPLETION SCHEMATIC</b><br><br><div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p><b>Surface Cas</b><br/>Csg Size: 8 5/8 in<br/>Sls Cmt: 124<br/>Crc: Yes<br/>TOC @: surf<br/>TOC by: cty</p> </div> <div style="width: 45%;"> <p><b>Buret</b><br/>5 1/2" @<br/>289' Cont<br/>w/200 sss</p> </div> </div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  | <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p><b>LEASE NAME</b><br/>Cooper Jet Unit</p> <p><b>STATUS</b><br/>Active</p> <p><b>LOCATION</b><br/>2310 FEL &amp; 990 FEL, Sec 24, T-24S, R-30E, Lea County, New Mexico</p> <p><b>SPUD DATE</b><br/>04/08/54 TD</p> <p><b>INT. COMP. DATE</b><br/>08/12/54 (PSTD)</p> </div> <div style="width: 45%;"> <p><b>Water Injector</b></p> <p><b>APW</b><br/>30-025-00439</p> <p><b>WELL NO.</b><br/>132 WIW</p> </div> </div> |  |
| <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p><b>ELECTRIC LOGS</b><br/>GR-N from 0 - 3550' (4/25/54 Schlumberger)<br/>GR-CBL-MSG-CCL from 2,000 - 3,300' (8-7-55 Halliburton)<br/>Injection Profile (1-29-87 Houston, Inc.)</p> </div> <div style="width: 45%;"> <p><b>GEOLOGICAL DATA</b></p> </div> </div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  | <p><b>CORES, DRT'S or MUD LOGS:</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |
| <p><b>HYDROCARBON BEARING ZONE DEPTH TOPS:</b></p> <p>Valve @ 3010'      7-Rivers @ 3292'      Queen @ 3628'</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  | <p><b>CASING PROFILE</b></p> <p><b>SLURP:</b> 8 5/8" - 246, J-55 sss @ 263' Cmt'd w/124 sss - circ. cmt. to surf.</p> <p><b>PROD:</b> 5 1/2" - 148, J-55 sss @ 3475' Cmt'd w/400 sss - TOC @ 2420' from surf. DV tool @ 1211' - rmp 100 sss -</p> <p><b>LINER:</b> None      5 1/2" - TOC @ 585' if surf by calc.</p>                                                                                                                                                                                           |  |
| <p><b>CSG. PERFS:</b></p> <p>1-Jun-85 Perf'd Yates II 3024'-42', 3066'-83', 3095'-3112', 3125'-33' &amp; 3145'-70' w/ 2 spl (164 holes total)</p> <p>26-Jan-09 Perf'd 7-R II 3466'-74', 3282'-93', 3212'-16'; Perf'd Yates II 3152'-70', 3124'-34', 3115'-22', &amp; 3046'-54', 75 R, 75 holes, 1 J&amp;PP.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  | <p><b>CURRENT PERFORATION DATA</b></p> <p><b>OPEN HOLE:</b> 3475' - 3885' (7 RYRS/Queen OH).</p>                                                                                                                                                                                                                                                                                                                                                                                                                |  |
| <p><b>TUBING DETAIL</b>      1/28/2009</p> <p><b>Length (ft)</b>      8 KB</p> <p>2915 90 lbs - 2 7/8" 6.56' CL, J-55, 8rd EUE lbg.</p> <p>3 1-5 1/2" x 2 7/8" Baker Model AD-1 packer</p> <p>2925 btm</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  | <p><b>ROD DETAIL</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |
| <p><b>WELL HISTORY SUMMARY</b></p> <p>12-May-54 Initial completion interval: 3475' - 3885' (7 RYRS/Queen OH). Frac'd w/4,000 gals &amp; 0 #s sand. Buret csg @ 289', Cement spz csg leak w/200 sss (3 jobs) Tst OK @ 875 psi. Frac'd w/4,000 gals &amp; 6,000#s sand. IP = 173 bopd, 248 Mcf/d (flowing).</p> <p>11-Apr-76 Acid'd OH w/ 1,500 gals. Tight spot in csg @ 210'.</p> <p>18-Feb-85 C/O fill from 3475' - 3555' (62' of fill). Deepened to 3640'. Acid'd OH 3475' - 3640' w/4,000 gals in 2 stages using 500# rock salt. Frac'd w/22,000 gals X-L gel &amp; 56,000#s 12/20 sand ramping to 6 ppg.</p> <p>11-Mar-87 C/O fill to 3640'</p> <p>21-Apr-87 C/O fill to 3628'</p> <p>15-Apr-88 Tag fill @ 3628'</p> <p>01-Oct-83 Administrative Order No. WFX-648. Approved Division Order No. R-4819 &amp; R-4826 for Waterflood Expansion</p> <p>01-Dec-93 CONVERTED TO INJECTOR: C/O from 3508' - 3640'. Acid'd OH w/4,000 gals 20% NEPE combined with 110 gals UT-460 &amp; 110 gals T-425 micellar solvent &amp; 1400#s rock salt. AIR=3 bpm @ 800 psi. ISIP=660 psi. RIH w/ CL lbg &amp; pkr. Set pkr @ 3370'. Noted pkr is 105' above hole in csg. Inject @ 263 bwpd w/ TP=vacuum.</p> <p>01-Jun-95 Ran GR-CBL-CCL Perf (Jalmat) 2860' - 2170' (selectively). Acid'd w/5,000 gals 15% NEPE HCL 8250 RCN ball sealers in 6 stages. Ran 2 3/8" CL lbg &amp; pkr. Set pkr @ 2862'. Tst pkr: OK. Inject @ 461 bwpd w/ TP=590 psi. Converted to DMG injector w/ Pmax surf injection press = 590 psi.</p> <p>28-Jun-00 C/O hard scale from 3145' - 3370'. Set CIBP @ 3300' and dmo 36' cmt on top. (PSTD @ 3265'). Acid'd perfs 3024'-3170' w/ 4,000 gals 15% NEPEHCL &amp; 2,000#s rock salt in 3 stages. AIR=4 bpm @ 1560 psi. ISIP=570 psi. P15 min= 140 osc. Ran pkr on 2 3/8" CL lbg &amp; set pkr @ 2955'. Injecting @ 289 bwpd. TP=169 psi.</p> <p>14-Feb-02 Tag TD using SL unit (1 1/4" x 5' sinker bar). Tag fill @ 129' (3511' of fill).</p> <p>14-Oct-03 Stadenhead Test failed: Bled C&amp;G dm. to 0 psi. SI for 15 min-press build up to 500#. Witnessed by OCD Rep-Buddy Hill.</p> <p>28-Oct-03 POOH with 2 3/8" IPC lbg &amp; 5 1/2" x 2 3/8" AD - 1 packer. Laid down 2 3/8" IPC lbg. Clean out to 3285'. POOH and laid down with 4 3/4" bit, 8 - 3 1/2" drill collars. RIH with redressed 5 1/2" x 2 3/8" AD-1 packer on reconditioned 90 - 2 3/8" IPC tubing to 2954'. Packer would not test. Set packer at 2925', would not test. POOH with injection string. Test casing to 500 psig - held. RIH with injection string to 2931'. Circulated annulus with 70 barrels of 2 % KCl &amp; inhibited packer fluid. Set Packer with 20,000# tension. Test casing to 500 psig - held. Pulled pressure chart for OCD.</p> <p>07-Nov-05 RIH with 1 1/4" sinker bar and tagged at 3,272' (PSTD).</p> <p>20-Jan-09 POOH w/2 3/8" IPC lbg &amp; 5 1/2" x 2 3/8" AD - 1 packer. RIH w/ 4 3/4" bit &amp; DCs. Drilled cmt &amp; CIBP @ 3300'. C/O to 3640'. Lost Perf Gun in open hole. Fished Perf Gun. Perf'd 7-R II 3466'-74', 3282'-93', 3212'-16'; Perf'd Yates II 3124'-34', 3115'-22', &amp; 3046'-54', 75 R, 75 holes, 1 J&amp;PP, 128 degree phasing. Test annulus to 350 psig</p> <p>24-Apr-09 RU Gray WL. Tagged @ 37' w/ logging tool. RD wireline. Placed well on injection. Rate/Press: 781 bwpd/8948.</p> <p>13-Apr-11 POOH with injection string. Cleaned out from 3,361' to 3,825' with 4 3/4" bit. Acidized with 20,000 gals 15% 90/10 blend plus 15,000# salt. ISIP= 580 psig. RIH with injection string. Set PKR at 2,826'. Pulled MIT chart for OCD.</p> |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |
| <p><b>Production Cas</b><br/>Hole Size: 7 7/8 in<br/>Csg Size: 5 1/2 in<br/>Set @: 3475 R<br/>Sls Cmt: 500<br/>Crc: No<br/>TOC @: 585' if surf<br/>TOC by: emb.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  | <p><b>Production Cas</b><br/>Hole Size: 7 7/8 in<br/>Csg Size: 5 1/2 in<br/>Set @: 3475 R<br/>Sls Cmt: 500<br/>Crc: No<br/>TOC @: 585' if surf<br/>TOC by: emb.</p>                                                                                                                                                                                                                                                                                                                                             |  |
| <p>PSTD: 3285 ft<br/>TD: 3646 R</p> <p>OH ID: 4 3/4 in</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  | <p>Prepared By: Larry S. Adams      D. Camzales      Updated: 05-Aug-11</p>                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |



Field: **Cooper Jal Unit**

| Location:   |                       |
|-------------|-----------------------|
| Footage:    | 990 FSL & 1980 FEL    |
| Section:    | Sec. 24, T-24S, R-36E |
| Block:      |                       |
| Survey:     |                       |
| County:     | Lea, New Mexico       |
| Lat:        |                       |
| Long:       |                       |
| Elevations: |                       |
| GL:         | 3,312'                |
| KB:         | 3,318'                |
| KB Calc:    | 6'                    |
| ck wlog?    | Yes                   |

| Date      | History                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1-Mar-54  | Initial completion interval: 3472' - 3575' (7 RVRS/Queen OH). Natural completion. IP= 51 bopd, 0 bwpd, & 72 Mcf/d (flowing)                                                                                                                                                                                                                                                                     |
| 9-Sep-54  | Frac w/ 4,000 gals sea oil & 4,000#s sand                                                                                                                                                                                                                                                                                                                                                       |
| 15-Jun-73 | Placed well on rod pump                                                                                                                                                                                                                                                                                                                                                                         |
| 8-Oct-74  | C/O fill to 3575'. Jahraah OH 3472' - 3575'                                                                                                                                                                                                                                                                                                                                                     |
| 11-Feb-75 | Tagged for fill - No fill                                                                                                                                                                                                                                                                                                                                                                       |
| 29-Aug-88 | C/O OH 3480'-3575' (95' fill). Despensed to 3850'. Ran CBL TOC @ 2728'. Acct'd OH (3472'-3850') w/2,000 gals. Frac'd w/34,000 gals X-1 gel carrying 80,000#s 12/20 sand in 2 equal stages. Max sand conc. of 7 ppg. C/O to 3650'.                                                                                                                                                               |
| 30-Sep-86 | Perf (Jalmat) @ 3018'-3210' w/ 2 spf. (84 holes total) & 3285' - 3362' w/ 1 spf (21 holes total). Acct'd all open perfs w/2,000 gals. Frac w/ 30,000 gals X-1 gel carrying 50,000#s 12/20 sand in 2 equal stages using RS diversion. Max sand concentration 7 ppg. C/O to 3650'. Lost RBP in OH. Top @ 3530'. CONVERTED TO COMINGLED DOWNHOLE INJECTOR (Jalmat & Langle Matix).                 |
| 13-Feb-87 | C/O OH fill from 3472' - 3524' (52' fill). PBTD @ 3524'.                                                                                                                                                                                                                                                                                                                                        |
| 9-Sep-87  | C/O OH fill from 3495' - 3524' (29' fill). PBTD @ 3524'.                                                                                                                                                                                                                                                                                                                                        |
| 22-Jul-88 | C/O OH fill from 3475' - 3524' (49' fill). PBTD @ 3524'.                                                                                                                                                                                                                                                                                                                                        |
| 1-Oct-93  | Administration Order No-848. Approved Order No. R2018 & R-4020 for Waterflood Expansion.                                                                                                                                                                                                                                                                                                        |
| 15-Nov-93 | Replaced 2 jts tbg & rod pmp. Placed well on production.                                                                                                                                                                                                                                                                                                                                        |
| 9-Jan-94  | Ran 91 jts - 2 3/8" tbg & pkr. Set pkr @ 2956'.                                                                                                                                                                                                                                                                                                                                                 |
| 5-Dec-94  | LD rods & pmp (junks). C/O to 3524' (scale & formation). Tagged solid @ 3524'. Acct'd perfs & OH w. 8,400 gals 20% NEFE HCl acid mixed w/ 170 gals xylene using 5,600#s RS generating 8 stages. AIR=3 bpm PM=500-126 psi. ISIP= 280 psig. P5min= vacuum. Ran 2 3/8" CL tbg & pkr. Set pkr @ 2956'. Inject @ 933 bwpd, TP=vacuum.                                                                |
| 2-Apr-99  | Reset pkr @ 2925'. Tst csg & pkr @ 500 psi. OK. Initiate injection @ 580 bwpd, TP=580 psi.                                                                                                                                                                                                                                                                                                      |
| 14-Feb-02 | Tag TD using SL unit (1 1/4" x 5' sinker bar). Tag fill @ 3524' (137' of fill)                                                                                                                                                                                                                                                                                                                  |
| 7-Nov-05  | RIH with 1 1/4" x 5' sinker bar and tagged at 3,285'.                                                                                                                                                                                                                                                                                                                                           |
| 24-Mar-06 | POOH w/ 2 3/8" IPC tbg & 5 1/2" AD-1 PKR. RIH w/ 4 3/4" bit & DCs, tagged @ 3157'. Cleaned out to 3530'. RIH w/ 5 1/2" AD-1 and 2 3/8" IPC tbg. Circulated w/ 70 bbls 2% KCl. Set PKR @ 2923'. press annulus to 420 psig for 30 minutes.                                                                                                                                                        |
| 10-Jul-08 | Acid treat Jalmat & Langle Matix with 3,096 gals 15% NEFE HCl. AIR= 4.5 bpm Pavg= 1590 psi. ISIP= 920 psi. Prior Rate/Press: 589 bpd @ 949 psi. After Rate/Press: 485 bpd @ 780 psi.                                                                                                                                                                                                            |
| 27-Apr-09 | RJ Gray Wireline. Tagged @ 2,952' w/ logging tool. RD wireline. Place well on injection. Rate/Press: 441 bwpd/9048                                                                                                                                                                                                                                                                              |
| 18-Jan-11 | POOH with injection string. Laid down AD-1 PKR. RIH with 4 3/4" bit. Cleaned from 3,480' to 3,530'. RIH with 5 1/2" Loc-Set PKR & set at 2,930'. Acid treat Jalmat & Langle Matix with 11,500 gals 20% NEFE HCl (90/10, acid/Xylene). Diverted with 25,000# AIR= 6 bpm. Pavg= 1650 psi. ISIP= 1020 psi. RIH w/ IPC Tbg. MIT. Pull Chart for OCD. Prior: 321 bwpd @ 801# After: 686 bwpd @ 500#. |

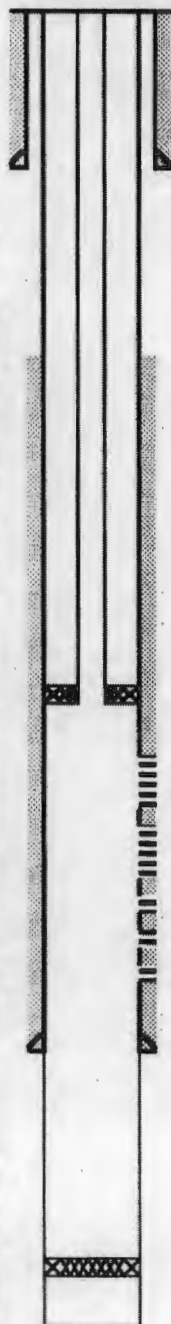
| Tubing Detail (top to bottom) |                                            |         |       |
|-------------------------------|--------------------------------------------|---------|-------|
| Joints                        | Description                                | Footage | Depth |
| 1                             | 2-3/8" 4.78, IPC, J-55, 8rd EUE tbg sub    | 10      | 10    |
| 1                             | 2-3/8" 4.78, IPC, J-55, 8rd EUE tbg sub    | 8       | 18    |
| 90                            | 2-3/8" 4.78, IPC, J-55, 8rd EUE tbg        | 2,900   | 2,918 |
| 1                             | Orn/Off Tool & Profile Nipple              | 1       | 2,919 |
| 1                             | 2-3/8" x 5-1/2" Baker Model Loc-Set Packer | 3       | 2,922 |
|                               |                                            |         |       |
|                               |                                            |         |       |
|                               |                                            |         |       |
|                               |                                            |         |       |
|                               |                                            |         |       |

| Rod Detail (top to bottom) |             |         |       |
|----------------------------|-------------|---------|-------|
| Rods                       | Description | Footage | Depth |
|                            |             |         |       |
|                            |             |         |       |
|                            |             |         |       |
|                            |             |         |       |
|                            |             |         |       |
|                            |             |         |       |
|                            |             |         |       |
|                            |             |         |       |
|                            |             |         |       |

Updated: 01/13/14 MJS

CJU #135

## Wellbore Diagram



|                   |              |
|-------------------|--------------|
| Reservoir:        | Cooper, JH   |
| Well ID Info:     | CJU #135     |
| API No:           | 30-025-08841 |
| Init. Comp. Date: | 3/1/1954     |

|              |                   |
|--------------|-------------------|
| Note Size:   | 11"               |
| Surface Csg: | 8-5/8", 28#, J-55 |
| Set @:       | 285'              |
| Cement w/:   | 125 ss            |
| Circ:        | Yes               |
| TOC:         | Surface           |

|            |                                            |
|------------|--------------------------------------------|
| Note Size: | 7-7/8"                                     |
| Prod. Csg: | 5-1/2", 14# (39 ss.), 15.5# (69 ss.), J-55 |
| Set at:    | 3472'                                      |
| Cement:    | 400 ss                                     |
| Circ:      | No                                         |
| TOC:       | 2728' from surface by cement bond log      |

by CHL

pkr @ 2930'

Yates @ 3017'

3019'-3097'

3102'-3194'

3201', 3208', 3210'  
PKR @ 3208'  
3280'-3302'

3358'-3362'

OH Interval: 3472'-3850'  
OH ID: 4-3/4"

RBP pushed into OH to 3530'

Queen @ 3609'

PBTD 3530'  
TD 3850'



| WELLBORE SCHEMATIC AND HISTORY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                |                                                                                                                                                   |                                                                                                                                                                                                                                     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CURRENT COMPLETION SCHEMATIC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                | COOPER JAIL UNIT                                                                                                                                  |                                                                                                                                                                                                                                     |
| STATUS: <b>Active</b><br>LOCATION: <b>990 FEL &amp; 990 FEL, Sec 24, T-24S, R-36E, Lee County, New Mexico</b><br>SPLD DATE: <b>TD 3540</b><br>INT. COMP. DATE: <b>05/15/54 (PBDT) 3345</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                | WELL NO: <b>138</b><br>API# <b>30-025-09840</b>                                                                                                   |                                                                                                                                                                                                                                     |
| <b>ELECTRIC LOGS</b><br>GR-N from 0 - 3538 (5-5-54 Schlumberger)<br>GR-CCL from 3490 - 2700' (11-15-83 Halliburton)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                | <b>GEOLOGICAL DATA</b><br><b>CORES, DSTs or MUD LOGS</b>                                                                                          |                                                                                                                                                                                                                                     |
| <b>HYDROCARBON BEARING ZONE DEPTH TOPS</b><br>Yates @ 3617      7-Rivers @ 3236'      Ochoa @ 3007'                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                |                                                                                                                                                   |                                                                                                                                                                                                                                     |
| <b>CASING PROPS</b><br>SURF. <b>8 5/8" - 286, J-55 set @ 280' Cmt'd w/150 sbs - circ cmt to surf.</b><br>PROD. <b>5 1/2" - 148, J-55 set @ 3465' Cmt'd w/300 sbs - TOC @ 1885' from surface.</b><br>LINER <b>None</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                |                                                                                                                                                   |                                                                                                                                                                                                                                     |
| <b>CURRENT PERFORATION DATA</b><br>CSG PERFS:<br>15-Nov-93 Perfd Yates @ 3013'-47', 3054'-82', 3090'-3105', 3117'-28', 3137'-64', & 3171'-77', 2 apt @ 120 degree phasing (222 holes)<br>17-Dec-09 Perfd Yates @ 3013'-47', 3054'-82', 3090'-3105', 3117'-28', 3137'-64', 3171'-77', 3180'-86', 3192'-97', 3200'-04', 3210'-21', & 3224'-32'<br>17-Dec-09 Perfd 7-Rivers @ 3235'-40', 3256'-60', 3270'-83', & 3306'-14'                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                |                                                                                                                                                   |                                                                                                                                                                                                                                     |
| <b>TUBING DETAIL</b> 11/18/2011                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                | <b>ROD DETAIL</b> 11/18/2011                                                                                                                      |                                                                                                                                                                                                                                     |
| <b>Length (ft)</b><br>2875      91<br>3      1<br>300      10<br>31      1<br>1      1<br>4      1<br>19      1<br>31      1<br>3264      bln                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>Detail</b><br>2 7/8" 6.5#, J-55, 8rd EUE tbg.<br>5 1/2" x 2 7/8" TAC<br>2 7/8" 6.5#, J-55, 8rd EUE tbg.<br>2 7/8" x 3 1/2" Super Max tbg.<br>2 7/8" SN<br>2 7/8" Perf Sub<br>2 7/8" Desander<br>2 7/8" BP Mud Anchor<br>bln | <b>Length (ft)</b><br>20      1<br>0      1<br>900      36<br>875      26<br>725      29<br>800      24<br>10      1<br>0      1<br>3230      bln | <b>Detail</b><br>26" x 1 1/4" polish rod w/ 7/8" Pin<br>1 1/4" x 1 1/2" x 14" liner<br>1" KD steel rods<br>7/8" KD steel rods<br>3/4" K-Bars<br>1 1/2" K-Bars<br>2 1/2" x 2" x 20' RHBC<br>1 1/4" x 16' Desander Sand Screen<br>bln |
| <b>WELL HISTORY SUMMARY</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                |                                                                                                                                                   |                                                                                                                                                                                                                                     |
| 15-May-54 Initial completion interval: 3465 - 3540' (7 RVRB/Queen CH). Frac'd w/4,000 gals lse oil & 9,000 #s sand. IP= 137 bopd, 9 bwepd, & 172 Mcfgpd (flowing)<br>11-Jul-56 Re-frac OH w/15,000 gals lse oil & 30,000#s sand<br>17-May-71 CONVERTED WELL TO INJECTION: C/O @ 3513 - 3537' (27' of fill). Installed injection tbg & air. Placed on injection.<br>23-Mar-79 Attempted to tag fill w/ SB. Could not get below 3183'. Plr @ 3368.<br>28-Mar-79 Tag fill @ 3497' (40' of fill) with 1" sinker bar on SL. Did not C/O.<br>15-Nov-93 Ran GR-CCL log. Set CIBP @ 3380'. Dmp 35' of cmt on top of CIBP. (PBDT @ 3345). Perfd 3013'-3177' (222 total - 0.86" dia holes). Frac'd perfs w/45,192 gals X-L gel w/ 187,880#s 12/20 sand & 41,140#s resin coated sand. AIR= 35.4 bpm. PM=3,000-1607 psi. ISIP=1800 psi. C/O @ 2467'-3345'. PWOP. Pmp 113 bopd, 23 bwepd, & 33 Mcfgpd.<br>05-Feb-94 Tag fill @ 3294' (51' of fill). Did not C/O. Hydrotest & replaced 1 jt tbg.<br>07-Aug-97 Had rod part. Acid'd perfs w/2000 gals 15% acid & performed scale sqz. Repaired rod part. PWOP.<br>02-Sep-98 Inspected tbg & rods. Replaced 77 jts of tbg and rod boxes. Return well to production.<br>03-Aug-99 Replaced pmp.<br>18-Oct-00 Acid'd perfs 3013 - 3177' combined with sonic hammer using 2,000 gals 15% NEFE HCL. Scale sqz'd w/ 55 gals TH793. Return well to production. After WO: 19 bopd, 39 bwepd, & 21 Mcfgpd.<br>03-Jan-02 Change out pump. Pump 10 gals paraffin chemical down tubing before setting pump. Placed on production.<br>24-Aug-05 POOH with rods and pump. Tagged at 3296' RIH with pump and rods. Load well with 12 bbls. PWOP.<br>03-Jul-07 Long stroke well.<br>14-Dec-09 POOH with rods, pump and tubing. RIH with 4 3/4" bit, tagged 3296'. Cleaned to 3301' - recovered sand, iron sulfide and metal. RIH with 4 3/4" shoe & 1 jt washpipe, cleaned out 3345' - recovered sand, iron sulfide, cmt, & part of 2 7/8" collar. RIH with bit - tagged at 3345'. RIH w/ AD-1 PKR & seat @ 3210'. Set PKR @ 2960'. Circulate hole w/ 2% KCL. Perfd Yates @ 3013'-47', 3054'-82', 3090'-3105', 3117'-28', 3137'-64', 3171'-77', 3180'-86', 3192'-97', 3200'-04', 3210'-21', & 3224'-32'. Perfd 7-Rivers @ 3235'-40', 3256'-60' and 3306'-14'. Hydrotest 3 1/2" work string to 7000#. Set PKR @ 2950'. Frac'd Jalmat (Y & 7-R) with 183,063 #s sand and 1.3 MMCF Nitrogen. AIR= 7.7 Hrs rate= 7 Pavg= 4116#. ISIP= 1432#. Next Day SITP= 900#. Flowed back 62 BW & 21 BO. Second Day SITP= 540#. Recovered 211 bbl, 19% oil cut. Third Day SITP= 400#. RIH w/ 4 3/4" bit - tagged @ 3170'. Could not circulate. RIH w/ notched collar - tagged & C/O @ 3170' to PBDT @ 3345'. Hydrotest 2 7/8" tubing, pump & rods. PWOP.<br>16-Nov-11 POOH with production string. RIH with 4 3/4" bit, cleaned out from 2,806' to 3,342', started torquing. Lost 2 cones and recovered 364' staked rod 28'. Discontinue to drill out CIBP. RIH with tubing, pump and rods. PWOP. |                                                                                                                                                                                                                                |                                                                                                                                                   |                                                                                                                                                                                                                                     |

**Surface Cas**  
 Hole Size: 11 in  
 Csg. Sbz: 8 5/8 in  
 Set @: 280 ft  
 Sbs Cmt: 150  
 Cnc: Yes  
 TOC @: surf  
 TOC by: sec

**Production Cas**  
 Hole Size: 7 7/8 in  
 Csg. Sbz: 5 1/2 in  
 Set @: 3465 ft  
 Sbs Cmt: 300  
 Cnc: No  
 TOC @: 1885 ft  
 TOC by: cas

PBDT 3346 R  
 TD 3540 R

OH ID 4 3/4 in

TOC @ 3342  
 TOC @ 3345  
 CIBP @ 3380'

OH Interval  
 3465 - 3540'

Yates @ 3617  
 3013'-47'  
 3054'-82'  
 3090'-3105'  
 3117'-28'  
 3137'-64'  
 3171'-77'  
 3180'-86'  
 3192'-97'  
 3200'-04'  
 3210'-21'  
 3224'-32'  
 3236'  
 3236'-40'  
 3256'-60'  
 3270'-83'  
 3306'-14'

TOC @ 3342  
 TOC @ 3345  
 CIBP @ 3380'

OH Interval  
 3465 - 3540'

PREPARED BY: Larry S. Adams

Domingo Carrizales

UPDATED: 08-Dec-11

| CURRENT COMPLETION SCHEMATIC                                                                                                                                                                                                                                                           |  | WELL NAME                                                                                                                                                                                                       |  | Cooper Jet Unit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  | WELL NO                                                                                                                                                                                                                                                                                                                                                                                |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| STATUS                                                                                                                                                                                                                                                                                 |  | Active                                                                                                                                                                                                          |  | Oil                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  | 138                                                                                                                                                                                                                                                                                                                                                                                    |  |
| LOCATION                                                                                                                                                                                                                                                                               |  | 800 P.W. & 1000 P.W. Sec 25, T. 24S, R. 39E, L.S. Comp. Area Mexico                                                                                                                                             |  | APW                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  | 30-025-09867                                                                                                                                                                                                                                                                                                                                                                           |  |
| SPUD DATE                                                                                                                                                                                                                                                                              |  | FD                                                                                                                                                                                                              |  | 2635                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  | 2317                                                                                                                                                                                                                                                                                                                                                                                   |  |
| INT. COMP. DATE                                                                                                                                                                                                                                                                        |  | 05/28/34                                                                                                                                                                                                        |  | PRD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  | 2635                                                                                                                                                                                                                                                                                                                                                                                   |  |
| <b>Surface Cas</b><br>Hole Size: 11 in<br>Csg Size: 8 5/8 in<br>Set @: 200 ft<br>Bsc Cmt: 150<br>Cnc: Yes<br>TOC @: surf<br>TOC by: calc                                                                                                                                               |  | ELECTRIC LOGS                                                                                                                                                                                                   |  | GEOLOGICAL DATA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  | CORES DATA # SURF LOGS                                                                                                                                                                                                                                                                                                                                                                 |  |
|                                                                                                                                                                                                                                                                                        |  | OR-H from 103 - 3050' (5-26-54 Schlumberger)<br>Term logged profile (5-7-73 WACO)                                                                                                                               |  | OR-CH (5-26-55 Dresser Atlas)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |                                                                                                                                                                                                                                                                                                                                                                                        |  |
| <b>Hydrocarbon Bearing Zone Depth Tops</b><br>Values @ 3051' 7-River @ 3242 Queen @ 3510                                                                                                                                                                                               |  | CAMELPORE                                                                                                                                                                                                       |  | SURF                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  | 8 5/8" - 286' - 55 mm 280' CNGS w/150 psi - dry CH to surf                                                                                                                                                                                                                                                                                                                             |  |
|                                                                                                                                                                                                                                                                                        |  | PROD 5 1/2" - 1554' - 55 mm 3450' CNGS w/300 psi - TOC @ 1870' from surface by calc<br>LINER None                                                                                                               |  | CURRENT PERFORATION DATA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  | CSG. PERFS<br>27-Sep-05 Perfr'd Yates 93222'-3212' w/ 2 spf (24 intervals, 72 holes)<br>16-Mar-10 Perfr'd 7-Rivers 83,365'-3371' 43-50' & 3268'-3286' (2 J-HPF) Perfr'd Yates 9 3230'-3234' & 3220'-3226' (2 J-HPF)<br>3203'-3219' 3187'-3207' 3180'-3195' 3178'-3185' 3169'-3175' 3159'-3185' 3151'-3156' 3140'-3147' 3114'-3134' 3092'-3105' 3076'-3083' 3046' 3022'-3034' (1 J-HPF) |  |
| <b>TUBING DETAIL</b> 05/08/11<br>Length (ft) Detail<br>2687 81 jts 2 7/8 T8G<br>3 1 2 7/8 X 5 1/2 TAC<br>804 18 jts 2 7/8 8rd T8G<br>31 1 2 7/8 X 3 1/2 blast joint<br>1 1 2 7/8 seat nipple<br>4 1 2 7/8 X4 T8G sub<br>18 1 cinderbar<br>62 2 jts 2 7/8 T8G<br>31 1 bull plug<br>3521 |  | <b>ROD DETAIL</b> 05/08/11<br>Length (ft) Detail<br>18 1 Polish Rod<br>0 1 Liner<br>6 3 2 X 7/8 rod ends<br>1825 47 7/8 rods<br>1680 74 3/4 rods<br>480 16 K-bars<br>20 1 2 1/2 X 2 X 3/8 RWBC pump<br>3588 bbs |  | <b>WELL HISTORY SUMMARY</b><br>28-Jun-54 Initial completion interval: 3450' - 3050' (7 RYRHS/Queen CHN. Fract'd w/5,000 sacks lease oil & 8,000 lbs sand)<br>SP= 248' based, 0' based, & 305' Midstep (flowback)<br>01-May-63 SP: Would not flow.<br>16-Jul-73 C/O till to 2550'<br>05-Mar-74 Installed Bethlehem 2280' - 100' L.S. Pumping unit<br>03-Sep-85 Downcased to 3638'. Acid'd CH w/2,000 gals. Fract'd w/11,100 gals & 23,750 lbs 20/40 sand. (Screened out @ 5' spot)<br>C/O to 3638'. Refrac'd CH w/18,000 gals & 45,000 lbs 12/20 sand (Max concentration 7 spp)<br>Perfr'd (Leubach) 3622' - 3212' well surf (36 intervals, 72 holes). Acid'd perf's w/2,000 gals. Fract'd w/33,000 gals & 62,500 lbs 12/20 sand (Max concentration 5 spp)<br>27-Sep-85 C/O till from 3545' - 3638'<br>01-Sep-87 C/O till from 3545' - 3638'<br>29-Feb-88 Tagged till @ 3634'<br>13-Dec-92 Hydrotest tbg. Found & replaced 1 bad jt. Replaced SN & polish rod. Returned well to production.<br>05-Jan-95 Screenaged tbg. Replaced 8 bad jts. Replaced prmp. Returned well to production.<br>06-Jun-95 Hydrotest tbg. Found & replaced 1 bad jt. Returned well to production.<br>11-Dec-95 Hydrotest tbg. Found & replaced 10 bad jts. Replaced 20 rods & bonns. Returned well to production.<br>29-Sep-97 Screenaged tbg. Replaced 34 bad jts. Replaced prmp & 5 winter bars. Returned well to production.<br>21-Feb-01 Replaced 1 bad jt. Returned well to production.<br>12-Mar-10 POOH w/ 6 rods, broken coupling. RH fish rods, attempt to unseat pump. back off rods. POOH w/ rods & 26 K-Bars. POOH to fluid, seal back to casing. POOH w/ tbg. RH w/ tbg. pump & rods. PWOP<br>03-May-11 POOH w/ 6 rods, parted on tool. RH fish rods, attempt to unseat pump. back rods off. strip rods and T8G out of hole. RH w/ production T8G testing. RH w/ pump and rods, hang well on, respect well, seal pumping<br>18-Jan-13 POOH w/ 7 rods, broken coupling. RH fish rods, attempt to unseat pump. back off rods. POOH w/ rods & 26 K-Bars. POOH to fluid, seal back to casing. POOH w/ tbg. RH w/ tbg. pump & rods. PWOP |  |                                                                                                                                                                                                                                                                                                                                                                                        |  |

## WELLBORE SCHEMATIC AND HISTORY

| CURRENT COMPLETION SCHEMATIC |                                        | LEASE NAME                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  | WELL NO.                             |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
|------------------------------|----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------------------------|--------|------|-----------------------------|---|-----------------------|-----|----------------------------|---|------------------------|---|-------------------|---|----------------------|----|-------------------------------|-----|-----------------------------------|---|-------------|------|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------|--------|----|----------------------------------------|---|-------------------------------|----|----------------------------------|-----|--------------------|------|--------------------|-----|------------------|---|-----------------------|------|--|
|                              |                                        | Cooper Jal Unit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  | 139                                  |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
|                              |                                        | Status: Active                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  | Oil                                  |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
|                              |                                        | Location: 330 FNL & 2310 FEL, Sec 25, T. 24S, R. 36E, Lee County, New Mexico                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  | API# 30-025-09661                    |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
|                              |                                        | SPUD DATE: TD 3545 KB 3314 DF                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |                                      |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
|                              |                                        | INT. COMP. DATE: 05/26/54 PBTD 3545 GL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |                                      |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
|                              |                                        | ELECTRIC LOGS:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  | GEOLOGICAL DATA                      |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
|                              |                                        | GR-N from 0 - 3544' (5-20-54 Schlumberger)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  | CORES, DST'S or MUD LOGS:            |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
|                              |                                        | Injectivity Profile (8-5-73 WACO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |                                      |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
|                              |                                        | GR-CCL (9-13-93 Halliburton)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |                                      |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
|                              |                                        | HYDROCARBON BEARING ZONE DEPTH TOPS:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |                                      |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
|                              |                                        | Yates @ 2014' 7-Rivers @ 3235' Queen @ 3395'                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |                                      |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
|                              |                                        | Casing Profile                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |                                      |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
|                              |                                        | SURF. 8 5/8" - 245' H-40 set @ 286' Cmt'd w/150 sxs - circ cmt to surf.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |                                      |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
|                              |                                        | PROD. 5 1/2" - 145' H-40 set @ 3485' Cmt'd w/200 sxs - TOC @ 2415' from surf. DV tool @ 1200' - pmp 100 sxs -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |                                      |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
|                              |                                        | LINER None                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  | 5 1/2" - TOC @ 680' fl surf by calc. |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
|                              |                                        | CURRENT PERFORATION DATA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                                      |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
|                              |                                        | CSG. PERFS:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  | OPEN HOLE: 3485 - 3545'              |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
|                              |                                        | 11-Sep-93 Perfd Jalmet w/ 2 spf 3014'-32', 3035'-42', 3070'-84', 3091'-3107', 3113'-31', 3138'-70', 3175'-88', & 3214'-22' (252 holes total - 0.56" dia.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |                                      |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
|                              |                                        | TUBING DETAIL 10/8/2012                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  | ROD DETAIL 10/8/2012                 |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
|                              |                                        | <table border="1"> <thead> <tr> <th>Length (ft)</th> <th>Detail</th> </tr> </thead> <tbody> <tr> <td>2620</td> <td>81 2-7/8" J-55 6.5# EUE 8rd</td> </tr> <tr> <td>4</td> <td>1 5 1/2" x 2 7/8" TAC</td> </tr> <tr> <td>285</td> <td>9 2-7/8" J-55 6.5# EUE 8rd</td> </tr> <tr> <td>4</td> <td>1 2 7/8" x 4' Lift Sub</td> </tr> <tr> <td>1</td> <td>1 2 7/8" x 24' WB</td> </tr> <tr> <td>4</td> <td>1 2 7/8" x 4' LK Sub</td> </tr> <tr> <td>20</td> <td>1 2 7/8" x 20' Split Desander</td> </tr> <tr> <td>131</td> <td>4 2-7/8" J-55 6.5# EUE 8rd new MA</td> </tr> <tr> <td>1</td> <td>1 2-7/8" BP</td> </tr> <tr> <td>3060</td> <td></td> </tr> </tbody> </table> |  | Length (ft)                          | Detail | 2620 | 81 2-7/8" J-55 6.5# EUE 8rd | 4 | 1 5 1/2" x 2 7/8" TAC | 285 | 9 2-7/8" J-55 6.5# EUE 8rd | 4 | 1 2 7/8" x 4' Lift Sub | 1 | 1 2 7/8" x 24' WB | 4 | 1 2 7/8" x 4' LK Sub | 20 | 1 2 7/8" x 20' Split Desander | 131 | 4 2-7/8" J-55 6.5# EUE 8rd new MA | 1 | 1 2-7/8" BP | 3060 |  | <table border="1"> <thead> <tr> <th>Length (ft)</th> <th>Detail</th> </tr> </thead> <tbody> <tr> <td>18</td> <td>1 1-1/4" X 26' Polished Rod w/7/8" Pin</td> </tr> <tr> <td>0</td> <td>1 1-1/4" X 1-1/2" X 18' Liner</td> </tr> <tr> <td>18</td> <td>4 4', 4', 4', 4' - 7/8" Pony Rod</td> </tr> <tr> <td>900</td> <td>36 7/8" Steel Rods</td> </tr> <tr> <td>1400</td> <td>56 3/4" Steel Rods</td> </tr> <tr> <td>800</td> <td>24 1-1/2" K-Bars</td> </tr> <tr> <td>4</td> <td>1 2 1/4" X 4' Plunger</td> </tr> <tr> <td>2938</td> <td></td> </tr> </tbody> </table> |  | Length (ft) | Detail | 18 | 1 1-1/4" X 26' Polished Rod w/7/8" Pin | 0 | 1 1-1/4" X 1-1/2" X 18' Liner | 18 | 4 4', 4', 4', 4' - 7/8" Pony Rod | 900 | 36 7/8" Steel Rods | 1400 | 56 3/4" Steel Rods | 800 | 24 1-1/2" K-Bars | 4 | 1 2 1/4" X 4' Plunger | 2938 |  |
| Length (ft)                  | Detail                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                      |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
| 2620                         | 81 2-7/8" J-55 6.5# EUE 8rd            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                      |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
| 4                            | 1 5 1/2" x 2 7/8" TAC                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                      |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
| 285                          | 9 2-7/8" J-55 6.5# EUE 8rd             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                      |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
| 4                            | 1 2 7/8" x 4' Lift Sub                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                      |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
| 1                            | 1 2 7/8" x 24' WB                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                      |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
| 4                            | 1 2 7/8" x 4' LK Sub                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                      |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
| 20                           | 1 2 7/8" x 20' Split Desander          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                      |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
| 131                          | 4 2-7/8" J-55 6.5# EUE 8rd new MA      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                      |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
| 1                            | 1 2-7/8" BP                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                      |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
| 3060                         |                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                      |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
| Length (ft)                  | Detail                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                      |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
| 18                           | 1 1-1/4" X 26' Polished Rod w/7/8" Pin |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                      |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
| 0                            | 1 1-1/4" X 1-1/2" X 18' Liner          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                      |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
| 18                           | 4 4', 4', 4', 4' - 7/8" Pony Rod       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                      |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
| 900                          | 36 7/8" Steel Rods                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                      |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
| 1400                         | 56 3/4" Steel Rods                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                      |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
| 800                          | 24 1-1/2" K-Bars                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                      |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
| 4                            | 1 2 1/4" X 4' Plunger                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                      |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
| 2938                         |                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                      |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
|                              |                                        | WELL HISTORY SUMMARY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |                                      |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
|                              |                                        | 28-May-54 Initial completion interval: 3485 - 3545' (Queen OH). Frac'd w/4,000 gals Dowell Stratofrac w/ 6,000# sand. AIR= 12.6 bpm at 1200 psig. IP= 157 bopd                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |                                      |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
|                              |                                        | 28-Jul-54 48 bopd, 0 bwpd, & GOR=1,072 (flowing on 15/64" choke)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |                                      |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
|                              |                                        | 22-May-57 Frac'd OH w/17,000 gals, 25,000#s 20/40 sand, 5,000#s 10/20 sand. AIR=29 bpm @ 2700 psi. Before WO: 7 bopd, 7 bwpd & GOR= 8320. After WO: 31 bopd, 0.2 bwpd, & GOR=2947                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |                                      |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
|                              |                                        | 18-May-71 CONVERTED TO INJECTION: Tag btm @ 3539'. Did not C/O. Ran injection equipment & initiated injection.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |                                      |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
|                              |                                        | 05-Jun-73 Ran injection profile. Tag TD @ 3538'                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                      |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
|                              |                                        | 23-Mar-79 Attempted TD check w/ 1 1/4" sinker bar - couldn't get below 2888'                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |                                      |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
|                              |                                        | 28-Mar-79 Ran 1" sinker bar - tagged TD @ 3482' (56' of fill)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |                                      |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
|                              |                                        | 12-Aug-88 C/O. Side jet and acid'd OH w/2,000 gals                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |                                      |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
|                              |                                        | 29-Mar-93 C/O. Side jet and acid'd OH w/4,000 gals                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |                                      |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
|                              |                                        | 11-Sep-93 Set CIBP @ 3390' & dmp 35' cmt on top. PBTD = 3355'. Perfd (Yates/7RVR5) using 4" csg gun, 120 deg phasing w/ 2 spf 3014'-32', 3035'-42', 3070'-84', 3091'-3107', 3113'-31', 3138'-70', 3175'-88', & 3214'-22' (252 holes - 0.56" dia.) Frac'd perfs (3014 - 3222) w/48,600 gals, 134,000#s 12/20 sand. AIR=35 bpm @ 2300 psig. ISIP= 78 psig. C/O sand to 3330'. Ran production equipment. After WO: 57 bopd, 330 bwpd, & 25 Mcfgpd.                                                                                                                                                                                                                        |  |                                      |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
|                              |                                        | 16-Nov-93 Hydrotest tbg. Found & replaced 2 bad jts. Returned well to production.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |                                      |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
|                              |                                        | 03-Mar-95 Replaced 1 bad jt tbg. Returned well to production.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |                                      |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
|                              |                                        | 13-Apr-95 Replaced rod pmp. Returned well to production.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                                      |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
|                              |                                        | 02-Dec-97 Replaced all 3/4" rods & 7/8" rod boxes. Hydrotested tbg - no bad jts. Returned well to production.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |                                      |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
|                              |                                        | 18-Dec-00 Tag btm @ 3355'. Replaced pmp. Returned well to production.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                                      |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
|                              |                                        | 27-Feb-02 Long stroke pump.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |                                      |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
|                              |                                        | 09-Sep-02 Tally out of hole with tubing string - found a split jt. Hydrotest tubing in hole. Well would not pump - found scale and sanc on MAJ. Placed well on production.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |                                      |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
|                              |                                        | 18-Jul-03 POOH with rods and pump. Found top joint with 2 foot split. Reset TAC. RIH with pump and rods. PWOP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |                                      |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
|                              |                                        | 24-Jun-04 POOH with rods and pump. RIH with larger pump and rods. PWOP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |                                      |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
|                              |                                        | 18-Feb-05 POOH with rods and pump. Scanolog tubing: 72 - Blue, 20 - Green, & 4 - Red. RIH with production string - didn't hold pressure. Hydrotest tubing to 6000# - found 1 split #29 joint. PWOP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |                                      |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
|                              |                                        | 25-Mar-11 POOH with production string. RIH with 4 3/4" bit, rig up AIR UNIT. Tagged at 3,280', cleaned out to 3,388'. Test casing to 500#. Found hole between 353' to 416'. While backing of CSG, parted 2' from service. Could not back of casing. Cement squeezed with 150 sxs Class C. Circ'd cmt to surf. Frac'd down 4 1/2" work string w/ 105,000# 16/30 brown sand & 41,250# resin coated sand plus 1,267 MMCF N2. ISIP= 2280#. Flowed well back for two days. Laid down 4 1/2" work string. C/O frac sand from 3149' to 3278'. PWOP.                                                                                                                           |  |                                      |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
|                              |                                        | 15-Apr-11 Pulled out w/pump, nipple down wellhead, unset TAC, pulled out w/tbg. (pump was stuck w/sand, recovered 10' of sand in M.A.) RIH with tbg, set TAC, pulled 16,000# tension nipple up wellhead, ran in w/pump, hung well on, rigged up Rapid Transport, pumped 5 bbls load and test, checked pump action, good, put well on production. Checked pump action, good.                                                                                                                                                                                                                                                                                            |  |                                      |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
|                              |                                        | 21-Nov-11 POOH with production string. RIH with 4 3/4" bit, tagged @ 3208'. Drilled CIBP @ 3390' and Drilled out to TD @ 3,545'.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |                                      |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
|                              |                                        | 08-Oct-12 POOH with rods, pump and tubing. Ran BHP Survey, tagged at 3,531' (14' of fill). Hydrotest tbg to 6000# - 52th (split). Busted busted 3 joints. RIH with plunger and rods. Replaced 30 - 3/4" flat couplings & bottom 4 joints MA due to holes. PWOP.                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                      |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |
|                              |                                        | 4-Mar-13 POOH w/ parted 90th rod (3/4" coupling). Fish rods. RIH w/ new 3/4" coupling. RIH w/ rods, checking all rod couplings. PWOP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                                      |        |      |                             |   |                       |     |                            |   |                        |   |                   |   |                      |    |                               |     |                                   |   |             |      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |             |        |    |                                        |   |                               |    |                                  |     |                    |      |                    |     |                  |   |                       |      |  |

## Surface Csg

Hole Size: 11 in  
Csg Size: 8 5/8 in  
Set @: 286 ft  
Sxs Cmt: 150  
Circ: Yes  
TOC @: surf  
TOC by: circ

TOC @ 680'

DV Tool @ 1200'

TOC @ 2415'

By Calc.

Yates @ 2014'

3014'-32'

3035'-42'

3070'-84'

3091'-3107'

3113'-31'

3138'-70'

3175'-88'

3214'-22'

7-R @ 3235'

TOC @ 3385'

CIBP @ 3390'

OH Interval

3485 - 3545'

## Production Csg

Hole Size: 7 7/8 in  
Csg Size: 5 1/2 in  
Set @: 3485 ft  
Sxs Cmt: 300  
Circ: No  
TOC @: 680' / surf  
TOC by: calc.

PBTD: 3545 R  
TD: 3545 R

Fill @ 3,531'

Queen @ 3595'

OH IE 4 3/4 in

DESIGNED BY:

I am S Adams

D Corralles

ILLUSTRATED:

02-Oct-12

| WELLBORE SCHEMATIC AND HISTORY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                       |                                      |        |      |                                    |   |                       |     |                                    |   |             |   |                   |    |                     |      |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |             |        |    |                                       |   |                              |   |                             |      |                      |      |                      |     |                          |   |                            |    |                              |   |                          |      |     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------|--------|------|------------------------------------|---|-----------------------|-----|------------------------------------|---|-------------|---|-------------------|----|---------------------|------|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------|--------|----|---------------------------------------|---|------------------------------|---|-----------------------------|------|----------------------|------|----------------------|-----|--------------------------|---|----------------------------|----|------------------------------|---|--------------------------|------|-----|
| CURRENT COMPLETION SCHEMATIC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                       | LEASE NAME <b>Cooper Jal Unit</b>    |        |      |                                    |   |                       |     |                                    |   |             |   |                   |    |                     |      |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |             |        |    |                                       |   |                              |   |                             |      |                      |      |                      |     |                          |   |                            |    |                              |   |                          |      |     |
| STATUS: <b>Active</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                       | Oil                                  |        |      |                                    |   |                       |     |                                    |   |             |   |                   |    |                     |      |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |             |        |    |                                       |   |                              |   |                             |      |                      |      |                      |     |                          |   |                            |    |                              |   |                          |      |     |
| LOCATION: <b>990 FNL &amp; 990 FEL Sec 26, T - 24S, R - 30E, Lee County, New Mexico</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                       | WELL NO <b>140</b>                   |        |      |                                    |   |                       |     |                                    |   |             |   |                   |    |                     |      |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |             |        |    |                                       |   |                              |   |                             |      |                      |      |                      |     |                          |   |                            |    |                              |   |                          |      |     |
| SPUD DATE: <b>TD 3616 KB 3.296 DF</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                       | API# <b>30-025-09662</b>             |        |      |                                    |   |                       |     |                                    |   |             |   |                   |    |                     |      |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |             |        |    |                                       |   |                              |   |                             |      |                      |      |                      |     |                          |   |                            |    |                              |   |                          |      |     |
| INT. COMP. DATE: <b>06/10/54 PBTD 3616 GL 3.296</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                       |                                      |        |      |                                    |   |                       |     |                                    |   |             |   |                   |    |                     |      |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |             |        |    |                                       |   |                              |   |                             |      |                      |      |                      |     |                          |   |                            |    |                              |   |                          |      |     |
| ELECTRIC LOGS:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                       | GEOLOGICAL DATA                      |        |      |                                    |   |                       |     |                                    |   |             |   |                   |    |                     |      |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |             |        |    |                                       |   |                              |   |                             |      |                      |      |                      |     |                          |   |                            |    |                              |   |                          |      |     |
| GR-N (5-11-54 Schlumberger)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                       | CORES, DST'S or MUD LOGS:            |        |      |                                    |   |                       |     |                                    |   |             |   |                   |    |                     |      |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |             |        |    |                                       |   |                              |   |                             |      |                      |      |                      |     |                          |   |                            |    |                              |   |                          |      |     |
| HYDROCARBON BEARING ZONE DEPTH TOPS:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                       |                                      |        |      |                                    |   |                       |     |                                    |   |             |   |                   |    |                     |      |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |             |        |    |                                       |   |                              |   |                             |      |                      |      |                      |     |                          |   |                            |    |                              |   |                          |      |     |
| Yates @ 2985'      Queen @ 3210'      Queen @ 3675'                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                       |                                      |        |      |                                    |   |                       |     |                                    |   |             |   |                   |    |                     |      |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |             |        |    |                                       |   |                              |   |                             |      |                      |      |                      |     |                          |   |                            |    |                              |   |                          |      |     |
| Casing Profile                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                       |                                      |        |      |                                    |   |                       |     |                                    |   |             |   |                   |    |                     |      |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |             |        |    |                                       |   |                              |   |                             |      |                      |      |                      |     |                          |   |                            |    |                              |   |                          |      |     |
| SURF 8 5/8" - 24#, H-40 set @ 286' Cmt'd w/150 sxs - circ cmt to surf.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                       |                                      |        |      |                                    |   |                       |     |                                    |   |             |   |                   |    |                     |      |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |             |        |    |                                       |   |                              |   |                             |      |                      |      |                      |     |                          |   |                            |    |                              |   |                          |      |     |
| PROD 5 1/2" - 14#, J-55 set @ 3420' Cmt'd w/200 sxs - TOC @ 2380' from surf. DV tool @ 1207' - pmp 100 sxs -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                       |                                      |        |      |                                    |   |                       |     |                                    |   |             |   |                   |    |                     |      |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |             |        |    |                                       |   |                              |   |                             |      |                      |      |                      |     |                          |   |                            |    |                              |   |                          |      |     |
| LINER None                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                       | 5 1/2" - TOC @ 673' ft surf by calc. |        |      |                                    |   |                       |     |                                    |   |             |   |                   |    |                     |      |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |             |        |    |                                       |   |                              |   |                             |      |                      |      |                      |     |                          |   |                            |    |                              |   |                          |      |     |
| CURRENT PERFORATION DATA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                       |                                      |        |      |                                    |   |                       |     |                                    |   |             |   |                   |    |                     |      |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |             |        |    |                                       |   |                              |   |                             |      |                      |      |                      |     |                          |   |                            |    |                              |   |                          |      |     |
| CSG PERFS:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                       | OPEN HOLE:      Langlie Mattiz       |        |      |                                    |   |                       |     |                                    |   |             |   |                   |    |                     |      |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |             |        |    |                                       |   |                              |   |                             |      |                      |      |                      |     |                          |   |                            |    |                              |   |                          |      |     |
| 18-Feb-87 Perfd Jal (Yates) @ 2985', 91', 93', 95', 97', 99', 3001', 03', 05', 12', 17', 25', 27', 29', 31', 40', 42', 44', 46', 53', 58', 65', 69', 72', 75', 84', 83', 3105', 08', 14', 17', 20', 26', 31', 38', 43', 46', 54', 69', 70', 78', 79', 83', w/ 2 spf (86 holes total).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                       |                                      |        |      |                                    |   |                       |     |                                    |   |             |   |                   |    |                     |      |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |             |        |    |                                       |   |                              |   |                             |      |                      |      |                      |     |                          |   |                            |    |                              |   |                          |      |     |
| 18-Feb-87 Perfd Jalinet (7-Rivers) @ 3250', 58', 61', 65', & 69', w/ 2 spf (10 holes total).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                       |                                      |        |      |                                    |   |                       |     |                                    |   |             |   |                   |    |                     |      |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |             |        |    |                                       |   |                              |   |                             |      |                      |      |                      |     |                          |   |                            |    |                              |   |                          |      |     |
| TUBING DETAIL      5/6/2010                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                       | ROD DETAIL      5/6/10               |        |      |                                    |   |                       |     |                                    |   |             |   |                   |    |                     |      |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |             |        |    |                                       |   |                              |   |                             |      |                      |      |                      |     |                          |   |                            |    |                              |   |                          |      |     |
| <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Length (ft)</th> <th>Detail</th> </tr> </thead> <tbody> <tr><td>2960</td><td>94 2 7/8" 6.5#, J-55, 8rd EUE tbg.</td></tr> <tr><td>5</td><td>1 5 1/2" x 2 7/8" TAC</td></tr> <tr><td>556</td><td>18 2 7/8" 6.5#, J-55, 8rd EUE tbg.</td></tr> <tr><td>1</td><td>1 2 7/8" SN</td></tr> <tr><td>4</td><td>1 2 7/8" Perf Sub</td></tr> <tr><td>31</td><td>1 3 1/2" Mud Anchor</td></tr> <tr><td>3557</td><td>blm</td></tr> </tbody> </table>                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                       | Length (ft)                          | Detail | 2960 | 94 2 7/8" 6.5#, J-55, 8rd EUE tbg. | 5 | 1 5 1/2" x 2 7/8" TAC | 556 | 18 2 7/8" 6.5#, J-55, 8rd EUE tbg. | 1 | 1 2 7/8" SN | 4 | 1 2 7/8" Perf Sub | 31 | 1 3 1/2" Mud Anchor | 3557 | blm | <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Length (ft)</th> <th>Detail</th> </tr> </thead> <tbody> <tr><td>18</td><td>1 22' x 1 1/4" polish rod w/ 3/4" Pin</td></tr> <tr><td>0</td><td>1 1 1/4" x 1 1/2" x 12 liner</td></tr> <tr><td>4</td><td>2 2' - 2 - 7/8" K pony rods</td></tr> <tr><td>1125</td><td>45 3/4" steel K rods</td></tr> <tr><td>2200</td><td>88 7/8" steel K rods</td></tr> <tr><td>150</td><td>6 6 - 1 1/2" sinker bars</td></tr> <tr><td>2</td><td>1 2' - 2 - 7/8" K pony rod</td></tr> <tr><td>16</td><td>1 2 1/2" x 1 1/2" X 16" RHBC</td></tr> <tr><td>0</td><td>1 1 1/4" x 6" gas anchor</td></tr> <tr><td>3615</td><td>blm</td></tr> </tbody> </table> |  | Length (ft) | Detail | 18 | 1 22' x 1 1/4" polish rod w/ 3/4" Pin | 0 | 1 1 1/4" x 1 1/2" x 12 liner | 4 | 2 2' - 2 - 7/8" K pony rods | 1125 | 45 3/4" steel K rods | 2200 | 88 7/8" steel K rods | 150 | 6 6 - 1 1/2" sinker bars | 2 | 1 2' - 2 - 7/8" K pony rod | 16 | 1 2 1/2" x 1 1/2" X 16" RHBC | 0 | 1 1 1/4" x 6" gas anchor | 3615 | blm |
| Length (ft)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Detail                                |                                      |        |      |                                    |   |                       |     |                                    |   |             |   |                   |    |                     |      |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |             |        |    |                                       |   |                              |   |                             |      |                      |      |                      |     |                          |   |                            |    |                              |   |                          |      |     |
| 2960                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 94 2 7/8" 6.5#, J-55, 8rd EUE tbg.    |                                      |        |      |                                    |   |                       |     |                                    |   |             |   |                   |    |                     |      |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |             |        |    |                                       |   |                              |   |                             |      |                      |      |                      |     |                          |   |                            |    |                              |   |                          |      |     |
| 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 1 5 1/2" x 2 7/8" TAC                 |                                      |        |      |                                    |   |                       |     |                                    |   |             |   |                   |    |                     |      |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |             |        |    |                                       |   |                              |   |                             |      |                      |      |                      |     |                          |   |                            |    |                              |   |                          |      |     |
| 556                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 18 2 7/8" 6.5#, J-55, 8rd EUE tbg.    |                                      |        |      |                                    |   |                       |     |                                    |   |             |   |                   |    |                     |      |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |             |        |    |                                       |   |                              |   |                             |      |                      |      |                      |     |                          |   |                            |    |                              |   |                          |      |     |
| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 1 2 7/8" SN                           |                                      |        |      |                                    |   |                       |     |                                    |   |             |   |                   |    |                     |      |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |             |        |    |                                       |   |                              |   |                             |      |                      |      |                      |     |                          |   |                            |    |                              |   |                          |      |     |
| 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 1 2 7/8" Perf Sub                     |                                      |        |      |                                    |   |                       |     |                                    |   |             |   |                   |    |                     |      |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |             |        |    |                                       |   |                              |   |                             |      |                      |      |                      |     |                          |   |                            |    |                              |   |                          |      |     |
| 31                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 1 3 1/2" Mud Anchor                   |                                      |        |      |                                    |   |                       |     |                                    |   |             |   |                   |    |                     |      |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |             |        |    |                                       |   |                              |   |                             |      |                      |      |                      |     |                          |   |                            |    |                              |   |                          |      |     |
| 3557                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | blm                                   |                                      |        |      |                                    |   |                       |     |                                    |   |             |   |                   |    |                     |      |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |             |        |    |                                       |   |                              |   |                             |      |                      |      |                      |     |                          |   |                            |    |                              |   |                          |      |     |
| Length (ft)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Detail                                |                                      |        |      |                                    |   |                       |     |                                    |   |             |   |                   |    |                     |      |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |             |        |    |                                       |   |                              |   |                             |      |                      |      |                      |     |                          |   |                            |    |                              |   |                          |      |     |
| 18                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 1 22' x 1 1/4" polish rod w/ 3/4" Pin |                                      |        |      |                                    |   |                       |     |                                    |   |             |   |                   |    |                     |      |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |             |        |    |                                       |   |                              |   |                             |      |                      |      |                      |     |                          |   |                            |    |                              |   |                          |      |     |
| 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 1 1 1/4" x 1 1/2" x 12 liner          |                                      |        |      |                                    |   |                       |     |                                    |   |             |   |                   |    |                     |      |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |             |        |    |                                       |   |                              |   |                             |      |                      |      |                      |     |                          |   |                            |    |                              |   |                          |      |     |
| 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 2 2' - 2 - 7/8" K pony rods           |                                      |        |      |                                    |   |                       |     |                                    |   |             |   |                   |    |                     |      |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |             |        |    |                                       |   |                              |   |                             |      |                      |      |                      |     |                          |   |                            |    |                              |   |                          |      |     |
| 1125                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 45 3/4" steel K rods                  |                                      |        |      |                                    |   |                       |     |                                    |   |             |   |                   |    |                     |      |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |             |        |    |                                       |   |                              |   |                             |      |                      |      |                      |     |                          |   |                            |    |                              |   |                          |      |     |
| 2200                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 88 7/8" steel K rods                  |                                      |        |      |                                    |   |                       |     |                                    |   |             |   |                   |    |                     |      |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |             |        |    |                                       |   |                              |   |                             |      |                      |      |                      |     |                          |   |                            |    |                              |   |                          |      |     |
| 150                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 6 6 - 1 1/2" sinker bars              |                                      |        |      |                                    |   |                       |     |                                    |   |             |   |                   |    |                     |      |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |             |        |    |                                       |   |                              |   |                             |      |                      |      |                      |     |                          |   |                            |    |                              |   |                          |      |     |
| 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 1 2' - 2 - 7/8" K pony rod            |                                      |        |      |                                    |   |                       |     |                                    |   |             |   |                   |    |                     |      |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |             |        |    |                                       |   |                              |   |                             |      |                      |      |                      |     |                          |   |                            |    |                              |   |                          |      |     |
| 16                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 1 2 1/2" x 1 1/2" X 16" RHBC          |                                      |        |      |                                    |   |                       |     |                                    |   |             |   |                   |    |                     |      |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |             |        |    |                                       |   |                              |   |                             |      |                      |      |                      |     |                          |   |                            |    |                              |   |                          |      |     |
| 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 1 1 1/4" x 6" gas anchor              |                                      |        |      |                                    |   |                       |     |                                    |   |             |   |                   |    |                     |      |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |             |        |    |                                       |   |                              |   |                             |      |                      |      |                      |     |                          |   |                            |    |                              |   |                          |      |     |
| 3615                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | blm                                   |                                      |        |      |                                    |   |                       |     |                                    |   |             |   |                   |    |                     |      |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |             |        |    |                                       |   |                              |   |                             |      |                      |      |                      |     |                          |   |                            |    |                              |   |                          |      |     |
| WELL HISTORY SUMMARY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                       |                                      |        |      |                                    |   |                       |     |                                    |   |             |   |                   |    |                     |      |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |             |        |    |                                       |   |                              |   |                             |      |                      |      |                      |     |                          |   |                            |    |                              |   |                          |      |     |
| 10-Jun-54 Initial completion interval: 3420 - 3520' (Queen OH). Frac'd w/4,000 gals / 6,000#s sand. IP= 82 bopd, 0 bwpd, & GOR=4291                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                       |                                      |        |      |                                    |   |                       |     |                                    |   |             |   |                   |    |                     |      |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |             |        |    |                                       |   |                              |   |                             |      |                      |      |                      |     |                          |   |                            |    |                              |   |                          |      |     |
| 01-Jan-56 C/O frac sand from 3503 - 3520' (17' of fill)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                       |                                      |        |      |                                    |   |                       |     |                                    |   |             |   |                   |    |                     |      |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |             |        |    |                                       |   |                              |   |                             |      |                      |      |                      |     |                          |   |                            |    |                              |   |                          |      |     |
| 18-Feb-87 Deepened @ 3520'-3616'. Acc'd OH (3420'-3616') w/5,000 gals 15% NEFE HCL & 1500#s rock salt in 3 equal stages. Found bad 5 1/2" csg @ 384'-498'. 5oz'd csg leak w/200 sxs @ 550 psi SIP. Drid out cmt & tst csg @ 300 psi. OK. Frac OH (3420'-3616') w/37,800 gals 40# X-L & 82,000#s 12/20 sand (1.5 - 7 ppg) using 1000#s RS as diverter. AIR=24.9 bpm. PM= 3480 - 2250 psi. IFIP=1150 psi, P15min=1070 psi C/O sand @ 3430'-3616' (185'). Perfd 2985'-3269' w/ 2 spf (96 holes total). Set CIBP @ 3320'. Acc'd perfs 2989 - 3269' w/ 4,500 gals 15% NEFE dropping 150 BSs. Very good ball action. PM= 3100-1300 psi AIR= 5 bpm, ISIP=450 psi, P5min= vac. Frac'd perfs 2989'-3269' w/33,810 gals 40# gelled X-L water carrying 75,850#s 12/20 sand @ 1.5 ppg to 6 ppg concentration. PM= 4410 - 2594 psi. AIR=18 bpm, ISIP=1272, P15min= 1089 psi. C/O frac sand. Tried to Dig CIBP. Could not. Pushed CIBP to 3815' & left. Ran prod equip. PWOP. |                                       |                                      |        |      |                                    |   |                       |     |                                    |   |             |   |                   |    |                     |      |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |             |        |    |                                       |   |                              |   |                             |      |                      |      |                      |     |                          |   |                            |    |                              |   |                          |      |     |
| 23-Sep-91 Replaced 1 bad ft tbg. Returned well to production.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                       |                                      |        |      |                                    |   |                       |     |                                    |   |             |   |                   |    |                     |      |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |             |        |    |                                       |   |                              |   |                             |      |                      |      |                      |     |                          |   |                            |    |                              |   |                          |      |     |
| 18-Jan-96 Pulled rods & pmp. Drop standing valve & tst tbg to 500 psi. Tst OK. Change out pmp. Re-ran pmp & rods. PWOP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                       |                                      |        |      |                                    |   |                       |     |                                    |   |             |   |                   |    |                     |      |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |             |        |    |                                       |   |                              |   |                             |      |                      |      |                      |     |                          |   |                            |    |                              |   |                          |      |     |
| 10-Jun-96 Repaired rod part & changeout pmp. Return well to production.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                       |                                      |        |      |                                    |   |                       |     |                                    |   |             |   |                   |    |                     |      |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |             |        |    |                                       |   |                              |   |                             |      |                      |      |                      |     |                          |   |                            |    |                              |   |                          |      |     |
| 15-Oct-97 C/O fill from 3582 - 3615' (23'). Ran production equipment & returned well to production.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                       |                                      |        |      |                                    |   |                       |     |                                    |   |             |   |                   |    |                     |      |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |             |        |    |                                       |   |                              |   |                             |      |                      |      |                      |     |                          |   |                            |    |                              |   |                          |      |     |
| 13-May-04 POOH w/rods. Couldn't fish parted pmp. Tagged @ 3601', tally out of hole. Hydrotest tbg in hole to 7000#. PWOP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                       |                                      |        |      |                                    |   |                       |     |                                    |   |             |   |                   |    |                     |      |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |             |        |    |                                       |   |                              |   |                             |      |                      |      |                      |     |                          |   |                            |    |                              |   |                          |      |     |
| 20-Feb-06 POOH w/rods, pmp & tbg. Found hole on jt above SN. Hydrotest tbg in hole to 6000#. RIH w/ pump & rods. PWOP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                       |                                      |        |      |                                    |   |                       |     |                                    |   |             |   |                   |    |                     |      |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |             |        |    |                                       |   |                              |   |                             |      |                      |      |                      |     |                          |   |                            |    |                              |   |                          |      |     |
| 15-Aug-08 POOH with rods, pump and tubing. Hydrotest tubing in hole - found hole on jt above SN. RIH with pump & rods. PWOP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                       |                                      |        |      |                                    |   |                       |     |                                    |   |             |   |                   |    |                     |      |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |             |        |    |                                       |   |                              |   |                             |      |                      |      |                      |     |                          |   |                            |    |                              |   |                          |      |     |
| 05-May-10 POOH with rods, pump and tubing. Ran pressure gradient at 500' feet interval. Tagged at 3,595'. Hydrotest tubing in hole - found hole on jt above SN. RIH with pump & rods. PWOP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                       |                                      |        |      |                                    |   |                       |     |                                    |   |             |   |                   |    |                     |      |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |             |        |    |                                       |   |                              |   |                             |      |                      |      |                      |     |                          |   |                            |    |                              |   |                          |      |     |
| OH Interval<br>3420'-3616'                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                       |                                      |        |      |                                    |   |                       |     |                                    |   |             |   |                   |    |                     |      |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |             |        |    |                                       |   |                              |   |                             |      |                      |      |                      |     |                          |   |                            |    |                              |   |                          |      |     |
| Queen @ 3575'                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                       |                                      |        |      |                                    |   |                       |     |                                    |   |             |   |                   |    |                     |      |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |             |        |    |                                       |   |                              |   |                             |      |                      |      |                      |     |                          |   |                            |    |                              |   |                          |      |     |
| Fill @ 3601'                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                       |                                      |        |      |                                    |   |                       |     |                                    |   |             |   |                   |    |                     |      |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |             |        |    |                                       |   |                              |   |                             |      |                      |      |                      |     |                          |   |                            |    |                              |   |                          |      |     |
| CIBP Fish @ 3615'                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                       |                                      |        |      |                                    |   |                       |     |                                    |   |             |   |                   |    |                     |      |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |             |        |    |                                       |   |                              |   |                             |      |                      |      |                      |     |                          |   |                            |    |                              |   |                          |      |     |
| OH IE 4 3/4" in                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                       |                                      |        |      |                                    |   |                       |     |                                    |   |             |   |                   |    |                     |      |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |             |        |    |                                       |   |                              |   |                             |      |                      |      |                      |     |                          |   |                            |    |                              |   |                          |      |     |
| PBTD: 3616 R                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                       |                                      |        |      |                                    |   |                       |     |                                    |   |             |   |                   |    |                     |      |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |             |        |    |                                       |   |                              |   |                             |      |                      |      |                      |     |                          |   |                            |    |                              |   |                          |      |     |
| TD: 3616 R                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                       |                                      |        |      |                                    |   |                       |     |                                    |   |             |   |                   |    |                     |      |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |             |        |    |                                       |   |                              |   |                             |      |                      |      |                      |     |                          |   |                            |    |                              |   |                          |      |     |
| PREPARED BY:      Larry S. Adams      Domingo Carrizales      UPDATED:      13-May-10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                       |                                      |        |      |                                    |   |                       |     |                                    |   |             |   |                   |    |                     |      |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |             |        |    |                                       |   |                              |   |                             |      |                      |      |                      |     |                          |   |                            |    |                              |   |                          |      |     |



Field: **Cooper Jal Unit**

| Location:   |                       |
|-------------|-----------------------|
| Footage:    | 2310 FSL & 2310 FEL   |
| Section:    | Sec. 24, T-24S, R-38E |
| Block:      |                       |
| Survey:     |                       |
| County:     | Lee, New Mexico       |
| Lat:        |                       |
| Long:       |                       |
| Elevations: |                       |
| GL:         | 3,318'                |
| KB:         | 3,328'                |
| KB Calc:    | 10'                   |
| ck wlog?    | Yes                   |

| Date      | History                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9-Aug-46  | Initial completion interval: 3485' - 3550' (7 RVRS/QUEEN OH). Frac'd w/ 4,000 gals lse oil & 6,000 lb's sand. IP= 227 bopd, 0 bwpd, & 194 Mcf/d (flowing)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 15-Oct-58 | Refrac'd OH w/ 19,000 gals lse oil & 33,000 lb's sand                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 25-Aug-59 | Set CIBP @ 3375' & dmp'd 5 sxs cmt on top. Perf'd (Yates) intervals w/ 2 spf 3222-30', 3235-39', & 3298' - 3308' (44 holes total). Frac'd perf's w/ 15,000 gals lse oil & 23,300 lb's sand                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 14-Jun-71 | CONVERTED TO LANGLEY MATTIX INJECTOR. Drid out CIBP @ 3375' & C/O to TS @ 3540'. Ran pkr on 2 3/8" CL lbg. Set PKR @ 3391' Initiated injection. Note- Yates perf's are not sq'd & above pkr.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 1-Oct-79  | SI Well. Discovered 350 psi annulus pressure. Bled off pressure in 3 days.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 26-Nov-79 | Set BP @ 3350' & cmt sq'd perf 3222' - 3308' w/ 200 sxs @ 1000 psi. D/O & test sq'd to 1000 psi. OK. D/O CIBP and C/O open hole from 3495' - 3550'. RIH with pkr on 2 3/8" CL lbg. Set pkr @ 3391' and placed well on injection.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 14-Oct-84 | Acidz'd OH w/ 1,000 gals                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 11-Mar-86 | C/O & side-jet wash OH. Acidz OH w/ 2,000 gals. Found csq leaks @ 170' & old sq'd perf's 3222'-3308'. Perf'd 2 holes @ 290' & sq'd w/ 250 sxs - circ cmt to surface. Sq'd cmt into old perf's 3222' - 3308' w/ 250 sxs. D/O and test csq (0-3400') to 600 psg. Lost 20 psg in 30 minutes. Returned well to injection.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 25-Feb-88 | Test csq to 400 psi. Good test. Acidz OH w/ 3000 gals. Did not C/O. Ran new fourline lbg. Returned well to injection.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 10-Mar-88 | Step rate test indicates frac pressure (surface) is 1020 psi.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 18-Jul-91 | Failed MIT. Shut-in well. (Sq'd perf's 3222' - 3308' leaking)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 14-Oct-93 | Set CIBP @ 3354' & dmp 35' cmt on top. Perf w/ 2 spf (1.56" dia hole - 120 deg phasing) 3018'-3042', 3045'-54', 3059'-3086', 3070'-89', 3100'-14', 3127'-42', & 3146'-74' (232 holes total). Frac w/ 45,360 gals gel wtr carrying 184,140 lb's 12/20 Brady sand & 40,800 lb's 12/20 resin coated sand. AIR=34 bpm. Pk=3800 - 2100 psi. ISIP=1600 psi. C/O sand f/ 3085'-3318'. Ran tubing pump and rods. After WOC. 26 bopd, 286 bwpd, & 33 Mcf/d                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 16-Mar-01 | Set CIBP @ 2975 on WL. Circ well w/ brine. Spot 35 sxs cmt f/ 2975 - 2700'. WOC. Tag TOC @ 2680'. Perf 6 holes @ 1400'. Sqz 50 sxs cmt into perf's to 850 psi. WOC. Tag TOC @ 1145'. Perf 6 holes @ 400'. Sqz 150 sxs cmt into perf's to 750 psg. WOC. Tag TOC @ 145'. Spot cmt plug f/ 30' to surface. Cut off wellhead & cap 5 1/2" casing. Installed Dry hole marker & C/O Location. NMOCDD notified - well P&A'd 3-21-2001.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 16-Mar-11 | Ran in w/ 3/4" bit 3 drill collars tagged cmt @ 92', picked up swivel drilled from 175' to 452', circ'd well clean, test casing to 4500', ran in with bit tagged @ 1109', picked up swivel drilled from 1150' to 3700' in 8 days circulated well clean. Perf'd 7-Rivers f/ 3439'-3442', 3431'-3434', 3380'-3383', 3360'-3365', 3290'-3307' & 3248'. Perf'd Yates f/ 3236'-3242', 3220'-3233', 3192'-3195' & 3182'-3190'. ran w/ 5 1/2" composite plug & set @ 2960', ran in w/ 3 1/2" Shoe. 11-3 1/2" J. 3 1/2" Float Collar. 82 3 1/2" Jts. test tbg to 7000 psi, test good, nipple down BOP landed tbg. set end of shoe @ 2,958'. Pumped 110 bbls broke circulation, pumped 30 BBLs lime water, 5 BBLs fresh, 185 sxs cmt install 3 1/2" wiper plug, flush w/ 25 bbls, circulated 2.5 BBLs cmt to pit, ran in w/ 2-3/4" bit on 2 3/8" lbg, tagged float collar @ 2930', drilled up float collar, shoe, tagged composite plug made 8" stop making hole, pulled 14 jts. Pulled out w/ bit, ran in w/ mill, tagged plug 2958', drilled up plug, ran in w/ 10 jts, circ'd well clean, pulled out w/ tbg, ran in w/ 3-1/2" arrow set 1X. 2-3/8" work string test to 5000 PSI, test @ 2928, press to 350 psi, test good. Acidized perf 3018'-3442', released from Pkr w/ on & off tool, pulled and laid work string, ran in w/ 2-3/8" IPC lbg test to 6,000 psg, test good. Circulated 45 BBL packer fluid, latch to 3-1/2" Pkr test to 400 PSI test good. |
| 21-Jun-12 | Inj Profile shows: fit @ 3495', 42% into 30' of T. Yates, 43% well distributed f/ M. Yates to B. Yates & 15% into M. 7-R. Rate: 996 BWV @ 950#.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

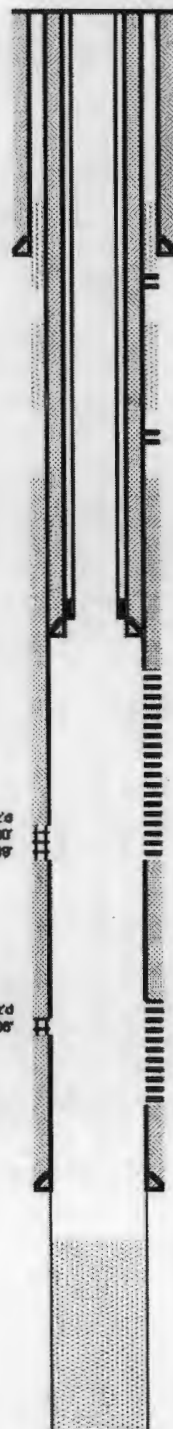
| Tubing Detail (top to bottom) |                             |         |       |
|-------------------------------|-----------------------------|---------|-------|
| Joints                        | Description                 | Footage | Depth |
| 93                            | 2-3/8" IPC Tbg              | 2,927   | 2,927 |
| 1                             | 3-1/2" Arrow Set 1-X Packer | 1       | 2,928 |

| Rod Detail (top to bottom) |             |         |       |
|----------------------------|-------------|---------|-------|
| Rods                       | Description | Footage | Depth |
|                            |             |         |       |

Pumping Unit  
Updated: 04/16/14 MLS

CJU #148  
(Also labeled #212)

### Wellbore Diagram



|               |                                                                               |
|---------------|-------------------------------------------------------------------------------|
| Reservoir:    | Cooper Jal                                                                    |
| Well ID Info: | CJU #148 WYW                                                                  |
| API No:       | 30-025-09842                                                                  |
| Spud Date:    | 3/6/1954                                                                      |
| Logs:         | GR-N from 50-3553' (3-28-54 Schlumberger)                                     |
| Cores:        | Cored 3005' - 3230', Avg. Por. = 21.1%<br>Avg. Perm. = 37 md, Avg. Sw = 36.9% |

|            |                    |
|------------|--------------------|
| Hole Size: | 12-1/4"            |
| Surf. Cag: | 8-5/8" - 28#, J-55 |
| Set @:     | 279'               |
| Cement w/: | 135 sx cmt         |
| Circ:      | Yes                |
| TOC:       | Surface            |

Perf'd 6 holes @ 400'

TOC: Unknown

DV Tool at 1200' pmp 150 sxs

Perf'd 6 holes @ 1400'

TOC: 1885' (by Calc.)

|            |                                      |
|------------|--------------------------------------|
| Hole Size: | 4.887" (Drill of 5-1/2" prod casing) |
| Linear:    | 3-1/2"                               |
| Set @:     | 2,828'                               |
| Cement:    | 185 sxs                              |
| TOC:       | Surface                              |

Inj Tbg Pkr @ 2928'

Yates @ 3019'

3018'-3042'  
3045'-3054'  
3059'-3086'  
3070'-89'  
3100'-114'  
3127'-3142'  
3146'-3174'  
3182'-3190'  
3192'-3195'  
3220'-3233'  
3236'-3242'  
7-R @ 3244'

|            |                                                  |
|------------|--------------------------------------------------|
| Hole Size: | 7-7/8"                                           |
| Prod. Cag: | 5-1/2" - 15.5#, J-55                             |
| Set @:     | 3,495'                                           |
| Cement:    | 300 sxs thru shoe; TOC @ 1885' from surf by calc |
| DV Tool:   | 150 sxs thru DV tool @ 1200'; TOC unknown        |

3248'-3252'  
3290'-3307'  
3360'-3365'  
3380'-3380'  
3431'-3434'  
3439'-3442'

OH Interval - 3485'-3700'  
OH ID: 4-3/4"

Fit @ 3498'

Quatern @ 3615'

PSTD 3700'  
TD 3700'

| WELLBORE SCHEMATIC AND HISTORY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                           |                 |                                                                                                                                                                 |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| CURRENT COMPLETION SCHEMATIC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | LEASE NAME                                                                                | Cooper Jal Unit | WELL NO. 154                                                                                                                                                    |  |
| <div>Surface Cas</div> <div>Hole Size: 11 in</div> <div>Csg. Size: 8 5/8 in</div> <div>Set @: 365 ft</div> <div>Sxs Cmt: 300</div> <div>Circ: Yes</div> <div>TOC @: surf</div> <div>TOC by: circ</div> <div><div>Yates @ 2975'</div><div>2975'-3004'</div><div>3028'-3034'</div><div>3080'-3094'</div><div>3060'-3070'</div><div>3012'-3026'</div><div>3102'-3130'</div><div>3134'-3140'</div><div>3142'-3146'</div><div>3170'-3180'</div><div>3182'-3195'</div><div>7-R @ 3195'</div><div>CIBP @ 3200'</div><div>3246'-48'</div><div>3298'-3300'</div><div>3378'-78'</div><div>3382'-44'</div><div>3393'-89'</div><div>3408'-11'</div><div>3425'-29'</div><div>3458'-58'</div><div>3482'-46'</div><div>3556'-70'</div><div>Queen @ 3574'</div></div> | STATUS: Active                                                                            | Oil             | AP# 30-02526284                                                                                                                                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | LOCATION: 1550 FNL & 2400 FEL, Sec 25, T - 24S, R - 36E, Lea County, New Mexico           |                 |                                                                                                                                                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | SPUD DATE: TD 3655                                                                        | KB 3,304'       | DF                                                                                                                                                              |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | INT. COMP. DATE: 09/11/79 PBTD 3652                                                       | GL 3,296'       |                                                                                                                                                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | ELECTRIC LOGS:<br>Forco Guard (Resistivity) Log (4-30-79 WELEX)<br>GR-CND (4-30-79 Welox) |                 | GEOLOGICAL DATA<br>GR-N (5-3-79 Welox)<br>GR-CCL (8-28-69) Schlumberger<br>HYDROCARBON BEARING ZONE DEPTH TOPS:<br>Yates @ 2975' 7-Rivers @ 3195' Queen @ 3574' |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | CORES DATA & MUO LOGS:                                                                    |                 |                                                                                                                                                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | CASING PROFILE                                                                            |                 |                                                                                                                                                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | SURF. 8 5/8" - 24#, K-55 set @ 365' Cmt'd w/300 sxs - circ cmt to surface.                |                 |                                                                                                                                                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | PROD. 5 1/2" - 15.5#, K-55 set @ 3655' Cmt'd w/600 sxs - cmt circulated to surface.       |                 |                                                                                                                                                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | LINER None                                                                                |                 |                                                                                                                                                                 |  |
| CURRENT PERFORATION DATA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                           |                 |                                                                                                                                                                 |  |
| CSG. PERFS:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                           |                 |                                                                                                                                                                 |  |
| 11-May-79 Perf'd 7-Rivers @ 3246 - 3570' 1 spt (19 holes total)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                           |                 |                                                                                                                                                                 |  |
| 08-Jul-99 Perf'd Yates @ 2975 - 3005', 3026 - 46' & 3080 - 94' w/ 2 spt (116 holes total).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                           |                 |                                                                                                                                                                 |  |
| OPEN HOLE:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                           |                 |                                                                                                                                                                 |  |
| TUBING DETAIL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                           |                 |                                                                                                                                                                 |  |
| 11/13/12                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                           |                 |                                                                                                                                                                 |  |
| Length (ft)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                           |                 |                                                                                                                                                                 |  |
| Detail                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                           |                 |                                                                                                                                                                 |  |
| 0 KB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                           |                 |                                                                                                                                                                 |  |
| 2780 92 2 7/8" 6.5#, J-55, 8rd EUE tbg.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                           |                 |                                                                                                                                                                 |  |
| 3 1 5 1/2" x 2 7/8" TAC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                           |                 |                                                                                                                                                                 |  |
| 580 19 2 7/8" 6.5#, J-55, 8rd EUE tbg.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                           |                 |                                                                                                                                                                 |  |
| 4 1 2 7/8" Tubing Sub                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                           |                 |                                                                                                                                                                 |  |
| 24 1 2 7/8" Tubing Barrel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                           |                 |                                                                                                                                                                 |  |
| 4 1 2 7/8" Tubing Sub                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                           |                 |                                                                                                                                                                 |  |
| 20 1 2 7/8" De-sander                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                           |                 |                                                                                                                                                                 |  |
| 121 4 3" Mud Anchor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                           |                 |                                                                                                                                                                 |  |
| 3536 btm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                           |                 |                                                                                                                                                                 |  |
| ROD DETAIL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                           |                 |                                                                                                                                                                 |  |
| 11/14/12                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                           |                 |                                                                                                                                                                 |  |
| Length (ft)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                           |                 |                                                                                                                                                                 |  |
| Detail                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                           |                 |                                                                                                                                                                 |  |
| 18 1 26" x 1 1/2" P R w/ 7/8" Pin                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                           |                 |                                                                                                                                                                 |  |
| 18 1 8", 8" x 1" pony rods                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                           |                 |                                                                                                                                                                 |  |
| 1075 43 1" steel rods                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                           |                 |                                                                                                                                                                 |  |
| 1675 67 7/8" steel rods                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                           |                 |                                                                                                                                                                 |  |
| 600 24 1 1/2" sucker bars                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                           |                 |                                                                                                                                                                 |  |
| 1 1 1" IR rod                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                           |                 |                                                                                                                                                                 |  |
| 4 1 2 1/4" X 4" RHBC Plunger                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                           |                 |                                                                                                                                                                 |  |
| 0 1 16" x 1" GA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                           |                 |                                                                                                                                                                 |  |
| 3389                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                           |                 |                                                                                                                                                                 |  |
| WELL HISTORY SUMMARY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                           |                 |                                                                                                                                                                 |  |
| 11-May-79 IC: 3246 - 3570' (7-R/Q). Acq'd w 4,500 gals & Frac'd w/40,000 gals carrying 34,000#s 20/40 sand & 15,000#s 10/20 sand in 2 equal stages. Max sand concentration reached was 2 ppg. IP=254 bopd, 24 bwppd, & 113 Mcf/gpd (pmppg).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                           |                 |                                                                                                                                                                 |  |
| 18-Jun-83 Replaced 1 jt tbg.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                           |                 |                                                                                                                                                                 |  |
| 15-Nov-86 DSI 72 hr. pressure build-up.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                           |                 |                                                                                                                                                                 |  |
| 10-Aug-88 C/O fill from 3505 - 3614' (109'). Acq'd w/2,500 gals 15% NEFE HCL dropping 25 ball sealers. Before WO: .7 bopd, 12.7 bwppd & 2.6 Mcf/gpd. After WO: 11.2 bopd, 82 bwppd & 10 Mcf/gpd                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                           |                 |                                                                                                                                                                 |  |
| 14-Dec-95 Cut paraffin in top 1,000' of tbg. Acq'd perfs 3246 - 3570' w/3,000 gals 20% NEFE HCL in 3 stages w/ 2 - 1,000# rock salt blocks. AIR=3 bpm @ 650 psi. Returned well to production.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                           |                 |                                                                                                                                                                 |  |
| 08-Jan-96 Change out rod pump.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                           |                 |                                                                                                                                                                 |  |
| 08-Jul-99 Set CIBP @ 3200'. Tst csg @ 550 psi. Good tst. Perf'd 2975'-3005', 3026'-46' & 3080'-94' w/ 2 spt - 120 degree (116 holes total) Ran dmp bailer & dmp 35' of cmt on top of CIBP. PBTD @ 3165'. Acq'd 3,000 gals 15% NEFE HCL using 2,000#s RS in 4 stages. AIR=3 bpm @ 2,000#. ISIP=840#, P15min=460#. Frac w/16,249 gals X-link fluid carrying 52,000#s 18/30 brady sand. AIR=30 bpm @ 1432#. ISIP=1021#, P15min=950#. C/O sand to 3195'. PWOP.                                                                                                                                                                                                                                                                                            |                                                                                           |                 |                                                                                                                                                                 |  |
| 21-Sep-99 Change out rod pump.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                           |                 |                                                                                                                                                                 |  |
| 28-Feb-02 Hydrotest in hole. Replaced 1 jt tbg.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                           |                 |                                                                                                                                                                 |  |
| 29-Oct-02 Hydrotest in hole. Replaced 3 jt tbg. Placed well on pump.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                           |                 |                                                                                                                                                                 |  |
| 10-Apr-03 Set a Bethlehem 228 pumping unit.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                           |                 |                                                                                                                                                                 |  |
| 21-Jul-08 Long stroke well.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                           |                 |                                                                                                                                                                 |  |
| 04-Dec-06 POOH w/rods, pump & tbg. Hydrotest tbg in hole to 7000# - found split 92nd & pin hole on 1st jt. PWOP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                           |                 |                                                                                                                                                                 |  |
| 07-Feb-11 POOH w/rods, pump & tbg. RIH w/ 4 3/4" bit, tagged at 3,130'. Clean out to CIBP at 3,200'. RIH w/ 5 1/2" PKR, tagged tight spots at 3,130'. Test casing to 500#. Perf'd Yates @ 3170'-80', 3182'-93', 3134'-40', 3142'-46', 3102'-30', 3,012'-26' & 3,080'-70', 82', 180' holes. RIH 5 1/2" PKR on 4 1/2" work string. Set PKR at 2,875', test annulus to 500#. Foam Sand Frac'd w/ 100,000 # 18/30 sand. ProPetro line busted close to Frac Valve. Pumped only 1st stage. Had oil shows on flow back. POOH w/ 4 1/2" WS & PKR. Clean out frac sand @ 3,150' to CIBP @ 3,200'. Hydrotest 2 7/8" production string to 7000 #. RIH with pump and rods. PWOP.                                                                                  |                                                                                           |                 |                                                                                                                                                                 |  |
| 12-Aug-11 Long Stroke Well.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                           |                 |                                                                                                                                                                 |  |
| 29-Aug-11 POOH & laid down 67- 3/4" rods. POOH w/ tubing. Hydrotest to 7000# - burst 99th & 98th joints. Ran Press Gradient. PWOP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                           |                 |                                                                                                                                                                 |  |
| 22-Nov-11 POOH with plunger, rods and tubing. Hydrotest tubing to 7000# - burst 1 joint. RIH with plunger and rods. PWOP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                           |                 |                                                                                                                                                                 |  |
| 02-Dec-11 POOH with plunger, rods and tubing. RIH with 4 3/4" bit to 3181', drilled CIBP @ 3,200'. Drilled & C/O to 3,865'. Ran Pressure Gradient, tagged @ 3,570'. Hydrotest tubing in hole to 7,000# - good. RIH w/ plunger and rods. PWOP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                           |                 |                                                                                                                                                                 |  |
| 28-Dec-11 POOH with rods and parted below cage on plunger. POOH with tubing. RIH with tubing, pump & rods. PWOP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                           |                 |                                                                                                                                                                 |  |
| 09-Jan-12 POOH w/ rods, pump & tbg. Hydrotest tbg - found split on # 101 joint. RIH w/ tbg, pump & rods. Replaced K-Bars couplings. PWOP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                           |                 |                                                                                                                                                                 |  |
| 13-Feb-12 POOH with unscrewed 12th - 1" rod and parted 50th - 7/8" rod. RIH with pump and rods. PWOP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                           |                 |                                                                                                                                                                 |  |
| 07-Mar-12 Change out polished rod.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                           |                 |                                                                                                                                                                 |  |
| 19-Mar-12 Long stroke well - some pump action. POOH with Prod string. Hydrotest tubing to 7000# - split on 100th jt. PWOP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                           |                 |                                                                                                                                                                 |  |
| 08-Aug-12 POOH with parted 72th - 7/8" (body break). Replaced broken rod. Evident of real small pits. PWOP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                           |                 |                                                                                                                                                                 |  |
| 23-Aug-12 POOH w/ rods, plunger, & tubing. Ran BHP Survey, tagged @ 3,852'. Hydrotest tbg - split on 7th jt. RIH w/ plunger & rods. PWOP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                           |                 |                                                                                                                                                                 |  |
| 13-Nov-12 POOH w/ rods & plunger, parted 2 7/8" tbg below slips. Fished tbg. Hydrotest tbg to 6000# - pin hole on 24th above WS. PWOP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                           |                 |                                                                                                                                                                 |  |
| PREPARED BY: Larry S. Adams Domingo Camizales UPDATED: 28-Nov-12                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                           |                 |                                                                                                                                                                 |  |



## WELLBORE SCHEMATIC AND HISTORY

| CURRENT COMPLETION SCHEMATIC                                                                                                                                                    |    | LEASE NAME                                                                                                                                                                                                                                                                                                         |      | Cooper Jal Unit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                          | WELL NO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  | 213 WIW  |  |           |    |                        |   |   |                                  |   |   |                     |      |    |                                     |    |   |                        |   |   |                                          |   |   |                   |      |  |                                    |      |  |  |  |  |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------|--|-----------|----|------------------------|---|---|----------------------------------|---|---|---------------------|------|----|-------------------------------------|----|---|------------------------|---|---|------------------------------------------|---|---|-------------------|------|--|------------------------------------|------|--|--|--|--|--|
| <p><b>Surface Cas</b></p> <p>Hole Size: 11 in</p> <p>Csg. Size: 8 5/8 in</p> <p>Set @: 302 ft</p> <p>Sxs Cmt: 125</p> <p>Circ: Yes</p> <p>TOC @: surf</p> <p>TOC by: circ</p>   |    | <p>STATUS: Water Injector</p> <p>LOCATION: 1980 FSL &amp; 680 FEL, Sec 24, T-24S, R-38E, Lea County, New Mexico</p> <p>SPUD DATE: TD 3600 KB 3,311' DF</p> <p>INT. COMP. DATE: 03/16/50 PBTD 3600 GL 3,306'</p>                                                                                                    |      | <p>AP# 30-025-09823</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                          | <p><b>ELECTRIC LOGS</b></p> <p>GR-N (3-13-50 Lane Wells)</p> <p>Casing Inspection Log (10-7-94 Halliburton)</p> <p><b>GEOLOGICAL DATA</b></p> <p>CORES, DET'S, or MUD LOGS</p> <p><b>HYDROCARBON BEARING ZONE DEPTH TOPS</b></p> <p>Yates @ 3003' 7-Rivers @ 3228' Queen @ 3580'</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |          |  |           |    |                        |   |   |                                  |   |   |                     |      |    |                                     |    |   |                        |   |   |                                          |   |   |                   |      |  |                                    |      |  |  |  |  |  |
| <p>Holes in csg</p> <p>389 - 450'</p> <p>cmt sqz'd</p> <p>Holes in csg</p> <p>689 - 750'</p> <p>Csg Lk at 800'</p> <p>TOC @ 895'</p> <p>By Calc.</p> <p>DV Tool at 1,224'</p>   |    | <p><b>CASING PROFILE</b></p> <p>SURF. 8 5/8" - 29,758' J-55 set @ 302' Cmt'd w/125 sxs - circ cmt to surface.</p> <p>PROD. 5 1/2" - 14# J-55 set @ 3003' Cmt'd w/400 sxs - TOC @ 895' from surface by calculation.</p> <p>LINER 4 1/2" - 14# J-55 set at 2,957' Cmt'd with 100 sx - TOC at Surf by circulation</p> |      | <p><b>CURRENT PERFORATION DATA</b></p> <p>CSG PERFS:</p> <p>OPEN HOLE: 3003 - 3600'</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                          | <p><b>Linear DETAIL</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>2922</td> <td>87</td> <td>4 1/2" 11.6# SJ Thread</td> <td>6</td> <td>1</td> <td>2 3/8" J-55 4.7# EUE 8rd IPC Sub</td> </tr> <tr> <td>2</td> <td>1</td> <td>4 1/2" Float Collar</td> <td>2930</td> <td>92</td> <td>2 3/8" J-55 4.7# EUE 8rd IPC Tubing</td> </tr> <tr> <td>31</td> <td>1</td> <td>4 1/2" 11.6# SJ Thread</td> <td>3</td> <td>1</td> <td>4 1/2" x 2 3/8" Arrow Set Nickel Platted</td> </tr> <tr> <td>2</td> <td>1</td> <td>4 1/2" Float Shoe</td> <td>2939</td> <td></td> <td>w/ On-Off Tool &amp; w/ 1.78 F Profile</td> </tr> <tr> <td>2957</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <p><b>Tubing DETAIL</b> 2/10/2012</p> |  |          |  | 2922      | 87 | 4 1/2" 11.6# SJ Thread | 6 | 1 | 2 3/8" J-55 4.7# EUE 8rd IPC Sub | 2 | 1 | 4 1/2" Float Collar | 2930 | 92 | 2 3/8" J-55 4.7# EUE 8rd IPC Tubing | 31 | 1 | 4 1/2" 11.6# SJ Thread | 3 | 1 | 4 1/2" x 2 3/8" Arrow Set Nickel Platted | 2 | 1 | 4 1/2" Float Shoe | 2939 |  | w/ On-Off Tool & w/ 1.78 F Profile | 2957 |  |  |  |  |  |
| 2922                                                                                                                                                                            | 87 | 4 1/2" 11.6# SJ Thread                                                                                                                                                                                                                                                                                             | 6    | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 2 3/8" J-55 4.7# EUE 8rd IPC Sub         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |          |  |           |    |                        |   |   |                                  |   |   |                     |      |    |                                     |    |   |                        |   |   |                                          |   |   |                   |      |  |                                    |      |  |  |  |  |  |
| 2                                                                                                                                                                               | 1  | 4 1/2" Float Collar                                                                                                                                                                                                                                                                                                | 2930 | 92                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 2 3/8" J-55 4.7# EUE 8rd IPC Tubing      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |          |  |           |    |                        |   |   |                                  |   |   |                     |      |    |                                     |    |   |                        |   |   |                                          |   |   |                   |      |  |                                    |      |  |  |  |  |  |
| 31                                                                                                                                                                              | 1  | 4 1/2" 11.6# SJ Thread                                                                                                                                                                                                                                                                                             | 3    | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 4 1/2" x 2 3/8" Arrow Set Nickel Platted |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |          |  |           |    |                        |   |   |                                  |   |   |                     |      |    |                                     |    |   |                        |   |   |                                          |   |   |                   |      |  |                                    |      |  |  |  |  |  |
| 2                                                                                                                                                                               | 1  | 4 1/2" Float Shoe                                                                                                                                                                                                                                                                                                  | 2939 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | w/ On-Off Tool & w/ 1.78 F Profile       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |          |  |           |    |                        |   |   |                                  |   |   |                     |      |    |                                     |    |   |                        |   |   |                                          |   |   |                   |      |  |                                    |      |  |  |  |  |  |
| 2957                                                                                                                                                                            |    |                                                                                                                                                                                                                                                                                                                    |      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |          |  |           |    |                        |   |   |                                  |   |   |                     |      |    |                                     |    |   |                        |   |   |                                          |   |   |                   |      |  |                                    |      |  |  |  |  |  |
| <p><b>Liner</b></p> <p>Hole Size: 5 in</p> <p>Lin. Size: 4 1/2 in</p> <p>Set @: 2957 ft</p> <p>Sxs Cmt: 100</p> <p>Circ: Yes</p> <p>TOC @: Surf f/ surf</p> <p>TOC by: Circ</p> |    | <p>PKR @ 2,931'</p> <p>Shoe @ 2957'</p> <p>Yates @ 3003'</p> <p>Shoe @ 3003'</p> <p>FR @ 3040'</p> <p>OH Interval 3003 - 3600'</p> <p>7-R @ 3228'</p> <p>Queen @ 3580'</p>                                                                                                                                         |      | <p><b>WELL HISTORY SUMMARY</b></p> <p>16-Mar-50 Initial completion 3003 - 3220' (Yates OH): No stimulation. IP=68 bopd, 0 bwpd, &amp; 76 Mcf/gpd. (flowing)</p> <p>11-Nov-54 C/O fill to 3220'</p> <p>14-Aug-56 C/O fill to 3220'</p> <p>17-Jul-66 C/O fill to 3220'</p> <p>07-May-71 CONVERTED TO INJECTOR: C/O various bridges from 3096 - 3220'</p> <p>17-Jul-87 C/O various bridges f/ 3096 - 3195' &amp; fill (FeSO<sub>4</sub>, CaCO<sub>3</sub> &amp; Formation) f/ 3205 - 3220'. Returned to injection at 880 bwpd with TP=880 psi.</p> <p>14-Jan-89 Replaced tubing with new cement lined tubing string. Returned to injection.</p> <p>26-Sep-94 Isolated 5 1/2" csg leak f/ 389'-421'. Cmt sqz'd csg leak w/ 150 sxs circulating cmt out 5 1/2" x 8 5/8" annulus. D/O &amp; casing. Bad tst. Spot 50 sxs cmt across 389'-421' &amp; sqz to 800 psi. WOC. D/O &amp; tst csg. Bad tst. Ran Casing inspection log which showed holes in casing f/ 400 - 446', 492 - 498', &amp; possible csg part 1225'-1230'. Attempt to cmt SQZ'd casing w/ 60 sxs cmt. D/O &amp; tst csg. Bad test. Set CIBP @ 2,980' on WL. Dumped 50' cmt on top of CIBP. WOC. Tag TOC @ 2912'. TA'd well.</p> <p>18-Apr-95 Circ well w/ gelled brine. Spot 25 sxs cmt from 2400 - 2200'. WOC. Tagged TOC @ 2160'. Spot 35 sxs cmt from 1350' - 1013'. Spot 90 sxs cmt from 800' to surface. Cut off wellhead &amp; cap casing. Installed Dry hole marker &amp; cleaned location. NMOCD notified - well P&amp;A'd 4-28-1995.</p> <p>29-Dec-11 Drilled surface cement plug with 4 3/4" bit to 800 feet in 12 days. Press test Csg - failed. Drilled 2nd plug from 1,027' to 1,385' in 2 days. Drilled 3rd plug from 2,205' to 2,450'. Drilled 4th plug from 2,924' to top CIBP @ 2,980'. Drilled on CIBP and pushed to 3242'. Drilled CIBP and 5' of new formation. Drilled formation w/ 4 3/4" button bit from 3,247' to 3,433 in 5 days. Drilled w/ new 4 3/4" Milled Tooth bit f/ 3,435' to new TD 3,600' in 6 days. Logged well w/ GR-CCL &amp; Csg Inspection Log. Set Composite Plug @ 2,955'. Test plug to 800 psig - good. RIH with 4 1/2" Liner to 2,957'. Pumped 50 sx - stop to mixer. Waited on cement. Pumped 100 sx Class C. Circulated 29 sxs, 7 bbls cmt to reverse pit. RIH with 3 7/8" bit. Drilled Floor Collar, float shoe and Comp. Plug - tagged at 3,600'. RIH with 4 1/2" Arrow Set on 2 3/8" IPC at 2,931'. Performed MIT to 500# - okay. Acidized open hole with 16,000 gals 15% Star Acid (90% acid, 10% xylene). AIR= 5.8 bpm. ISIP= 1020#. Pmax= 2,921#.</p> <p>14-Jun-12 Tagged fill @ 3040' with 1 3/8" sinker bar rod tool.</p> |                                          | <p>PBTD: 3600 ft</p> <p>TD: 3600 ft</p> <p>OH ID: 3.75"</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |          |  |           |    |                        |   |   |                                  |   |   |                     |      |    |                                     |    |   |                        |   |   |                                          |   |   |                   |      |  |                                    |      |  |  |  |  |  |
|                                                                                                                                                                                 |    | PREPARED BY:                                                                                                                                                                                                                                                                                                       |      | Larry S. Adams                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                          | Domingo Carrizales                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  | UPDATED: |  | 22-Jun-12 |    |                        |   |   |                                  |   |   |                     |      |    |                                     |    |   |                        |   |   |                                          |   |   |                   |      |  |                                    |      |  |  |  |  |  |



## WELLBORE SCHEMATIC AND HISTORY

| CURRENT COMPLETION SCHEMATIC                                                                                                                                                              |                                                  | LEASE NAME                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  | WELL NO.            |  |             |        |      |  |      |                                                  |   |                                     |          |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------|--|-------------|--------|------|--|------|--------------------------------------------------|---|-------------------------------------|----------|--|
|                                                                                                                                                                                           |                                                  | <b>Cooper Jai Unit</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  | <b>218 WIW</b>      |  |             |        |      |  |      |                                                  |   |                                     |          |  |
|                                                                                                                                                                                           |                                                  | Active                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  | Water Injector      |  |             |        |      |  |      |                                                  |   |                                     |          |  |
|                                                                                                                                                                                           |                                                  | API#                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  | <b>30-025-09634</b> |  |             |        |      |  |      |                                                  |   |                                     |          |  |
| <p><b>Surface Csg</b></p> <p>Hole Size: 11 in</p> <p>Csg. Size: 8 5/8 in</p> <p>Set @: 269 ft</p> <p>Sss Cmt: 150</p> <p>Circ: Yes</p> <p>TOC @: surf</p> <p>TOC by: circ</p>             |                                                  | <p><b>LOCATION:</b> 660 FSL &amp; 660 FWL, Sec 24, T - 24S, R - 36E, Lea County, New Mexico</p> <p><b>SPUD DATE:</b> TD 3210 KB 3,336' DF</p> <p><b>INT. COMP. DATE:</b> 06/07/51 PBTD 3210 GL 3,324'</p> <p style="text-align: center;"><b>ELECTRIC LOGS</b></p> <p>GR-N (6-4-51 Lane Wells) Caliper (5-20-51 Halliburton)</p> <p style="text-align: center;"><b>HYDROCARBON BEARING ZONE DEPTH TOPS</b></p> <p>Yates @ 3040'      7-Rivers @ 3220'      Queen @ 3605'</p> <p style="text-align: center;"><b>CASING PROFILE</b></p> <p><b>SURF.</b> 8 5/8" - 29#, 10V &amp; 32#, 8V, J-55 set @ 289' Cmt'd w/150 sxs - circ cmt to surf.</p> <p><b>PROD.</b> 5 1/2" - 17#, J-55 set @ 3035' Cmt'd w/900 sxs - circulated cmt to surface.</p> <p><b>LINER</b> 4 1/2" 11.6 #/ft Flush Joint set at 3,002' Cemented w/ 75 sx class C star lite plus 50 sx class C cmt, circulated to surf.</p> <p style="text-align: center;"><b>CURRENT PERFORMANCE DATA</b></p> <p>CSG PERFS:      OPEN HOLE: 3035 - 3780'</p> <p style="text-align: center;"><b>TUBING DETAIL</b>      <b>ROD DETAIL</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Length (ft)</th> <th style="text-align: left;">Detail</th> </tr> </thead> <tbody> <tr> <td>0 KB</td> <td></td> </tr> <tr> <td>2853</td> <td>98 2 3/8" 4.7#, ceramic coat, J-55, 8rd EUE tbg.</td> </tr> <tr> <td>3</td> <td>1 4 1/2" x 2 3/8" Baker AU-1 packer</td> </tr> <tr> <td>2985 btm</td> <td></td> </tr> </tbody> </table> <p><b>WELL HISTORY SUMMARY</b></p> <p>7-Jun-51 Initial completion 3035 - 3210' (Yates OH): Hydra-Frac w/1,500 gals Kerosene, 400#s NAPALM Soap &amp; 800#s Ottawa sand. IP=165 bopd, 0 bwpd, &amp; 159 Mcf/gpd. (flowing)</p> <p>8-Dec-52 Refrac OH (3035 - 3210') using 12,000 gals lse oil &amp; 12,000#s sand.</p> <p>8-Aug-57 Refrac OH (3035 - 3210') using 20,000 gals lse oil carrying 40,000#s sand using 6,800#s mothballs for diversion. AIR=15.8 bpm (3 - 600# blocks)</p> <p>28-Jun-71 CONVERTED TO INJECTOR: C/O stuck tubing. C/O fill to 3210'.</p> <p>9-Nov-79 Tag fill w/1" sinker bar @ 3055' (155').</p> <p>30-Jan-85 Isolated 5 1/2" csg leak from 277 - 310'. Sqz cmt csg leak with 400 sxs. C/O to 3210'.</p> <p>6-Apr-88 Replaced tbg w/new fluorolined yellow band tbg. Tst csg to 340 psi. OK.</p> <p>14-Feb-02 Tag TD using SL unit (1 1/4" x 5' sinker bar). Tag fill @ 3044' (186' of fill).</p> <p>23-May-02 Wash &amp; Work down w/18 bbls Acid to 3150' Acidize w/1260 gals. 15% to 3062' unable to C/O. Flush w/15 bbls 15% acid. ISIP= 1180#. Injecting @ 460# @ 250 BPD</p> <p>6-Nov-03 Cleaned out @ 3130' to 3210' - TD. RIH w/ Injection string - could not test 2 3/8" Fluoroline lined tubing. Replaced w/ and hydrotest 2 3/8" IPC tubing to 7000 psig. Located 5 1/2" Baker Model AD - 1 at 2995'. Circulated with 70 barrels of 2% KCL with packer fluid. Set packer and and test annulus to 500 psig. Pulled chart for OCD filing.</p> <p>29-Nov-04 Rate &amp; Press: 125 bwpd at 1000#. POOH w/ 2 3/8" IPC tubing and 5 1/2" AD-1 packer. RIH w/ 4 3/4" mill, 10 - 3 1/2" drill collars on 2 7/8" work string. Tagged at 3,190', cleaned out &amp; drilled out to 3,214'. RIH w/ 4 3/4" button bit. Drilled to new TD at 3,780' using 5 drill bits. Ran compensated Neutron log @ 3,780' to 2,900'. Washed w/ surfactant water &amp; acidized with 6,000 gals 15% NEFE acid via Perf-Clean Tool. RIH with injection string, circulated annulus with inhibited packer fluid. Set packer 2,988'. Could not obtain MIT due to a casing leak. Shut in well.</p> <p>11-Jan-05 Shut in. POOH w/ injection PKR &amp; IPC tbg. Set a CIBP at 3,015'. RIH w/ 4 1/2" float shoe &amp; float collar on 74 - 4 1/2" LNR 11.6 #/ft to 3,002'. Cemented w/ 75 sacks class C star lite plus 50 sacks class C cement, circulated to surface. Drilled out cement float collar &amp; shoe. Test liner to 1000# - held. Drilled out CIBP at 3,015', cleaned out to 3,779' RIH with new 2 3/8" tubing. Ceramic Coat tubing and packer to 2,983'. Circulated with packer fluid. Pressure annulus to 500# - held. Pulled pressure chart for NMOCD. Placed well on injection: 491 bwpd at 460#.</p> <p>08-Nov-05 RIH with 1 1/4" x 5' sinker bar and tagged at 3,780' (TD).</p> <p>15-Mar-11 POOH with injection string and PKR. RIH with 3 3/4" bit, tagged @ 3,175'. Cleaned out to 3,780'. RIH with injection PKR &amp; set 2,964'. Acidized with 20,000 gallons 90%/10% 15% HCL &amp; xylene. AIR = 6 bpm. Blocked with 18,000# rock salt. Pavg = 1280 ps ISIP = 380 psig. Test injection string to 7000 psig.</p> |  |                     |  | Length (ft) | Detail | 0 KB |  | 2853 | 98 2 3/8" 4.7#, ceramic coat, J-55, 8rd EUE tbg. | 3 | 1 4 1/2" x 2 3/8" Baker AU-1 packer | 2985 btm |  |
| Length (ft)                                                                                                                                                                               | Detail                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |                     |  |             |        |      |  |      |                                                  |   |                                     |          |  |
| 0 KB                                                                                                                                                                                      |                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |                     |  |             |        |      |  |      |                                                  |   |                                     |          |  |
| 2853                                                                                                                                                                                      | 98 2 3/8" 4.7#, ceramic coat, J-55, 8rd EUE tbg. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |                     |  |             |        |      |  |      |                                                  |   |                                     |          |  |
| 3                                                                                                                                                                                         | 1 4 1/2" x 2 3/8" Baker AU-1 packer              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |                     |  |             |        |      |  |      |                                                  |   |                                     |          |  |
| 2985 btm                                                                                                                                                                                  |                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |                     |  |             |        |      |  |      |                                                  |   |                                     |          |  |
| <p><b>Liner</b></p> <p>Ltr Size: 4 1/2"</p> <p>11.6 #/ft Flush Joint</p> <p>Set @: 3,002'</p> <p>Class C: 75 sx &amp; 50 sx</p> <p>Circ.: Yes</p>                                         |                                                  | <p>pkz @ 2984'</p> <p>Jalmat</p> <p>Yates @ 3040'</p> <p>OH Interval</p> <p>3035 - 3780'</p> <p>7-R @ 3220'</p> <p>Langite Mothballs</p> <p>at 3400'</p> <p>Queen @ 3605'</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                     |  |             |        |      |  |      |                                                  |   |                                     |          |  |
| <p><b>Production Csg.</b></p> <p>Hole Size: 7 5/8 in</p> <p>Csg. Size: 5 1/2 in</p> <p>Set @: 3035 ft</p> <p>Sss Cmt: 900</p> <p>Circ: Yes</p> <p>TOC @: surface</p> <p>TOC by: circ.</p> |                                                  | <p>PSTD: 3780 ft</p> <p>TD: 3780 ft</p> <p>OH II 4 3/4 in</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                     |  |             |        |      |  |      |                                                  |   |                                     |          |  |

PREPARED BY:

Larry S. Adams

D. Carrizales

UPDATED:

26-Jan-05

Field: **Cooper Jal Unit**

| Location:   |                       |
|-------------|-----------------------|
| Footage:    | 980 FSL & 2310 FWL    |
| Section:    | Sec. 24, T-24S, R-36E |
| Block:      |                       |
| Survey:     |                       |
| County:     | Lee, New Mexico       |
| Lat:        |                       |
| Long:       |                       |
| Elevations: |                       |
| GL:         | 3,318'                |
| KB:         | 3,328'                |
| KB Calc:    | 10'                   |
| ck wlog?    | Yes                   |

| Date      | History                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1-Mar-50  | Initial completion 2998 - 3244' (Yates OH). No stimulation. IP=55 bopd, 0 bwpd, & 84 Mcfcpd. (flowing)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 26-Jan-54 | C/O fill to 3244'                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 11-Sep-55 | C/O fill to 3244'                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 15-Apr-57 | C/O fill to 3244'                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 15-May-57 | Placed well on rod pump system.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 10-Apr-69 | C/O fill from 3174 - 3244' (70')                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 2-Feb-73  | Checked for fill (None Present)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 5-Jul-75  | C/O fill fr 3040-3244' (204'). Sq'd 4 drums of scale inhibitor into OH. Acct'd OH w/ 1,500 gals & re-sq'd 4 drums of scale inhibitor. Before W/O: 143 bopd & 84 bwpd. After W/O: 158 bopd & 114 bwpd                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 15-Jul-86 | Tagged fill @ 3125' (119')                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 27-May-88 | C/O fill from 3122 - 3244' (122') and jetwashed OH. Ran GR-CCL-CNL. Ran production equipment. Before W/O: 19 bopd, 114 bwpd & 9 Mcfcpd. After W/O: 21 bopd, 110 bwpd & 36.4 Mcfcpd                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 24-Nov-93 | Repaired rod part. Ran new pmp & replaced 8 - 7/8" rod boxes & 17 - 3/4" rod boxes. PWOP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 16-Feb-94 | Replaced 10 bad jts of tbg. Returned well to production.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 1-Mar-95  | Ran bit & scraper to 2950'. Set pkr @ 2925' & acct'd OH (2998 - 3244') w/ 5,000 gals 15% NEFE HCL & 5,000#s rock salt in 8 stages. AIR=5 bpm @ 1300 psi. ISIP= 645 psi. P15min= vac. Ran bailer & tagged @ 3130'. Could not clean out any deeper than 3130'. Ran tbg, pmp & rods. Returned well to production. Before W/O: 7 bopd, 8 bwpd, & 29 mcfcpd. After W/O: 15 bopd, 141 bwpd & 19 Mcfcpd                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 28-Nov-95 | Repaired rod part. Returned well to production                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 6-Jul-96  | Replaced 1 bad jt of tbg. Returned well to production.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 28-Jan-00 | Test tbg w/standing valve. OK. Ran new pmp & replaced 10 - 3/4" rod boxes & 10 - 7/8" rod boxes. PWOP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 12-May-00 | Replaced rod pmp. Returned well to production.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 17-Oct-00 | Replaced 50 jts tbg. Replaced rod pmp. Return well to production.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 28-Jul-04 | Changed out stuffing box and pumping tee.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 27-Sep-05 | POOH w/ rods, pump & tbg. Hydrotest tbg in hole to 7000# - found hole on top jt. RIH w/ notched collar & tagged at 3188'. Clean Out to 3244'. RIH w/ tubing, pump & rods. Well would not pump. C/O pump. PWOP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 24-Jun-10 | POOH w/ rods, pump & laid down tubing string. RIH with 4 3/4" bit on 2 7/8" tbg. Cleaned out with Foam Air Unit fr 2,980' to 3,244'. Found communication up the surface casing. RIH with 3 1/2" Frac string (Hydrotest - 7,000#). Set PKR at 2,888'. RU ProPetro. Pumped 1000 gals 15% NEFE. Foam Sand Frac'd (70 Quality) Yates with 104,000# 16/30 mesh sand (Brown) plus 60,000# 16/30 resin coated sand. The rest of sand (45,000#) was not pumped due to blender failure. Fluid rate= 15 bpm. Nitrogen rate= 32 bpm. Pavp= 3,500# ISIP= 4,450# Laid down 3 1/2" W/S. Last joint & PKR were full resin coated sand. Found casing leak at 354'. Replaced 5 1/2" casing from 358' to surface. Could not screw casing onto collar. FIH w/ fluted collar & guide, could not screw onto collar. Pumped 65 sacks Class C cement, not circ'd RIH w/ 4 3/4" Concave mill, worked tight spot at 406'. Test casing leak to 500# - held. C/O sand fr 2,897' to 3,090'. Next day tagged at 3,045'. 45' wntry. Cleaned out to 3,244'. POOH w/ bit. RIH w/ notched collar, clean out 156' fill & 124' of fill. RIH w/ production string. Installed new PU. PWOP |
| 13-Aug-10 | POOH with parted 57 - 3/4" (body break). Replaced rod. PWOP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

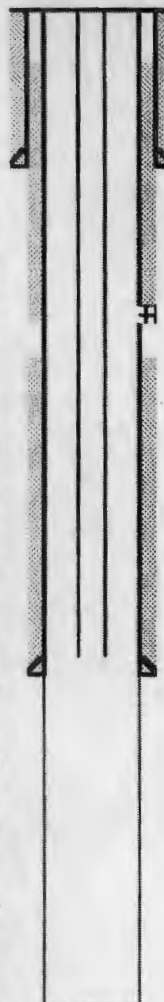
| Tubing Detail (top to bottom) |                                  |         |       |
|-------------------------------|----------------------------------|---------|-------|
| Joints                        | Description                      | Footage | Depth |
| 1                             | 2-7/8" 6.48, J-55, SM Sub        | 4       | 4     |
| 82                            | 2-7/8" 6.48, J-55, Super Max tbg | 2,542   | 2,546 |
| 1                             | 2-7/8" x 5-1/2" TAC              | 3       | 2,549 |
| 9                             | 2-7/8" 6.48, J-55, Super Max tbg | 205     | 2,634 |
| 1                             | 2-7/8" x 3-1/2" SM Blast Joint   | 33      | 2,667 |
| 1                             | 2-7/8" SN                        | 1       | 2,668 |
| 1                             | 2-7/8" Perf Sub                  | 4       | 2,672 |
| 1                             | 2-7/8" Kaven De-Sander           | 19      | 2,691 |
| 1                             | 2-7/8" Mud Anchor                | 62      | 2,953 |

| Rod Detail (top to bottom) |                                     |         |       |
|----------------------------|-------------------------------------|---------|-------|
| Rods                       | Description                         | Footage | Depth |
| 1                          | 26" x 1-1/4" polish rod             | 22      | 22    |
| 1                          | 1-1/4" x 1-1/2" x 14' liner         | 0       | 22    |
| 1                          | 7/8" pony rods                      | 4       | 26    |
| 39                         | 7/8" steel rods                     | 975     | 1,001 |
| 50                         | 3/4" steel rods                     | 1,250   | 2,251 |
| 24                         | 1-1/2" sinker bars                  | 600     | 2,851 |
| 1                          | 2-1/2" x 2" x 20' with RHR rod pump | 20      | 2,871 |
| 1                          | 1-1/4" x 1' strainer                | 0       | 2,871 |

Pumping Unit:  
Updated: 01/06/14 MLS

CJU #217

### Wellbore Diagram



PSTD 3244'  
TD 3244'

Reservoir: **Cooper Jal**

|                   |                  |
|-------------------|------------------|
| Well ID Info:     | CJU #217         |
| API No:           | 30-025-09826     |
| Init. Comp. Date: | 3/1/1950         |
| Hole Size:        | 11"              |
| Conductor:        | 8-5/8", 28# J-55 |
| Set @:            | 318'             |
| Cement w/:        | 125 sx           |
| Circ:             | Yes              |
| TOC:              | Surface          |

|              |                            |
|--------------|----------------------------|
| Hole Size:   | 7-7/8"                     |
| Prod. Liner: | 5-1/2", 14# J-55           |
| Set at:      | 2998'                      |
| Cement:      | 400 sx                     |
| Circ:        | No                         |
| TOC:         | 130' from surface by calc. |

OH Interval: 2998'-3244'

OH ID: 4-3/4"

Yates @ 3015' - 3244'

OH Interval: 2998'-3244'

OH ID: 4-3/4"

Yates @ 3015' - 3244'

T-R @ 3238'

Queen @ 2810'

| WELLSORE SCHEMATIC AND HISTORY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |                                      |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------------------------|--|
| CURRENT COMPLETION SCHEMATIC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  | LEASE NAME<br><b>Cooper Jal Unit</b> |  |
| <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p><b>Surface Cas</b></p> <p>Hole Size: 11 in</p> <p>Csg. Size: 8 5/8 in</p> <p>Set @: 247 ft</p> <p>Sxs Cmt: 125</p> <p>Circ: Yes</p> <p>TOC @: surf</p> <p>TOC by: circ</p> </div> <div style="width: 45%;"> <p><b>Production Cas</b></p> <p>Hole Size: 7 7/8 in</p> <p>Csg. Size: 5 1/2 in</p> <p>Set @: 2991 ft</p> <p>Sxs Cmt: 350</p> <p>Circ: No</p> <p>TOC @: 1145 ft surf</p> <p>TOC by: calc</p> </div> </div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  | WELL NO<br><b>218 WIW</b>            |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  | API#<br><b>30-025-09624</b>          |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  | STATUS<br><b>Active</b>              |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  | Water Injector                       |  |
| LOCATION:<br>330 FSL & 1850 FEL, Sec 24, T - 24S, R - 36E, Lee County, New Mexico                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |                                      |  |
| SPUD DATE:<br>09/01/49 TD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  | 3250 KB 3.325' DF                    |  |
| INT. COMP. DATE:<br>10/23/49 PBTD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  | 3250 GL 3.315'                       |  |
| ELECTRIC LOGS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |                                      |  |
| Ejectolog Tracer (MicroCaliper) (11-11-76 Cardinal Surveys Co.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |                                      |  |
| HYDROCARBON BEARING ZONE DEPTH TOPS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |                                      |  |
| Yates @ 3015'      7-Rivers @ 3235'      Queen @ 3595'                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |                                      |  |
| CASSING PROFILE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |                                      |  |
| SURF. 8 5/8" - 28#, J-55 set @ 247' Cmt'd w/125 sxs - circ cmt to surf<br>PROD. 5 1/2" - 15.5#, J-55 set @ 2991' Cmt'd w/350 sxs - TOC @ 1145' from surface by calculation.<br>LINER 3 1/2" - 9.2#, Super Max set @ 2.957' Cmt'd w/ 140 sxs Class C - circ'd 6 bbls cmt.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                                      |  |
| CURRENT PERFORMANCE DATA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                                      |  |
| CSG PERFS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  | OPEN HOLE:<br>2991 - 3250'           |  |
| TUBING DETAIL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  | ROD DETAIL                           |  |
| 1/31/2011                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |                                      |  |
| Length (ft)      Detail<br>7 KB (as used in 12/87 workover)<br>2939 92 2 3/8" IPC J-55 4.6#, Super Max tbg.<br>3 1 3 1/2" x 2 3/8" Baker PC, AD-1 packer<br>2945 bbls                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |                                      |  |
| WELL HISTORY SUMMARY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |                                      |  |
| <p>25-Oct-49 Initial completion 2991 - 3250' (Yates OH): No stimulation. IP=54 bopd, 0 bwpd, &amp; 82 Mcf/gpd. (flowing)</p> <p>12-Jun-53 C/O fill to 3241'. Hydr-Frac OH w/1,500 gals</p> <p>08-Jul-65 C/O fill from 3005 - 3248' (243'). Had salt bridge from 3005 - 3244'.</p> <p>29-Apr-71 CONVERTED TO INJECTOR: C/O fill from 3221 - 3238' (17')</p> <p>11-Nov-76 Ran injection profile. Tagged fill @ 3084' (166'). No C/O.</p> <p>01-Dec-76 C/O fill 3084 - 3250' (66'). Jetwashed OH. Encountered tight spot in OH @ 3125'</p> <p>15-Jan-86 Replaced cmt lined tubing &amp; pkr.</p> <p>14-May-88 Acid'd OH w/1,000 gals 15% NEFE HCL in 2 equal stages using 3000's rock salt down IPC tbg.</p> <p>02-Dec-97 C/O fill (paraffin, formation &amp; formation sand) @ 3063 - 3250' (167'). Acid'd OH using sonic hammer tool w/ 5,000 gals 15% NEFE HCL. AIR=1 bpm @ 750 psi. Ran pkr on 2 3/8" tbg. Set pkr @ 2947'. Initiated injection.</p> <p>09-Jul-98 Performed csg/pkr test per NMOCD guidelines @ 500 psi for 30 min. Test OK.</p> <p>14-Feb-02 Tag TD using SL unit (1 1/4" x 5' sinker bar). Tag fill @ 3069' (191' of fill).</p> <p>18-Nov-04 POOH w/ 94 - 2 3/8" IPC tbg &amp; 5 1/2" AD-1 pkr. RIH w/ 4 3/4" bit &amp; 6 - 3 1/2" DCs. Tagged at 3,057', drilled to 3250'.</p> <p>Recovered formation, sand &amp; paraffin. RIH w/Perf-Clean Tool, jet clean w/surfactant water @ 2,991' to 3,250'. Tbg Press= 3000#, csg press= 50#. Acidize: stage I. 25 bbls 15% NEFE @ 3,250' to 3,185' TP= 3000#. CP= 990#, stage II 25 bbls 15% NEFE @ 3,185' - 3,125' @ 2.5 BPM TP= 3000#, CP= 900#, stage III 25 bbls 15% NEFE @ 3,125' to 3,061' @ 2.5 BPM. TP= 3000#, CP= 900#, Stage IV 25 bbls 15% NEFE @ 3,061' - 2,991' @ 2.5 bpm. TP= 3000#, CP= 950#. ISIP @ 5 min= 667#. C/O to 3,250'. POOH &amp; laid down Perf-Clean Tool &amp; work string. Hydrotest injection string (2 3/8" IPC) to 7,000#. Circ'd annulus w/ inhibited PKR fluid. Set AD-1 PKR at 2,893'. Performed MIT to 540# for 30 minutes. Pulled press chart for 30 minutes. Pulled press chart for NMOCD. OCD Field Rep was not present to witness the test.</p> <p>Prior Rate &amp; Press: 280 bwpd @ 900 psig. After Rated &amp; pressure: 164 bwpd @ 300 psig.</p> <p>08-Nov-05 RIH with 1 1/4" x 5' sinker bar and tagged at 3,100'.</p> <p>27-Mar-08 POOH w/ 94 - 2 3/8" IPC tubing &amp; 5 1/2" AD-1 packer. RIH w/ 4 3/4" bit &amp; 6 - 3 1/2" drill collars. Tagged at 3,067', drilled to 3250'; next day tagged at 3250'. RIH w/ 5 1/2" AD-1 PKR on 2 3/8" Duo tbg. Set PKR @ 2895'. Pressure annulus to 400#. Bled off 400# in 3 minutes, reset PKR at 2890' &amp; 2860'. Press test annulus - bled off both times. RIH with RBP test casing at 2890', 2875', 2865' &amp; 2830', would not test. Found leak under wellhead. RIH w/ 5 1/2" AD-1. Test @ 1698', 773', &amp; 756' no test. Found hole at 756'. Set Composite Plug @ 2964'. RIH hydrotesting (7000#) 3 1/2" Shoe. Floet Collar &amp; 89 jts liner to 2,957'. Pumped 100 sxs Class C cmt. tailed w/ 14 sxs Class C. Circ'd 6 bbls cement/ Cut &amp; welded 3 1/2" bell nipple. RIH w/ 2 3/8" bear claw bit, tagged @ 2932'. Drilled shoe, float collar &amp; composite plug, tagged at 3,250'. RIH w/ 3 1/2" Arrow-Set PKR on 2 3/8" IPC tubing. Circ'd annulus w/ Pkr fluid. Set PKR @ 2,938', test to 480#. Pulled chart for OCD.</p> <p>18-Jun-08 Foam CO2 Acid treat U. 7-R (3235'-3250') &amp; Yates (3016'-3235') zones w/ 3000 gals 15% HCl acid plus 35 Tons CO2. AIR= 8 bpm. Pavg= 3,000#. PWOL. Prior Inj Rate/Press: 230 bpd @ 920#; After Rate/Press: 365 bpd @ 860#.</p> <p>31-Jan-11 POOH with PKR. RIH with bit to 3,250'. RIH with PKR and set at 2,936'. Acidized with 13,000 gals 15% NEFE 90/10 acid/hylene. AIR= 6 bpm. Pavg= 2,520#. ISIP= 670 psig. Performed MIT, pull chart for OCD.</p> |  |                                      |  |
| <p>TOC @ 1145' By Calc.</p> <p>pkf @ 2,938'</p> <p>3 1/2" Lnr Shoe at 2,957'</p> <p>Yates @ 3015'</p> <p>OH Interval 2991 - 3250'</p> <p>7-Rivers @ 3235'</p> <p>Queen @ 3595'</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                      |  |
| <p>3 1/2" 9.2# Super Max Tubing Liner - 2957' - Surf Cmt'd w/ 140 sxs Class C Cmt Circ'd</p> <p>PBTD. 3250 ft TD: 3250 ft</p> <p>OH IC 4 3/4 in</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |                                      |  |

## WELLBORE SCHEMATIC AND HISTORY

## CURRENT COMPLETION SCHEMATIC

LEASE NAME

Cooper Jal Unit

WELL NO

219

STATUS:

Active

Oil

API#

30-025-09622

LOCATION:

330 FSL &amp; 690 FEL, Sec 24, T - 24S, R - 39E, Lee County, New Mexico

SPUD DATE

TD

3208

KB

3,309'

DF

INT. COMP. DATE

12/24/49

PBT

3208

GL

3,299'

## ELECTRIC LOG

## GEOLOGICAL DATA

## CORE LOGS &amp; MUD LOGS

Trac III (10-12-78 Cardinal Surveys Co.)  
GR-N (12-22-49 Co. unknown)

## HYDROCARBON BEARING ZONE DEPTH TOPS

Yates @ 3012'

7-Rivers @ 3210'

Queen @ 3585'

## CANNING PROFILE

SURF. 8 5/8" - 28# J-55 set @ 300' Cmt'd w/300 sxs - circ cmt to surf.

PROD. 5 1/2" - 14# J-55 set @ 2987' Cmt'd w/350 sxs - TOC @ 1140' from surface by calculation.

LINER NONE

## CURRENT PERFORATION DATA

CMT PERFS:

OPEN HOLE:

2987 - 3208'

## TUBING DETAIL

01-Dec-11

## ROD DETAIL

01-Dec-11

TOC @ 1140'  
By Calc.

## Length (ft)

## Detail

|      |    |                       |
|------|----|-----------------------|
| 2330 | 75 | 2 3/8" 8rd tubing     |
| 3    | 1  | TAC                   |
| 405  | 13 | 2 3/8" 8rd tubing     |
| 31   | 1  | S.M. 2 3/8" Blast Jt. |
| 1    | 1  | s.n.                  |
| 4    | 1  | 2 3/8" lift sub       |
| 20   | 1  | 2 3/8" de-sander      |
| 2    | 2  | 2 3/8" cavity b.p.    |
| 2796 |    |                       |

## Length (ft)

## Detail

|      |    |                                    |
|------|----|------------------------------------|
| 18   | 1  | P.R.                               |
| 0    | 1  | liner                              |
| 8    | 1  | 8' X 7/8 sub                       |
| 800  | 32 | 7/8 rods string                    |
| 1200 | 48 | 3/4 rods string                    |
| 725  | 29 | 1" weight bars                     |
| 12   | 1  | 2" x 1 1/2" x 20' pump w/ 12" s.n. |
| 2763 |    |                                    |

## WELL HISTORY SUMMARY

24-Dec-49 Initial completion 2987 - 3208' (Yates OH): No stimulation. IP=55 bopd, 0 bwpd, & 90 Mcf/gpd. (flowing)  
 10-Mar-50 C/O fill to 3208'.  
 20-Jul-50 C/O fill from 3065 - 3195' (130').  
 07-Oct-74 C/O fill to 3208'.  
 17-Mar-76 Tag fill @ 3200'.  
 08-Dec-87 C/O fill from 3130 - 3150' (20') with bailer. Could not get below 3150 due to ledge.  
 28-Dec-04 POOH w/ rods, pump & tubing. Tagged at 3130'. Laid down mud anchor. RIH w/new Super Max Blast Joint. PWOP  
 18-May-07 POOH with rods & pump. Changed out Pump. RIH with rods. PWOP  
 04-Aug-09 POOH w/rods a pump. Note: 7/8" & 3/4" rods showed severe box wear, btm half of 3/4" rods showed severe box wear. Laid 3/4" rods. POOH w/tbg. Hydrotest tbg w/bailer in hole - busted 88th, 85th & 80th joints. Tagged @ 3,129', balled to 3,296'. Tubing parted: Left 7.5 jts, 4 3/4" bit & sub, X-over, 2 flapper & 2 3/8" Sitting Nipple. RIH w/ Bulldog Over Shot Socket, Bumper Sub. Hydraulic Jars on 2 3/8" tbg. Tagged @ 3,100' - no recovery. RIH w/ Concave Mill on BHA- tagged @ 3,101'. No recovery. RIH w/ 2 3/8" production tbg, pump & rods. PWOP.  
 23-Feb-11 POOH with rods, pump and tubing. RIH with 4 3/4" Concave Mill, tagged at 3,085'. Cut 1 inch of fish, went in with overshot. Made various attempts to recover fish in open hole for five days - no recovery. RIH with 5 1/2" Arrow Set PKR on 4 1/2" work string. Set at 2,912'. Foam (70% Q - N2) Sand Frac open hole with 100,000# 16/30 mesh sand. Screen out occurred half way through Frac. Tagged frac sand inside 4 1/2" at 1,790'. Cleaned out with notch collar to 2,906' (top of PKR). RIH with open end tubing to clean sand. Cut PKR SN @ 2,912'. Free point at 2,510'. 4 1/2" parted on 70th joint. It took 8 days to clean out frac sand and recover 4 1/2" workstring. Cleaned frac sand in open hole to 3,088'. RIH with production string. PWOP.  
 05-Apr-11 POOH w/ rods and pump, pump good, POOH w/ tbg, tag PBT @ 2995', bottom jt. below de-sander filled with frac sand, other 3 jts no sand, GIH w/ tbg assembly, NU wellhead, GIH w/ pump and rods, seat pump, space out, hang on, load and test tbg to 500# OK, pump 30 bbls down backside, well pumping ok.  
 30-Nov-11 POOH with rods, pump and tubing. Tagged at PBT 3070'. Ran Pressure Gradient Survey, tagged at 3030'. Hydrotest tubing to 7000# - okay. RIH with pump and rods. PWOP. Top of Fish @ 3,088'.  
 07-Dec-11 Long Strike well.  
 08-Mar-13 POOH w/ rods and pump. Replaced pump. RIH w/ rods and pump. PWOP.

## Surface Cas

Hole Size: 12 1/4 in  
 Cas Size: 8 5/8 in  
 Set @: 300 ft  
 Sxs Cmt: 300  
 Circ: Yes  
 TOC @: surf  
 TOC by: circ

## Production Cas

Hole Size: 7 7/8 in  
 Cas Size: 5 1/2 in  
 Set @: 2987 ft  
 Sxs Cmt: 350  
 Circ: No  
 TOC @: 1146 1/4' surf.  
 TOC by: calc.

Yates @ 3012'

OH Interval  
2987 - 3208'

Top of Fish 3088'

Fish @ 3,100'  
 7.5 jts 2 3/8"  
 4 3/4" bit & sub.  
 X-over, 2 flapper  
 2 3/8" SN

PBT: 3208 ft  
 TD: 3208 ft

OH IC 4 3/4 in

7-Rivers @ 3210'

Queen @ 3585'



| WELLBORE SCHEMATIC AND HISTORY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                    |                                                                                                 |                                       |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|-------------------------------------------------------------------------------------------------|---------------------------------------|
| CURRENT COMPLETION SCHEMATIC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                    | LEASE NAME                                                                                      |                                       |
| <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;"> <b>Surface Cas</b><br/>           Hole Size: 12 1/4 in<br/>           Cas. Size: 8 5/8 in<br/>           Set @: 240 ft<br/>           Sds Cmt: 180<br/>           Cnc: Yes<br/>           TOC @: surf<br/>           TOC by: circ         </div> <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;"> <b>Production Cas</b><br/>           Hole Size: 7 7/8 in<br/>           Cas. Size: 5 1/2 in<br/>           Set @: 2990 ft<br/>           Sds Cmt: 200<br/>           Cnc: No<br/>           TOC @: 1895 ft / surf.<br/>           TOC by: calc.         </div> <div style="margin-top: 20px;">           PGTD: 3188 ft<br/>           TD: 3188 ft         </div> |                                    | Cooper Jail Unit                                                                                |                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                    | STATUS: Active Oil                                                                              |                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                    | LOCATION: 330 FNL & 990 FWA, Sec 25, T - 24S, R - 39E, Lee County, New Mexico                   |                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                    | SPUD DATE: 11/02/90 TD 3188 KB 3.318' DF                                                        |                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                    | INT. COMP. DATE: 12/05/90 PBTD 3188 GL 3.310'                                                   |                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                    | WELL NO. 223                                                                                    |                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                    | APR# 30-025-09648                                                                               |                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                    | ELECTRIC LOGS                                                                                   |                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                    | GR-N from surface - 3187                                                                        |                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                    | (Temp. Survey) Gamma-Trol (3-15-79 Cardinal Surveys Company)                                    |                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                    | GEOLOGICAL DATA                                                                                 |                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                    | CORES DET'd or NMO LOGS                                                                         |                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                    | HYDROCARBON SEALING ZONE DEPTH TOPS                                                             |                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                    | Yates @ 2997      7-Rivers @ 3218'      Queen @ 3582                                            |                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                    | CASING PROFILE                                                                                  |                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                    | SURF. 8 5/8" - 288, J-55 set @ 240' Cmt'd w/180 sxs - circ cmt to surf.                         |                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                    | PROD. 5 1/2" - 148, J-55 set @ 2950' Cmt'd w/200 sxs - TOC @ 1895' from surface by calculation. |                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                    | LINER None                                                                                      |                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                    | CURRENT PERFORATION DATA                                                                        |                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                    | CSG. PERFS: OPEN HOLE: 2950 - 3188'                                                             |                                       |
| TUBING DETAIL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                    | ROD DETAIL                                                                                      |                                       |
| 7/19/10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                    | 7/19/10                                                                                         |                                       |
| Length (ft)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Detail                             | Length (ft)                                                                                     | Detail                                |
| 2752                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 86 2 3/8" 4.7#, J-55, 8rd EUE tbg. | 18                                                                                              | 1 22" x 1 1/4" polish rod w/ 7/8" Pin |
| 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 1 5 1/2" x 2 3/8" TAC              | 0                                                                                               | 1 10" x 1 1/2" x 1 1/4" PR liner      |
| 288                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 9 2 3/8" tbg w/ turn down collars  | 726                                                                                             | 29 7/8" K-40 rods                     |
| 30                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1 2 3/8" x 2 7/8" Blast Joint      | 2175                                                                                            | 87 3/4" K-40 rods                     |
| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 1 2 7/8" SN                        | 150                                                                                             | 6 7/8" K-40 rods                      |
| 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 1 2 3/8" Perf Sub                  | 12                                                                                              | 1 2" x 1 1/4" X 12" rod pump with RHR |
| 31                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1 2 7/8" 6.5#, J-55, 8rd EUE tbg   | 0                                                                                               | 1 1" gas anchor                       |
| 3109 btm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                    | 3080                                                                                            | btm                                   |
| WELL HISTORY SUMMARY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                    |                                                                                                 |                                       |
| 5-Dec-50 IC: 2968-3188' (Yates OH): Shot 3020-3188' w/250 qts. Nitro. IP=66 bopd, 0 bwpd, & 72 Mcfcpd. (flowing)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                    |                                                                                                 |                                       |
| 13-May-54 C/O fill to TS @ 3188'                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                    |                                                                                                 |                                       |
| 1-Jan-62 Well St most of year.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                    |                                                                                                 |                                       |
| 1-May-75 C/O fill 30318'-3188' (170'). Before WO: 19 bopd, 19 bwpd, GOR=1264 After WO: 26 bopd, 24 bwpd, GOR=1415                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                    |                                                                                                 |                                       |
| 28-Sep-76 Tagged for fill. None found.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                    |                                                                                                 |                                       |
| 16-Mar-78 C/O fill & calcium sulfate (3044'-3188' (144'). Spotted scale converter in OH. Add'd OH w/ 1,500 gals. Pump scale sqz.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                    |                                                                                                 |                                       |
| 20-Mar-79 C/O fill to 3188' (TD). Add'd OH w/ 2,000 gals. Frac'd w/60,000 gals carrying 60,000lb's 20/40 sand in 3 stages. Before WO: 17 bopd & 21 bwpd. After WO: 137 bopd & 131 bwpd.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                    |                                                                                                 |                                       |
| 1-Apr-79 C/O fill from 3038 - 3178' (140').                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                    |                                                                                                 |                                       |
| 10-Jun-85 C/O to 3037'. Recovered fish lost in OH.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                    |                                                                                                 |                                       |
| 15-Apr-89 C/O fill from 3058 - 3188' (130') & jet wash OH. Add'd OH w/2,500 gals 15% NEFE HCL in 3 stages diverting w/750lb's rock salt between stages. After WO: 28 bopd, 44 bwpd, & GOR=607 (pumping)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                    |                                                                                                 |                                       |
| 24-Jun-88 Replaced 32 lbs of 2 3/8" tbg. Changed out bad some 3/4" & 7/8" rod boxes. Ran new pump.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                    |                                                                                                 |                                       |
| 3-Apr-04 POOH with rods, pump, and tubing. Laid down bad rods: 7 - 7/8" & 44 - 3/4" PWOP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                    |                                                                                                 |                                       |
| 19-Jul-10 POOH with rods, pump, and tubing. Hydrotest tubing 6,000 psig - found hole on joint above SN. RIH with pump & rods. PWOP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                    |                                                                                                 |                                       |
| TOC @ 2120' By Calc.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                    | Y @ 2997                                                                                        |                                       |
| OH Interval 2980 - 3188'                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                    | 7-R @ 3218'                                                                                     |                                       |
| Queen @ 3582'                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                    |                                                                                                 |                                       |
| ON IE 4 3/4 in                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                    |                                                                                                 |                                       |
| PREPARED BY: Larry S. Adams                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                    | Domingo Camizales                                                                               |                                       |
| UPDATED: 04-Aug-10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                    |                                                                                                 |                                       |

Field: **Cooper Jal Unit**

|            | Location:             |
|------------|-----------------------|
| Footage:   | 330 FNL & 2310 FVL    |
| Section:   | Sec. 25, T-24S, R-36E |
| Block:     |                       |
| Survey:    |                       |
| County:    | Lee, New Mexico       |
| Lat:       |                       |
| Long:      |                       |
|            | Elevations:           |
| GL:        | 3,297'                |
| KB:        | 3,309'                |
| KB Calc:   | 12'                   |
| ck w/ log? | No                    |

| Date      | History                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2-Jun-50  | Initial completion 2970 - 3230' (Yates / 7 RYRS OH): No stimulation. IP=52 bopd, 0 bwpd, & 0 Mcgpd. (flowing)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 16-Jun-71 | CONVERTED WELL TO INJECTOR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 14-May-89 | Found casing leak at 350'-416'. Squeezed with 150 sxs Class H neat cement. Pmax=1035 psig, AIR=2 bpm. Second squeeze (350'-416'): 50 sxs Class C w/4% calcium, Pmax=750 psig. Clean out open hole with side jet. Acidized with 4,000 gallons 15% HCl acid. Pulled MIT - 300 psig                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 9-Jul-93  | C/O fill (paraffin & iron sulfide) @ 3085'-3235'. Jet wash across OH twice. Acid'd OH (2970'-3230') w/4,200 gals 15% NEFE HCl, 200 bbls Chloride-dioxide, & 42 gals citric acid using 1000# mesh salt to divert. AIR=3 bpm @ 1025 psi, ISIP= 967#. Ran pkz on 2 3/8" CL tbg. Set pkz @ 2881'. Test csg. OK. Initiated injection @ 168 bwpd, TP=680 psi.                                                                                                                                                                                                                                                                                                                                                                        |
| 8-Dec-97  | C/O fill from 3052 - 3230' (78'). Ran sonic hammer tool and acid wash OH (2970 - 3230') w/ 150 bbls produced water. Ran pkz and acid'd OH w/ 3,800 gals 15% NEFE HCl in 3 stages using 1000# rock salt between each stage. AIR=4 bpm @ 1232 psig. Ran pkz on 2 3/8" CL tbg. Set pkz @ 2896'. Test csg. OK. Initiated injection @ 400 bwpd.                                                                                                                                                                                                                                                                                                                                                                                     |
| 14-Feb-02 | Tag TD using SL unit (1 1/4" x 5' sinker bar). Tag @ 3043' (187' of fill).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 30-Aug-04 | POOH with 2 3/8" IPC tubing and 5 1/2" x 2 3/8" Baker. RIH with 4 3/4" bit, 6 - 3 1/2" drill collars on 2 7/8" work string. C/O to 3230'. Laid down BHA. RIH with 5 1/2" x 2 7/8" Full Bore PKR to 2883'. Set packer and test backside to 500 psig. Lost 80 psig in 2 minutes. Dropped standing valve, test tubing to 500# - lost 100# in 5 minutes. POOH with Full Bore PKR. RIH w/ 5 1/2" x 2 3/8" Baker Model AD-1 packer on 2 3/8" IPC tubing to 810'. Test casing leak to 450# - lost 70# in 30 minutes. Move and set PKR two more time - lost pressure each time. Hydrotest 2 3/8" IPC tubing to 6000# except the top 20 joints due scale built up. Set packer at 2892' - test annulus to 400# - lost 30# in 30 minutes. |
| 7-Sep-04  | Ran MIT at 420# for 30 min - held. Pulled press chart for NMOCD. Placed well on injection. 300 BWPD at 600 psig.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 7-Dec-04  | Prior rate & press. 330 bwpd @ 1000#. RIH w/ 1 1/4" Perf-Clean Tool on 1-1/4" coiled tubing. Washed OH 1/2900' to 3021'. CTP=4000#. Annulus. Acidized 1/2970'-3095', could not get below 3095'. After rate & press. 200 bwpd @ 600#.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 8-Nov-05  | RIH with 1 1/4" x 5' sinker bar and tagged at 3,078'.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 11-Mar-06 | POOH w/ 2 3/8" IPC tbg & 5 1/2" x 2 3/8" Baker. RIH w/ 4 3/4" bit, 6 - 3 1/2" drill collars on 2 7/8" work string. Tagged fill at 3053', cleaned out to 3,230'. RIH with 5 1/2" AD-1 PKR on 2 3/8" cement lined tubing. Set PKR at 2,856' H5 test.                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 22-May-08 | Acidized Jalmat w/72 bbls 15% NEFE HCl acid, divert w/3000# rock salt. Rate = 4.5 bpm @ 1363 psi, ISIP = 1040 psi. Before Rate & Press. 254 bpd @ 931 psi. After Rate & Press. 270 bpm @ 580 psi.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 16-Jun-09 | POOH & laid on 2 3/8" CL tbg & AD-1 PKR. RIH w/ 4 3/4" bit on 2 3/8" IPC, tagged @ 3030'. RIH w/ 5 1/2" AD-1 PKR 2 3/8" IPC tbg. Set PKR @ 2839'. Pull press chart for OCD. Prior 320 BWPD @ 1100# after 340 BWPD @ 1000#.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 18-Jan-11 | POOH with 2 3/8" IPC tubing and 5 1/2" x 2 3/8" Baker. RIH with 4 3/4" bit, 6 - 3 1/2" drill collars on 2 7/8" work string. C/O from 3,075' to 3,230'. Circ'd iron sulfide and scale. Hydrotest work string to 7,000 psig, set Loc-Set PKR at 2,840'. Acidized with 170 bbls 20% NEFE (90/10, acid/Xylene). Diverted with 13,750# RS. PKR failed. Ran new PKR. Acidized with 170 bbls acid. AIR= 6 bpm. Pmax= 2,140 psig. Pavg= 1,650 psig. ISIP= 1,350 psig. Hydrotest injection string to 5,000 psig. MIT to 400 psig. Pull chart for OCD. Prior rate & press. 310 bwpd @ 1145#. After rate & press. 458 bwpd @ 920#.                                                                                                        |

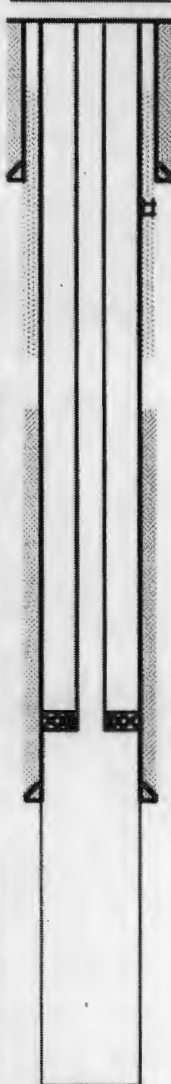
| Tubing Detail (top to bottom) |                                       |         |       |
|-------------------------------|---------------------------------------|---------|-------|
| Joints                        | Description                           | Footage | Depth |
| 90                            | 2-3/8" 4.76 IPC, J-55, 3rd EUE tbg    | 2,835   | 2,835 |
| 1                             | 2-3/8" x 5-1/2" Baker PC, AD-1 Packer | 3       | 2,838 |
|                               |                                       |         |       |
|                               |                                       |         |       |
|                               |                                       |         |       |
|                               |                                       |         |       |
|                               |                                       |         |       |
|                               |                                       |         |       |

| Rod Detail (top to bottom) |             |         |       |
|----------------------------|-------------|---------|-------|
| Rods                       | Description | Footage | Depth |
|                            |             |         |       |
|                            |             |         |       |
|                            |             |         |       |
|                            |             |         |       |
|                            |             |         |       |
|                            |             |         |       |
|                            |             |         |       |

Pumping Unit:  
Updated: 01/20/14 NLS

## CJU #224

## Wellbore Diagram



PSTO 3230  
TD 3230

Reservoir: **Cooper Jal**

|                   |                  |
|-------------------|------------------|
| Well ID Info:     | CJU #224         |
| API No:           | 30-025-08845     |
| Init. Comp. Date: | 8/2/1980         |
| Well Status:      | 11"              |
| Surface Csg:      | 8-5/8" 288, J-55 |
| Set @:            | 292'             |
| Cement w/:        | 100 sx           |
| Circ:             | Yes              |
| TOC:              | Surface          |

## Last YPD 11/11/11 - 11/11/11

|              |                                                           |
|--------------|-----------------------------------------------------------|
| Well Status: | 7-7/8"                                                    |
| Prod. Csg:   | 5-1/2" 148, J-55                                          |
| Set at:      | 2970'                                                     |
| Cement:      | 200 sx                                                    |
| Circ:        | No                                                        |
| TOC:         | 1920' from surface by calc.                               |
|              | DV tool @ 1225' - pmp 200 sxs - TOC @ 140' #surf by calc. |

ON T881 05 11/11/11  
Shut in w/150' prod string w/ 2 3/8" tbg

TOC @ 140' #surf by calc.

pkz @ 2839'

OH Interval: 2970'-3230'  
OH ID: 4-3/4"  
Yates @ 3010'

7-8 11/11/11

11/11/11 @ 3050'

## WELLBORE SCHEMATIC AND HISTORY

| CURRENT COMPLETION SCHEMATIC                                                                                                                                  |                                  | LEASE NAME                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                        | Cooper Jal Unit           |  | WELL NO. |  | 225          |  |                              |  |  |  |                           |  |  |  |             |        |             |        |      |               |    |                                       |   |                       |   |                                        |     |                   |    |                                       |    |                                  |      |                |   |        |     |                |   |                    |    |                                        |    |                   |      |  |    |                          |  |  |      |  |  |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|---------------------------|--|----------|--|--------------|--|------------------------------|--|--|--|---------------------------|--|--|--|-------------|--------|-------------|--------|------|---------------|----|---------------------------------------|---|-----------------------|---|----------------------------------------|-----|-------------------|----|---------------------------------------|----|----------------------------------|------|----------------|---|--------|-----|----------------|---|--------------------|----|----------------------------------------|----|-------------------|------|--|----|--------------------------|--|--|------|--|--|--|
| STATUS:                                                                                                                                                       |                                  | Active                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                        | Oil                       |  | API#     |  | 30-025-09650 |  |                              |  |  |  |                           |  |  |  |             |        |             |        |      |               |    |                                       |   |                       |   |                                        |     |                   |    |                                       |    |                                  |      |                |   |        |     |                |   |                    |    |                                        |    |                   |      |  |    |                          |  |  |      |  |  |  |
| LOCATION:                                                                                                                                                     |                                  | 660 FNL & 1650 FEL, Sec 25, T - 24S, R - 38E, Lee County, New Mexico                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                        |                           |  |          |  |              |  |                              |  |  |  |                           |  |  |  |             |        |             |        |      |               |    |                                       |   |                       |   |                                        |     |                   |    |                                       |    |                                  |      |                |   |        |     |                |   |                    |    |                                        |    |                   |      |  |    |                          |  |  |      |  |  |  |
| SPUD DATE:                                                                                                                                                    |                                  | TD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                        | 3318                      |  | KB       |  | 3,310'       |  |                              |  |  |  |                           |  |  |  |             |        |             |        |      |               |    |                                       |   |                       |   |                                        |     |                   |    |                                       |    |                                  |      |                |   |        |     |                |   |                    |    |                                        |    |                   |      |  |    |                          |  |  |      |  |  |  |
| INT. COMP. DATE:                                                                                                                                              |                                  | 01/09/50/PBTD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                        | 3318                      |  | GL       |  | 3,301'       |  |                              |  |  |  |                           |  |  |  |             |        |             |        |      |               |    |                                       |   |                       |   |                                        |     |                   |    |                                       |    |                                  |      |                |   |        |     |                |   |                    |    |                                        |    |                   |      |  |    |                          |  |  |      |  |  |  |
| <b>Surface Cas</b><br>Hole Size: 11 in<br>Cas. Size: 8 5/8 in<br>Set @: 307 ft<br>Sxs Cmt: 125<br>Circ: Yes<br>TOC @: surf<br>TOC by: circ                    |                                  | <b>ELECTRIC LOGS</b><br>GR-N from 2700 - 3208' (12-22-49)<br>Trac III Profile Survey (10-8-75) Cardinal Surveys Co.<br><br><b>GEOLOGICAL DATA</b><br><br><b>CORE DATA = MUD LOGS</b><br><br><b>HYDROCARBON BEARING ZONE DEPTH TOPS:</b><br>Yates @ 3020'      7-Rivers @ 3230'      Queen @ 3575'                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                        |                           |  |          |  |              |  |                              |  |  |  |                           |  |  |  |             |        |             |        |      |               |    |                                       |   |                       |   |                                        |     |                   |    |                                       |    |                                  |      |                |   |        |     |                |   |                    |    |                                        |    |                   |      |  |    |                          |  |  |      |  |  |  |
| repaired csg leak<br>323 - 417'<br>circ cmt to surf.                                                                                                          |                                  | <b>CASING PROFILE</b><br>SURF. 8 5/8" - 32#, J-55 set @ 307' Cmt'd w/125 sxs - circ cmt to surf. 5 1/2" - TOC @ 450' ft surf by calc.<br>PROD. 5 1/2" - 15.5#, J-55 set @ 2996' Cmt'd w/200 sxs - TOC @ 1795' ft surf by calc. DV tool @ 1174' - pmp 150 sxs -<br>LINER 4" - 10.64#, J-55 FJ slotted liner set from 2994 - 3318' Not cmt'd in-place.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                        |                           |  |          |  |              |  |                              |  |  |  |                           |  |  |  |             |        |             |        |      |               |    |                                       |   |                       |   |                                        |     |                   |    |                                       |    |                                  |      |                |   |        |     |                |   |                    |    |                                        |    |                   |      |  |    |                          |  |  |      |  |  |  |
| DV Tool @ 1137'                                                                                                                                               |                                  | <b>CURRENT PERFORATION DATA</b><br>CSO. PERFS:      OPEN HOLE:      2996 - 3318<br>Isolated behind 4" slotted liner                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                        |                           |  |          |  |              |  |                              |  |  |  |                           |  |  |  |             |        |             |        |      |               |    |                                       |   |                       |   |                                        |     |                   |    |                                       |    |                                  |      |                |   |        |     |                |   |                    |    |                                        |    |                   |      |  |    |                          |  |  |      |  |  |  |
| TOC @ 1795'<br>By Calc.                                                                                                                                       |                                  | <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="4" style="text-align: left;">TUBING DETAIL      18-Oct-12</th> <th colspan="4" style="text-align: left;">ROD DETAIL      18-Oct-12</th> </tr> <tr> <th>Length (ft)</th> <th>Detail</th> <th>Length (ft)</th> <th>Detail</th> </tr> </thead> <tbody> <tr> <td>2592</td> <td>81 2 3/8" 8rd</td> <td>14</td> <td>1 1/4" x 16' Polished rod w/ 7/8" Pin</td> </tr> <tr> <td>3</td> <td>1 5 1/2" X 2 3/8" TAC</td> <td>0</td> <td>1 1/4" 1 1/2" x 10' Polished rod Liner</td> </tr> <tr> <td>418</td> <td>13 2 3/8" 8rd EUE</td> <td>18</td> <td>5 2", 2", 4", 4", 6" - 3/4" pony subs</td> </tr> <tr> <td>32</td> <td>1 2 3/8" x 2 7/8" SM Blast Joint</td> <td>2400</td> <td>96 3/4" k rods</td> </tr> <tr> <td>1</td> <td>1 R.N.</td> <td>600</td> <td>24 7/8" k rods</td> </tr> <tr> <td>4</td> <td>1 lift sub w/ SCCC</td> <td>16</td> <td>1 2" x 1 1/2" x 16' pump w/ 1" x 1' GA</td> </tr> <tr> <td>20</td> <td>1 desander w/ SCC</td> <td>3048</td> <td></td> </tr> <tr> <td>93</td> <td>4 2 3/8" 8rd cavity b.p.</td> <td></td> <td></td> </tr> <tr> <td>3161</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                        |                           |  |          |  |              |  | TUBING DETAIL      18-Oct-12 |  |  |  | ROD DETAIL      18-Oct-12 |  |  |  | Length (ft) | Detail | Length (ft) | Detail | 2592 | 81 2 3/8" 8rd | 14 | 1 1/4" x 16' Polished rod w/ 7/8" Pin | 3 | 1 5 1/2" X 2 3/8" TAC | 0 | 1 1/4" 1 1/2" x 10' Polished rod Liner | 418 | 13 2 3/8" 8rd EUE | 18 | 5 2", 2", 4", 4", 6" - 3/4" pony subs | 32 | 1 2 3/8" x 2 7/8" SM Blast Joint | 2400 | 96 3/4" k rods | 1 | 1 R.N. | 600 | 24 7/8" k rods | 4 | 1 lift sub w/ SCCC | 16 | 1 2" x 1 1/2" x 16' pump w/ 1" x 1' GA | 20 | 1 desander w/ SCC | 3048 |  | 93 | 4 2 3/8" 8rd cavity b.p. |  |  | 3161 |  |  |  |
| TUBING DETAIL      18-Oct-12                                                                                                                                  |                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                        | ROD DETAIL      18-Oct-12 |  |          |  |              |  |                              |  |  |  |                           |  |  |  |             |        |             |        |      |               |    |                                       |   |                       |   |                                        |     |                   |    |                                       |    |                                  |      |                |   |        |     |                |   |                    |    |                                        |    |                   |      |  |    |                          |  |  |      |  |  |  |
| Length (ft)                                                                                                                                                   | Detail                           | Length (ft)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Detail                                 |                           |  |          |  |              |  |                              |  |  |  |                           |  |  |  |             |        |             |        |      |               |    |                                       |   |                       |   |                                        |     |                   |    |                                       |    |                                  |      |                |   |        |     |                |   |                    |    |                                        |    |                   |      |  |    |                          |  |  |      |  |  |  |
| 2592                                                                                                                                                          | 81 2 3/8" 8rd                    | 14                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 1 1/4" x 16' Polished rod w/ 7/8" Pin  |                           |  |          |  |              |  |                              |  |  |  |                           |  |  |  |             |        |             |        |      |               |    |                                       |   |                       |   |                                        |     |                   |    |                                       |    |                                  |      |                |   |        |     |                |   |                    |    |                                        |    |                   |      |  |    |                          |  |  |      |  |  |  |
| 3                                                                                                                                                             | 1 5 1/2" X 2 3/8" TAC            | 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1 1/4" 1 1/2" x 10' Polished rod Liner |                           |  |          |  |              |  |                              |  |  |  |                           |  |  |  |             |        |             |        |      |               |    |                                       |   |                       |   |                                        |     |                   |    |                                       |    |                                  |      |                |   |        |     |                |   |                    |    |                                        |    |                   |      |  |    |                          |  |  |      |  |  |  |
| 418                                                                                                                                                           | 13 2 3/8" 8rd EUE                | 18                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 5 2", 2", 4", 4", 6" - 3/4" pony subs  |                           |  |          |  |              |  |                              |  |  |  |                           |  |  |  |             |        |             |        |      |               |    |                                       |   |                       |   |                                        |     |                   |    |                                       |    |                                  |      |                |   |        |     |                |   |                    |    |                                        |    |                   |      |  |    |                          |  |  |      |  |  |  |
| 32                                                                                                                                                            | 1 2 3/8" x 2 7/8" SM Blast Joint | 2400                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 96 3/4" k rods                         |                           |  |          |  |              |  |                              |  |  |  |                           |  |  |  |             |        |             |        |      |               |    |                                       |   |                       |   |                                        |     |                   |    |                                       |    |                                  |      |                |   |        |     |                |   |                    |    |                                        |    |                   |      |  |    |                          |  |  |      |  |  |  |
| 1                                                                                                                                                             | 1 R.N.                           | 600                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 24 7/8" k rods                         |                           |  |          |  |              |  |                              |  |  |  |                           |  |  |  |             |        |             |        |      |               |    |                                       |   |                       |   |                                        |     |                   |    |                                       |    |                                  |      |                |   |        |     |                |   |                    |    |                                        |    |                   |      |  |    |                          |  |  |      |  |  |  |
| 4                                                                                                                                                             | 1 lift sub w/ SCCC               | 16                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 1 2" x 1 1/2" x 16' pump w/ 1" x 1' GA |                           |  |          |  |              |  |                              |  |  |  |                           |  |  |  |             |        |             |        |      |               |    |                                       |   |                       |   |                                        |     |                   |    |                                       |    |                                  |      |                |   |        |     |                |   |                    |    |                                        |    |                   |      |  |    |                          |  |  |      |  |  |  |
| 20                                                                                                                                                            | 1 desander w/ SCC                | 3048                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                        |                           |  |          |  |              |  |                              |  |  |  |                           |  |  |  |             |        |             |        |      |               |    |                                       |   |                       |   |                                        |     |                   |    |                                       |    |                                  |      |                |   |        |     |                |   |                    |    |                                        |    |                   |      |  |    |                          |  |  |      |  |  |  |
| 93                                                                                                                                                            | 4 2 3/8" 8rd cavity b.p.         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                        |                           |  |          |  |              |  |                              |  |  |  |                           |  |  |  |             |        |             |        |      |               |    |                                       |   |                       |   |                                        |     |                   |    |                                       |    |                                  |      |                |   |        |     |                |   |                    |    |                                        |    |                   |      |  |    |                          |  |  |      |  |  |  |
| 3161                                                                                                                                                          |                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                        |                           |  |          |  |              |  |                              |  |  |  |                           |  |  |  |             |        |             |        |      |               |    |                                       |   |                       |   |                                        |     |                   |    |                                       |    |                                  |      |                |   |        |     |                |   |                    |    |                                        |    |                   |      |  |    |                          |  |  |      |  |  |  |
| <b>Production Cas.</b><br>Hole Size: 7 5/8 in<br>Cas. Size: 5 1/2 in<br>Set @: 2996 ft<br>Sxs Cmt: 250<br>Circ: No<br>TOC @: 2120<br>TOC by: calc.            |                                  | <b>WELL HISTORY SUMMARY</b><br>9-Jan-50 IC: interval: (Yates OH) 2996 - 3188': No stimulation. IP = 49 bopd, 0 bwopd, & 91 Mcf/gpd (flowing)<br>21-Jul-54 Deepened to 3318'. Frac'd w/14,000 gals lse oil carrying 21,000#s sd. AIR=19.5 bpm, Pmax=1500#. Spinner survey indicated all of trmnt went in old hole above 3130'. New hole not treated. After WO: 74 bopd, 0 bwopd, & GOR=12,428.<br>25-Aug-54 Attempt to isolate various intervals in OH w/Lynes straddle pkr & frac. Pkr stuck & frac unsuccessful. Left fish in hole TOF @ 3188'.<br>28-Aug-73 Fished Lynes straddle pkr & C/O to 3318'. PWOP. After WO: 16 bopd, 0 bwopd, & GOR=3880<br>8-Dec-73 Producing 60 bopd & 0 bwopd (pumping)<br>21-Feb-74 Installed 228D pumping unit. After larger PU installation - IP=103 bopd & 0 bwopd.<br>8-Oct-74 Producing 98 bopd & 47 bwopd (pumping)<br>20-Oct-75 Producing 67 bopd & 68 bwopd (pumping)<br>27-Jan-76 Tagged btm @ 3095' (223' of fill). Did not C/O. Producing 31 bopd & 106 bwopd<br>14-May-83 Found 5 1/2" csg leak @ 323-417'. Cmt sqz'd leak w/128 sxs cmt - circ cmt to surface up 5 1/2" x 8 5/8" csg annulus. C/O fill from 3064 - 3318'. Installed 4" slotted liner - not cmt'd in-place.<br>14-Aug-85 C/O fill to 3318'.<br>15-Jan-01 Tagged btm @ 3303' (16' of fill). Ran sonic hammer & acid washed slotted liner from 2994 - 3303' w/ 4,500 gals 15% NEFE HCL @ 4 bpm & 800 psi. Placed well on production. After WO: 14 bopd, 92 bwopd, & 21 Mcf/gpd.<br>23-Dec-02 Long stroke well & lower 10 feet to light tagged.<br>12-Oct-06 POOH with rods and parted pump (@ top cage). POOH with stuck tubing, parted at MA (left 18' in hole). TOF @ 3286'. RIH with tubing, pump and rods. Replaced 12 - 7/8" & 18 - 3/4" rod boxes due to pitting. PWOP.<br>14-Feb-11 POOH with rods, pump and tubing. C/O with 3 1/4" bit from 3,290' to top of fish @ 3,292'. Attempt to recover fish, no recovery. Foam Sand Frac'd down 4 1/2" workstring with 210,630# (50% Prop Net) 1.6 MMscf N2. AIR = 44.5 bpm. Pavg = 2,306 psig. ISIP = 1,686 psig. Flowed well back for 2 days. Cleaned out frac sand. RIH with Prod string. PWOP.<br>6-Apr-11 POOH w/ rods, ND wellhead, POOH w/tbg, dumped sand and fiber from all jts of tbg cavity below de-sander. test all tbg to 7000# - ok, set TAC w/ 16,000#, NU wellhead, GIH w/ pump and rods, seat pump, space out and hang on, load and test tubing to 500 lbs, ok, well pumping good.<br>23-May-11 Stripped out well. Hydrotest tubing to 6,000# - good. RIH with pump and rods. PWOP.<br>4-Oct-11 POOH with parted 21th - 3/4" rod. Laid down 3 - 3/4" rods (bent and or corked). PWOP.<br>1-Dec-11 POOH with rods, pump and tubing. Tagged at 3,220', balled to 3,280'. Ran Pressure Gradient Survey. Hydrotest tubing in hole to 8,000#. RIH with pump and rods. PWOP.<br>16-Oct-12 POOH with rods, pump, and tubing. Ran BHP Survey, tagged at 3,156'. Hydrotest tubing - busted 18th joint. PWOP. |                                        |                           |  |          |  |              |  |                              |  |  |  |                           |  |  |  |             |        |             |        |      |               |    |                                       |   |                       |   |                                        |     |                   |    |                                       |    |                                  |      |                |   |        |     |                |   |                    |    |                                        |    |                   |      |  |    |                          |  |  |      |  |  |  |
| <b>Production Liner.</b><br>Hole Size: 4 3/4 in<br>Cas. Size: 4 in<br>Top: 2914 ft<br>Btm: 3318 ft<br>Sxs Cmt: NONE<br>Circ: NO<br>TOC @: 11 surf.<br>TOC by: |                                  | Yates @ 3020'<br>Original<br>OH Interval<br>2996 - 3318'<br><br>4" slotted liner<br># 2994 - 3318'<br><br>7-Rivers @ 3230'<br><br>TO(MA) @ 3286'<br>18' MA<br><br>Queen @ 3575'                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                        |                           |  |          |  |              |  |                              |  |  |  |                           |  |  |  |             |        |             |        |      |               |    |                                       |   |                       |   |                                        |     |                   |    |                                       |    |                                  |      |                |   |        |     |                |   |                    |    |                                        |    |                   |      |  |    |                          |  |  |      |  |  |  |
| PBTD: 3318 &<br>TD: 3318 ft                                                                                                                                   |                                  | OH IC 4 3/4 in                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                        |                           |  |          |  |              |  |                              |  |  |  |                           |  |  |  |             |        |             |        |      |               |    |                                       |   |                       |   |                                        |     |                   |    |                                       |    |                                  |      |                |   |        |     |                |   |                    |    |                                        |    |                   |      |  |    |                          |  |  |      |  |  |  |

| CURRENT COMPLETION SCHEMATIC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  | LEASE NAME                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  | Cooper Jal Unit |  | WELL NO   |  | 226 WIW      |  |
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| STATUS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  | Active                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  | Water Injector  |  | API#      |  | 30-025-09851 |  |
| LOCATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  | 330 FNL & 330 FEL, Sec 25, T - 24S, R - 36E, Lee County, New Mexico                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  | SPUD DATE       |  | TD        |  | KB 3,297'    |  |
| INT. COMP. DATE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  | 05/18/50/PBTD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  | 3600            |  | GL 3,287' |  | DF           |  |
| <div style="text-align: right;">TOC @ 80'</div> <div style="text-align: right;">Csg Swagged at 337'</div> <div style="text-align: right;">481'</div> <div style="text-align: right;">515'</div> <div style="text-align: right;">1064'</div> <div style="text-align: right;">DV Tool @ 1137'</div> <div style="text-align: right;">1287'</div> <div style="text-align: right;">TOC @ 1935'</div> <div style="text-align: right;">By Calc</div> <div style="text-align: right;">Yates @ 2985'</div> <div style="text-align: right;">Jalmet</div> <div style="text-align: right;">OH Interval 2989'-3600'</div> <div style="text-align: right;">Langille Metrix</div> <div style="text-align: right;">Tagged @ 3554'</div> <div style="text-align: right;">Queen @ 3560'</div> <div style="text-align: right;">TOF @ 3580'</div> <div style="text-align: right;">Bt Cones and shanks</div> <div style="text-align: right;">PBTD: 3600 ft</div> <div style="text-align: right;">TD: 3600 ft</div> <div style="text-align: right;">OH ID: 4 3/4 in</div> |  | <div style="text-align: center;">ELECTRIC LOGS</div> <div style="text-align: center;">Ejecto Log Tracer - MicroCaliper (11-8-76 Cardinal Surveys Co.)</div> <div style="text-align: center;">HYDROCARBON BEARING ZONE DEPTH TOPS</div> <div style="text-align: center;">Yates @ 2985'      7-Rivers @ 3200'      Queen @ 3560'</div> <div style="text-align: center;">Casing Profile</div> <div style="text-align: center;">SURF. 8 5/8" - 2989', J-55 set @ 310' Cmt'd w/100 sxs - circ cmt to surf.</div> <div style="text-align: center;">PROD. 5 1/2" - 158', J-55 set @ 2989' Cmt'd w/200 sxs - TOC @ 1935' // surf by calc. DV tool @ 1137' - pmp 200 sxs -</div> <div style="text-align: center;">LINER None</div> <div style="text-align: center;">5 1/2" - TOC @ 80' // surf by calc.</div> <div style="text-align: center;">CURRENT PERFORATION DATA</div> <div style="text-align: center;">CSG PERFS</div> <div style="text-align: center;">OPEN HOLE: 2989'-3600'</div> <div style="text-align: center;">TUBING DETAIL</div> <div style="text-align: center;">9/8/2012</div> <div style="text-align: center;">ROD DETAIL</div> <div style="text-align: center;">2911.00      92      2 3/8" IPC J-55, 4.7#</div> <div style="text-align: center;">5 1/2" x 2 3/8" Baker Model AD-1 plr</div> <div style="text-align: center;">2911.0</div> <div style="text-align: center;">WELL HISTORY SUMMARY</div> <div style="text-align: left;"> 18-May-60 IC Interval: (Yates OH) 2989 - 3223'. No stimulation. IP = 88 bopd, 0 bwopd, &amp; 125 Mcf/gpd (flowing)<br/> 29-Dec-68 C/O fill from 3156 - 3214' (58')<br/> 8-Apr-69 C/O fill from 3140 - 3214' (74')<br/> 20-May-71 CONVERTED To WATER INJECTOR: C/O from 3190 - 3223 (33'). Swedged out 5 1/2" csg at 337', 481', 515', 1064' &amp; 1287'. Ran plr on 2 3/8" CL tbg. Set plr @ 2933'.<br/> 9-Nov-76 Ran injection profile - had 220' of fill. Identified 100% injection below 3003'.<br/> 24-Nov-76 C/O fill from 3003 - 3223' (223'). Jet washed from 3223 - 2989'. Encountered tight spot in 5 1/2" csg @ 1287'.<br/> 12-Feb-90 C/O fill to 3,223'.<br/> 01-Oct-93 Administrative Order No. WFX-448. Approved Division Order No. R-4019 &amp; R-4020 for Waterflood Expansion.<br/> 15-Jun-95 Deepen to 3600'. Acid'd OH (2989 - 600') w/ 5,000 gals 15% NEFE HCL. Returned well to injection (DHC - Jalmet &amp; Langille Metrix). Max surface injection pressure = 597 psi.<br/> 17-Oct-00 Set CIBP @ 2980'. Tst CIBP &amp; csg to 590 psi. OK. Displace well with plr fluid. Dmp 35' cmt on top of CIBP @ 2,960'. PBTD at 2925'. NMOCD representative on location. RD &amp; clean location. Well TA'd 10-20-2000.<br/> 23-Aug-04 RIH w/ 4 3/4" bit and 6 - 3 1/8" drill collars on 2 7/8" work string. Drilled out cement &amp; CIBP at 2960'. Cleaned open hole to 3240'. RIH w/ 5 1/2" x 2 3/8" IPC Baker Model AD-1 plr. Hydrotest tbg to 6,000#. Landed PKR at 2913', circ'd 80 bbls of fresh water plus 10 gallons of packer fluid. Set PKR &amp; test annulus to 520 psig for 30 minutes - head. Pulled chart for NMOCD. NMOCD Rep witnessed the MIT. Injection: 300 BWPD at 120 psig. Status change // Inactive to Active Injector. RIH with 1 1/4" x 5' sinker bar and tagged at 3,095'.<br/> 8-Nov-05 Test csg to 500 psig - okay. POOH w/ IPC tbg &amp; PKR. RIH w/ 4 3/4" bit &amp; drill collars, tagged @ 3,068'. Drilled formation // 3241' to 3570' in 5 days. Left 3 cones &amp; 2 shanks of 4 3/4" button bit. Could not recover w/ magnet. RIH with 5 1/2" PKR on 2 3/8" IPC tubing (Hydrotest to 5,000#). MIT to 500 psig for 30 min. Pulled chart for OCD. Prior Rate/Press: 120 BWPD @ 380#. After Rate/Press: 350 BWPD @ 550#. RU Gray WL. RIH Logging Tool - tagged 3,560'. Ran injection profile. RD WL. Rate/Press: 563 BWPD @ 700 PSIG. POOH with injection string. Cleaned out from 3,086' to 3,564' with 4 3/4" bit. Acidized with 22,000 gals 15% 90/10 Acid/xylene. AIR= 6.4 bpm. Pavg= 1144 psig. Pmax= 1351 psig. ISIP= 1274 psig. Hydrotest injection string to 5,000 psig. PKR @ 2913'. POOH with injection string. Cleaned out // 3,030' to 3,554' with 4 3/4" bit. RIH with Caliper Tool, tagged at 3,070'. Could not work through. RIH with 4 3/4" bit, worked through @ 3,050', 3,060', 3,074', 3,092', 3,120', 3,146' and 3,554'. RIH with Caliper Tool, logged from 3,552'-2,989'. Ran CNVR log from 3,542' to 2,989'. RIH with injection string W/O PKR </div> |  |                 |  |           |  |              |  |



## WELLBORE SCHEMATIC AND HISTORY

| CURRENT COMPLETION SCHEMATIC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  | LEASE NAME                                                                                      |  | Cooper Jal Unit                                                                                                                                                  |  | WELL NO.                        |  | 230 WIW       |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------|--|---------------|--|
| STATUS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  | Injector                                                                                        |  | API#                                                                                                                                                             |  | 30-025-09649                    |  |               |  |
| LOCATION:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  | 1650 PNL & 2310 FWL, Sec 25, T - 24S, R - 38E, Lee County, New Mexico                           |  |                                                                                                                                                                  |  |                                 |  |               |  |
| SPUD DATE:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  | TD                                                                                              |  | 3226                                                                                                                                                             |  | KB                              |  | 3,307         |  |
| INT. COMP. DATE:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  | 02/08/51                                                                                        |  | PSTD                                                                                                                                                             |  | GL                              |  | 3,302         |  |
| ELECTRIC LOGS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  | GEOLOGICAL DATA                                                                                 |  | CORES DATA or MIN LOGS                                                                                                                                           |  |                                 |  |               |  |
| GR-N (11-8-79 WELED)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  | HYDROCARBON BEARING ZONE DEPTH TOPS                                                             |  | Yates @ 2908'                                                                                                                                                    |  | 7-Rivers @ 3218'                |  | Queen @ 3585' |  |
| SURF. 10 3/4" - 428' J-55 set @ 275' Cmt'd w/100 sxs - circ cmt to surf.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  | PROD. 5 1/2" - 156' J-55 set @ 2946' Cmt'd w/400 sxs - TOC @ 1950' from surface by calculation. |  | LINER 4" - 10.468' J-55, FJ csg set from 3226 - 2900' Cmt'd w/620 sxs - circ cmt out TOL.                                                                        |  | CURRENT PERFORATION DATA        |  |               |  |
| CSG. PERFS:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  | OPEN HOLE :                                                                                     |  | 2946 - 3226                                                                                                                                                      |  | original OH isolated w/4" liner |  |               |  |
| 5-Nov-79 Perf'd Yates @ 2976', 2982', 2986', 2991', 3002', 3004', 3027', 3033', 3041', 3043', 3045', 3068', 3071', 3089', 3082'                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  | 3097', 3110', 3128', 3132', 3142', 3180', 3184', 3191', 3195' w/ 1 spf (24 holes total)         |  | 01-Apr-11 Perf'd Yates: 3300'-14', 3018'-45', 3080'-77', 3081'-3104', 3110'-31', 3120'-37', 3140'-48', 3148'-56', 3174'-84', & 3184'-3185', 142 feet, 284 holes. |  |                                 |  |               |  |
| TUBING DETAIL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  | 4/4/2011                                                                                        |  | ROD DETAIL                                                                                                                                                       |  |                                 |  |               |  |
| 2884 92 2 3/8" supermax IPC Tbg with turn down collar                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  | 10 2 2 3/8" supermax IPC Tbg Sube with turn down collar                                         |  | 3 1 3 1/2" Arrowset PKR                                                                                                                                          |  |                                 |  |               |  |
| 2877                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                                                                                                 |  |                                                                                                                                                                  |  |                                 |  |               |  |
| WELL HISTORY SUMMARY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                                                                                                 |  |                                                                                                                                                                  |  |                                 |  |               |  |
| 06-Feb-51 Initial completion interval: (Yates OH) 2946' - 3186' trt (3030' - 3183') w/ 250 qts nitro. IP = 60 bopd, 0 bwopd, and 64 Mcigpd (pumping).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |                                                                                                 |  |                                                                                                                                                                  |  |                                 |  |               |  |
| 08-Jul-79 C/O fill from 3031' - 3183'. Deepened to 3226'.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |                                                                                                 |  |                                                                                                                                                                  |  |                                 |  |               |  |
| 05-Nov-79 C/O 3102'-3226'. Installed 4" liner. Perf'd (Yates) 2976' - 3195' w/1 spf (24 holes). Acid'd perfs w/4,500 gals 15% HCl and 25 BSs in 3 stages. AIR=2.6 bpm @ 1800 psi. Frac'd w/51,000 gals gel wtr carrying 36,000#s 20/40 sand & 18,000#s 12/20 sd in 3 stages. AIR=20 bpm @ 3200#. After WO: 24 bopd, 62 bwopd, & GOR=740                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                                                                                                 |  |                                                                                                                                                                  |  |                                 |  |               |  |
| 07-Dec-83 Replaced 1 bad ft and 2 bad collars in 2 3/8" tbg string. Ran new pmp and rods. Returned to production.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |                                                                                                 |  |                                                                                                                                                                  |  |                                 |  |               |  |
| 22-Jun-99 Set CIBP @ 2800'. Dmp 35' cmt on top of CIBP. PSTD @ 2865'. Circ pkr. Fluid. Test csg. Would not test. Well TA'd.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                 |  |                                                                                                                                                                  |  |                                 |  |               |  |
| 08-Mar-01 Tag PSTD @ 2875'. Circ well w/ gelled brine mud. Spot 25 sxs cmt from 2800'-2400'. WOC. Tag TOC @ 2300'. Perf'd 6 holes @ 1300'. Sqz'd 50 sxs cmt into perfs @ 1300 ft @ 1 1/2 bpm & 1300#. SIP=1050 psi. WOC. Tag TOC @ 1050'. Test csg to 1700 psi. OK. Perf'd 6 holes @ 400'. Pressured to 1700#. No pmp in rate. Perf'd 6 holes @ 325'. Pressured to 1700 psi No pmp in rate. Spotted 50 sxs cmt from 450' to surf. Removed wellhead. Cap casing. Installed Cap casing. Installed Dry hole marker & cleaned location. NMOC notified - well P&A'd 3-8-2001.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |                                                                                                 |  |                                                                                                                                                                  |  |                                 |  |               |  |
| 15-Mar-11 Re-Enter Well. Drilled cement plug from surface to 465', test casing - okay. Drilled cement plug from 1050' to 1380'. Test casing to 500# - lost 100# in 30 minutes. Drilled cement plug from 2,300' to 2,610' and 2,890' to CIBP. Drilled CIBP with 3 1/4" bit. Left 3 cones in hole. RIH with 4 3/4" concave mill, milled 1 foot off of iner. RIH with 3 1/4" mill to 3,213', left 3 cones in hole. RIH with composite plug and set at 2,925'. RIH with 3 1/2" 9.20# supermax trr at 2,867'. Pumped 20 bbls lime water followed 200 sxs Class C cement, circ'd to surf. RIH with 2 3/4", drilled float collar, shoe and cement to 2,907'. Drilled out composite plug, to 3,226'. Perf'd Yates from 3,000'-3,014', 3016'-3045', 3060'-3077', 3081'-3104', 3110'-3117', 3120'-3137', 3140'-3146', 3148'-3156', 3174'-3184', & 3184'-3195'. 142 feet, 284 holes. Acidized with 15,000 gallons 15% HCl 90%/10% acid/Kylene at 6 bpm. Divert with 10,000# rock salt. Pavg=2450#. ISIP=760# RIH with injection string, MIT well. Pulled pressure chart for OCD. |  |                                                                                                 |  |                                                                                                                                                                  |  |                                 |  |               |  |
| 14-Jun-12 Tagged fill @ 2849' with 1 3/8" sinker rod tool.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |                                                                                                 |  |                                                                                                                                                                  |  |                                 |  |               |  |

## Surface Cas

Hole Size: 13 in  
Csg. Size: 10 3/4 in  
Set @: 275 ft  
Sxs Cmt: 100  
Circ: Yes  
TOC @: surf  
TOC by: circ

## Production Liner

Hole Size: 4 3/4 in  
Csg. Size: 5 1/2 in  
Top: Surface ft  
Btm: 3226 ft  
Sxs Cmt: 620  
Circ: Yes

## Production Liner

Hole Size: 4 3/4 in  
Csg. Size: 4 in  
Top: 2800 ft  
Btm: 3226 ft  
Sxs Cmt: 620  
Circ: Yes

## Production Cas

Hole Size: 9 7/8 in  
Csg. Size: 5 1/2 in  
Set @: 2946 ft  
Sxs Cmt: 400  
Circ: No  
TOC @: 1950 ft  
TOC by: calc.

2 3/8" PF  
3000'-3014'

3016'-3045'

3060'-3077'

3081'-3104'

3110'-3117'

3120'-3137'

3140'-3146'

3148'-3156'

3174'-3184'

3184'-3195'

PSTD: 3226 ft

TD: 3226 ft

OH ID: 4.75 in

Queen @ 3585'

Original OH Interval 2946 - 3226

PREPARED BY:

Larry S. Adams

Domingo Carrizales

UPDATED:

13-Jun-11

## WELLBORE SCHEMATIC AND HISTORY

| CURRENT COMPLETION SCHEMATIC |  | LEASE NAME                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  | Cooper Jal Unit                                                    |  | WELL NO. 241 WW (Formerly No. 312) |  |
|------------------------------|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------------------------------------------------------|--|------------------------------------|--|
|                              |  | STATUS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  | Active                                                             |  | Water Injector                     |  |
|                              |  | LOCATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  | 1650 FNB & 1650 FEL Sec 25, T. 24S, R. 36E, Lea County, New Mexico |  | API# 30-025-09656                  |  |
|                              |  | SPUD DATE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  | 07/01/51 TD                                                        |  | KB 3298' DF                        |  |
|                              |  | INT. COMP. DATE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  | 08/01/51 PBTD                                                      |  | GL 3288'                           |  |
|                              |  | ELECTRIC LOGS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  | GR-N (7-11-54 Schlumberger)                                        |  | CORES DATA or MUD LOGS             |  |
|                              |  | Tracer - Micro Caliper (11-11-78 Cardinal Surveys)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |                                                                    |  |                                    |  |
|                              |  | Casing Inspection Log from 2911 - surface (8-30-93 Wedge Wireline)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |                                                                    |  |                                    |  |
|                              |  | HYDROCARBON BEARING ZONE DEPTH TOPS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |                                                                    |  |                                    |  |
|                              |  | Yates @ 2956'                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  | 7-Rivers @ 3178'                                                   |  | Queen @ 3538'                      |  |
|                              |  | CANNING PROFILE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |                                                                    |  |                                    |  |
|                              |  | SURF. 8 5/8" - 288' H-40 set @ 236' Cmt'd w/100 sxs - circ cmt to surf.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |                                                                    |  |                                    |  |
|                              |  | PROD. 5 1/2" - 148' H-40 set @ 3003' Cmt'd w/200 sxs - TOC @ 1950' by calc. DV tool @ 1132' - pmp 200 sxs -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |                                                                    |  |                                    |  |
|                              |  | LINER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |                                                                    |  | 5 1/2" - TOC @ 50' / surf by calc. |  |
|                              |  | CURRENT PERFORATION DATA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                                                    |  |                                    |  |
|                              |  | CSG PERFS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  | OPEN HOLE                                                          |  | 3033 - 3580'                       |  |
|                              |  | TUBING DETAIL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  | 4/28/2011                                                          |  | ROD DETAIL                         |  |
|                              |  | Length (ft)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  | Detail                                                             |  |                                    |  |
|                              |  | 10 KB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |                                                                    |  |                                    |  |
|                              |  | 2823 98 lbs - 2 3/8" 4.7% CL, J-55, 4th BLUE tbg.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                                                                    |  |                                    |  |
|                              |  | 3-1-5 1/2" x 2 3/8" Galval Metal AD-1 pkr.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |                                                                    |  |                                    |  |
|                              |  | 2835 btm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                                                    |  |                                    |  |
|                              |  | WELL HISTORY SUMMARY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |                                                                    |  |                                    |  |
|                              |  | 1-Aug-51 Initial completion interval: 3003 - 3580' (Yates/ 7 RVRB OH). No stimulation. IP= 66 bopd, 0 bwpd, & 0 Mcf/gpd (flowing)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                                                                    |  |                                    |  |
|                              |  | 22-Aug-54 Plugged back to Jalmat                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |                                                                    |  |                                    |  |
|                              |  | 29-Oct-75 CONVERTED TO INJECTION: C/O fill from 3306 - 3325'. Ran pkr on 2 3/8" CL tbg. Set pkr @ 2929'. Initiated injection Nov. 1, 1975 @ 300 bwpd, TP=400 psi.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                                                                    |  |                                    |  |
|                              |  | 27-May-83 C/O // 3235'-3316' (81'). Fill was paraffin, iron sulfid, sand & pieces of CIBP. Acid'd OH 3303'-3316' w/4,200 gals 15% NEFE HCL, 110 gals Checker-Sol plus, 200 bbls (.3 chlorine Di-oxide) & 500#s salt generating 2 stages. AIR= 38 bpm. Ran PKR on 2 3/8" CL tbg. Could not get pkr to test. POOH w/ pkr & tbg. Ran casing inspection log // 2911' - surf. Found hole in casing @ 769' and poor cag condition 288'-316', 800'-880', 769'-808', & 2080'. Set CIBP @ 2,930'. RIH w/ open ended tubing. Set 40 sxs cement plug from 820 - surface & pressure csg to 900 psig. Displaced cement 555'. Test to 500#. SIP= 200 psig. WOC. D/O cmt // 469'-808'. Test csg to 420 psi. OK. Drilled & pushed CIBP to 3,312' in OH. Ran PKR on 2 3/8" CL tubing. Set PKR @ 2936'. Test PKR & Csg to 300#. Okay. Initiated injection @ 118 bwpd, TP=880 psi. |  |                                                                    |  |                                    |  |
|                              |  | 14-Feb-02 Tag TD using SL unit (1 1/4" x 5' sinker bar). Tag fill @ 3002' (314' of fill).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |                                                                    |  |                                    |  |
|                              |  | 09-Nov-05 RIH with 1 1/4" x 5' sinker bar and tagged at 2,998'.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |                                                                    |  |                                    |  |
|                              |  | 14-Jan-08 SITP= 420#. Bled down. POOH w/ CL tbg & 5 1/2" AD-1 PKR. RIH w/ 4 3/4" mill tooth bit & 1 - 3 1/2" drill collar. Tagged tight spot at 20', worked through several times. RIH with 4 3/4" bit, 5 1/2" scraper, 1 - 3 1/2" drill collars. Tagged tight spot at 20' and 110'. RIH w/ 2 7/8" Notch Collar on 2 7/8" tubing, tagged fill at 3,015'. RIH with 4 1/4" bit, 6 - 3 1/2" drill collars on 2 7/8" tbg. Cleaned out from 3,015' to PBTD at 3,316'. Laid down work string. Hydrotect (4000#) 2 3/8" cement lined tubing & 5 1/2" AD-1. Circulate annulus and set PKR at 2,934'. Pressure test to 400#. Pulled chart for OCD. Rate/Press: 254 bwpd/1387#.                                                                                                                                                                                           |  |                                                                    |  |                                    |  |
|                              |  | 16-Apr-09 RU Gray Wireline. Tagged @ 3,014', could not get to TD. POOH w/ tools. Placed well on injection.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |                                                                    |  |                                    |  |
|                              |  | 20-Apr-11 POOH w/ injection string. RIH w/ 4 3/4" bit, tight spot in csg @ 1341'. Cleaned out fill to 3316'. Laid down CL tubing. Worked 4 3/4" mill thru 100' - 2936'. Set 5 1/2" Arrow Set 1X PKR @ 2936'. Acid'd OH w/ 12,000 gals 15% 90%/10% acid/glycine, diverted with 14,250# rock salt. AIR= 6 bpm. Pavg= 2316 psig Pmax= 5,000 psig. ISIP= 930 psig. Pull MIT.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                                                    |  |                                    |  |
|                              |  | 14-Jun-12 Tagged 88 @ 3816' with 1 3/8" sinker bar tool.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                                                    |  |                                    |  |

## Surface Cas

Hole Size: 11 in  
Cag. Size: 8 5/8 in  
Set @: 236 ft  
Sxs Cmt: 100  
Circ: Yes  
TOC @: surf  
TOC by: circ

Tight spot @  
20' & 110'Poor cag cond.  
288 - 808'  
by Insp. Log

DV Tool @ 1132'

TOC @ 1950'  
By Calc.Poor cag cond.  
at 2080'  
by Insp. Log

pkr @ 2936'

Yates @ 2956'

Top of Fill @ 3016'

7-Rivers @ 3178'  
Original  
OH Interval  
3033 - 3580'

PBTD @ 3316'

## Production Cas.

Hole Size: 7 7/8 in  
Cag. Size: 5 1/2 in  
Set @: 3003 ft  
Sxs Cmt: 400  
Circ: No  
TOC @: 50 ft surf.  
TOC by: calc.

Hydrotect Cmt 3316 - 3340'

CAL - SEAL 3340 - 3369'

GRAVEL 3369 - 3580'

PBTD: 3316 ft  
TD: 3580 ft

OH ID 4 3/4 in

PREPARED BY:

Larry S. Adams

Domingo Carrizales

UPDATED

14-Jun-12



## WELLBORE SCHEMATIC AND HISTORY

| CURRENT COMPLETION SCHEMATIC |  | LEASE NAME      |  | Cooper Jal Unit                                                  |  | WELL NO. |  | 407               |  |
|------------------------------|--|-----------------|--|------------------------------------------------------------------|--|----------|--|-------------------|--|
|                              |  | STATUS:         |  | Active                                                           |  | Oil      |  | API# 30-025-32569 |  |
|                              |  | LOCATION:       |  | 2540 FSL & 1640 FEL Sec 24, T-24S, R-35E, Lee County, New Mexico |  |          |  |                   |  |
|                              |  | SPUD DATE:      |  | 07/29/94                                                         |  | TD       |  | 3750              |  |
|                              |  | INT. COMP DATE: |  | 10/01/94                                                         |  | PBTD     |  | 3750              |  |
|                              |  |                 |  |                                                                  |  | KB       |  | 3,325'            |  |
|                              |  |                 |  |                                                                  |  | GL       |  | 3,314'            |  |
|                              |  |                 |  |                                                                  |  |          |  | DF                |  |
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## Surface Cas

Hole Size: 12 1/4 in  
Csg. Size: 8 5/8 in  
Set @: 410 ft  
Sxs Cmt: 250  
TOC @: surf

Yates @ 3019'

Jalmat

4 JHPF

3036'-40'

3048'-58'

3086'-78'

3104'-14'

3180'-88'

3221'-23'

3236'-39'

3286'-98'

3302'-22'

3340'

3360'

3367'

3382'-86'

3400'-04'

3420'-26'

3444'-46'

3473'-82'

3503'-11'

3523'-48'

3611'-16'

3649'-54'

3670'-78'

## Production Cas.

Hole Size: 7 7/8 in  
Csg. Size: 5 1/2 in

Set @: 3750 ft  
Sxs Cmt: 800  
Circ: Yes  
TOC @: surface  
TOC by: circ

PBTD: 3750 ft  
TD: 3750 ft

PREPARED BY:

Larry S. Adams

Domingo Carrazales

[UPDATED:

21-Mar-12



## WELLBORE SCHEMATIC AND HISTORY

## CURRENT COMPLETION SCHEMATIC

## LEASE NAME

Cooper Jal Unit

## WELL NO.

409

## STATUS

Active

Oil

## AP#

30-025-32570

## LOCATION:

2300 FSL &amp; 1450 FWL, Sec 24, T - 24S, R - 36E, Lea County, New Mexico

## SPUD DATE:

08/1/94 TD

3750

KB

3,343'

DF

3,342'

## INT. COMP. DATE:

10/01/94 PBTD

3717

GL

3,331'

## GEOLOGICAL DATA

## ELECTRIC LOGS:

GR-CCL (5-21-95 Halliburton)

GR-DLL-MSFL-CSL from 3750 - 2800' (8-19-94 Halliburton)

GR-DLT-CNL-CSNG from 3750 - surface (8-19-94 Halliburton)

## CORNER DAT'S or MUD LOGS

## HYDROCARBON BEARING ZONE DEPTH TOPS

Yates @ 3032'

7-Rivers @ 3238'

Queen @ 3608'

## CASING PROFILE

SURF. 8 5/8" - 24#, WC-50, ST&amp;C set @ 417'. Cmf'd w/250 sxs - circ cmt to surface.

PROD. 5 1/2" - 15.5#, WC-50, LT&amp;C set @ 3750'. Cmf'd w/850 sxs - circ cmt to surface.

LINER. None

## CURRENT PERFORATION DATA

## CSO PERFS:

## OPEN HOLE:

28-Oct-94 Perf'd Jalmat (Yates) @ 3034'-40, 3054'-62', 3072'-94', 3116'-19', &amp; 3221'-24'

Perf'd Jalmat (7-Rivers) @ 3268'-96' w/ 2 spf (118 holes)

28-Oct-94 Perf'd Langille Mattix @ 3351'-60', 3416'-20', 3512'-16', 3530'-36', 3610'-15' &amp; 3682'-87' w/ 2 spf (66 holes)

07-Apr-11 Perf'd Yates @ 3113'-21', 3130'-32', 3135'-38', 3142'-44', 3153'-57', 3165'-68', 3170'-74', 3185'-88', 3220'-28' &amp; 3234'-3239', 2 JHPF, 47 ft.

Perf'd Seven Rivers from 3442'-3445', &amp; 3452'-3458', 2 JHPF, 97 feet

## TURNING DETAIL

4/18/11

## ROD DETAIL

4/18/11

## Length (ft)

Detail

## Length (ft)

Detail

0

KB

20

26' x 1 1/4" polish rod w/ 7/8" Pin

2700

85

2 7/8" 6.5#, J-55, 8rd EUE tbg.

0

1

1 1/4" x 1 1/2" x 14' 8" Saver

3

1

5 1/2" x 2 7/8" TAC

2

1

2' - 7/8" Pony Sub

283

9

2 7/8" 6.5#, J-55, 8rd EUE tbg.

825

33

1" D-90 rods

1

1

2 7/8" SN

1025

41

7/8" D-90 rods

4

1

4' x 2 7/8" 6.5#, J-55, 8rd EUE tbg sub

950

38

3/4" D-90 rods

120

1

3 1/2" Mud Anchor

250

10

1 1/2" sinker bars

3111 btm

20

1

2 1/2" x 1 3/4" X 20' RHBC rod pump

0

1

1 1/4" gas anchor

3092

btm

## WELL HISTORY SUMMARY

28-Oct-94 Perf'd Langille Mattix; 7-Rivers @ 3351' - 60', 3416' - 20', 3512' - 16', 3530' - 36'; Queen @ 3610' - 15', & 3682' - 87' w/2 spf (66 holes today). Frac'd with 20,000 gals XLG 2% KCL carrying 136,000#s 16/30 brady sand. Perf'd Jalmat @ 3034'-3296' w/2 spf (118 holes). Frac'd with 43,000 gals XLG 2% KCL carrying 220,000#s 12/20 sand. AIR=30 bpm @ 1315' psig. ISIP= 1310#. Pump test perfs (3034'-3296') for 24 hrs. recovering 58 bopd, 69 bw & 71 Mcf/gpd. Commingled perfs. IP=40 bopd, 107 bwpc, & 170 Mcf/gpd (pumping).

28-Feb-95 Tagged fill @ 3695'. Changed out MA.

07-Feb-97 Replaced 1 jts 2 7/8" tbg. Visually inspected rod string.

12-Dec-06 POOH with rods, pump and tubing. Tagged fill at 3589'. RIH with 4 3/4" bit, balled form 3200' to 3700'. Recovered scale and sand. Acidized with 750 gals 15% acid. RIH with production string. PWOP.

15-Jul-10 Long stroke well. Good pump action, temporarily. Load well and test to 500 psig. Bled to 0 psig. POOH with rod, pump and tubing. Hydrotest to 7,000 psig - found split joint above SN. RIH with pump and rods. PWOP.

05-Apr-11 POOH with rods, pump and tubing. RIH with PKR, set above Perfs. Test casing to 500 psig - held. Tagged fill at 3690'.

RIH with 4 3/4" bit, balled form 3690' to 3717'. See diagram for new perfs. RIH with CIBP on wireline, set @ 3,286'. RIH Perf'd Yates @ 3113'-21', 3130'-32', 3135'-38', 3142'-44', 3153'-57', 3165'-68', 3170'-74', 3185'-88', 3220'-28' &amp; 3234'-3239', 2 JHPF, 47 feet and Perf'd Seven Rivers from 3442'-3445', &amp; 3452'-3458', 2 JHPF, 9 feet. Set CIBP @ 3,286', 10' cement.

RIH with 5 1/2" PKR on 4 1/2" Frac String, set PKR above all perfs. Foam Acid Frac'd with 7,500 gals 15% NEFE acid. Frac'd with 120,000#s sand, 50% resin coated. ISIP= 1380#, P15min= 1130#. Flowed back for two days. POOH w/ 4 1/2" work string.

Not mentioned - D/O of CIBP. Clean out @ 3,590' to 3,717'. RIH w/ production string. PWOP.

19-Dec-11 Changed out polished rod liner.

Jalmat

Yates @ 3032'

3034'-3049'

3054'-3082'

3072'-3084'

3116'-3118'

3221'-3224'

7-Rivers @ 3238'

3289'-3296'

3351'-3380'

3416'-3420'

Langille Mattix

3512'-3516'

3530'-3536'

Queen @ 3608'

3610'-3615'

3682'-3687'

## Surface Cas

Hole Size: 12 1/4 in

Csg. Size: 8 5/8 in

Set @: 417 ft

Sxs Cmt: 250

Circ: Yes

TOC @: surf

TOC by: circ

## New Perfs 4-7-11

## Yates

3113' - 3121'

3130' - 3132'

3135' - 3138'

3142' - 3144'

3153' - 3157'

3165' - 3168'

3170' - 3174'

3185' - 3188'

3220' - 3226'

3234' - 3239'

## New Perfs 7-Rivers

3442'-3445'

3452'-3458'

## Production Cas

Hole Size: 7 7/8 in

Csg. Size: 5 1/2 in

Set @: 3750 ft

Sxs Cmt: 850

Circ: Yes

TOC @: surface

TOC by: circ

PBTD: 3717 ft

TD: 3750 ft

PREPARED BY:

Larry S. Adams

Domingo Carrizales

UPDATED:

05-Jan-12

Field: **Cooper Jal Unit**

| Location:   |                       |
|-------------|-----------------------|
| Footage:    | 1600 FSL & 1425 FEL   |
| Section:    | Sec. 24, T-24S, R-36E |
| Block:      |                       |
| Survey:     |                       |
| County:     | Lea, New Mexico       |
| Lat:        |                       |
| Long:       |                       |
| Elevations: |                       |
| GL:         | 3,314'                |
| KB:         | 3,327'                |
| KB Calc:    | 13'                   |
| ck wlog?    | yes                   |

| Date      | History                                                                                                                                                                                  |
|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 27-Jul-95 | Selectively perf 3443' - 3620' & acidize w/ 2000 gal 7-1/2% HCl. Frac w/ 38,000 gal 35% x-link gel & 182,000# 16/30 brady sd. PWOP.                                                      |
| 23-Aug-95 | Set RBP at 3,397' & perf 3099' - 3111' & frac w/ 43,000 gal 30% x-link & 220,000# 12/20 Brady. Retrieve RBP & RWTP.                                                                      |
| 5-Sep-96  | Perf 3,046' - 3,296' w/ 4 SPF. Use RBP & pkr to acidize perfs 3142' - 3296' w/ 2000 gals 15% & 180 BS. Acidize perfs at 3046' - 3086' w/ 2000 gals 15% & 180 BS. TOH w/ pkr & RBP. RWTP. |
| 10-Oct-97 | Set CIBP at 3,400' & dump 35' cement.                                                                                                                                                    |
| 6-Jun-98  | CO fill 3357' - 3365' & RWTP.                                                                                                                                                            |
| 29-Nov-99 | Replaced 1 il tpo & re-dressed pump.                                                                                                                                                     |
| 18-Mar-02 | Replaced pump it & re-dressed pump.                                                                                                                                                      |
| 8-Oct-08  | DO CIBP at 3,400' & con't to 3,796'. Perf 3632' - 3770', 3286' - 3583' & 3026' - 3040' w/ 3 SPF. Acidize all perfs w/ 9900 gal 15% NEPE HCl. 11700# RS & 109 Tons CO2. RWTP.             |
| 28-Jul-09 | Tag fill a 3,758', run pressure bomb & found hole in it above SN.                                                                                                                        |
| 8-Sep-09  | Body break on 74th rod.                                                                                                                                                                  |
| 15-Oct-09 | Body break on 75th 3/4" rod. LD 52 - 3/4" rods due to pitting.                                                                                                                           |
| 20-Oct-09 | Tag btm at 3,730' - did not clean out.                                                                                                                                                   |
| 2-Nov-09  | Tag btm at 3,720' - did not clean out.                                                                                                                                                   |
| 30-Nov-09 | Hydrotest tpo - 1 bad & and 3 split its.                                                                                                                                                 |
| 28-May-11 | Body break on 111th 3/4" rod. Had to strip out pump.                                                                                                                                     |
| 13-Jun-11 | Box break on 77th 7/8" rod. LD 48 - 3/4" rods.                                                                                                                                           |
| 15-Jun-11 | Fish Polish Rod.                                                                                                                                                                         |
| 30-Sep-11 | Long stroke well.                                                                                                                                                                        |
| 20-Oct-11 | Dropped segment of well head slip while PQOH to run BHP survey.                                                                                                                          |
| 28-Oct-11 | Body break on 7/8" rod. Replaced 3/4" rods w/ 50% 1" & 50% 7/8".                                                                                                                         |
| 7-Jan-12  | Parted K-bar at top of lift sub. MA full of iron sulfide. Replace 12 K-bars.                                                                                                             |
| 31-Jan-12 | Long stroke pump.                                                                                                                                                                        |
| 4-Apr-12  | Hydrotest tpo - everything test ok.                                                                                                                                                      |
| 27-Feb-13 | Body break in 113th rod. Btm K-bars had split coupling.                                                                                                                                  |
| 19-Sep-13 | Replaced 67 - 7/8" & 21 - 3/4" FHSM Boxes.                                                                                                                                               |
| 28-Sep-13 | Rod Part. Scan tpo 1 YB, 5 GB & 108 GB.                                                                                                                                                  |
| 19-Dec-13 | Test tpo - 3 its failed. SN was pitted.                                                                                                                                                  |
| 5-Feb-14  | Body break in 75th rod. LD 35-7/8", 94 - 3/4" & 4-1-1/2" due to pitting.                                                                                                                 |

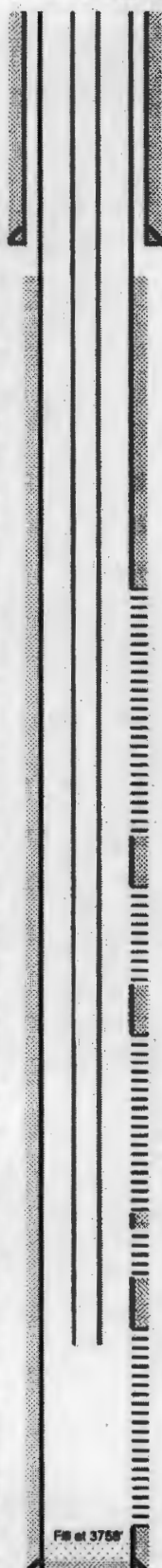
| Tubing Detail (top to bottom) |                                 |         |       |
|-------------------------------|---------------------------------|---------|-------|
| Joints                        | Description                     | Footage | Depth |
| 91                            | 2 7/8" 6.5#, J-55, 8rd EUE tbg. | 2,883   | 2,883 |
| 1                             | 5 1/2" x 2 7/8" TAC             | 3       | 2,886 |
| 24                            | 2 7/8" 6.5#, J-55, 8rd EUE tbg. | 679     | 3,566 |
| 2                             | 2 7/8" IPC tbg                  | 95      | 3,660 |
| 1                             | 2 7/8" SN                       | 1       | 3,631 |
| 1                             | 2 7/8" Perf Sub                 | 4       | 3,635 |
| 1                             | Mud Anchor                      | 32      | 3,667 |

| Rod Detail (top to bottom) |                                  |          |          |
|----------------------------|----------------------------------|----------|----------|
| Rods                       | Description                      | Footage  | Depth    |
| 1                          | 26' x 1 1/4" x 1 1/2" polish rod | 26.00    | 26.00    |
| 1                          | 1 1/4" x 1 1/2" x 1 1/2" liner   | 0.00     | 26.00    |
| 3                          | 6' - 7/8" pony rods              | 18.00    | 44.00    |
| 39                         | 7/8" rods (Norris 90)            | 975.00   | 1,019.00 |
| 98                         | 3/4" rods (Norris 90)            | 2,400.00 | 3,419.00 |
| 12                         | 1-1/2" Sinker Bars (Norris 90)   | 300.00   | 3,719.00 |
| 1                          | Pump                             | 20.00    | 3,739.00 |

Pumping Unit:  
Updated: 02/10/14 MCS

CJU #411

## Wellbore Diagram



|               |                                                   |
|---------------|---------------------------------------------------|
| Reservoir:    | Cooper Jal                                        |
| Well ID info: | CJU #411                                          |
| API No:       | 30-025-32856                                      |
| Drill Date:   | 7/8/1995                                          |
| Note Size:    | 11"                                               |
| Surface Csg:  | 8-5/8" - 24#, CF-50 ST&C                          |
| Set @:        | 391'                                              |
| Cement:       | 250 sz Class C w/ 2% CaCl2 (14.8 ppg, 1.34 yield) |
| Circ:         | Yes (50 Sacks)                                    |
| TOC:          | Surface                                           |

TOC: 500' (Temp Survey)

Values @ 3022'

Perf 3,026' - 3,040' w/ 3 SPF - 10/1/2008  
 Perf 3,046' - 3,054' w/ 4 SPF - 9/5/1995  
 Perf 3,062' - 3,070' w/ 4 SPF - 9/5/1995  
 Perf 3,075' - 3,086' w/ 4 SPF - 9/5/1995  
 Perf 3,099' - 3,111' w/ 4 SPF - 8/23/1995  
 Perf 3,116' - 3,120' w/ 3 SPF - 10/1/2008  
 Perf 3,124' - 3,131' w/ 3 SPF - 10/1/2008  
 Perf 3,134' - 3,136' w/ 3 SPF - 10/1/2008  
 Perf 3,142' - 3,154' w/ 4 SPF - 9/5/1995  
 Perf 3,157' - 3,162' w/ 3 SPF - 10/1/2008  
 Perf 3,166' - 3,172' w/ 3 SPF - 10/1/2008  
 Perf 3,178' - 3,188' w/ 3 SPF - 10/1/2008  
 Perf 3,190' - 3,192' w/ 3 SPF - 10/1/2008  
 Perf 3,210' - 3,215' w/ 3 SPF - 10/1/2008  
 Perf 3,219' - 3,228' w/ 4 SPF - 9/5/1995

7-8" @ 3240'

Perf 3,282' - 3,288' w/ 3 SPF - 10/1/2008  
 Perf 3,292' - 3,298' w/ 4 SPF - 9/5/1995  
 Perf 3,310' - 3,317' w/ 3 SPF - 10/1/2008  
 Perf 3,335' - 3,340' w/ 3 SPF - 10/1/2008  
 Perf 3,348' - 3,352' w/ 3 SPF - 10/1/2008  
 Perf 3,358' - 3,362' w/ 3 SPF - 10/1/2008

Perf 3,400' - 3,405' w/ 3 SPF - 10/1/2008  
 Perf 3,422' - 3,426' w/ 3 SPF - 10/1/2008  
 Perf 3,431' - 3,435' w/ 3 SPF - 10/1/2008  
 Perf 3,443' - 3,448' w/ 4 SPF - 7/21/1995  
 Perf 3,456' - 3,458' w/ 3 SPF - 10/1/2008  
 Perf 3,466' - 3,468' w/ 3 SPF - 10/1/2008  
 Perf 3,474' - 3,486' w/ 3 SPF - 10/1/2008  
 Perf 3,478' - 3,480' w/ 4 SPF - 7/21/1995  
 Perf 3,507' - 3,511' w/ 4 SPF - 7/21/1995  
 Perf 3,526' - 3,530' w/ 4 SPF - 7/21/1995  
 Perf 3,535' - 3,539' w/ 4 SPF - 7/21/1995

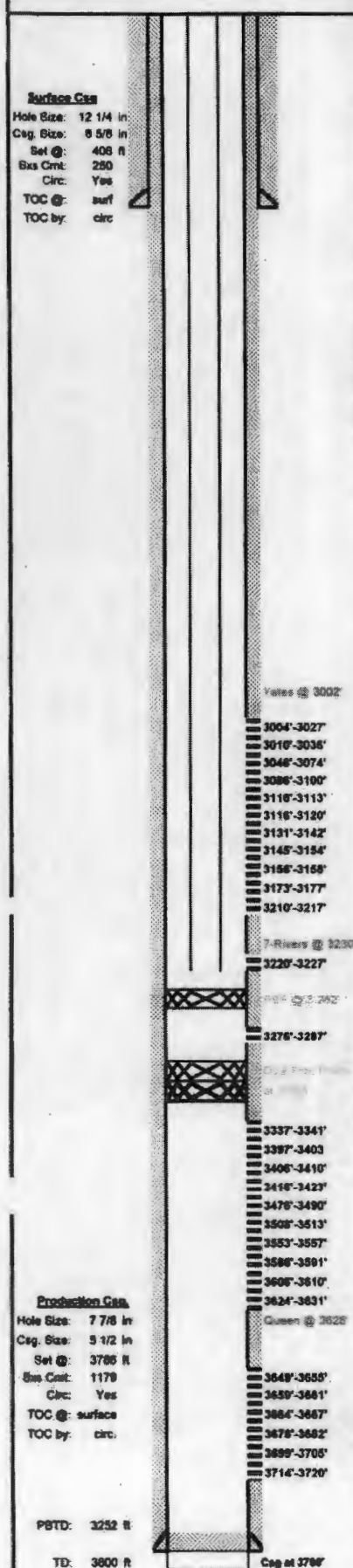
Perf 3,557' - 3,563' w/ 3 SPF - 10/1/2008  
 Perf 3,576' - 3,578' w/ 3 SPF - 10/1/2008  
 Perf 3,583' - 3,589' w/ 3 SPF - 10/1/2008

Cement @ 3614'

Perf 3,616' - 3,620' w/ 4 SPF - 7/21/1995  
 Perf 3,628' - 3,632' w/ 3 SPF - 10/1/2008  
 Perf 3,636' - 3,639' w/ 3 SPF - 10/1/2008  
 Perf 3,654' - 3,659' w/ 3 SPF - 10/1/2008  
 Perf 3,678' - 3,682' w/ 3 SPF - 10/1/2008  
 Perf 3,684' - 3,690' w/ 3 SPF - 10/1/2008  
 Perf 3,696' - 3,698' w/ 3 SPF - 10/1/2008  
 Perf 3,706' - 3,710' w/ 3 SPF - 10/1/2008  
 Perf 3,716' - 3,722' w/ 3 SPF - 10/1/2008  
 Perf 3,728' - 3,730' w/ 3 SPF - 10/1/2008  
 Perf 3,740' - 3,747' w/ 3 SPF - 10/1/2008  
 Perf 3,770' - 3,778' w/ 3 SPF - 10/1/2008

|                |                                                     |
|----------------|-----------------------------------------------------|
| Note Size:     | 7-7/8"                                              |
| Prod. Csg:     | 5-1/2" - 15.5# CF-50, LT&C                          |
| Set @:         | 3800'                                               |
| Cement - Lead: | 850 sz (35.65) Poz H w/ 6% Gel + 5% Salt (12.8 ppg) |
| Tail:          | 250 sz (50.50) Poz H w/ 2% Gel + 5% Salt (14.2 ppg) |
| Circ:          | No                                                  |

PBTD 3796'  
TD 3800'

| WELLBORE SCHEMATIC AND HISTORY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |                                                                                 |                 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------|-----------------|
| CURRENT COMPLETION SCHEMATIC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  | LEASE NAME                                                                      | Cooper Jal Unit |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  | STATUS:                                                                         | Active          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  | Oil                                                                             |                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  | WELL NO                                                                         | 412             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  | API#                                                                            | 30-025-32892    |
| <div>Surface Cas</div> <div>Hole Size: 12 1/4 in</div> <div>Csg. Size: 8 5/8 in</div> <div>Set @: 406 ft</div> <div>Bss Cmt: 250</div> <div>Circ: Yes</div> <div>TOC @: surf</div> <div>TOC by: circ</div> <div></div> <div>PTD: 3232 ft</div> <div>TD: 3800 ft</div> <div>Csg at 3786'</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  | LOCATION: 980 FSL & 225 FEL, Sec 24, T. - 24S, R. - 36E, Lee County, New Mexico |                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  | SPUD DATE: 05/19/95 TD 3800 KB 3.310' DF                                        |                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  | INT. COMP. DATE: 08/13/95 PBTD 3410 GL 3.295'                                   |                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  | ELECTRIC LOGS                                                                   |                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  | GR-DLL-MSFL-CSL (5-25-95 Halliburton)                                           |                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  | GR-CSNG-SDL-DSN (5-25-95 Halliburton)                                           |                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  | GR-CCL (5-28-95 Halliburton)                                                    |                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  | HYDROCARBON BEARING ZONE DEPTH TOPS                                             |                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  | Yates @ 3002' 7-Rivers @ 3230' Queen @ 3628'                                    |                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  | CANNING PROFILE                                                                 |                 |
| SURF. 8 5/8" - 24#, WC-50, ST&C set @ 406' Cmt'd w/250 sxs - circ cmt to surface.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |                                                                                 |                 |
| PROD. 5 1/2" - 15.5#, WC-50, LT&C set @ 3786' Cmt'd w/1179 sxs - circ cmt to surface.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |                                                                                 |                 |
| LINER. None                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |                                                                                 |                 |
| CURRENT PERFORATION DATA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |                                                                                 |                 |
| CSD PERFS:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |                                                                                 |                 |
| 29-May-95 Perf'd LM f/ 3476 - 90', 3508 - 13', 3553 - 57', 3586 - 91', & 3625'-28' w/ 4 spt (124 holes total)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |                                                                                 |                 |
| 29-May-95 Perf'd Jalmat f/ 3086'-3100' w/ 4 spt (56 holes total)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |                                                                                 |                 |
| 13-Sep-96 Perf'd Jalmat f/ 3016'-27', 3031'-36', 3046'-74', 3131'-42', 3145 - 51', 3173 - 77', & 3276 - 83' w/ 4 spt (316 holes total)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                 |                 |
| 06-May-11 Perf'd Queen f/ 3714'-3720', 3699'-3705', 3678'-82', 3664'-67', 3659'-61', 3649'-55', 3624'-31', and 3605'-3610'                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |                                                                                 |                 |
| 06-May-11 Perf'd 7-Rivers f/ 3416'-3423', 3406'-10', 3397'-3403', 3337'-41', and 3282'-3287'.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |                                                                                 |                 |
| 06-May-11 Perf'd Yates f/ 3004'-16', 3110'-13', 3116'-20', 3151'-54', 3156'-58', 3210'-17', & 3220'-3227' with 2 spt. Acid'd perfs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                                                                                 |                 |
| TUBING DETAIL 10/30/12                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                 |                 |
| Length (ft) Detail                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                                                                                 |                 |
| 0 KB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |                                                                                 |                 |
| 2540 79 2 7/8" 6.5#, J-55, 8rd EUE tbg.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |                                                                                 |                 |
| 3 1 5 1/2" x 2 7/8" TAC w/ 18,000# tension                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |                                                                                 |                 |
| 300 9 2 7/8" 6.5#, J-55, 8rd EUE tbg.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |                                                                                 |                 |
| 31 1 2 7/8" x 3 1/2" 6.5#, J-55, Blast JT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                                                                 |                 |
| 1 1 2 7/8" SN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |                                                                                 |                 |
| 4 1 2 7/8" Tbg Sub                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                                                                                 |                 |
| 19 1 2 7/8" Desander                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |                                                                                 |                 |
| 120 1 3 1/2" Mud Anchor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |                                                                                 |                 |
| 3018' btm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                                                                 |                 |
| ROD DETAIL 10/30/12                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |                                                                                 |                 |
| Length (ft) Detail                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                                                                                 |                 |
| 18 1 2 3/4" x 1 1/4" polish rod w/ 7/8" pin                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |                                                                                 |                 |
| 0 1 1 1/4" x 1 1/2" x 14' liner                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                                                                                 |                 |
| 16 3 2", 6", 8" - 1" pony rods                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |                                                                                 |                 |
| 725 29 1" D-90 steel rods                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                                                                 |                 |
| 1425 57 7/8" D-90 steel rods                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |                                                                                 |                 |
| 175 7 3/4" D-90 steel rods                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |                                                                                 |                 |
| 500 20 1 1/2" sinker bars                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                                                                 |                 |
| 20 1 2 1/2" x 1 1/2" X 20' HVRC rod pump                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |                                                                                 |                 |
| 0 1 1 1/4" x 16' gas anchor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |                                                                                 |                 |
| 2878' btm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                                                                 |                 |
| WELL HISTORY SUMMARY.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |                                                                                 |                 |
| 29-May-95 Perf'd 7-Rivers f/ 3476 - 90' w/ 4 spt (56 holes total). Frac'd w/38,000 gals XLG 2% KCL carrying 162,000#s 16/30 brady sand last 15% of sand RC. Perf'd Jalmat f/ 3476'-90', 3508'-13', 53'-57', 3586'-91', & 3625'-28' with 4 spt (125 holes). Acid'd with 2,000 gals 7 1/2% NEFE HCL Frac w/ 38,000 gals XLG 2% KCL carrying 162,000#s 16/30 mesh sand. Pump test perfs 3476'-3628', recovering 23 bw & 2 Mcf in 23 hrs. Perf f/ Yates f/ 3086'-3100' with 4 spt (56 holes). Frac'd with 43,000 gals carrying 220,000#s sand. Commingled all perfs - gals carrying 220,000#s sand. Commingled all perfs. IP= 62 bopd, 119 bwppd, and 21 Mcf/gpd (pumping).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |                                                                                 |                 |
| 13-Sep-96 Perf'd Yates f/ 3016'-27', 3031'-36', 3046'-74', 3131'-42', 3145'-51', 3173'-77', & 3276'-83' w/ 4 spt (316 holes). Acid'd perfs with 3,000 gals 15% NEFE HCL dropping 280 7/8" RCN ball sealers. AIR=8 bpm @ 1500 psi. ISIP=vacuum. Isolated and acid'd perfs 3131'-3283' with 3,000 gals 15% NEFE HCL dropping 190 7/8" RCN ball sealers. AIR=8.1 bpm @ 1700 psig. ISIP= vacuum. C/O with bailer from 3590'-3717' (127'). AFTER WO: 41 bopd, 250 bwppd, & 12 Mcf/gpd.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |                                                                                 |                 |
| 12-Dec-97 Lost 4 1/2" gauge ring. Pushed to 3528' but could not recover. Set CIBP @ 3448' on wireline and dumped 35' of cmt on top. PBTD= 3410'. T/A'd Langille Matths. Acid'd parts 3016 - 3100' with 2,000 gals 15% NEFE HCL thru Sonic Hammer tool. AIR= 3.9 bpm @ 1260'. After WO: 36 bopd, 216 bwppd, & 9 Mcf/gpd.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |                                                                                 |                 |
| 07-Oct-98 Changed out all rod boxes and pump.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |                                                                                 |                 |
| 09-Jan-04 POOH w/rods, pump, & tubing. RIH w/new string 101 - 2 7/8" tbg. Set TAC w/ 12,000#. RIH w/ pump & rods. PWOP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |                                                                                 |                 |
| 04-Jun-04 POOH with rods and pump. Scanslog 2 7/8" tubing out of hole: found 30 yellow, 44 blue, 20 green, and 7 red band joints. RIH with 20 new, 30 yellow, and 44 blue band joints of 2 7/8" tubing. RIH with pump and rods. Replace 6 - 1" boxes, 62 - 7/8" slim hole boxes to 7/8" full size boxes, and 17 - 3/4" slim hole to 3/4" full size boxes. PWOP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                                                                                 |                 |
| 19-Jul-05 POOH with rods and pump. Hydrotest tubing in hole - found hole on joint above SN. PWOP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |                                                                                 |                 |
| 29-Nov-05 POOH w/rods, pump & tubing. Hydrotest tubing in hole to 6000# - found hole on jt above SN. RIH w/pump & rods. PWOP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |                                                                                 |                 |
| 17-Nov-06 POOH w/rods, pump, & tbg. Tagged @ 3393'. Hydrotest tbg to 7000# -found hole on jt above SN. RIH w/pump & rods. PWOP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                                                                                 |                 |
| 21-Jan-10 Well parted at polish rod. Replaced polish rod and PWOP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                                                                                 |                 |
| 23-Aug-10 POOH with rods, pump and tubing. Hydrotest tubing to 7000 psig - found hole on joint above SN. Repaired Saddle Bearing. PWOP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |                                                                                 |                 |
| 28-Apr-11 POOH with Prod. String. Test casing from 2,900' to surface to 500# - Good. Drilled out CIBP with 4 3/4" bit. cleaned out to 3,615'. The bit started torquing - lost bit cone. Milled on cone for 3.5 HRS., made 17". RIH w/it overshot - recovered with rope socket, collar locator, & junk basket w/ 4 1/2" gauge ring. Cleaned out to 3,750'. Perf'd Queen f/ 3714'-3720', 3699'-3705', 3678'-82', 3664'-67', 3659'-61', 3649'-55', 3624'-31', & 3605'-3610'. Perf'd 7-Rivers f/ 3416'-3423', 3406'-10', 3397'-3403', 3337'-41', & 3282'-3287'. Perf'd Yates f/ 3004'-16', 3110'-13', 3116'-20', 3151'-54', 3156'-58', 3210'-17', & 3220'-3227'. All perfs @ 2 spt, 204 holes. RIH w/ 4 1/2" Frac String on 5 1/2" Dual Frac PKR, set at 3,308'. Acidized L. M. w/ 3,000 gals 15% NEFE, diverted w/ 200 BIO Balls. Foam Frac'd L. M. w/ 88,000# 16/30 Brady sand 0.416 MMCF N2. Pmax= 3,500 psig, well started screening out, went to flush. Well communicated around PKRs, nipple (part of top PKR) had hole on it. Cut 6' sub, left 3' fishing neck, POOH w/ 4 1/2" W/S. Fished on Dual PKR for 3 days with Grapple, Bumper Sub, Hydraulic Jars, DCs and Accelerator. No success! RIH with 5 1/2" Arrow Set 1X PKR on 4 1/2" work string. Set PKR at 2,982'. Acidized Jalmat with 5,000 gals 15% NEFE diverting with 500 BIO Balls. Foam Frac'd Jalmat with 117,000# 16/30 Brown Sand and 112,000 16/30 resin coated, plus 2.2 MMSCF N2. AIR= 45 bpm. Pavg= 2467 psig. ISIP= 2150 psig. Flowed well back for 1 day - 0 pressure, 0 fluid. Laid down 4 1/2" frac string. Cleaned out frac sand from 2900' to RBP @ 3282'. Hydrotest tubing to 7,000#. RIH with pump and rods. PWOP. |  |                                                                                 |                 |
| 27-Oct-11 POOH with rods, pump and tubing. Ran BHP Survey. Hydrotest tubing to 7000 psig - burst 5 joints. Replaced numerous rod box 3/4" and 7/8" rods. Add 14 - 1 1/2" K-Bar. PWOP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |                                                                                 |                 |
| 27-Oct-12 POOH w/ Prod. String. Ran Gradient Survey, tagged @ 300'. Hydrotest - split jt & busted 16 jts. Replaced 35 - 7/8" coupling. PW                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                                                                 |                 |
| 20-Feb-13 POOH w/ rods, 1st- 7/8" rod (broken coupling). RIH w/ rods, replaced 15- 7/8" couplings & 15- 1" couplings due to being flat. PV                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |                                                                                 |                 |
| PREPARED BY: Larry S. Adams Domingo Carrizales                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |                                                                                 |                 |
| UPDATED: 06-Nov-12                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                                                                                 |                 |



Field: **Cooper Jal Unit**

CJU #421

| Location:   |                       |
|-------------|-----------------------|
| Footage:    | 1575 FSL & 2525 FEL   |
| Section:    | Sec. 24, T-24S, R-36E |
| Block:      |                       |
| Survey:     |                       |
| County:     | Lea, New Mexico       |
| Lat:        |                       |
| Long:       |                       |
| Elevations: |                       |
| GL:         | 3,318'                |
| KB:         | 3,335'                |
| KB Calc:    | 17'                   |
| ck wlog?    | Yes                   |

| Date      | History                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 12-Dec-96 | Ran GR-CCL @ 3684-2684'. Perf'd Jal @ 3061'-63', 3066'-66', 73'-90', 3135'-36', 48'-54', 69'-72', 82'-84', 3296-3306', & 3353-56' w/4 spf (192 holes) frac w/ 52,000 gals 30# borate XL 2% KCL carrying 288,000#s 12/20 brady sand. Pump 1st 24 hrs - 27 bopd, 113 bwpd, 43 Mcf/d. Returned to production                                                                                                                                                                                                                                                                                                                                                                     |
| 3-Jul-97  | C/O fill from 3482 - 3630' (148'). Returned to production                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 13-Feb-98 | Changed out TAC, SN and rod pump.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 18-Jan-99 | Changed out 10 - 3/4" rod boxes, 10 - 7/8" rod boxes and rod pump                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 5-Jan-00  | Changed out MA and pump                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 19-Jan-04 | POOH with rods and pump. RIH with upsized pump(1 1/4" to 1 1/2") and rods. PWOP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 26-Jul-04 | POOH w/ rods & pump. Scalloped tbq out of hole: 16 yellow, 67 blue, 10 green (31% to 40% wall loss), 8 green (41% to 50% wall loss), & 6 red. RIH w/1 blest @ 13 yellow band, TAC, 3 yellow, 67 blue, 11 double band, & 14 single band tbq. Tagged bottom at 3590'. RIH w/ pump & rods. PWOP                                                                                                                                                                                                                                                                                                                                                                                  |
| 23-Sep-05 | POOH w/ rods, pump & tubing. RIH w/ 4 3/4" bit, 10 - 3 1/2" drill collars. Tagged at 3523', cleaned out to 3715'. Drilled @ 3715' to 3760', circulated frac sand. Perf'd L. M. @ 3742'-48', 16'-24', 05'-08', 3674'-94', 54'-56', 36'-38', 3616'-22', 3566'-66', 32'-46', 3512'-20', 3483'-93', 3452'-59', 3044'-52' & 3024'-40'. 2 SPF, 180 degree phase, 224 holes. Hydrotest 3 1/2" WS to 7000#. Acidized perfs 3452'-3748' w/ 4,000 gals 15% NEFE acid. Diverted with 200 ball sealers - balled out 4 times (Pmax= 4200#). Frac'd with 121,080# 16/30 sand. Pavg= 2394# at 26.8 bpm. ISIP= 1922#. RIH with Notch Collar and tagged at 3760'. RIH with pump and rods. PWOP |
| 18-Nov-05 | POOH w/ rods & pump. Tagged at 3756'. POOH w/ tbq. RIH w/ tbq. pump & rods. Long stroke pmp. Re-spaced well & check pmp action. PWOP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 21-Nov-06 | POOH with rods. Tagged at 3755'. POOH with tubing and slucked pump. RIH with tubing, pump and rods. Load pump, would not pump. Long stroke - would not pump. Shear off tool. POOH with rods and tubing. Left fish: 1 1/4" x 8' - 50 Sand Screen @ 3755'. PWOP. Well would not pump. Changed out pump. PWOP.                                                                                                                                                                                                                                                                                                                                                                   |
| 18-Dec-07 | POOH with rods. Tagged fill at 3755'. POOH with tubing and pump. RIH with tubing, pump and rods. PWOP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 25-Feb-10 | POOH with rods, pump and tubing. Ran Pressure Gradient Tool, took reading @ 500' interval. Tagged @ 3,753'. PWOP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 17-Nov-11 | POOH with rods and parted shear tool. Ran Pressure Gradient Tool, took reading @ 500' interval, tagged at 3,762'. Hydrotest tubing in hole to 7000 psig - found split 85th joint. RIH with pump and rods. PWOP.                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 3-Jun-12  | POOH with rods, pump and tubing. Hydrotest tubing to 7000 psig - found split on 85th joint. RIH with pump & rods. PWOP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 8-Jun-12  | POOH with rods, pump and tubing. Hydrotest tubing to 7000 psig - found split on 116th joint. RIH with pump & rods. PWOP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 6-Aug-12  | POOH with rods, pump and tubing. RIH with Pressure Gradient Survey, tagged at 3,745'. Hydrotest tubing - found 1 hole. PWOP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 13-Dec-12 | POOH with rods, pump and tubing. Hydrotest to 7000# - found split on 114th joint. RIH with pump and rods. PWOP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

| Tubing Detail (top to bottom) |                                |         |       |
|-------------------------------|--------------------------------|---------|-------|
| Joints                        | Description                    | Footage | Depth |
| 93                            | 2-7/8" 6.5#, J-55, 8rd EUE tbq | 2,980   | 2,980 |
| 1                             | 2-7/8" x 5-1/2" TAC            | 3       | 2,983 |
| 23                            | 2-7/8" 6.5#, J-55, 8rd EUE tbq | 755     | 3,738 |
| 1                             | 2-7/8" Blest Joint             | 31      | 3,769 |
| 1                             | 2-7/8" SN                      | 1       | 3,770 |
| 1                             | 2-7/8" Perf Sub                | 4       | 3,774 |
| 1                             | 2-7/8" BIR Mud Anchor          | 31      | 3,805 |

| Rod Detail (top to bottom) |                                                |         |       |
|----------------------------|------------------------------------------------|---------|-------|
| Rods                       | Description                                    | Footage | Depth |
| 1                          | 26' x 1-1/4" spray metal PR w/ 1" pin          | 18      | 18    |
| 4                          | 3', 3', 3', 9' - 1" Fiberglass pony rods       | 18      | 36    |
| 35                         | 1" Fiberglass rods                             | 1,313   | 1,349 |
| 43                         | 7/8" steel rods                                | 1,075   | 2,424 |
| 27                         | 3/4" steel rods                                | 675     | 3,099 |
| 28                         | 1-1/2" K bars                                  | 650     | 3,748 |
| 1                          | 26-K Shear Tool                                | 1       | 3,750 |
| 1                          | 2-1/2"x2"x2" PAP 80 ring pmp w/1-1/2"x8'-50 SS | 24      | 3,774 |
| 1                          | 1-1/4" x 6' gas anchor                         | 0       | 3,774 |

## Wellbore Diagram

PBTD 3760'  
TD 3800'

| Reservoir: Cooper Jal |                                                                                        |
|-----------------------|----------------------------------------------------------------------------------------|
| Well ID Info:         | CJU #421                                                                               |
| API No:               | 30-025-33450                                                                           |
| Spud Date:            | 6/27/1990                                                                              |
| Hole Size:            | 12-1/4"                                                                                |
| Conductor:            | 8-5/8", 24#, WC-50, ST&C                                                               |
| Set @:                | 404'                                                                                   |
| Cement w/:            | 250 ss (1.32 cu ft/sk)                                                                 |
| Circ:                 | Yes                                                                                    |
| TOC:                  | Surface                                                                                |
| Hole Size:            | 7-7/8"                                                                                 |
| Prod. Liner:          | 5-1/2", 15.5#, WC-50, LT&C                                                             |
| Set at:               | 3800'                                                                                  |
| Cement:               | 800 ss, Class H (12.8 ppg, 1.94 cu ft/sk)<br>350 ss, Class H (15.8 ppg, 1.16 cu ft/sk) |
| Circ:                 | Yes                                                                                    |
| TOC:                  | Surface                                                                                |

Notes @ 300'

3024'-40'

3044'-52'

3081'-63'

3086'-66'

3073'-90'

3135'-36'

3146'-54'

3169'-72'

3182'-94'

7-R @ 3242'

3298'-3306'

3353'-56'

3452'-56'

3483'-63'

3512'-20'

3532'-46'

3596'-66'

Queen @ 3614'

3616'-22'

3636'-38'

3664'-56'

3674'-94'

3706'-06'

3716'-24'

3742'-48'

Pumping Unit:  
Updated: 01/07/14 MLS



[illegible]

| CURRENT COMPLETION SCHEMATIC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  | LEASE NAME<br>Cooper Jal Unit      |  | WELL NO.<br>517           |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------------|--|---------------------------|--|
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  | STATUS<br>Active                   |  | Oil                       |  |
| LOCATION<br>100' FNL & 100' EBL Sec 25, Unit J T-24-S R - 29-E Las Comas, New Mexico                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  | SPUD DATE<br>08/29/08 TO 3810      |  | KB 3297.6 DF 3298.6       |  |
| INT. COMP. DATE<br>PBITD 3770                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  | DEOLOGICAL DATA<br>GL 3286 KB 11.6 |  | CORRECTION DATA # N/A LOG |  |
| ELECTRIC LOGS<br>Gray WL 9/11/08 Ran Ran Comp'd Neutron/GRI/CCL from 3770' to 1089'.<br>Gray WL 9/11/08 - TD @ 3770'. Ran CBUGR/CCL from 3770' to 1089'. TOC @ Surface.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |                                    |  |                           |  |
| HYDROCARBON BEARING ZONE DEPTH TOPS:<br>Tensil @ 2806 Yates @ 2878 Upper 7 Rivers @ 3229 Lower 7 Rivers @ 3380 Queen @ 3680                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |                                    |  |                           |  |
| GAMMA PROFILE<br>SURF. 8.58" - 248. Grade K 55, LT&C set @ 1110'. Cm/d w/ 220 sxs Class C w/ 2% CaCl + 36 Gtl - circ'd w/ 140 sx cmt to surface.<br>PROD. 5 1/2" - 15.58. Grade J 55, LT&C set @ 3802' Cm/d w/ 220 sxs Class "B" POZ w/ 5% Salt + 300 sxs Class "C" POZ w/ 5% Salt - circ'd 40 sx cmt to surf.<br>LINER. None                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |                                    |  |                           |  |
| CURRENT PERFORATION DATA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |                                    |  |                           |  |
| CSG. PERFS:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |                                    |  |                           |  |
| 15-Sep-08 Perfd L.M. (Q) @ 3753'-56', 3744'-48', 3715'-24', 3695'-3707', 3679'-86', 3636'-71', 3626'-26', 3596'-3606', 3 JSPP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |                                    |  |                           |  |
| 15-Sep-08 Perfd L.M. (R-R) @ 3580'-88', 3542'-56', 3520'-32', 3492'-3512', 3488'-86', 3440'-54', 3424'-28', 3424'-28', 3414'-18', 3 JSPP, 172, 516 holes. Perfd Jal (7-R) @ 3270'-72', 3260'-82', 3295'-98', 3314'-18', 3348'-53', 3356'-10', 3363'-80'                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |                                    |  |                           |  |
| Perfd Jal (Yates) @ 2997'-3027', 3030'-85', 3074'-98', 3102'-18',                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |                                    |  |                           |  |
| 13-Aug-08 Perfd Queen @ 3715'-24', 3694'-3707', 3679'-86', 3671'-11', 3622'-26', 3596'-3606', 3580'-88', 3526'-32', 3492'-3512', 3486'-86', 2 SPF; Perfd 7-Rivers @ 3383'-86', 356'-70', 48'-53', 3333'-37', 3314'-18', 3295'-98', 3280'-82', 3270'-72' Perfd Yates @ 3230'-32', 3214'-21', 3202'-08', 3169'-72', 3155'-80', 3150'-53', 3142'-47', 3122'-40', 3074'-98', 3030'-80', 2 SPF, 310 R, 455 holes.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |                                    |  |                           |  |
| TUBING DETAIL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |                                    |  |                           |  |
| 12/21/11                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |                                    |  |                           |  |
| Length (ft)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |                                    |  |                           |  |
| Detail                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                                    |  |                           |  |
| 0 KB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |                                    |  |                           |  |
| 2470 81 2 7/8" 6.58, J-55, Super Max tbg.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                                    |  |                           |  |
| 3 1 2 7/8" x 5 1/2" TAC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |                                    |  |                           |  |
| 889 21 2 7/8" 6.58, J-55, Super Max tbg.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |                                    |  |                           |  |
| 24 1 Worker Borel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |                                    |  |                           |  |
| 1 1 2 7/8" SN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |                                    |  |                           |  |
| 4 1 2 7/8" 6.58, J-55, Super Max Sub                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |                                    |  |                           |  |
| 19 1 2 7/8" x 19' Desander                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |                                    |  |                           |  |
| 120 4 2 7/8" J-55 6.58 EUE BPMA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |                                    |  |                           |  |
| 3321 btm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |                                    |  |                           |  |
| Well History Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |                                    |  |                           |  |
| 11-Sep-08 RU Gray WL - TD @ 3770'. Ran CBUGR/CCL from 3770' to 1089'. Ran Ran Comp'd Neutron/GRI/CCL from 3770' to 1089'                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |                                    |  |                           |  |
| 15-Sep-08 Perfd L.M. (Q) @ 3753'-56', 3744'-48', 3715'-24', 3695'-3707', 3679'-86', 3671'-11', 3626'-26', 3596'-3606'; Perfd L.M. (R-R) @ 3580'-88', 3542'-56', 3526'-32', 3492'-3512', 3488'-86', 3440'-54', 3424'-28', 3414'-18', 3 JSPP, 172, 516 holes. RH w/ 5 1/2" PKR & set at 3,363' Foam CO2 Acid Frac L M w/ 6,400 gals NEFE HCl acid + 101 Tons CO2. AIR= 10 bpm. Pavg= 27808. ISIP= 8608. Flowed well back. Bailed RS @ 3770' to 3770'. (9/20/08) LM. IP Test: 5 bo, 17 mcf & 20 bw.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                    |  |                           |  |
| 09-Oct-08 Perfd Jal (7-R) @ 3270'-72', 3260'-82', 3295'-98', 3314'-18', 3348'-53', 3356'-10', 3363'-80', 37 R, 74 holes. Perfd Jal (Yates) @ 2997'-3027', 3030'-85', 3074'-98', 3102'-18', 22'-40', 3142'-47', 3150'-53', 3155'-80', 3169'-72', 3202'-08', 3214'-21', 3230'-32', 152 R, 152 holes. Foam CO2 Acid Frac Jal w/ 8,400 gals 15% NEFE acid + 100 Tons CO2. Diverted w/ 10,000# rock salt. Flowed 6% oil cut. PWOP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |                                    |  |                           |  |
| 24-Dec-08 POOH with rods, pump & tubing. POOH with RBP. RIH with tubing, pump and rods. PWOP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |                                    |  |                           |  |
| 12-Aug-09 Tagged @ 3,759'. POOH with production string. Perfd Queen @ 3715'-24', 3694'-3707', 3679'-86', 3636'-71', 3622'-26', 3596'-3606', 3580'-88', 3526'-32', 3492'-3512', 3486'-86', 2 SPF; Perfd 7-Rivers @ 3383'-86', 356'-70', 3348'-53', 3333'-37', 3314'-18', 3295'-98', 3280'-82', 3270'-72'; Perfd Yates @ 3230'-32', 3214'-21', 3202'-08', 3169'-72', 3155'-80', 3150'-53', 3142'-47', 3122'-40', 3074'-98', 3030'-85', 2 SPF Set Dual Frac Plr @ 3,397'. Pumped 33 bbls gel water and 63 bbls N2 Foam. Cum. Around perfs. Re-set Dual Frac PKR @ 3,232'. Frac'd Queen & 7-Rivers zones with 719 bbls of slurry, 172,516# sand plus 1,859,746 SCF N2. N2. Pavg= 50228. AIR= 40 bpm. ISIP= 15278. Flowed back 84 bbls water in 9 hrs. with show of oil. Press dropped from 800# to 220#. Next day recovered 45 bbls fluid with good show of oil. Layed down with 3 1/2" tbg & Plr. Could not recover lower Frac Plr. Cleaned out with Foam Air Unit to 3252'. Could not pull PKR. Jammed on PKR for 2 days. Recovered Plr - ball sealer were lodged on Plr's slips. Cleaned out frac sand & ball sealers with 4 3/4" bit to 3,376'. Clean out w/ Foamed Air Unit to 3,770'. RIH w/ production string. PWOP. |  |                                    |  |                           |  |
| 27-Aug-09 Well not pumping. POOH w/ rods & pump. Laid down 10 joints. RIH w/ pump & rods. Load well & test pump to 500#. PWOP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |                                    |  |                           |  |
| 22-Dec-09 Stuck pump, back of rods and POOH. POOH with tubing and pump. RIH tubing, pump and rods. PWOP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |                                    |  |                           |  |
| 06-Dec-10 Fished Polish Rod. Hung well. Good pump action. PWOP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |                                    |  |                           |  |
| 24-Mar-11 POOH w/ rods and pump. GIH w/ repaired pump, seat pump, space out, hang on, respected several times, good pump action.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                    |  |                           |  |
| 21-Nov-11 POOH with rods, pump & tubing. Ran Pressure Gradient Survey, tagged @ 3,698'. RIH w/ tubing, plunger & rods. PWOP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |                                    |  |                           |  |
| 28-Nov-11 POOH with rods, pump and tubing. Hydrotest tubing to 7,000# - good. RIH with plunger & rods. PWOP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |                                    |  |                           |  |
| 20-Dec-11 POOH with rods, plunger and tubing. Hydrotest tubing - replaced WB. RIH with plunger and rods. PWOP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |                                    |  |                           |  |
| Production Case                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |                                    |  |                           |  |
| Hole Size: 12 1/4 in                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |                                    |  |                           |  |
| Cap Size: 8.58 in                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |                                    |  |                           |  |
| Set @ 3802                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |                                    |  |                           |  |
| Ses Crst 520                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |                                    |  |                           |  |
| TOC @ Circ'd 40 sx                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |                                    |  |                           |  |

## **Geological Description**

### **Yates, Seven Rivers and Queen Formations, Artesia Group**

#### **Cooper Jal Unit #414**

#### **Geologic parameters**

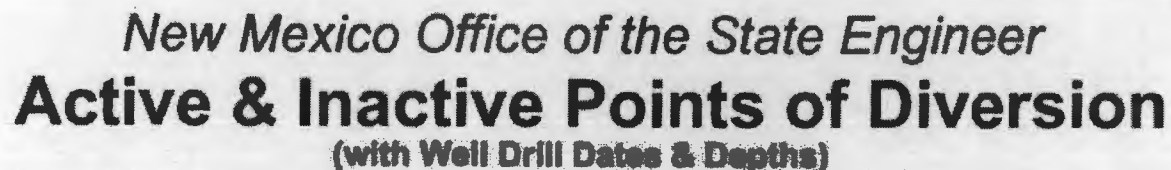
|                            |                                                                                                                                                                                                                                                                                                                                                                   |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Average Depth:</b>      | Top of Yates formation averages approximately 3000' subsurface.                                                                                                                                                                                                                                                                                                   |
| <b>Average Thickness:</b>  | Gross thickness from top Yates to base Queen is approximately 700-800'. Net porous intervals vary from 30 to 100' in several horizons.                                                                                                                                                                                                                            |
| <b>Reservoir and trap:</b> | Reservoir units in the Yates, Seven Rivers and Queen formations are arkosic sandstones with variable amounts of dolomite and anhydrite cements. Trapping is a combination of structure over low amplitude anticlines and stratigraphic pinchouts of porous units. Porosity varies laterally and vertically due to occlusion by anhydritic and calcareous cements. |
| <b>Reservoir Quality:</b>  | Porosity: 4%-18%; Permeability: 0.5mD to 100mD.                                                                                                                                                                                                                                                                                                                   |

#### **Advantages for water injection:**

- 1) This well is a corner well of a 5-spot, 20 acre pattern which will have a producer in the center. The 20 acre pattern is an ideal size to achieve an efficient recovery for this type of water flood.
- 2) The injection interval is deep below the surface, allowing for generally low surface water injection pressures because of the great hydrostatic fluid column.
- 3) To our knowledge, there is no evidence of any faults to the surface in this area. It can be expected that the impermeable Salado and Castile salt and anhydrite layers between the Rustler and Yates formations will provide a sufficient barrier to any fluid migration to potential underground sources of drinking water. The attached page from the New Mexico Office of the State Engineer shows very few water wells within the ½-mile radius. The water wells are drawing from an aquifer in the 140-180 foot depth and the proposed injector is sufficiently cased and cemented in order to isolate the well from this fresh water zone.
- 4) The Yates, 7-Rivers, and Queen formations are sufficiently porous and permeable to allow for a high volume of water injection capacity without approaching or exceeding fracture pressures. A 15% HCL acid stimulation using up to 10,000 gallons over the entire perforated and open hole injection intervals is planned prior to initiating water injection.

**Planned maximum injection rate:** 2,000 BWPD

**Planned maximum injection pressure:** 1,200 psi



### ACTIVE & INACTIVE POINTS OF DIVERSION

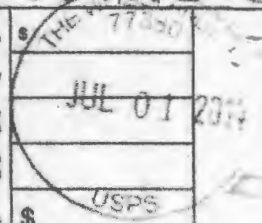


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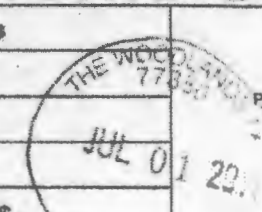
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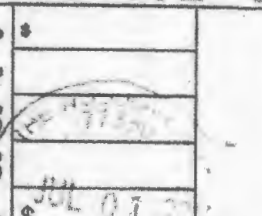
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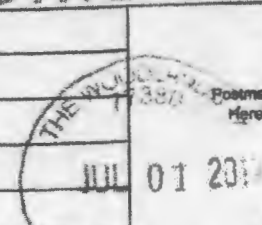
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|------|------------------------------------------------|----|--------------------------------------------------------------------------------------|---------------|
| #414 | Postage                                        | \$ |  | Postmark Here |
|      | Certified Fee                                  |    |                                                                                      |               |
|      | Return Receipt Fee (Endorsement Required)      |    |                                                                                      |               |
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|      | Total Postage & Fees                           | \$ |                                                                                      |               |

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PS Form 3800, August 2006

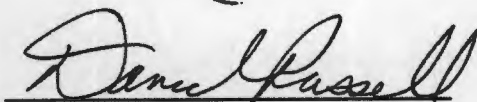
See Reverse for Instructions

# Affidavit of Publication

State of New Mexico,  
County of Lea.

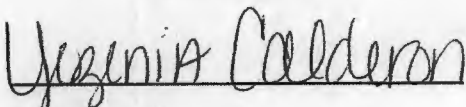
I, DANIEL RUSSELL  
PUBLISHER  
of the Hobbs News-Sun, a  
newspaper published at Hobbs, New  
Mexico, do solemnly swear that the  
clipping attached hereto was  
published in the regular and entire  
issue of said newspaper, and not a  
supplement thereof for a period

of 1 issue(s).  
Beginning with the issue dated  
March 06, 2014  
and ending with the issue dated  
March 06, 2014



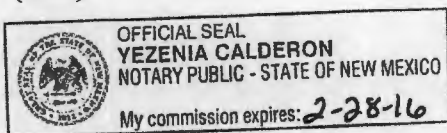
PUBLISHER

Sworn and subscribed to before me  
this 6th day of  
March, 2014



Notary Public

My commission expires  
February 28, 2016  
(Seal)



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

**LEGAL NOTICE**  
March 6, 2014

**NOTICE OF APPLICATION FOR FLUID INJECTION  
WELL PERMIT**

**APPLICANT:** Legacy Reserves Operating LP  
P.O. Box 10848  
Midland, Texas 79702

**CONTACT:** Martin Staelens (281) 465-8387

Legacy Reserves Operating LP is applying to the New Mexico Oil Conservation Division for a permit to inject fluid into a formation which is productive of oil and gas. Injection will be into the Yates, 7-Rivers, and Queen zones of the Jal Mat and Langlie Mattix fields. This well is in a water flood and is a corner well in a 5-spot pattern where the central producer is producing oil and water from all three of these zones.

The applicant proposes to inject fluid into the Yates, 7-Rivers, and Queen formations in the Cooper Jal Unit, well number 414. The proposed water injection well is located 330' FSL, 2550' FEL, Section 24, Township 24 South, Range 36 East, approximately 6 miles north of Jal, New Mexico in Lea County. Water will be injected into strata in the subsurface depth interval of 3028' to 3750' for the purpose of secondary oil recovery. The proposed maximum permitted water injection rate is 2,000 barrels of water per day (BWPD) at a maximum pressure of 1,200 pounds per square inch (psi).

**LEGAL AUTHORITY:** Statewide Rules and Regulations of the New Mexico Oil Conservation Division.

Requests for a public hearing from persons who can show they are adversely affected, or requests for further information concerning any aspect of the application should be submitted in writing, within fifteen days of publication, to the New Mexico Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505.  
#25825

Use per in  
Application  
Bottom  
of interval

3682

67110800

00131971

LEGACY RESERVES OPERATING LP  
PO BOX 10848  
MIDLAND, TX 79702



## C-108 Review Checklist:

Received: 04/09/14 Add. Request: 06/20/14 Reply Date: 07/14/14 Suspended: [Ver 13]  
 PERMIT TYPE: WFX / PMX / SWD Number: 934 Permit Date: 08/28/14 Legacy Permits/Orders: R-4019/R-4020  
 Well No. 414 Well Name(s): Cooper Jal Unit HHC-3592 R-9983

## 5.9 Compliance Issues

API: 30-0 25-32571 Spud Date: 06/27/1996 New or Old: New (UIC Class II Primacy 03/07/1982)

Footages: 330 FSL / 2550 FEL Lot: - or Unit: 0 Sec: 24 Tsp: 245 Rge: 36 E County: Lea

General Location: 6 mi North of Jal Pool: Two | Jalmat: Tan-Lates - SR Langlie: SR-Q-GR Pool No.: 33820  
37240

BLM 100K Map: Jal Operator: Legacy Reserves Operating OGRID: 240974 Contact: Martin Steadens

COMPLIANCE RULE 5.9: Total Wells: 1560 Inactive: 9 Fincl Assur: OK Compl. Order? No IS 5.9 OK? Yes Date: 08/28/14

WELL FILE REVIEWED ☒ Current Status: Inactive wells > 10 last two months  
Producer dual completion - active

WELL DIAGRAMS: NEW: Proposed ☐ or RE-ENTER: Before Conv. ☒ After Conv. ☒ Logs in Imaging: Dan-Neut. GR / Dual later / Sonic

Planned Rehab Work to Well: Use existing completion - new perfs at bottom & below top of Seven Rivers

| Well Construction Details:                                                                            | Sizes (in)<br>Borehole / Pipe                    | Setting<br>Depths (ft)          | Cement<br>St or Cf | Cement Top and<br>Determination Method                                                  |
|-------------------------------------------------------------------------------------------------------|--------------------------------------------------|---------------------------------|--------------------|-----------------------------------------------------------------------------------------|
| Planned <input type="checkbox"/> or Existing <input checked="" type="checkbox"/> Surface              | 12 1/4 / 8 5/8                                   | 0 to 430'                       | 250                | Cir. to surface                                                                         |
| Planned <input type="checkbox"/> or Existing <input checked="" type="checkbox"/> Interm/Prod          | 7 7/8 / 5 1/2                                    | 0 to 3750'                      | 840                | Cir. to surface                                                                         |
| Planned <input type="checkbox"/> or Existing <input type="checkbox"/> Interm/Prod                     | -                                                | -                               | -                  | -                                                                                       |
| Planned <input type="checkbox"/> or Existing <input type="checkbox"/> Prod/Liner                      | -                                                | -                               | -                  | -                                                                                       |
| Planned <input type="checkbox"/> or Existing <input type="checkbox"/> Liner                           | -                                                | -                               | -                  | -                                                                                       |
| Planned <input checked="" type="checkbox"/> or Existing <input checked="" type="checkbox"/> OH / PERP | <u>32 1/4 - 33 3/4</u><br><u>36 1/2 - 36 3/4</u> | <u>3028 to 3682</u>             | <u>654</u>         |                                                                                         |
| Injection Stratigraphic Units:                                                                        | Depths (ft)                                      | Injection or Confining<br>Units | Tops               | Completion/Operation Details:                                                           |
| Adjacent Unit: Litho. Struc. Por.                                                                     |                                                  |                                 |                    | Drilled TD <u>3800</u> PBTD <u>3780</u> 3717                                            |
| Confining Unit: Litho. Struc. Por.                                                                    |                                                  | Tansill                         | 2927               | NEW TD <u>-</u> NEW PBTD <u>-</u>                                                       |
| Proposed Inj Interval TOP:                                                                            | <u>3028</u>                                      | <u>Tates - SR</u>               | <u>3020 - 3145</u> | NEW Open Hole <input type="checkbox"/> or NEW Perfs <input checked="" type="checkbox"/> |
| Proposed Inj Interval BOTTOM:                                                                         | <u>3750 3682</u>                                 | <u>Queen</u>                    | <u>3608</u>        | Filtering Size <u>23 1/2</u> in. Inter Coated? <u>Yes</u>                               |
| Confining Unit: Litho. Struc. Por.                                                                    |                                                  | <u>Capitan</u>                  | <u>+3400</u>       | Proposed Packer Depth <u>2960</u> ft                                                    |
| Adjacent Unit: Litho. Struc. Por.                                                                     |                                                  |                                 |                    | Min. Packer Depth <u>2928</u> (100-ft limit)                                            |
|                                                                                                       |                                                  |                                 |                    | Proposed Max. Surface Press. <u>1200</u> psi                                            |
|                                                                                                       |                                                  |                                 |                    | Admin. Inj. Press. <u>606</u> (0.2 psi per ft)                                          |

## AOR: Hydrologic and Geologic Information

POTASH: R-111-P NA Noticed? NA BLM Sec Ord NA WIPP NA Noticed? NA SALT/SALADO T: - B: - CLIFF HOUSE NA

FRESH WATER: Aquifer Alluvial / Capitan Max Depth +100 / +3400 HYDRO AFFIRM STATEMENT By Qualified Person ☒

NMOSE Basin: Capitan CAPITAN REEF: thru ☒ ad ☐ NA No. Wells within 1-Mile Radius? 1 FW Analysis ☒

Disposal Fluid: Formation Source(s) Tates / SR-Q; Lowered Analysis? On Record On Lease ☒ Operator Only ☐ or Commercial ☐

Disposal Int: Inject Rate (Avg/Max BWPD): 800 / 2000 Protectable Waters? No Source: On Record System: Closed ☒ or Open ☐

HC Potential: Producing Interval? Yes Formerly Producing? Yes Method: Logs/DST/P&A/Other On Record 2-Mile Radius Pool Map ☐

AOR Wells: 1/2-M Radius Map? Yes Well List? Yes Total No. Wells Penetrating Interval: 31 Horizontals? 0

Penetrating Wells: No. Active Wells 31 Num Repairs? 0 on which well(s)? Jalmat / Langlie - Cooper Jal wells Diagrams? Yes

Penetrating Wells: No. P&A Wells 0 Num Repairs? 0 on which well(s)? - Diagrams? No

NOTICE: Newspaper Date 03/06/2014 Mineral Owner Fee Surface Owner Fee N. Date 07/1/2013

RULE 26.7(A): Identified Tracts? Yes Affected Persons: Ruett / Lea Partners / Anna Thomas / RPR Land N. Date 07/1/2013

Permit Conditions: Issues: None

Add Permit Cond: None