DATE IN 3/25/10	SUSPENSE 7/22/10	ENGINEER WJ	LOGGED IN 3/25/10	TYPE SWD 1231	APP NO. pTCW 1008451772

7/6/10

ABOVE THIS LINE FOR DIVISION USE ONLY

Apache

NEW MEXICO OIL CONSERVATION DIVISION

- Engineering Bureau -

1220 South St. Francis Drive, Santa Fe, NM 87505

C.W. Ward #3

ADMINISTRATIVE APPLICATION CHECKLIST 30-025-07232

Rebecca Dee

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]

RECEIVED OCD
2010 MAR 25 P 12:43

[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 _____

Cancelled 4/27/10

[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.

Amber Cooke	Amber Cooke	Engineering Tech	03/05/2010
Print or Type Name	Signature	Title	Date

amber.cooke@apachecorp.com
e-mail Address

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL
RESOURCES DEPARTMENT

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

FORM C-108
Revised June 10, 2003

APPLICATION FOR AUTHORIZATION TO INJECT

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

II. OPERATOR: Apache Corporation (873)

ADDRESS: 6120 S Yale Ave, Suite 1500 Tulsa, OK 74136

CONTACT PARTY: Amber Cooke PHONE: 918.491.4968

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

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

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

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

VII. Attach data on the proposed operation, including:

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

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

IX. Describe the proposed stimulation program, if any.

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

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

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

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

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

NAME: Amber Cooke TITLE: Engineering Tech

SIGNATURE: Amber Cooke DATE: 03/05/2010

E-MAIL ADDRESS: amber.cooke@apachecorp.com

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

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

III. WELL DATA

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

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

(2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.

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

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

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

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

(1) The name of the injection formation and, if applicable, the field or pool name.

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

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

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

(5) Give the depth to and the name of the next higher and next lower oil or gas zone in the area of the well, if any.

XIV. PROOF OF NOTICE

All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

(1) The name, address, phone number, and contact party for the applicant;

(2) The intended purpose of the injection well; with the exact location of single wells or the Section, Township, and Range location of multiple wells;

(3) The formation name and depth with expected maximum injection rates and pressures; and,

(4) A notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, within 15 days.

NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.

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

Side 1

INJECTION WELL DATA SHEET

OPERATOR: Apache Corporation

WELL NAME & NUMBER: LW Ward SWD #3

WELL LOCATION:	1983' FSL & 1515' FEL	J	11	T13S	R38E
	FOOTAGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE

WELLBORE SCHEMATIC

WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 17-1/2" Casing Size: 13-3/8"

Cemented with: 450 sx. *or* _____ ft^3

Top of Cement: Surface Method Determined: Circ

Intermediate Casing

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

Cemented with: 1500 sx. *or* _____ ft^3

Top of Cement: 2387' Method Determined: Temp Surv

Production Casing

Hole Size: 8-3/4" Casing Size: 7"

Cemented with: 700 sx. *or* _____ ft^3

Top of Cement: 6489' Method Determined: Temp Surv

Total Depth: 11867'

Injection Interval

9900' feet to ~~11000'~~ 10582

(Perforated or Open Hole; indicate which)

INJECTION WELL DATA SHEET

Tubing Size: 2-7/8" EST Lining Material: IPC

Type of Packer: 7" Baker Lok-Set EST

Packer Setting Depth: +/- 9850' EST

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

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: Penn

3. Name of Field or Pool (if applicable): SWD; Penn (96113)

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. 9006'-9091' (Wolfcamp) 9130'-9186' (Wolfcamp) squeezed w/100 sx, 10975'-11000' (Miss) sqz'd w/150 sx 11634'-11650' (Devonian)

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

   The zone above the proposed injection zone is the Wolfcamp @ +/- 8976'

   The zone below the proposed injection zone is the Miss @ +/- 10882'

ITEM VIII OF NEW MEXICO OCD FORM C-108
DATA ON PROPOSED OPERATIONS
LW WARD SWD #3

1) Proposed average initial injection rate is 10,000 bwpd
Maximum injection rate should not exceed 20,000 bwpd.

2) The injection system will be operated as a closed system.

3) Proposed average initial injection pressure is 1100 psi.
Proposed maximum pressure will not exceed the pressure limitations ordered by the Division. Apache corp will perform step rate tests and anticipates securing a maximum injection pressure of 2500 psi.

4) Source water will come from the Devonian and Wolfcamp formations.

5) Not applicable.

ITEM VIII OF NEW MEXICO OCD FORM C-108
GEOLOGIC DATA ON THE INJECTION ZONE & UNDERGROUND DRINKING WATER
LW Ward SWD #3, Bronco Field, Lea County NM

The Formations being targeted for water injection is the Pennsylvanian at depths ranging from approximately 9900' to 10,682'. These formations are a sequence of low energy marine carbonates deposited in a mid ramp setting. Algal bioherms can form as loaf shaped build ups elongate in dip direction and are the main reservoir facies. Porosities in the mound facies range from 4 to 14%. A six percent porosity cut off is used to determine "pay" as porosity less than this is considered non-productive at the existing and proposed reservoir pressures and reservoir fluid regimes. The vertical extent of the reservoir is limited top and bottom by impermeable shales and carbonates. All injected fluids should remain in the reservoir with the exception of cycling to the surface through wellbores.

Review of online files there are 12 fresh water wells (see attached) in the area of review. The deepest of these wells is 271', which is the assumed base of fresh water. The wellbore involved with the proposed injection program will be constructed to not allow injection water into this fresh water source.

Apache Corporation – V Linam #2

Wellbore Diagram – Current Status

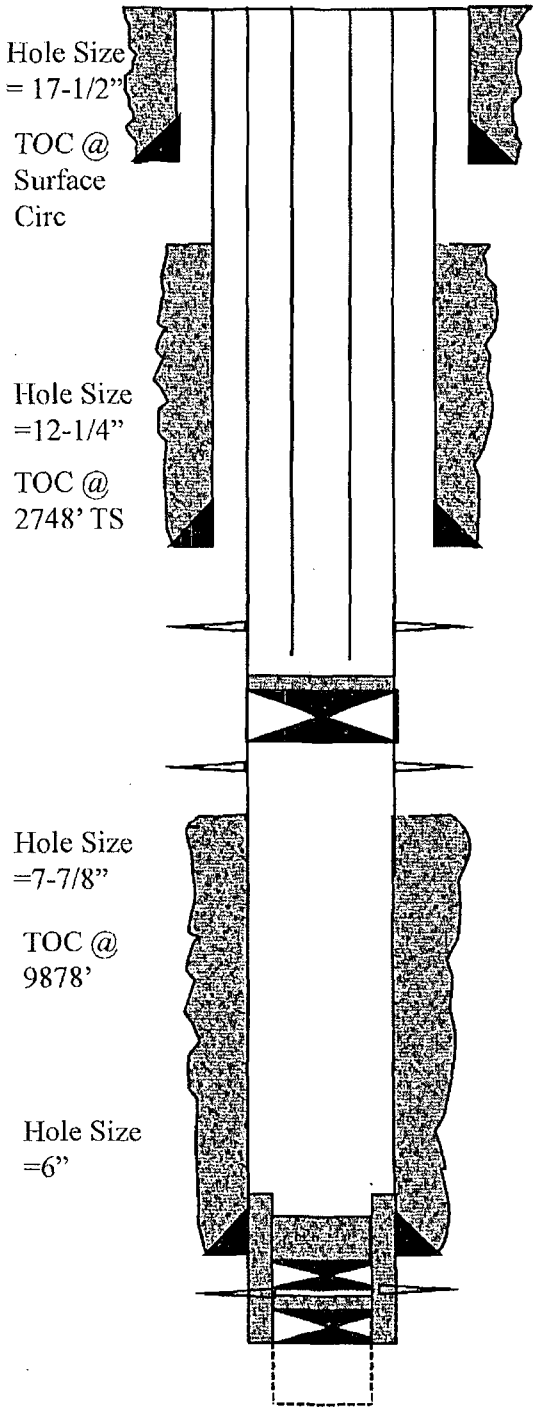
API: 30-025-07241

Date : 6/9/2010
A Cooke

Elevation: 3813'

Surface Location

330' FNL & 2310' FWL, Unit C
Sec 14, T13S, R38E, Lea County, NM



Surface Casing
13-3/8" 36# csg @ 318', cmt'd w/400 sx

TUBING DETAIL

Qty	Description	Length	Depth
	2-3/8" tbg		9450'

Intermediate Casing
8-5/8" 32# csg @ 4549', cmt'd w/1300 sx

Wolfcamp Perfs @ 9020' – 9040'

CIBP @ 9500' w/4 sx cmt on top (2/04)

Wolfcamp perfs @ 9560' – 9584'

Devonian Perfs @ 10740' – 10760' & 10770' – 10790'

CIBP @ 10510' w/35 sx cmt on top (12/73)

CIBP @ 10900' w/1.5 sx cmt on top, TOC @ 10883' (7/73)

Production Casing
7" csg 23#, 26#, 29# @ 10117' cmt'd w/200sx

Production Liner
5" 15# csg @ 10017' – 11785' cmt'd w/350sx

OH @ 11785' – 11850'

PBTD = 9500'
TD =11850' OH

Apache Corporation – L.W. Ward SWD #3

Wellbore Diagram – Proposed Status

Date: 3/5/10
A Cooke

GL= 3810'

30-025-07232

Surface Location

1983' FSL & 1515' FEL, Sec 11,
T13S, R38E, Lea County, NM

Hole Size
= 17-1/2"

TOC @
?

13-3/8" 54# csg @ 319' cmt'd w/450 sx

TUBING DETAIL			
Qty	Description	Length	Depth
	2-7/8" TUBING		9850'

Hole Size
=12-1/4"

TOC @
2387'

Hole Size
=8-3/4"

TOC @
6489'

9-5/8" 36# csg @ 4546'cmt'd w/1500 sx

Sqz Wolfcamp Perfs: 9,006'-9,091'

Sqz'd Wolfcamp Perfs: 9,130'-9,186' w/100 sx Class H cmt

Packer @ +/- 9850'

Penn Perfs: +/- 9,900' – 10,682'

Sqz'd Mississippian Perfs: 10,975'-11,000' w/150 sx

CIBP @ +/- 10,800'

Sqz Silurian/Devonian Perfs: 11,634'-11,650'

7" csg 24# @ 11,720'cmt'd w/700 sx

Sqz'd Open Hole

PBTD = 11,602'
TD = 11,867'

RECEIVED
JUL 31 2008
HOBBSOCD

Submit To Appropriate District Office
State Lease - 6 copies
Fee Lease - 5 copies
District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources

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

Form C-105
Revised June 10, 2003

WELL API NO.
30-025-07232

5. Indicate Type of Lease
STATE ☐ FEE ☒

State Oil & Gas Lease No.

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

1a Type of Well.
OIL WELL ☒ GAS WELL ☐ DRY ☐ OTHER

b. Type of Completion.
NEW WELL ☐ WORK OVER ☐ DEEPEN ☐ PLUG BACK ☒ DIFF. RESVR ☐ OTHER

7 Lease Name or Unit Agreement Name
L.W. WARD

2. Name of Operator
APACHE CORPORATION

8 Well No.
3

3 Address of Operator
6120 S YALE AVE, SUITE 1500 TULSA, OK 74136

9. Pool name or Wildcat
BRONCO; SILURO(DEVONIAN)

4 Well Location
Unit Letter J : 1983 Feet From The SOUTH Line and 1515 Feet From The EAST Line
Section 11 Township 13S Range 38E NMPM LEA County

10. Date Spudded	11. Date T.D. Reached	12. Date Compl. (Ready to Prod.)	13. Elevations (DF& RKB, RT, GR, etc.)	14. Elev. Casinghead
05/16/2008	06/02/2008	07/18/2008	3810' GL	

15. Total Depth	16. Plug Back T.D.	17. If Multiple Compl. How Many Zones?	18. Intervals Drilled By	Rotary Tools	Cable Tools
11867'	11770'	NA			

19. Producing Interval(s), of this completion - Top, Bottom, Name
SILURO(DEVONIAN) 11,634'-11,758'

20 Was Directional Survey Made

21. Type Electric and Other Logs Run

22. Was Well Cored

23. **CASING RECORD** (Report all strings set in well)

CASING SIZE	WEIGHT LB./FT.	DEPTH SET	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
13-3/8"	54#	319'	17-1/2"	450 SX, DID NOT CIRC	
9-5/8"	36#	4546'	12-1/4"	1500 SX, TOC @2387'	
7"	24#	11720'	8-3/4"	700 SX, TOC @6489'	

24. LINER RECORD

SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN

25. TUBING RECORD

SIZE	DEPTH SET	PACKER SET
3-1/2"	9523'	

26 Perforation record (interval, size, and number)
11742-11758(84 HOLES), 11716-11728(78 HOLES)
11666-11695(162 HOLES), 11634-11664(168 HOLES)

27. ACID, SHOT, FRACTURE, CEMENT, SQUEEZE, ETC.

DEPTH INTERVAL	AMOUNT AND KIND MATERIAL USED
11634-11758	ACID W/54 BBLS, DROPPED 1K# OF ROCK SALT SHOT @ 6 SPF 60 DEGREES

28 **PRODUCTION**

Date First Production	Production Method (Flowing, gas lift, pumping - Size and type pump)	Well Status (Prod. or Shut-in)
07/18/2008	SUB PUMP	PRODUCING

Date of Test	Hours Tested	Choke Size	Prod'n For Test Period	Oil - Bbl	Gas - MCF	Water - Bbl	Gas - Oil Ratio
07/19/2008	24 HRS			29	10	5251	345

Flow Tubing Press.	Casing Pressure	Calculated 24-Hour Rate	Oil - Bbl	Gas - MCF	Water - Bbl	Oil Gravity - API - (Corr.)
			29	10	5251	45

29 Disposition of Gas (Sold, used for fuel, vented, etc.)

Test Witnessed By

30 List Attachments

I hereby certify that the information shown on both sides of this form as true and complete to the best of my knowledge and belief

Signature Amber Cooke Printed Name AMBER COOKE Title PRODUCTION ENGINEERING Date 07/28/2008

E-mail Address AMBER.COOKE@APACHECORP.COM

Submit 3 Copies To Appropriate District Office
District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Ave., Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-103
May 27, 2004

WELL API NO. 30-025-07232

5. Indicate Type of Lease STATE ☐ FEE ☒

6. State Oil & Gas Lease No. N/A

SUNDRY NOTICES AND REPORTS ON WELLS
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

7. Lease Name or Unit Agreement Name L.W. WARD

1. Type of Well: Oil Well ☒ Gas Well ☐ Other

8. Well Number 3

2. Name of Operator APACHE CORPORATION

9. OGRID Number 000873

3. Address of Operator 6120 S YALE AVE, SUITE 1500 TULSA, OK 74136

10. Pool name or Wildcat BRONCO;SILURO (DEVONIAN)

4. Well Location
Unit Letter J : 1983 feet from the SOUTH line and 1515 feet from the EAST line
Section 11 Township 13S Range 38E NMPM County LEA

11. Elevation *(Show whether DR, RKB, RT, GR, etc.)* 3810' GL

Pit or Below-grade Tank Application ☐ or Closure ☐

Pit type_____ Depth to Groundwater_____ Distance from nearest fresh water well_____ Distance from nearest surface water_____

Pit Liner Thickness: mil Below-Grade Tank: Volume bbls; Construction Material

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK ☐	PLUG AND ABANDON ☐	REMEDIAL WORK ☐	ALTERING CASING ☐
TEMPORARILY ABANDON ☐	CHANGE PLANS ☐	COMMENCE DRILLING OPNS. ☐	P AND A ☐
PULL OR ALTER CASING ☐	MULTIPLE COMPL ☐	CASING/CEMENT JOB ☐	
OTHER: ☐		OTHER:RE-COMPLETION PROCEDURE ☒	

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

THIS WELL FAILED THE MISSISSIPPIAN RE-COMPLETION IN 2003; PERFS @ 10,975' - 11,000', SQUEEZED
APACHE RE-COMPLETED THIS WELL BACK TO THE DEVONIAN; PERFS @ 11,634' - 11,758'. VIA THE FOLLOWING PROCEDURE:
1. MIRU service unit. POOH w/12,000' (343 jts) of 2-7/8" tbg.
2. RIH w/bit and collars on ws tbg. Tag CIBP @ 10,900'.
3. Drilled out CIBP @ 10,900', ran bit to 11,550' & circ hole clean. POOH w/tbg and tools.
4. Set CICR @ 10,898' on wireline. Squeeze Miss perfs w/100 sx Class "H" cmt @ 2500 psi.
5. POOH w/cmt stinger. RIH w/bit and collars. Tag TOC 10,893'
6. DO CICR & 67' of cmt.
7. DO cmt sqz and start drilling on CIBP @ 11,622'.
8. Drilled out CIBP @ 11,700'.
9. CO to PBTD @ 11,770' & start out of hole w/ bit.
10. POOH w/ws tbg. Lay down drill collars. Perf Devonian from 11,634' - 11,758, 6 SPF 60 degrees. 1st run (11,742' - 11,758') 84 holes, 2nd run (11,716' - 11,728') 78 holes, 3rd run (11,666' - 11,695') 162 holes, 4th run (11,634 ' - 11,664') 168 holes.
11. Test in hole w/ treating pkr. Pmp gyp converter.
12. Swab'd gyp converter. Acidized w/5000 gal 15% NEFE HCl w/rock salt diverter.
13. Unset treating pkr & POOH laying dwn ws tbg.
14. Shut In, waiting on power

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that any pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines ☐, a general permit ☐ or an (attached) alternative OCD-approved plan ☐.

SIGNATURE Amber Cooke TITLE ENGINEER TECH DATE 06/10/2008

Type or print name AMBER COOKE E-mail address: AMBER.COOKE@APACHECORP.COM Telephone No. (918)491-4968

For State Use Only

APPROVED BY: Chris Williams TITLE OC DISTRICT SUPERVISOR/GENERAL MANAGER DATE JUN 27 2008

Conditions of Approval (if any):

(Form C-103)
(Revised 7/1/52)

NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico

MISCELLANEOUS REPORTS ON WELLS

Submit this report in TRIPLICATE to the District Office, Oil Conservation Commission, within 10 days after the work specified is completed. It should be signed and filed as a report on Beginning Drilling Operations, Results of test of casing shut-off, result of plugging of well, result of well repair, and other important operations, even though the work was witnessed by an agent of the Commission. See additional instructions in the Rules and Regulations of the Commission.

Indicate Nature of Report by Checking Below

REPORT ON BEGINNING DRILLING OPERATIONS		REPORT ON RESULT OF TEST OF CASING SHUT-OFF	X	REPORT ON REPAIRING WELL	
REPORT ON RESULT OF PLUGGING WELL		REPORT ON RECOMPLETION OPERATION		REPORT ON (Other)	

March 6, 1954 (Date) Seminole, Texas (Place)

Following is a report on the work done and the results obtained under the heading noted above at the

Amerada Petroleum Corporation (Company or Operator) L. W. Ward (Lease)

Rowan Drilling Company, Inc. (Contractor), Well No. 3 in the NW ¼ SE ¼ of Sec. 11

T. 13-S, R. 38-E, NMPM., Bronco Silure Devonian Pool, Lea County.

The Dates of this work were as follows: March 3rd, 4th & 5th, 1954

Notice of intention to do the work ~~was~~ (was not) submitted on Form C-102 on ..... (Cross out incorrect words), 19..

and approval of the proposed plan ~~was~~ (was not) obtained.

DETAILED ACCOUNT OF WORK DONE AND RESULTS OBTAINED

11,867 Total Depth - Lime. Finished 8-3/4" hole to 11,867' at 5:15 a.m., 3-3-54. Ran 270 jts. 7" OD Casing, set at 11,720' with 700 sacks 50% Pozmix and 50% Sloset cement mixed 4% Gel. Pumped plug down to 11,626' with maximum pump pressure of 1800#. Used Baker Centralizers and B&W Scratchers. Worked casing while cementing. Ran temperature survey and found top of cement at 6489' on outside of 7" casing. Ratio of actual to calculated fill- 82.8%. After waiting on cement for 28-1/2 hrs., tested 7" casing before and after drilling out cement with 1250# for 1/2 hr., held o.k.

Witnessed by C. L. Thurman (Name) Amerada Pet. Corp. (Company) Farm Boss (Title)

Approved: OIL CONSERVATION COMMISSION

D. J. Stanley (Name)

(Title) (Date)

I hereby certify that the information given above is true and complete to the best of my knowledge.

Name W. A. Wells

Position Dist. Supt.

Representing Amerada Petroleum Corporation

Address Drawer 809 Seminole, Texas

(Form C-103)
(Revised 7/1/52)

RECEIVED
DEC 30 1953
OIL CONSERVATION COMMISSION
HOBBS OFFICE

NEW MEXICO OIL CONSERVATION COMMISSION

Santa Fe, New Mexico

DUPLICATE

MISCELLANEOUS REPORTS ON WELLS

Submit this report in TRIPLICATE to the District Office, Oil Conservation Commission, within 10 days after the work specified is completed. It should be signed and filed as a report on Beginning Drilling Operations, Results of test of casing shut-off, result of plugging of well, result of well repair, and other important operations, even though the work was witnessed by an agent of the Commission. See additional instructions in the Rules and Regulations of the Commission.

Indicate Nature of Report by Checking Below

REPORT ON BEGINNING DRILLING OPERATIONS		REPORT ON RESULT OF TEST OF CASING SHUT-OFF	X	REPORT ON REPAIRING WELL	
REPORT ON RESULT OF PLUGGING WELL		REPORT ON RECOMPLETION OPERATION		REPORT ON (Other)	

December 29, 1953 (Date) Seminole, Texas (Place)

Following is a report on the work done and the results obtained under the heading noted above at the

Amerada Petroleum Corporation (Company or Operator) L. W. Ward (Lease)

Rowan Drilling Company, Inc. (Contractor), Well No. 3 in the NW ¼ SE ¼ of Sec. 11,

T. 13-S, R. 38-E, NMPM., Bronco Siluro Devonian Pool, Lea County.

The Dates of this work were as folows: December 28, 1953 & December 29, 1953.

Notice of intention to do the work ~~(was)~~ (was not) submitted on Form C-102 on ....., 19.... (Cross out incorrect words)

and approval of the proposed plan ~~(was)~~ (was not) obtained.

DETAILED ACCOUNT OF WORK DONE AND RESULTS OBTAINED

322 - Red Bed - Finished 17-1/2" hole to 322' at 1:30 p.m., 12-28-53. Ran 8 jts., 13-3/8" OD 36# Armco SW SJ Casing New, set at 319' with 400 sacks 50% Pozmix and 50% Regular Cement mixed 2% Gel and 50 sacks Incor Cement, total of 450 sacks. Plug down to 308' at 6:30 p.m., 12-28-53. Maximum pressure 200#. Cement circulated. Started drilling 12-1/4" hole at 322' at 7 p.m., 12-29-53.

Witnessed by C. L. Thurman (Name) Amerada Petroleum Corporation (Company) Farm Boss

Approved: OIL CONSERVATION COMMISSION

L. G. Stanley (Name)

District I DEC 31 1953

(Title) (Date)

I hereby certify that the information given above is true and complete to the best of my knowledge.

Name L. G. Baker

Position Foreman

Representing Amerada Petroleum Corporation

Address Drawer 809 Seminole, Texas

District I
1625 N. French Dr., Hobbs, NM 88240

District II
811 South First, Artesia, NM 88210

District III
1000 Rio Brazos Rd., Aztec, NM 87410

District IV
1220 South St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
1220 South St. Francis Drive
Santa Fe, NM 87505

Form C-101
Revised March 17, 1999

Submit to appropriate District Office
State Lease - 6 Copies
Fee Lease - 5 Copies

☐ AMENDED REPORT

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

1 Operator Name and Address	2 OGRID Number
Apache Corporation 6120 S. Yale, Ste. 1500 Tulsa, OK 74136	000873 3 API Number 30-025-07232

4 Property Code	5 Property Name	6 Well No.
26474	L. W. Ward	3

7 Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South Line	Feet from the	East/West Line	County
J	11	13S	38E		1983'	south	1515'	east	Lea

8 Proposed Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South Line	Feet from the	East/West Line	County

9 Proposed Pool 1	10 Proposed Pool 2
Bronco (Mississippian)	

11 Work Type Code	12 Well Type Code	13 Cable/Rotary	14 Lease Type Code	15 Ground Level Elevation
P	O		P	3810'

16 Multiple	17 Proposed Depth	18 Formation	19 Contractor	20 Spud Date
N	current 11,867'	Bronco Siluro Devonian		ASAP

21 Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
17 1/2"	13 3/8"	54#	319	450	Did not circ.
12 1/4"	9 5/8"	36#	4546'	1500	2387'
8 3/4"	7'	24#	11,720'	700	6489'

22 Describe the proposed program. If this application is to DEEPEN or PLUG BACK give the data on the present productive zone and proposed new productive zone. Describe the blowout prevention program, if any. Use additional sheets if necessary.

1) Set CIBP @ approximately 11,700' and cap w/3 sx of cement.

2) Perforate the Mississippian @ approximately 10,975'-11,000'.

3) Acidize Mississippian w/1250 gals 15% NEFE acid.

RECEIVED
MAY 2003
Hobbs OCD

Permit Expires 1 Year From Approval Date Unless ~~Drilling~~ Plug-Back Underway

23 I hereby certify that the information given above is true and complete to the best of my knowledge and belief.

Signature: Marcia Henderson
Printed Name: Marcia Henderson
Title: Engineering Tech
Date: 5/1/2003 Phone: (918) 491-4984

OIL CONSERVATION DIVISION

Approved by:
Title: PETROLEUM ENGINEER
Approval Date: MAY 09 2003 Expiration Date:
Conditions of Approval:
Attached ☐

When well is P&A must ~~circulate~~ bring cement on surface casing to surface.

Submit 3 Copies To Appropriate District Office
District I
1625 N French Dr., Hobbs, NM 88240
District II
1301 W. Grand Ave., Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-103
May 27, 2004

WELL API NO. 30-025-07232

5. Indicate Type of Lease STATE ☐ FEE ☒

6. State Oil & Gas Lease No. N/A

SUNDRY NOTICES AND REPORTS ON WELLS
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

7. Lease Name or Unit Agreement Name L.W. Ward

1. Type of Well: Oil Well ☒ Gas Well ☐ Other

8. Well Number 3

2. Name of Operator APACHE CORPORATION

9. OGRID Number 000873

3. Address of Operator 6120 S YALE, SUITE 1500 TULSA, OK 74136

10. Pool name or Wildcat BRONCO (MISSISSIPPIAN)

4. Well Location
Unit Letter J : 1983 feet from the SOUTH line and 1515 feet from the EAST line
Section 11 Township 13S Range 38E NMPM County LEA

11. Elevation *(Show whether DR, RKB, RT, GR, etc.)* 3810' GL

Pit or Below-grade Tank Application ☐ or Closure ☐

Pit type_____ Depth to Groundwater_____ Distance from nearest fresh water well_____ Distance from nearest surface water_____

Pit Liner Thickness: _____ mil Below-Grade Tank: Volume _____ bbls; Construction Material _____

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
PERFORM REMEDIAL WORK	☐	PLUG AND ABANDON	☐	REMEDIAL WORK	☐	ALTERING CASING	☐
TEMPORARILY ABANDON	☐	CHANGE PLANS	☐	COMMENCE DRILLING OPNS.	☐	P AND A	☐
PULL OR ALTER CASING	☐	MULTIPLE COMPL	☐	CASING/CEMENT JOB	☐		
OTHER:	☐			OTHER:RE-COMPLETION PROCEDURE	☒		

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

OPERATOR OVERSIGHT

THIS WELL WAS PRODUCING DEVONIAN FROM 11,720' - 11,867'
APACHE ATTEMPTED TO RECOMPLETE THIS WELL TO MISSISSIPPIAN (10975' - 11000) VIA THE FOLLOWING PROCEDURE: 5/19/03 - 5/28/03
1. MIRU pulling unit. POOH w/113 jts 2-7/8" tbg
2. RU Computalog from 11,863'
3. RIH w/ CIBP 11,622'
4. Swab test
5. Perf Mississippian at 10,975 - 11,000
6. Acidize Mississippian w/15% NEFE at 1.5BPM & 4000#
7. RIH w/pump and rods
8. Recompletion failed, Shut In well.

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that any pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines ☐, a general permit ☐ or an (attached) alternative OCD-approved plan ☐.

SIGNATURE Amber Cooke TITLE ENGINEERING TECH DATE 06/09/2008

Type or print name AMBER COOKE E-mail address AMBER.COOKE@APACHECORP.COM Telephone No. (918)491-4968

For State Use Only

APPROVED BY: Chris Williams TITLE OC DISTRICT SUPERVISOR/GENERAL MGR DATE JUN 27 2008

Conditions of Approval (if any):

Submit To Appropriate District Office
State Lease - 6 copies
Fee Lease - 5 copies
District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources

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

Form C-105
Revised June 10, 2003

WELL API NO. 30-025-07232

5. Indicate Type of Lease STATE ☐ FEE ☒

State Oil & Gas Lease No.

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

1a. Type of Well: OIL WELL ☒ GAS WELL ☐ DRY ☐ OTHER

b. Type of Completion: NEW WELL ☐ WORK OVER ☐ DEEPEN ☐ PLUG BACK ☐ DIFF. RESVR. ☒ OTHER

7. Lease Name or Unit Agreement Name: L.W. WARD

2. Name of Operator: APACHE CORPORATION

8. Well No.: 3

3. Address of Operator: 6120 S YALE AVE SUITE 1500 TULSA, OK 74136

9. Pool name or Wildcat: BRONCO (MISSISSIPPIAN)

4. Well Location

Unit Letter J : 1983 Feet From The SOUTH Line and 1515 Feet From The EAST Line

Section 11 Township 13S Range 38E NMPM LEA County

10. Date Spudded	11. Date T.D. Reached	12. Date Compl (Ready to Prod.)	13. Elevations (DF& RKB, RT, GR, etc.)	14. Elev. Casinghead
05/19/2003	05/20/2003	05/28/2003	3810' GL	

15. Total Depth	16. Plug Back T.D.	17. If Multiple Compl. How Many Zones?	18. Intervals Drilled By	Rotary Tools	Cable Tools
11867'	11770'	NA			

19. Producing Interval(s), of this completion - Top, Bottom, Name: MISSISSIPPIAN 10,975' - 11,000'

20. Was Directional Survey Made

21. Type Electric and Other Logs Run

22. Was Well Cored

23. **CASING RECORD** (Report all strings set in well)

CASING SIZE	WEIGHT LB./FT.	DEPTH SET	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
13 3/8"	54#	319'	17 1/2"	450 SX, DID NOT C	RC
9 5/8"	36#	4546'	12 1/4"	1500 SX, TOC @2387'	
7	24#	11720'	8 3/4"	700 SX, TOC @6489'	

24. LINER RECORD

SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN

25. TUBING RECORD

SIZE	DEPTH SET	PACKER SET
2 7/8"	11034	

26. Perforation record (interval, size, and number)

27. ACID, SHOT, FRACTURE, CEMENT, SQUEEZE, ETC.

DEPTH INTERVAL	AMOUNT AND KIND MATERIAL USED
10975'- 11000'	SHOT AT 4 SPF AT 90 DEGREES
	15% NEFE HCI

28 **PRODUCTION**

Date First Production	Production Method (Flowing, gas lift, pumping - Size and type pump)	Well Status (Prod. or Shut-in)
		SHUT IN

Date of Test	Hours Tested	Choke Size	Prod'n For Test Period	Oil - Bbl	Gas - MCF	Water - Bbl.	Gas - Oil Ratio

Flow Tubing Press.	Casing Pressure	Calculated 24-Hour Rate	Oil - Bbl.	Gas - MCF	Water - Bbl.	Oil Gravity - API - (Corr.)

29. Disposition of Gas (Sold, used for fuel, vented, etc.)

Test Witnessed By

30. List Attachments

31. *I hereby certify that the information shown on both sides of this form as true and complete to the best of my knowledge and belief*

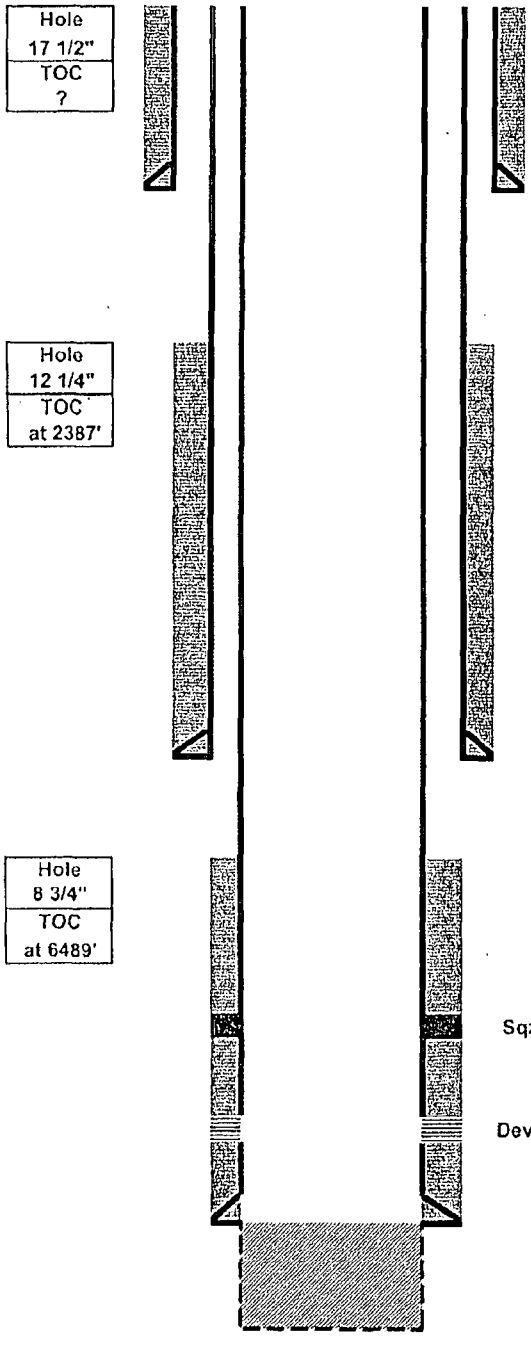
Signature Amber Cooke Printed Name AMBER COOKE Title ENGINEERING TECH Date 06/09/2008

E-mail Address AMBER.COOKE@APACHECORP.COM

Apache Corporation

Legal Desc			
Well Name	LW WARD	Well No.	3
Field	Bronco;Siluro(Devonian)		
API #	30-025-07232		
County	Lea		
State	New Mexico		
Date	6/6/2008		
Section	11		
Township	13S		
Range	38E		
Elevation	3810' GL		
KB corr			

Description	O.D.	Grade	Weight	Depth	Cmt Sx	TOC	Hole Size
Surface Csg	13 3/8"		54#	319'	450	?	17 1/2"
Inter Csg	9 5/8"		36#	4546'	1,500	2387'	12 1/4"
Prod Csg	7"		24#	11720'	700	6489'	8 3/4"
Tubing							



UPPER	LOWER	KIND AND AMOUNT OF MATERIAL USED

Formation Record

FORMATION	DEPTH

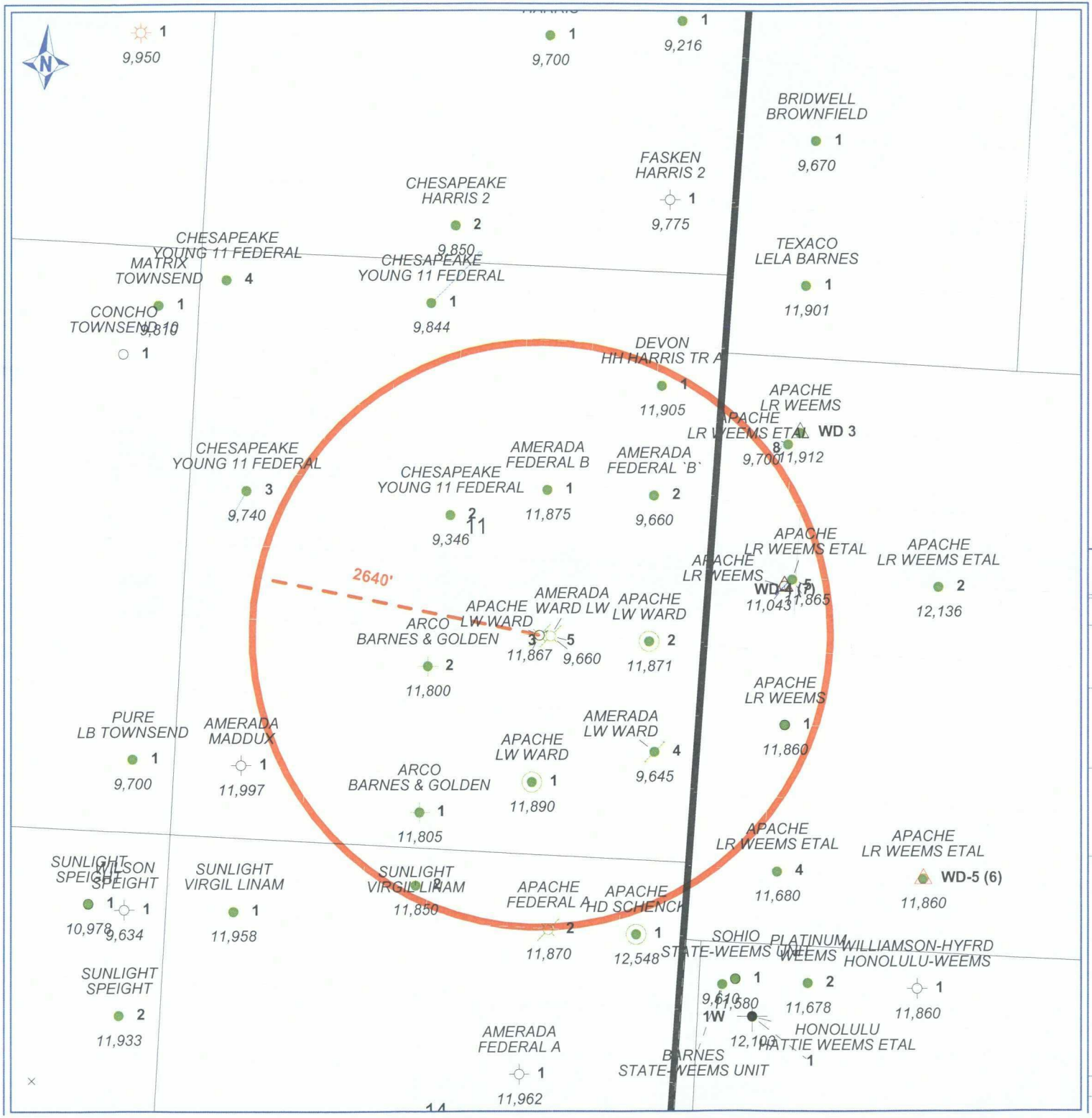
Perforations

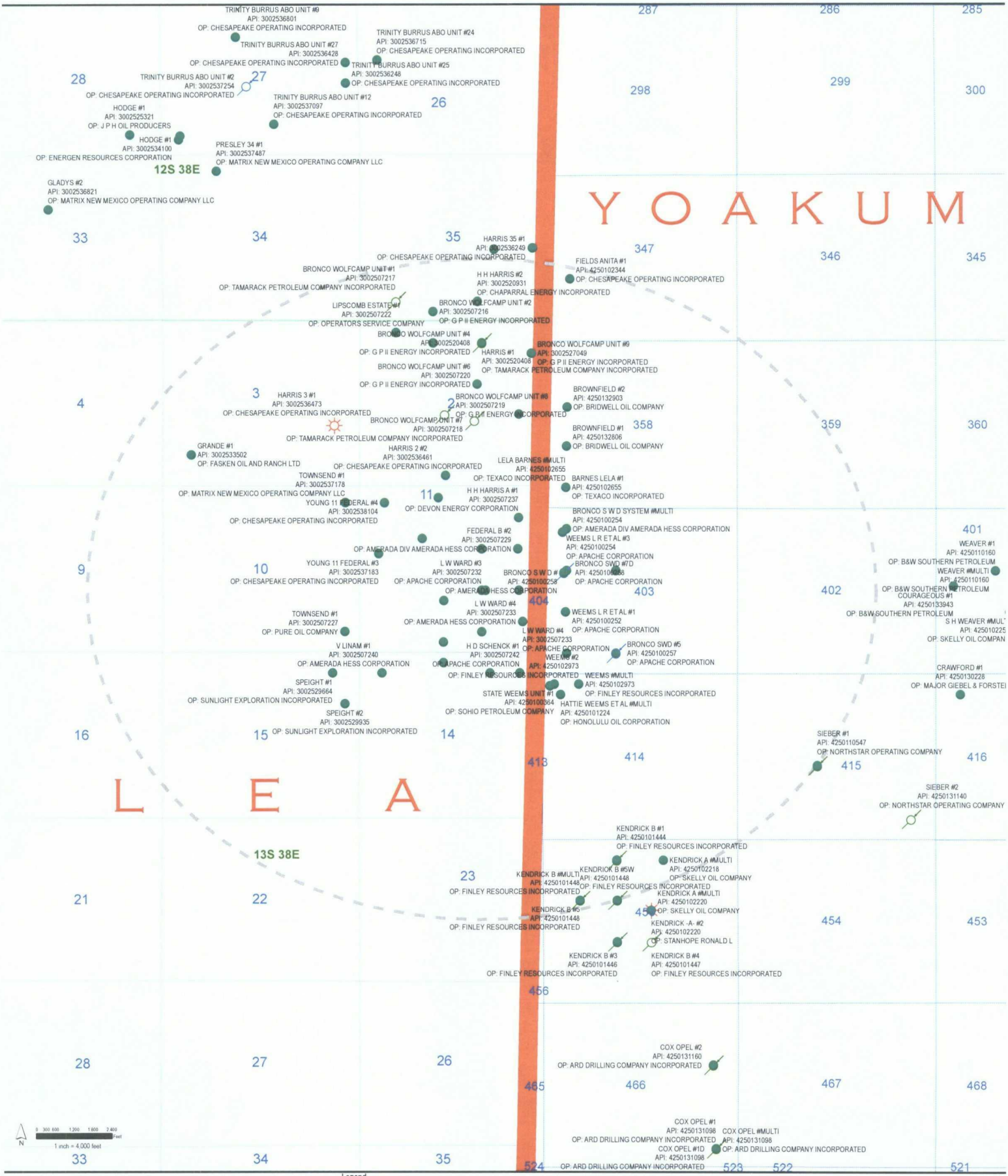
UPPER	LOWER

PBTD @ 11770'
TD @ 11867'

Sqz'd Mississippian Perfs: 10,975' - 11,000'

Devonian Perfs: 11,634' - 11,650'


1
9,950
1
9,700
1
9,216
BRIDWELL
BROWNFIELD
1
9,670
FASKEN
HARRIS 2
1
9,775
CHESAPEAKE
HARRIS 2
2
9,850
CHESAPEAKE
YOUNG 11 FEDERAL
MATRIX
TOWNSEND
4
CHESAPEAKE
YOUNG 11 FEDERAL
1
9,844
TEXACO
LELA BARNES
1
11,901
1
CONCHO
TOWNSEND
9,810
1
DEVON
HH HARRIS TR A
1
11,905
APACHE
LR WEEMS
APACHE
LR WEEMS ETAL
WD 3
8
9,700
11,912
CHESAPEAKE
YOUNG 11 FEDERAL
3
9,740
AMERADA
FEDERAL B
1
11,875
CHESAPEAKE
YOUNG 11 FEDERAL
2
9,346
AMERADA
FEDERAL `B`
2
9,660
11
APACHE
LR WEEMS ETAL
APACHE
LR WEEMS
APACHE
LR WEEMS ETAL
2640'
WD-4 (7)
5
11,043
11,865
2
12,136
AMERADA
WARD LW
APACHE
LW WARD
APACHE
LW WARD
ARCO
BARNES & GOLDEN
3
5
11,867
9,660
2
11,871
2
11,800
APACHE
LR WEEMS
1
11,860
PURE
LB TOWNSEND
1
9,700
AMERADA
MADDUX
1
11,997
AMERADA
LW WARD
4
9,645
APACHE
LW WARD
1
11,890
ARCO
BARNES & GOLDEN
1
11,805
APACHE
LR WEEMS ETAL
4
11,680
APACHE
LR WEEMS ETAL
WD-5 (6)
11,860
SUNLIGHT
SPEIGHT
WILSON
1
1
10,978
9,634
SUNLIGHT
VIRGIL LINAM
1
11,958
SUNLIGHT
VIRGIL LINAM
11,850
APACHE
FEDERAL A
2
11,870
APACHE
HD SCHENCK
1
12,548
SOHIO
STATE-WEEMS UNIT
PLATINUM
WEEMS
WILLIAMSON-HYFRD
HONOLULU-WEEMS
1
9,610
11,580
2
11,678
1
11,860
SUNLIGHT
SPEIGHT
2
11,933
1W
HONOLULU
HATTIE WEEMS ETAL
12,100
1
AMERADA
FEDERAL A
1
11,962
BARNES
STATE-WEEMS UNIT
14
Apache
CORPORATION
BRONCO FIELD
Lea Co. NM & Yoakum Co Tx
Half Mile Circle from LW Ward #3
Bronco.OVL
0
1,250
FEET
POSTED WELL DATA
Operator
Well Name
Well Number
TD
WELL SYMBOLS
Oil Well
Gas Well
Injection Well
Service Well
Plugged and Abandoned
Abandoned Well
Abandoned Oil Well
Active Producer
Plugged and Abandoned
Shut In Oil Well
Dry Hole
Temporarily Abandoned Oil Well
Service Well - Active
By: Bret Pearcy
October 28, 2009



Area Of Interest

Metadata (Abstract):
Map Scale=1:48,000
Geographic Coordinate System=
WGS84 (EPSG: 7030)
Data Source(s)=Apache GIS SDE
28 October 2009

User Instruction(s):
Intended Use: For generalization and scoping purposes only.

Legend
2-Mile Radius Around LW Ward #3

LW Ward #3
[API: 30-025-07232]
& Other Producing Wells
Within a 2-Mile Radius Thereof
October 2009

Apache CORPORATION

Offset Wells
LW Ward #3

				Surface Csg				Intermediate Csg				Production Csg				
Operator Name	Lease Name	Well #	TD	Csg Size	Csg Depth	Cmt Sacks	TOC Est	Csg Size	Csg Depth	Cmt Sacks	TOC Est	Csg Size	Csg Depth	Cmt Sacks	TOC Est	Completion Intervals
DEVON ENERGY PRODUCTION COMPANY, LP	H H HARRIS A	1	11,905	13 3/8	331	400	Surf	9 5/8	4685	2000	575	7	11904	500	8448	9122'-9600'
~~CHESAPEAKE OPERATING, INC.~~	~~YOUNG 11 FEDERAL~~	~~2~~	~~9,346~~	~~13 3/8~~	~~455~~	~~386~~	~~Surf~~	~~8 5/8~~	~~4548~~	~~1275~~	~~Surf~~	~~5 1/2~~	~~9346~~	~~705~~	~~4000~~	~~9155'-9208'~~
APACHE CORPORATION	L W WARD	2	11,871	13 3/8	319	400	Surf	8 5/8	4533	1000	2257	5 1/2	11650	700	7185	10936'-11622'
APACHE CORPORATION	L W WARD	3	11,867	13 3/8	319	450	Surf	9 5/8	4546	1500	2387	7	11720	700	6489	9006'-9186'
APACHE CORPORATION	L W WARD	4	11,605	13 3/8	318	400	Surf	9 5/8	4517	1300	2477	7	9645	500	6532	11516'-11534'
APACHE CORPORATION	L W WARD	1	11,890	13 3/8	318	400	Surf	8 5/8	4517	900	2482	5 1/2	11725	700	8297	11601'-11890'
APACHE CORPORATION	FEDERAL A	2	11,870	13 3/8	318	450	Surf	8 5/8	4528	1200	2200	5 1/2	11870	700	8300	9914'-11650'
SUNLIGHT EXPLORATION, INC.	V LINAM	2	11,850	13 3/8	318	400	Surf	8 5/8	4549	1300	2748	7	10117	200	9878	9020'-9040'
AMERADA HESS	FEDERAL B	1	11,875	13 3/8	319	400	Surf	8 5/8	4543	1200	2200	7	11800	700	7000'	11800' - 11875'
AMERADA HESS	FEDERAL B	2	9,660	13 3/8	319	400	Surf	8 5/8	4543	1200	2200	7	11800	700	7000'	11660' - 11700'
APACHE CORPORATION	LR WEEMS	5	11,865	13 3/8	319	400	Surf	8 5/8	4546	1300	2550	5 1/2	11750	564	9000	11660' - 11700'
APACHE CORPORATION	LR WEEMS	4	11,043	13 3/8	319	450	Surf	8 5/8	4516	1300	2630	5 1/2	11590	650	8998	11590' - 11680'
ARCO	BARNES & GOLDEN	2	11,800	13 3/8	326	350	Surf	9 5/8	4645	2200	Surf	7	11792	150	9000'	11770' - 11800'

APT

PEA '94

MISS

1959 TOC

SQZD 73

Prod Interval = ?

Status ?

MISS

WC

5" LINER FROM 9347-11604

Penn

5" LINER FROM 10017-11785

DEV ?

Subject Well

What is upper Pay Zone?

No Logs

Send WBD of Plugged Wells

LIMIT TO ~~10,800~~ 10,682'

Code 10,100 TOP ?

(OLD DATA)

Offset Wells
LW Ward #3

New Data

						Surface Csg				Intermediate Csg				Production Csg						
Operator Name	API	Lease Name	Well #	Well Status	TD	Csg Size	Csg Depth	Cmt Sacks	TOC Est	Csg Size	Csg Depth	Cmt Sacks	TOC Est	Csg Size	Csg Depth	Cmt Sacks	TOC Est	Current Formations	Former Formations	Completion Intervals
DEVON ENERGY PRODUCTION COMPANY, LP	30-025-07237	H H HARRIS A	1	Plugged	11,905	13 3/8	331	400	Surf	9 5/8	4685	2000	575	7	11904	500	8448	NA	Bronco; Wolfcamp	9122'-9600'
CHESAPEAKE OPERATING, INC.	30-025-37904	YOUNG 11 FEDERAL	2	Producing	9,346	13-3/8	455	386	Surf	8 5/8	4548	1275	Surf	5 1/2	9346	705	4000	Bronco; Wolfcamp	NA	9155'-9208'
APACHE CORPORATION	30-025-07231	L W WARD	2	Producing	11,871	13 3/8	319	400	Surf	8 5/8	4533	1000	2257	5 1/2	11650	700	7185	Bronco; Siluro-Devonian	NA	10939'-11622'
APACHE CORPORATION	30-025-07232	L W WARD	3	TA'd	11,867	13 3/8	319	450	Surf	9 5/8	4546	1500	2387	7	11720	700	6489	Bronco; Wolfcamp	Bronco; Siluro-Devonian	9006'-9186'
APACHE CORPORATION	30-025-07233	L W WARD	4*	Producing	11,605	13 3/8	318	400	Surf	9 5/8	4517	1300	2477	7	9645	500	6532	Bronco; Siluro-Devonian	NA	11516'-11534
APACHE CORPORATION	30-025-07230	L W WARD	1	Producing	11,890	13 3/8	318	400	Surf	8 5/8	4517	900	2482	5 1/2	11725	700	8297	Bronco; Siluro-Devonian	NA	11601'-11890'
APACHE CORPORATION	30-025-07239	FEDERAL A	2	Producing	11,870	13 3/8	318	450	Surf	8 5/8	4528	1200	2200	5 1/2	11870	700	8300	Bronco; Wolfcamp	Bronco; Siluro-Devonian	9914'-11650'
SUNLIGHT EXPLORATION, INC.	30-025-07241	V LINAM	2*	Producing	11,850	13 3/8	318	400	Surf	8 5/8	4549	1300	2748	7	10117	200	9878	Bronco; Wolfcamp	Bronco; Siluro-Devonian	9020'-9040'
AMERADA HESS	30-025-07228	FEDERAL B	1	Plugged	11,875	13 3/8	319	450	Surf	8 5/8	4543	1200	2200	7	11800	700	7000'	NA	Wolfcamp/Miss/Devonian	9487' - 11875'
AMERADA HESS	30-025-07229	FEDERAL B	2	Plugged	12,180	13 3/8	318	450	Surf	8 5/8	4536	1300	2604	7	9652	500	6854	NA	Wolfcamp/Miss/Devonian	9446' - 12180'
APACHE CORPORATION	42-501-00256	LR WEEMS	5	Producing	11,865	13 3/8	319	400	Surf	8 5/8	4546	1300	2550	5 1/2	11750	564	9000	Bronco; Siluro-Devonian	NA	11660' - 11700'
APACHE CORPORATION	42-501-00255	LR WEEMS	4	Producing	11,043	13 3/8	319	450	Surf	8 5/8	4516	1300	2630	5 1/2	11590	650	8998	Bronco; Wolfcamp	NA	11590' - 11680'
ARCO	30-025-07236	BARNES & GOLDEN	2	Plugged	11,860	13 3/8	326	350	Surf	9 5/8	4645	2200	1080'	7	11792	150	9660'	NA	Miss/Devonian	11096' - 11860'

* LW Ward #4 has a 5" liner from 9347' - 11604'

* V Linam #2 has a 5" liner from 10017' - 11785'

(NEW DATA)

Apache Corporation – H H Harris A#1(Plugged Well)

Wellbore Diagram – Current Status

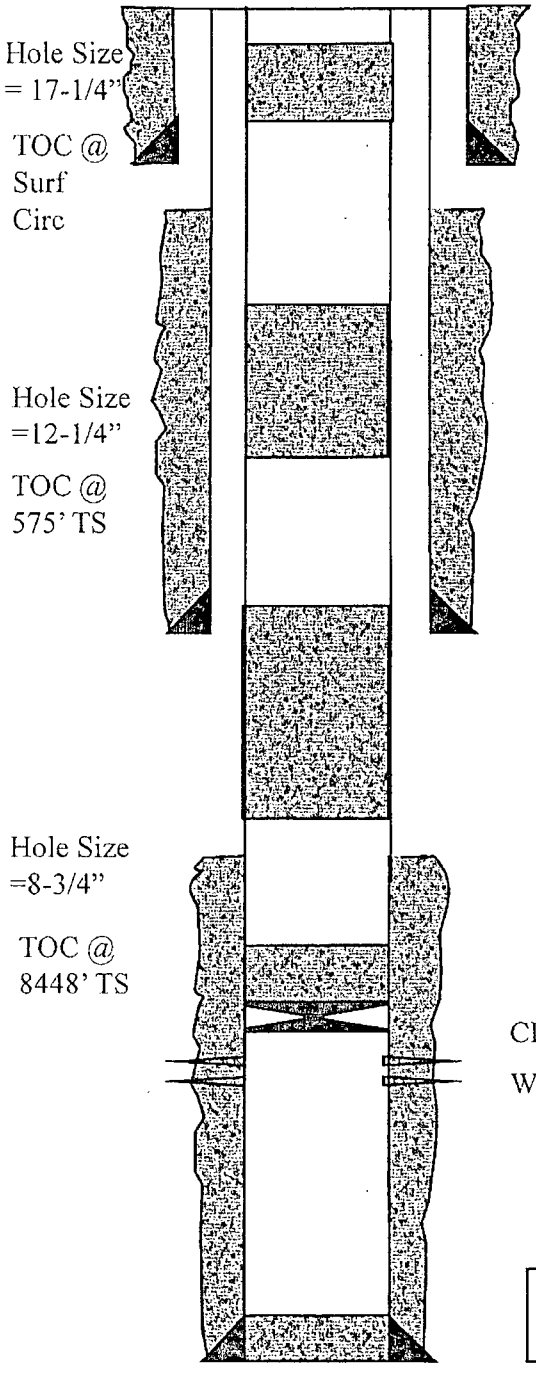
API: 30-025-07237

Date : 6/9/2010
A Cooke

GR=3807'

Surface Location

990' FNL & 571' FEL, Unit A
Sec 11, T13S, R38E, Lea County, NM



Surface Casing
13-3/8" 35.6# csg @ 331', cmt'd w/400 sx

TUBING DETAIL			
Qty	Description	Length	Depth

Intermediate Casing
9-5/8" 36# csg @ 4685', cmt'd w/2000 sx

Cmt plug @ 63' w/10 sx
Cmt plug @ 2270' w/20 sx
Perf'd 7" csg @ 4730', cmt plug w/35 sx cmt

CIBP @ 9395' w/25 sx of cmt on top

Wolfcamp perfs @ 9486' - 9596'

Production Casing
7" 23#, 26#, 29# & 32# csg @ 11904' cmt'd w/500sx

PBTD = 63'
TD = 11905'

Apache Corporation – Federal B #2 (Plugged Well)

Wellbore Diagram – Current Status

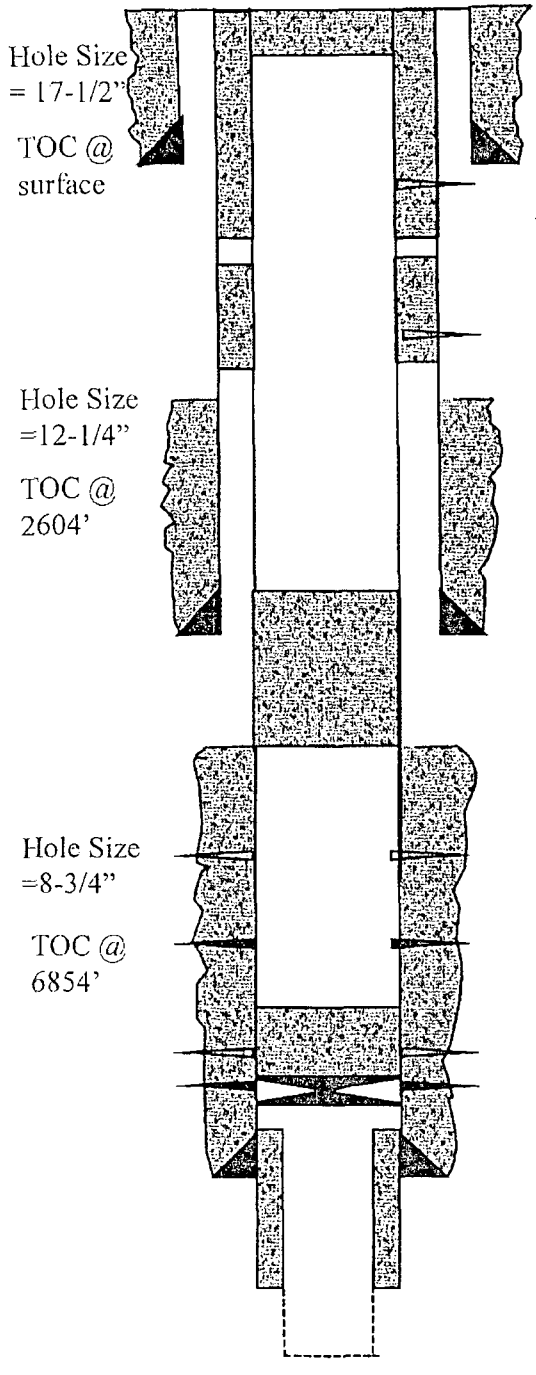
API: 30-025-07229

Date : 6/9/2010
A Cooke

DF=3810'

Surface Location

1983' FNL & 548' FEL, Unit H
Sec 11, T13S, R38E, Lea County, NM



Surface Casing
13-3/8" 36# csg @ 318', cmt'd w/450 sx

TUBING DETAIL

Qty	Description	Length	Depth

Intermediate Casing
9-5/8" 36# & 40# csg @ 4536', cmt'd w/1300 sx

Spotted 10 sx cmt to surface (10/92)

Perf csg @ 368' & pumped 220 sx cmt to surf (10/92)

Perf csg @ 2550' & displaced 100 sx cmt (10/92)

Spotted 60 sx cmt @ 4565' - 4455' (10/92)

Wolfcamp perfs @ 9446' - 9592' (3/55)

Mississippian perfs @ 11044' – 11070' (10/59)
Sqz'd w/175 sx cmt (4/68)

Re-perfed Devonian perfs @ 11695' – 11715' (10/84)
Devonian perfs @ 11741' – 11782' (9/63)
Sqz'd w/200 sx cmt (10/84)

CIBP @ 11752' w/39 sx cmt (10/92)

Production Casing
7" 23#, 26# & 29# csg @ 9652' cmt'd w/500sx

Production Liner
5-1/2" 9384' – 11802' w/300 sx of cmt.

PBTD = Surface
TD =12180'

Sqz'd OH 11802' – 11850' w/200 sx cmt (9/63)

DO OH & deepen @ 11802' – 12180' (3/91)

Apache Corporation – Federal B #1(Plugged Well)

Wellbore Diagram – Current Status

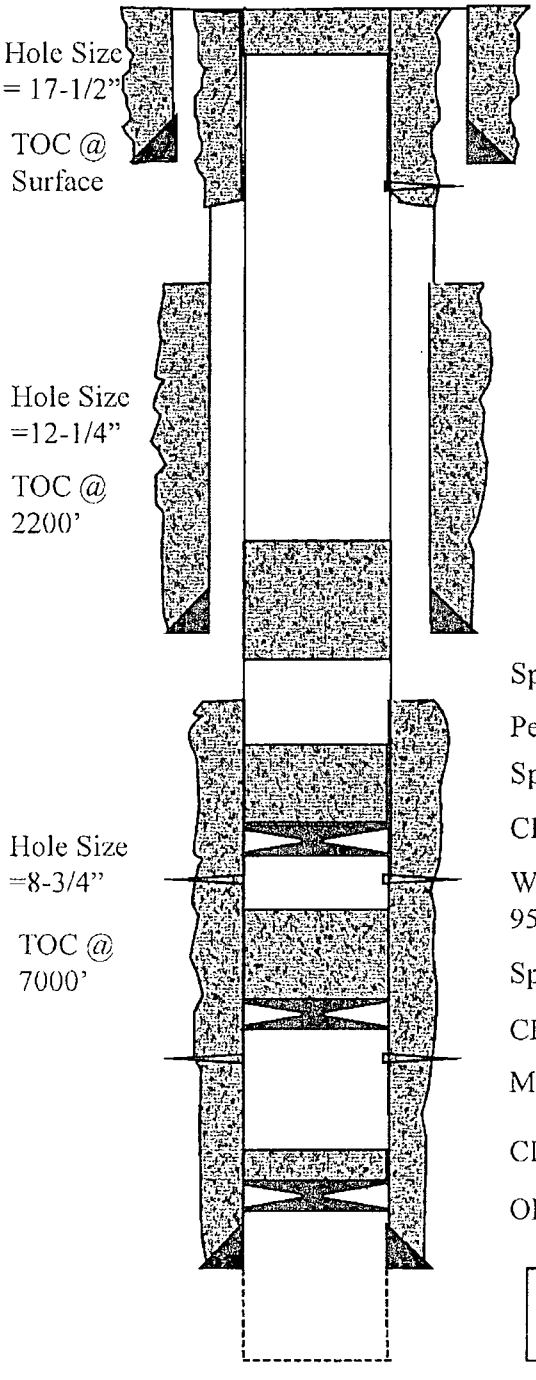
Date : 6/9/2010
A Cooke

API: 30-025-07228

DF=3810'

Surface Location

1983' FNL & 1538' FEL, Unit G
Sec 11, T13S, R38E, Lea County, NM



Surface Casing
13-3/8" 36# csg @ 319', cmt'd w/450 sx

TUBING DETAIL

Qty	Description	Length	Depth

Intermediate Casing
9-5/8" 36# & 40# csg @ 4543', cmt'd w/1200 sx

Spotted 10 sx cmt plug to surface

Perf'd csg @ 369' displaced 220 sx cmt to surface

Spotted 65 sx cmt plug @ 4650' – 4450', TOC @ 4317'

CIBP @ 9454' w/40 sx cmt on top

Wolfcamp perfs @ 9487' – 9490' & 9500' – 9521' 9496' – 9516' 9484'-9488'

Spotted 45 sx cmt plug @ 11000'-10800'

CIBP @ 11011' w/5 sx cmt on top, TOC @ 11000'

Mississippian perfs @ 11132' – 11138' & 11146' - 11160'

CIBP @ 11700' w/6 sx cmt on top, TOC est @ 11665'

OH Devonian perfs @ 11800' - 11875'

Production Casing
7" 26# & 29# csg @ 11800' cmt'd w/700sx

PBTD = Surface
TD = 11875' OH

Apache Corporation – Barnes & Golden #2 (Plugged Well)

Wellbore Diagram – Current Status

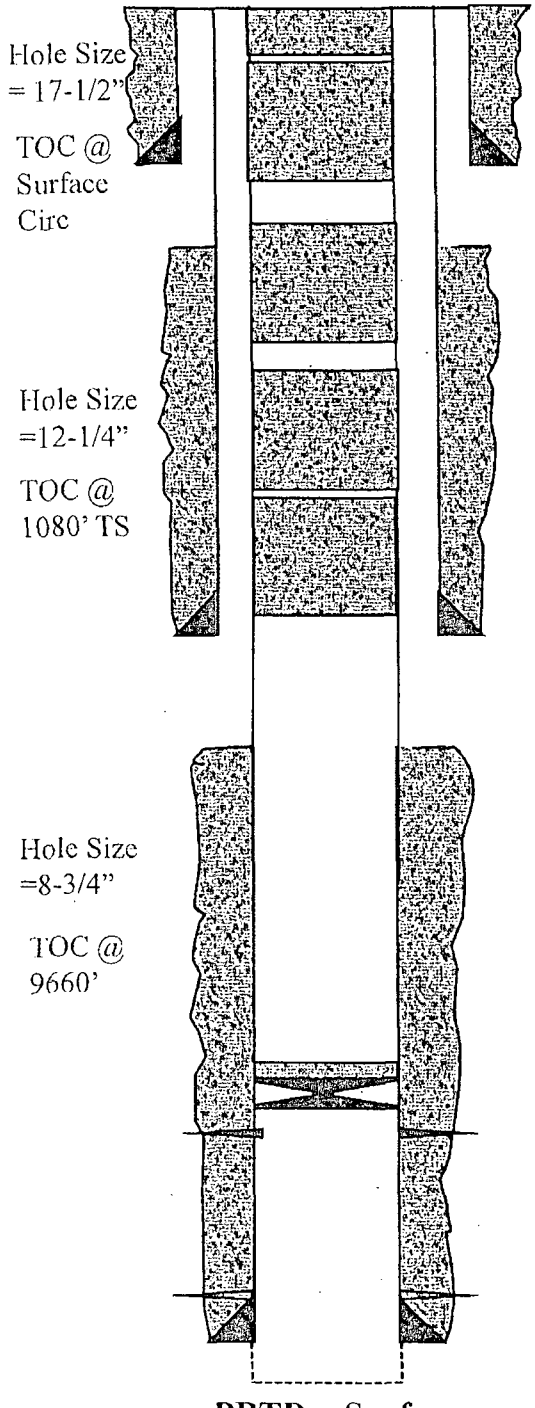
API: 30-025-07236

Date : 6/9/2010
A Cooke

DF=3810'

Surface Location

1650' FSL & 2310' FWL, Unit K
Sec 11, T13S, R38E, Lea County, NM



Surface Casing
13-3/8" 48# csg @ 326', cmt'd w/350 sx

TUBING DETAIL

Qty	Description	Length	Depth

Intermediate Casing
9-5/8" 40# & 36# csg @ 4645', cmt'd w/2200 sx

Cmt plug w/10 sx cmt @ surface

Cmt plug w/40 sx cmt @ 303' – 343'

Cmt plug w/40 sx cmt @ 574' – 634'

Cmt plug w/40 sx cmt @ 4593' – 4693'

Cmt plug w/40 sx cmt @ 4811' – 4956'

CIBP @ 11050' w/4 sx of cmt on top

Mississippian perfs @ 11096' – 11116' (2/60)
Sqz'd w/100 sx cmt (3/69)

Devonian perfs @ 11786' – 11792' (2/56)

Production Casing
7" csg @ 11792' cmt'd w/150sx

OH @ 11792' – 11800' (2/56) Deepened to 11860' (3/69)

Apache Corporation – V Linam #2

Wellbore Diagram – Current Status

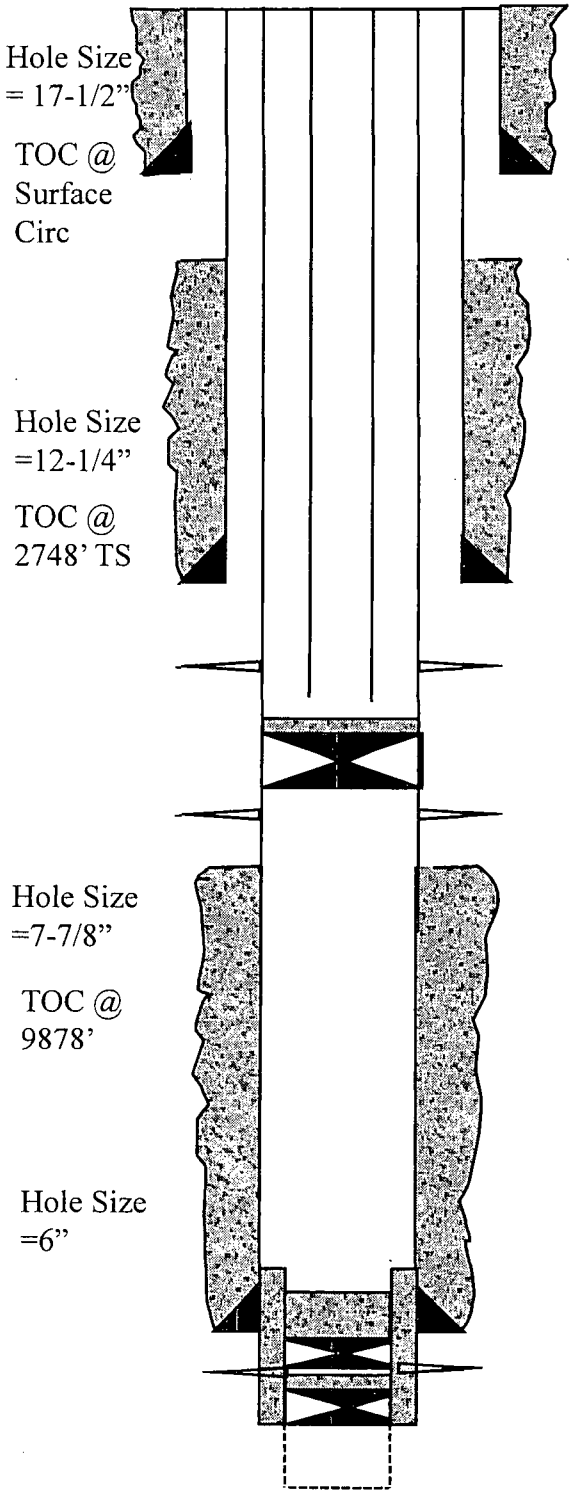
API: 30-025-07241

Date : 6/9/2010
A Cooke

Elevation: 3813'

Surface Location

330' FNL & 2310' FWL, Unit C
Sec 14, T13S, R38E, Lea County, NM



Surface Casing
13-3/8" 36# csg @ 318', cmt'd w/400 sx

TUBING DETAIL			
Qty	Description	Length	Depth
	2-3/8" tbg		9450'

Intermediate Casing
8-5/8" 32# csg @ 4549', cmt'd w/1300 sx

Wolfcamp Perfs @ 9020' – 9040'

CIBP @ 9500' w/4 sx cmt on top (2/04)

Wolfcamp perfs @ 9560' – 9584'

Devonian Perfs @ 10740' – 10760' & 10770' – 10790'

CIBP @ 10510' w/35 sx cmt on top (12/73)

CIBP @ 10900' w/1.5 sx cmt on top, TOC @ 10883' (7/73)

Production Casing
7" csg 23#, 26#, 29# @ 10117' cmt'd w/200sx

Production Liner
5" 15# csg @ 10017' – 11785' cmt'd w/350sx

OH @ 11785' – 11850'

PBTD = 9500'
TD =11850' OH

New Mexico Office of the State Engineer
Water Column/Average Depth to Water

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number	Sub basin	Use	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
L 00660 S		IRR	LE	4	2	1	11	13S	38E	679999	3676301*	230		
L 00660 S 3		IRR	LE	3	1	1	11	13S	38E	679397	3676294*	271		
L 00660 S 4		IRR	LE	1	1	2	11	13S	38E	680201	3676509*	240		
L 02374		PRO	LE		3	2	11	13S	38E	680310	3676008*	115	70	45
L 02374 APPRO		PRO	LE		3	2	11	13S	38E	680310	3676008*	115	70	45
L 02606		PRO	LE				11	13S	38E	680123	3675791*	138	70	68
L 02606 APPRO		PRO	LE				11	13S	38E	680123	3675791*	138	70	68
L 02674		PRO	LE	2	4	4	11	13S	38E	680825	3675309*	124	52	72
L 02775		PRO	LE		1	3	11	13S	38E	679512	3675590*	125	63	62
L 02775 APPRO		PRO	LE		1	3	11	13S	38E	679512	3675590*	125	63	62
L 04308		PRO	LE		3	2	11	13S	38E	680310	3676008*	130	75	55
L 04308 APPRO		PRO	LE		3	2	11	13S	38E	680310	3676008*	130	75	55

Average Depth to Water: **67 feet**
Minimum Depth: **52 feet**
Maximum Depth: **75 feet**

Record Count: 12

PLSS Search:

Section(s): 11 **Township:** 13S **Range:** 38E

***UTM location was derived from PLSS - see Help**

New Mexico Office of the State Engineer

Point of Diversion by Location

(with Owner Information)

(acre ft per annum) (quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest) (NAD83 UTM in meters)

WR File Nbr	Sub basin	Use	Diversion	Owner	County	POD Number	Grant	Source	q q q 6416 4	Sec	Twn	Rng	X	Y
L 00660		IRR	586.5	DON A. & CHOYA D. YOUNG	LE	L 00660			4 1 4	11	13S	38E	680416	3675504*
					LE	L 00660 S			4 2 1	11	13S	38E	679999	3676301*
					LE	L 00660 S 2			3 3 2	11	13S	38E	680209	3675907*
					LE	L 00660 S 3		Shallow	3 1 1	11	13S	38E	679397	3676294*
					LE	L 00660 S 4		Shallow	1 1 2	11	13S	38E	680201	3676509*
L 02374		PRO	3	ROWAN DRILLING CO.	LE	L 02374		Shallow	3 2	11	13S	38E	680310	3676008*
					LE	L 02374 APPRO		Shallow	3 2	11	13S	38E	680310	3676008*
L 02606		PRO	3	COROCO DRILLING CO.	LE	L 02606		Shallow		11	13S	38E	680123	3675791*
					LE	L 02606 APPRO		Shallow		11	13S	38E	680123	3675791*
L 02674		PRO	3	MCVAY & STAFFORD DRILLING CO.	LE	L 02674		Shallow	2 4 4	11	13S	38E	680825	3675309*
L 02775		PRO	3	MCVAY & STAFFORD DRILLING CO.	LE	L 02775		Shallow	1 3	11	13S	38E	679512	3675590*
					LE	L 02775 APPRO		Shallow	1 3	11	13S	38E	679512	3675590*
L 04308		PRO	3	AMERADA PETROLEUM CORPORATION	LE	L 04308		Shallow	3 2	11	13S	38E	680310	3676008*
					LE	L 04308 APPRO		Shallow	3 2	11	13S	38E	680310	3676008*

***UTM location was derived from PLSS - see Help**

Record Count: 14

POD Search:

POD Basin: Lea County

PLSS Search:

Section(s): 11 **Township:** 13S **Range:** 38E

Sorted by: File Number

ITEM IX, X, XI, XII OF NEW MEXICO OCD FORM C-108
LW WARD SWD #3

IX This well will be acid stimulated at the initial completion as needed to eliminate near wellbore skin damage.

X Please see attached logs for this well. No test data is available, as this well is TA'd.

XI See attached water analysis for two fresh water wells.

XII After reviewing the geology in one and one-half mile radius around the proposed waterflood area, there appears no evidence of fractures or any hydrologic connection between the zone of injection and any overlying or underlying strata.

Multi-Chem Group, LLC
Multi-Chem Analytical Laboratory
349 PR 4473
Sonora, TX 76950

multi-chem®

Water Analysis Report

Production Company: **APACHE CORPORATION (114)**
Well Name: **BRONCO OLD BARN #2**
Sample Point: **Fresh WW**
Sample Date: **10/30/2009**
Sales Rep: **Chad Harris**
Lab Tech: **Billy Palmore**

Sample ID: **WA-33552**

Sample Specifics

Test Date:	**11/20/2009**
Temperature (°F):	**88**
Sample Pressure (psig):	**40**
Specific Gravity (g/cm³):	**1.0018**
pH:	**6.6**
Turbidity (NTU):	**-**
Calculated T.D.S. (mg/L)	**2456**
Molar Conductivity (µS/cm):	**3722**
Resitivity (Mohm):	**2.6867**

Analysis @ Properties in Sample Specifics

Cations	*mg/L*	*Anions*	*mg/L*
Calcium (Ca):	**320.00**	Chloride (Cl):	**1400.00**
Magnesium (Mg):	**268.40**	Sulfate (SO_4):	**90.00**
Barium (Ba):	**0.01**	Dissolved CO_2:	**50.00**
Strontium (Sr):	**-**	Bicarbonate (HCO_3):	**183.00**
Sodium (Na):	**144.89**	Carbonate (CO_3):	**-**
Potassium (K):	**-**	H_2S:	**0.01**
Iron (Fe):	**0.01**	Phosphate (PO_4):	**-**
Manganese (Mn):	**0.01**	Silica (SiO_2):	**-**
Lithium (Li):	**-**	Fluoride (F):	**-**
Aluminum (Al):	**-**	*Nitrate (NO_3)*:	**-**
Ammonia NH_3:	**-**	Lead (Pb):	**-**
		Zinc (Zn):	**-**
		Bromine (Br):	**-**
		Boron (B):	**-**

Scale Values @ Test Conditions - Potential Amount of Scale in lb/1000bbl

Test Conditions		Calcium Carbonate $CaCO_3$		Gypsum $CaSO_4 \cdot 2H_2O$		Calcium Sulfate $CaSO_4$		Strontium Sulfate $SrSO_4$		Barium Sulfate $BaSO_4$		Calculated CO_2
Temp °F	Gauge Press. psi	Sat Index	Scale	Sat Index	Scale	Sat Index	Scale	Sat Index	Scale	Sat Index	Scale	psi
88	*40*	*0.26*	*-0.21*	*0.03*	*-1310.60*	*0.02*	*-1561.50*	-	-	*0.03*	*-0.51*	*1.09*
80	0	0.22	-0.23	0.03	-0.30	0.02	-1606.30	-	-	0.04	-0.42	0.43
100	0	0.31	-0.18	0.03	-0.19	0.02	-1474.00	-	-	0.02	-0.68	0.54
120	0	0.39	-0.13	0.03	-0.11	0.02	-1288.90	-	-	0.02	-1.07	0.62
140	0	0.48	-0.10	0.03	-0.07	0.03	-1077.70	-	-	0.01	-1.63	0.71
160	0	0.55	-0.08	0.03	-0.03	0.03	-863.06	-	-	0.01	-2.44	0.81
180	0	0.60	-0.06	0.04	-0.01	0.04	-661.54	-	-	0.00	-3.56	0.91
200	0	0.63	-0.05	0.04	0.00	0.06	-484.09	-	-	0.00	-5.08	0.93
220	2.51	0.63	-0.05	0.04	0.01	0.09	-340.87	-	-	0.00	-7.13	0.96
240	10.3	0.63	-0.05	0.04	0.01	0.13	-223.65	-	-	0.00	-9.71	0.99
260	20.76	0.60	-0.05	0.04	0.01	0.20	-136.10	-	-	0.00	-12.92	1.02
280	34.54	0.57	-0.05	0.04	0.01	0.31	-74.36	-	-	0.00	-16.79	1.05
300	52.34	0.54	-0.05	0.05	0.01	0.50	-33.14	-	-	0.00	-21.36	1.09

Conclusions:

Calcium Carbonate Scaling Index is negative from 80°F to 300°F
Gypsum Scaling Index is negative from 80°F to 300°F
Calcium Sulfate Scaling Index is negative from 80°F to 300°F
Strontium Sulfate scaling was not evaluated
Barium Sulfate Scaling Index is negative from 80°F to 300°F

Notes:

Multi-Chem Group, LLC
Multi-Chem Analytical Laboratory
349 PR 4473
Sonora, TX 76950

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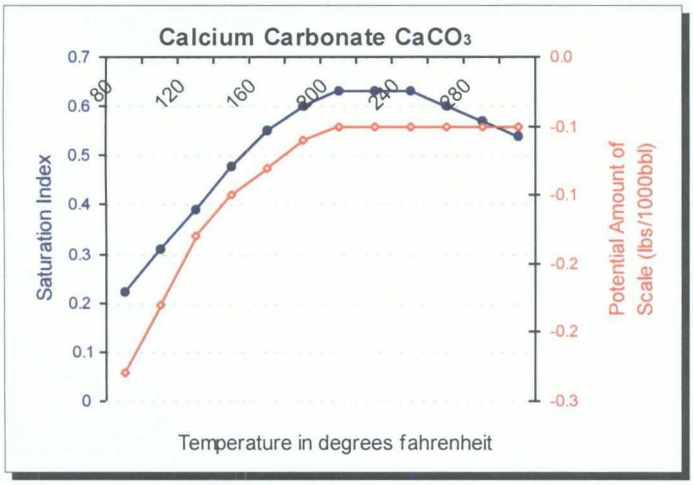
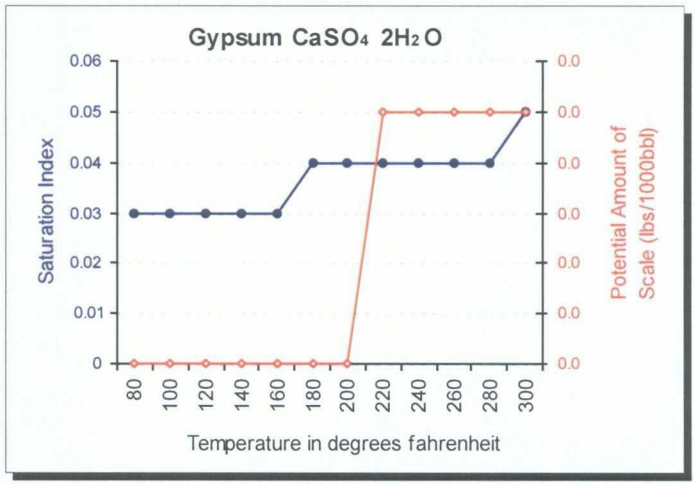
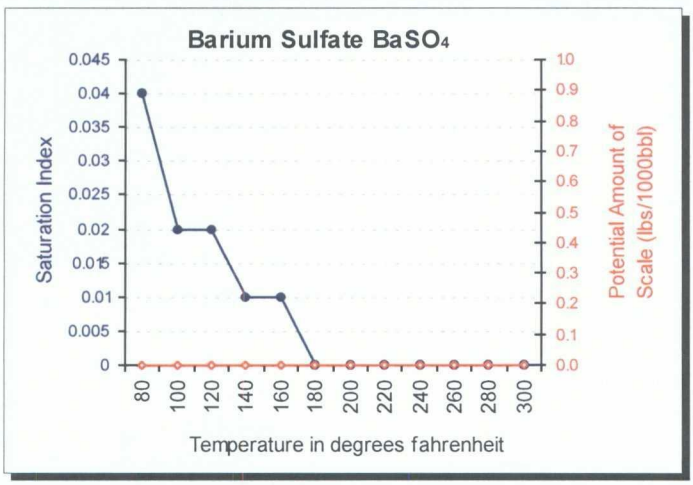
Scale Prediction Graphs

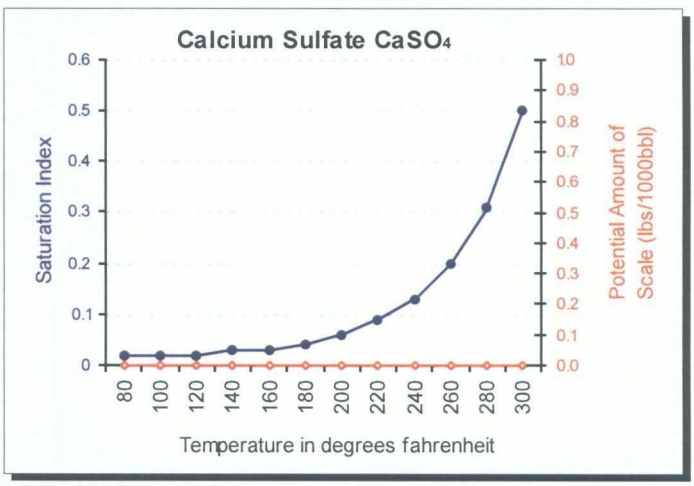
Well Name: **BRONCO OLD BARN #2**

Sample ID: **WA-33552**









Multi-Chem Group, LLC
Multi-Chem Analytical Laboratory
349 PR 4473
Sonora, TX 76950

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Water Analysis Report

Production Company: **APACHE CORPORATION (114)**
Well Name: **BRONCO DRIP #1**
Sample Point: **Fresh WW**
Sample Date: **10/30/2009**
Sales Rep: **Chad Harris**
Lab Tech: **Billy Palmore**

Sample ID: **WA-33549**

Sample Specifics

Test Date:	**11/20/2009**
Temperature (°F):	**88**
Sample Pressure (psig):	**40**
Specific Gravity (g/cm³):	**1.0020**
pH:	**6.7**
Turbidity (NTU):	**-**
Calculated T.D.S. (mg/L)	**3306**
Molar Conductivity (µS/cm):	**5010**
Resitivity (Mohm):	**1.9960**

Analysis @ Properties in Sample Specifics

Cations	*mg/L*	*Anions*	*mg/L*
Calcium (Ca):	**240.00**	Chloride (Cl):	**1600.00**
Magnesium (Mg):	**366.00**	Sulfate (SO_4):	**400.00**
Barium (Ba):	**0.01**	Dissolved CO_2:	**70.00**
Strontium (Sr):	**-**	Bicarbonate (HCO_3):	**268.40**
Sodium (Na):	**361.96**	Carbonate (CO_3):	**-**
Potassium (K):	**-**	H_2S:	**0.01**
Iron (Fe):	**0.01**	Phosphate (PO_4):	**-**
Manganese (Mn):	**0.01**	Silica (SiO_2):	**-**
Lithium (Li):	**-**	Fluoride (F):	**-**
Aluminum (Al):	**-**	Nitrate (NO_3):	**-**
Ammonia NH_3:	**-**	Lead (Pb):	**-**
		Zinc (Zn):	**-**
		Bromine (Br):	**-**
		Boron (B):	**-**

Scale Values @ Test Conditions - Potential Amount of Scale in lb/1000bbl

Test Conditions		Calcium Carbonate $CaCO_3$		Gypsum $CaSO_4 \cdot 2H_2O$		Calcium Sulfate $CaSO_4$		Strontium Sulfate $SrSO_4$		Barium Sulfate $BaSO_4$		Calculated CO_2
Temp °F	Gauge Press. psi	Sat Index	Scale	Sat Index	Scale	Sat Index	Scale	Sat Index	Scale	Sat Index	Scale	psi
88	*40*	*0.33*	*-0.30*	*0.08*	*-1385.10*	*0.05*	*-1662.40*	-	-	*0.13*	*-0.11*	*1.29*
80	0	0.29	-0.34	0.08	-0.19	0.05	-1707.90	-	-	0.16	-0.09	0.53
100	0	0.40	-0.24	0.08	-0.09	0.05	-1571.90	-	-	0.10	-0.15	0.67
120	0	0.51	-0.17	0.08	-0.02	0.06	-1377.80	-	-	0.06	-0.25	0.76
140	0	0.61	-0.12	0.09	0.03	0.07	-1153.90	-	-	0.04	-0.39	0.86
160	0	0.70	-0.08	0.10	0.06	0.09	-923.90	-	-	0.03	-0.60	0.98
180	0	0.77	-0.06	0.10	0.08	0.12	-704.98	-	-	0.02	-0.89	1.10
200	0	0.81	-0.04	0.11	0.08	0.17	-508.35	-	-	0.01	-1.29	1.12
220	2.51	0.81	-0.04	0.12	0.08	0.25	-344.57	-	-	0.01	-1.86	1.15
240	10.3	0.80	-0.04	0.12	0.08	0.37	-205.23	-	-	0.01	-2.62	1.18
260	20.76	0.78	-0.04	0.13	0.07	0.58	-95.43	-	-	0.00	-3.64	1.22
280	34.54	0.74	-0.04	0.13	0.07	0.91	-12.95	-	-	0.00	-4.97	1.25
300	52.34	0.70	-0.05	0.14	0.06	1.48	45.78	-	-	*0.00*	-6.69	1.29

Conclusions:

Calcium Carbonate Scaling Index is negative from 80°F to 300°F

Gypsum Scaling Index is negative from 80°F to 300°F

Calcium Sulfate scale is indicated. See graph for appropriate temperature ranges.

Strontium Sulfate scaling was not evaluated

Barium Sulfate Scaling Index is negative from 80°F to 300°F

Notes:

Multi-Chem Group, LLC
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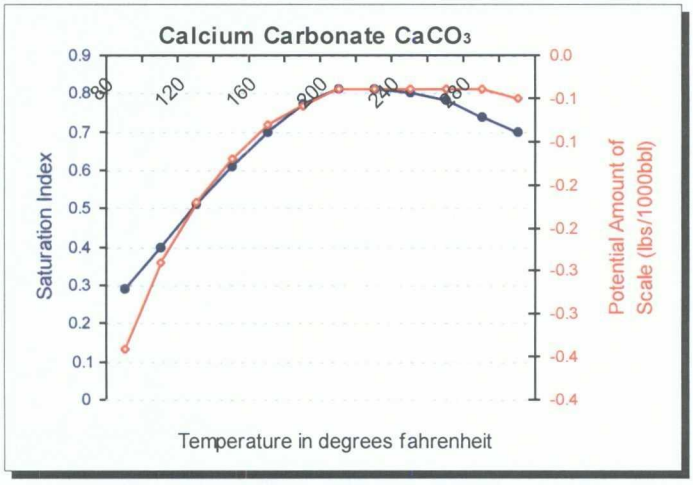
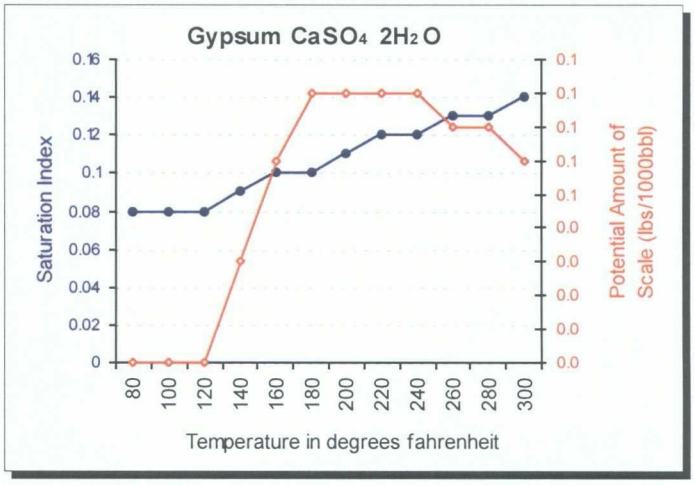
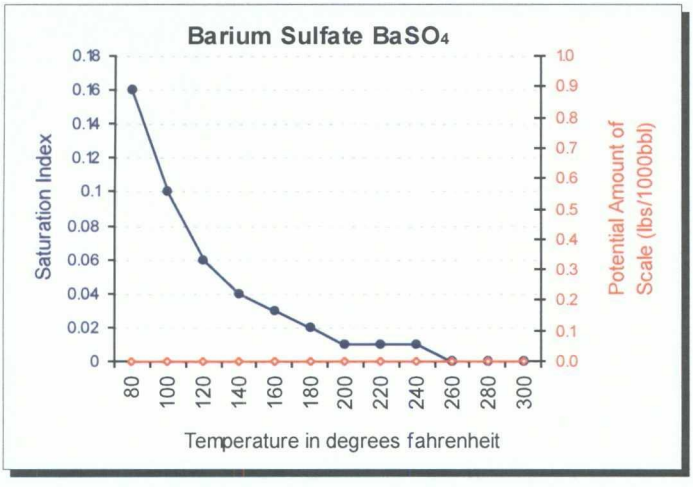
Scale Prediction Graphs

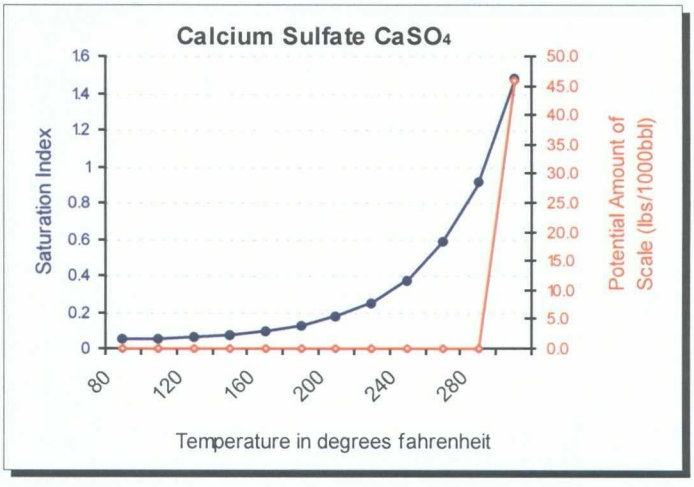
Well Name: **BRONCO DRIP #1**

Sample ID: **WA-33549**









NOTICE OF NOTIFICATION
L. W. Ward #3 SWD Well
Pennsylvanian/Mississippian Formations
Lea County, New Mexico

This is to certify that copies of the C-108 application for the **LW Ward SWD #3**, Lea County, New Mexico, were sent Certified Mail to the parties listed below on July 6, 2010.

SURFACE OWNER
Don Young
Rt. 1, Box 35
Plains, TX 79355

Offset Operator Report
L. W. Ward #3 SWD Well
Pennsylvanian/Mississippi Formations
Lea County, New Mexico

NE/4NE/4 (Lot 1) of Section 11, T-13-S, R-38-E

Archie G. Harris,
POA for:
Charles David Harris
Amy H. Dahlquist
Nomi Leigh Harris
Perl Harvey Harris
Wesley D. Harris
Gary Maupin, Trustee fbo
Ross DeArman Maupin, a minor
Kathleen Lee Tatro
& as President of:
Quimby, Inc.
Box 1
Plains, TX 79355

Robert G. Harris
12295 Bessemer Bend Rd.
Casper, WY 82601

Wilma Colleen Harris
12295 Bessemer Bend Rd.
Casper, WY 82601

Harris-Kornegay, LLC
PO Box 75
Abiquiu, NM 87510

Bea Etta Stephens Living Trust
Dated October 7, 1991
Bea Etta Stephens, TTEE
1330 India Hook Rd. #609
Rock Hill, SC 29732-2412

William K. Warren Foundation
6585 S. Yale, Suite 900
Tulsa, OK 74136-8322

NW/4, W/2NE/4 and SE/4NE/4 (Lot 2) of Section 11, T-13-S, R-38-E

Chesapeake Energy Corporation
P.O. Box 18496
Oklahoma City, OK 73154

All of the SW/4 of Section 11, T-13-S, R-38-E

Coates Energy Interests, Ltd.
Coates Energy Trust
P. O. Box 171717
San Antonio, TX 78217

Rosemarie Markham, Trustee of the
Bill J. Markham Estate Trust
2315 Little Road #108
Arlington, TX 76016

Donna Edwards, Trustee of the
C. B. Markham, Jr. Estate Trust
2512 Metzger Road SW
Albuquerque, NM 87105

Clarence Richard Markham and Joyce Stanley Markham, Trustees of
the Clarence Richard Markham Family Trust
3110 38th St.
Lubbock, TX 79413

Donald Marshall Markham, Trustee of the
Donald Marshall Markham Family Trust
P. O. Box 241
Center Point, TX 78010

Albert David White, Jr.
2402 Sweetwater Country Club Drive
Apopka, FL 32712

James Russell Proctor
145 N. McRae Lane
Saint David, AZ 85360

William R. Proctor
14 Sandia Court
Odessa, TX 79765

All of the SW/4 of Section 11, T-13-S, R-38-E (continued)

Manon Markham McMullen
2200 Berkley
Wichita Falls, TX 76308

Roderick Allen Markham,
John Markham,
and Jack Markham
1500 Broadway, Suite 1212
Brownfield, TX 79401

Geralyn Pope Smitherman
3018 Nottingham St.
Houston, TX 77005

Robert T. Hartley
P. O. Box 845
Clovis, NM 88102

Teddy L. Hartley
P. O. Box 845
Clovis, NM 88102

Ronny P. Lowe
P. O. Box 851
Tatum, NM 88267

Odell Lowe,
Debra Lowe Finn,
H. L. Lowe Trust f/b/o Haley Lowe,
H. L. Lowe Trust f/b/o Lauren Lowe,
H. L. Lowe Trust f/b/o Kelly Lowe,
and Vivian Lowe Anselmi,
C/O Odell Lowe
8200 Nashville Ave., Suite 104
Lubbock, TX 79423

Kay Lowe Atchison
3513 105th St.
Lubbock, TX 79423

Shana Lowe Conine
5605 Equestrian Court
Granbury, TX 76049

All of the SW/4 of Section 11, T-13-S, R-38-E (continued)

M. Dion Lowe
2306 Cypress Point West
Austin, TX 79746

Larry K. Lowe
2313 Broadway
Lubbock, TX 79401

Loretta D. Lowe
P. O. Box 162484
Austin, TX 78716

William K. Baker &
Charles R. Baker
119 W. Josephine
Weatherford, TX 76086

Jane J. Stieren
Elizabeth Stieren Roberts
8700 Crownhill Blvd., Suite 202
San Antonio, TX 78209

Penroc Oil Corporation
P. O. Box 2769
Hobbs, NM 88241

Sylva Broach Cooke
214 Sandelwood
Levelland, TX 79336

NE/4NW/4 of Section 14, T-13-S, R-38-E

Sunlight Exploration, Inc.
1415 23rd Street
Canyon, TX 79015

Amber Cooke
Production Engineer Technician

Affidavit of Publication

State of New Mexico,
County of Lea.

I, KENNETH NORRIS
GENERAL MANAGER
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
January 24, 2010
and ending with the issue dated
January 24, 2010

GENERAL MANAGER
Sworn and subscribed to before me
this 27th day of
January, 2010

Notary Public

My commission expires
June 16, 2013
(Seal)

OFFICIAL SEAL
Linda M Jones
NOTARY PUBLIC - STATE OF NEW MEXICO
My Commission Expires: _____

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

LEGAL LEGAL

LEGAL NOTICE
JANUARY 24, 2010

Notice is hereby given of the application of Apache Corporation, 6120 S Yale Ave, Suite 1500, Tulsa, Oklahoma 74136-4224 (918)491.4968, to the Oil Conservation Division, New Mexico Energy, Minerals and Natural Resources Department, for approval of the following injection well to be drilled for the purpose of waste disposal.

Pool Name: SWD; Wolfcamp-Penn-Miss-Devonian (96137)
Well is located in Lea County, New Mexico

Lease/Unit Name: L.W. Ward

Well No. 3 (30-025-07232)
Location: 1983' FSL & 1515' FEL, Sec 11, T13S, R38E, Unit J

The injection formation is the Wolfcamp, Penn, Miss and Devonian located between the interval of 9000' MD to 11867' MD below the surface of the ground. Expected maximum injection rate is 20,000 barrels per day and the expected maximum injection pressure is 2500 psi. Interested parties must file objections or requests for hearing with the Oil Conservation Division, 1220 South St. Francis Drive, Santé Fe, NM 87505 within fifteen days.
#25612

67103439 00045573
SOPHIE MACKAY
APACHE CORPORATION
6120 SOUTH YALE, SUITE 1500
TULSA, OK 74136

Jones, William V., EMNRD

From: Jones, William V., EMNRD
Sent: Tuesday, April 27, 2010 2:14 PM
To: 'Cooke, Amber'
Cc: Ezeanyim, Richard, EMNRD; Kautz, Paul, EMNRD; Hill, Larry, EMNRD
Subject: Disposal application from Apache Corp: L.W. Ward SWD #3 30-025-07232

Hello Amber;
Please consider the following questions:

a. NOTICE ISSUES: Does Hess, BP, or Devon own anything in this AOR? Several of the wells were operated by them at one time. Are there Fee owners in this area and are they all leased in the Penn and Miss? Are all Pennsylvanian aged minerals within the ½ mile AOR leased? And are Sunlight and Chesapeake and Apache the only lessees?
b. We will require a CIBP within 200 feet below the bottom of the disposal interval – please show that on your "after conversion" wellbore diagram.
c. Several of the wells in the AOR do not show logs on the OCD web site. These wells are very old, but records on the subject well show intentions of running a CBL and CNL and these newer logs are not on the web site. Please turn in these logs on the subject well and look at the other Apache operated AOR wells to make sure Apache's logs are supplied to the Division.
d. You did not send Wellbore diagrams on plugged wells – please send.
e. Please send a wellbore diagram on V Linam #2.
f. How did you calculate a cement top at 9000 feet on the Barnes & Golden #2? (I calculate at least 1000 feet deeper.)
g. Please add the following data to your list of AOR wells and re-send:
    a. API numbers
    b. Current and former producing formations
    c. Status (Active, TA, P&A, etc)

h. The proposed bottom of the disposal interval is 11,000 in the application and 11,867 in the newspaper notice – why is this?
i. The formations proposed for disposal in the newspaper notice included the Wolfcamp and Devonian which are not included in the application.
j. The Mississippian pay interval produced in some wells in this AOR for 15 years or so and seems to be either depleted or abandoned for other reasons. I can't tell from your application is the Miss is still producing in some wells in the AOR. Limiting the bottom of the disposal interval to the top of the Mississippian at 10,682 would exclude the Mississippian from possible waste issues. If you still want to include the Mississippian in this disposal interval please send a writeup from a reservoir engineer as to the status of any production from this interval, the remaining Oil in Place in this former pay interval and a geological xsection of this pay interval.

Thank You,

William V. Jones PE
New Mexico Oil Conservation Division
1220 South St. Francis
Santa Fe, NM 87505
505-476-3448

Tracking:

Jones, William V., EMNRD

From: Cooke, Amber [Amber.Cooke@apachecorp.com]
Sent: Tuesday, July 06, 2010 1:19 PM
To: Jones, William V., EMNRD
Cc: Kauffman, Katie
Subject: RE: Disposal application from Apache Corp: L.W. Ward SWD #3 30-025-07232
Attachments: A.pdf; B.pdf; D.pdf; E.pdf; G.pdf

Will,

Sorry it took me so long to get back with you on the SWD permit. We had some surface owner questions, etc that needed to be addressed before we proceeded. I have attached all info requested and I have also put a hard copy in the mail to you today. Furthermore, we have had some personnel changes for this area here at Apache. Therefore, I have copied Katie Kauffman on this email for future correspondence. If you have future questions in regards to this application, you can contact her or I if needed. Thanks again for all of your help! We do appreciate it.

a. BP, Hess and Devon do not own anything in the AOR. There are fee owners and I have attached them. I did not state these additional owners in the original application. Like I said, we have had tons of personnel changes in the last six months. I asked a Texas landman to help me out to begin with. Unfortunately, she was not experienced in NM, so I did not get correct info. I have since contacted our NM landman who gave me correct information. I have notified all of the mineral owners and offset operators listed in the attachment. Thank you for bringing to my attention that there may be more people that needed to be notified. Please see attachment labeled "A" for the offset operator and mineral owners. 7/6/10
b. Please see attached well bore diagram labeled "B" showing the CIBP within 200' below bottom of disposal interval.
c. Logs have been sent and are scanned on website. Not sure why these were not sent years ago, but this has been resolved.
d. Plugged wellbore diagrams are attached, labeled "D".
e. V Linam #2 wellbore diagram attached, labeled "E".
f. Cement top must have been a typo. I queried IHS to get this info. I have since gone back and manually checked the tops for these wells and I show the Barnes and Golden #2 well to have a TOC @ 9660'. This has been confirmed on OCD website imaging (02/1956 completion paperwork).
g. API numbers, current and former producing formations, and well status has been added to spreadsheet and attached labeled "G"
h. We were going to dispose in much deeper zones when the newspaper article was submitted. We later decided we did not want to dispose that deep when application was submitted per geologist's request.
i. We decided not to dispose in Wolfcamp or Devonian after we ran newspaper notification. Therefore, article shows us wanting to dispose deeper than we are now applying for.
j. We would like to dispose in Penn only (no longer dispose in Miss). Therefore, would like to change our proposed interval to 9900' – 10682'; **SWD; Penn (96113)**

Please let Katie or I know if you have any more questions. Katie's email is Katie.kauffman@apachecorp.com.

Thanks again for your help,
Amber

Amber Cooke
Apache Corporation
Production Engineering Tech
Phone: 918.491.4968
Fax: 918.491.4846

Injection Permit Checklist (03/15/2010)

JAS

Case ____ R-____ SWD 1231 WFX____ PMX____ IPI____ Permit Date 7/22/10 UIC Qtr ~~H F M A~~

Wells 1 Well Name: L.W. Ward SWD #3

API Num: (30-) 025-07232 Spud Date: 1954 New/Old: O (UIC primacy March 7, 1982)

Footages 1983 FSL / 1515 FEL Unit J Sec 11 Tsp 13S Rge 38E County Lea

Operator: Apache Corporation Contact Amber Cooke

OGRID: 873 RULE 5.9 Compliance (Wells)____ (Finan Assur)____ IS 5.9 OK? ____

Operator Address: 6120 S. Yale Ave Suite 1500, Tulsa, OK 74136

Current Status: TA'd (Dev/MISS/WC)

Planned Work to Well: ____ Planned Tubing Size/Depth: 2 7/8 @ 9850'

	Sizes Hole.....Pipe	Setting Depths	Cement Sx or Cf	Cement Top and Determination Method
Existing ___ Surface	17 1/2 13 3/8	319	450	CIRC
Existing ___ Intermediate	12 1/4 9 5/8	6489	1500	2387 TS.
Existing ___ Long String	8 3/4 7"	11,720	700	6489 TS.

DV-Tool ____ Liner ____ Open Hole Plugged BACK Total Depth 11,867

Well File Reviewed ✓

Diagrams: Before Conversion ✓ After Conversion ✓ Elogs in Imaging File: None

Send Logs CBL/GNL

Intervals:	Depths	Formation	Producing (Yes/No)
Above (Name and Top)	8976 ±	WC	
Above (Name and Top)	9427	Top Penn	
Injection..... Interval TOP:	9900	Penn	
Injection..... Interval BOTTOM:	~~11,068~~ 10682	~~Penn~~ ~~MISS~~	
Below (Name and Top)	10682 ±	MISS TOP	
	11560	Woodford Shale	
	11825	DEV TOP	

GENERAL LOCATION

1,980 PSI Max. WHIP

~~Open Hole (Y/N)~~

~~Deviated Hole?~~

Sensitive Areas: ~~Capitan Reef~~ ~~Cliff House~~ Salt Depths ~~2670~~ 2304

~~Potash Area (R-111-P)~~ ~~Potash Lessee~~ ~~Noticed?~~

Fresh Water: Depths ~~52~~ 271' Wells 12 Analysis? Y/~~N~~ Affirmative Statement ✓

Disposal Fluid Sources: Dev + WC Analysis?

Disposal Interval Production Potential/Testing/Analysis Analysis: ____

~~Dev WC~~

Notice: Newspaper(Y/N) ✓ Surface Owner Pon Young Mineral Owner(s) ____

RULE 26.7(A) Affected Parties: Sunlight / Chesapeake / Rabb / BP / Devon

? Rabb

Area of Review: Adequate Map (Y/N) ✓ Well List (Y/N) ✓

Active Wells 8 Num Repairs 0 Producing in Injection Interval in AOR ____

P&A Wells 6 Num Repairs 0 All Wellbore Diagrams Included? ✓

Questions/Required Work:

Set CIBP within 200'

Bottom Depth = ?

____ Request Sent ____ Reply: ____

Cut out MISS on 5 @ P ____ Request Sent ____ Reply: ____

____ Request Sent ____ Reply: ____