DATE IN 8/6/09	SUSPENSE 9/20/09	ENGINEER Jones	LOGGED IN 8/6/09	TYPE SWD 1208	APP NO. 0921858001

ABOVE THIS LINE FOR DIVISION USE ONLY

Lost notice 9/4/09

Apache 25 Fed. #8
30-015-33439
Devon Energy (234728)

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 ______________________

RECEIVED OCD
2009 AUG -6 P 2:55

[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.

Ronnie Slack	Ronnie Slack	Engr. Tech	8-4-09
Print or Type Name	Signature	Title	Date

Ronnie.Slack@dvn.com
e-mail Address

devon

Devon Energy Corporation
20 North Broadway
Oklahoma City, OK 73102-8260

405 235 3611 Phone
www.devonenergy.com

August 4, 2009

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

RE: Form C-108, Application for Authorization to Inject
Apache 25 Federal #8; API# 30-015-33439
Eddy County, NM
Section 25, T22S, R30E

Gentlemen:

Please find attached Devon Energy Production Company, LP's Form C-108, Application for Authorization to Inject. Devon's application proposes to take produced waters from the Delaware formation and re-inject into the Delaware Cherry Canyon for salt water disposal purposes utilizing the Apache 25 Federal #8 wellbore.

A copy of this application is being filed with the OCD-Artesia office and with the BLM. Devon owns 100% of the leasehold in the affected one-half mile review area.

If you have any questions, please contact Jim Cromer at (405)-228-4464 or myself at (405)-552-4615. Thank you for your cooperation in this matter.

Sincerely,

Ronnie Slack

Ronnie Slack
Engineering Technician

RS/rs
Enclosure

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: ____Devon Energy Production Company, LP_____

ADDRESS: _____20 North Broadway, Suite 1500, Oklahoma City, Oklahoma 73102_____

CONTACT PARTY: __Ronnie Slack_____PHONE: _405-552-4615

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: ____Ronnie Slack_____TITLE: _____Engineering Technician

SIGNATURE: Ronnie Slack DATE: 8-4-09

E-MAIL ADDRESS: _____Ronnie.Slack@DVN.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: Devon Energy Production Company, LP

WELL NAME & NUMBER: APACHE 25 FEDERAL 8

WELL LOCATION: 2455' FNL & 1980' FEL | G | Sec 25 | T22S | R30E

FOOTAGE LOCATION | UNIT LETTER | SECTION | TOWNSHIP | RANGE

WELLBORE SCHEMATIC

WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 17-1/2" Casing Size: 13-3/8", 48#, @ 631'

Cemented with: 400 sx. ***or*** _____ ft^3

Top of Cement: Surface Method Determined: Circ. cement

Intermediate Casing

Hole Size: 11" Casing Size: 8-5/8", 32# @ 3849'

Cemented with: 1020 sx. ***or*** _____ ft^3

Top of Cement: Surface Method Determined: Circ. cement

Production Casing

Hole Size: 7-7/8" Casing Size: 5.5, 15.5 & 17, 7864'

Cemented with: 1710 sx. ***or*** _____ ft^3

Top of Cement: Surface Method Determined: Circ.

Total Depth: 7868'

Injection Interval **(Perforated)**

5678' feet to **5930' (Perforated)**

(Perforated or Open Hole; indicate which)

Side 2

INJECTION WELL DATA SHEET

Tubing Size: _____**2-7/8"**_____Lining Material: ___**IPC**_____

Type of Packer: ____**5-1/2" IPC**_____

Packer Setting Depth: **5650'**_____

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? _____Producing Oil Well_____

   _____

2. Name of the Injection Formation: Delaware Cherry Canyon from 5678' to 5930'.

3. Name of Field or Pool (if applicable): ____Quahada Ridge SE

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.

   Delaware Cherry Canyon 5920'-6236'; Delaware Brushy Canyon 6861'-7682'

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

   Delaware 3866; Bone Spring 7813'; Wolfcamp 11170; Strawn 12600; Atoka 12914; Morrow 13138'

DEVON ENERGY PRODUCTION COMPANY LP

Well Name: APACHE 25 FEDERAL 8	Field: QUAHADA RIDGE SE		
Location: 2455' FNL & 1980' FEL; SEC 25-T22S-R30E	County: EDDY	State: NM	
Elevation: 3365' KB; 3352' GL	Spud Date: 7/3/04	Compl Date: 8/12/04	
API#: 30-015-33439 Prepared by: Ronnie Slack	Date: 7/9/09	Rev:	

CURRENT WELLBORE

17-1/2" hole
13-3/8", 48#, H40, @ 631'
Cmt'd w/400 sx, circ to surface

11" Hole
8-5/8", 32#, J55, @ 3,849'
Cmt'd w/1020 sx, circ to surface

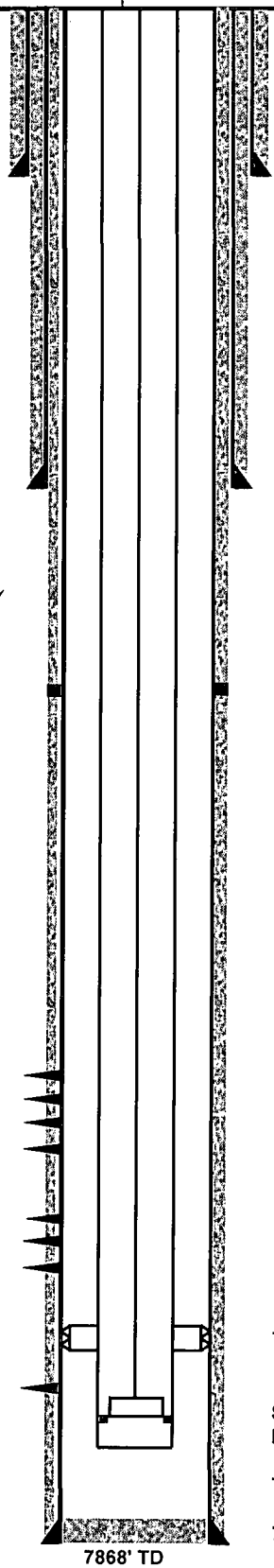
DV Tool @ 4527'

DELAWARE CHERRY & BRUSHY CANYON *(2/15/06)*
5920' - 5930' (acidized w/1K gals, frac w/28K#)
6058' - 6074' (acidized w/1500 gals)
6225' - 6236' (acidized w/1K gals)
6861' - 6867' (acidized w/1K gals, frac w/28K #)

DELAWARE BRUSHY CANYON *(4/7/05)*
7018' - 7022' (acidzied w/1K gals)
7189' - 7200'
7392' - 7404'
Acidized 7018-7404 w/1K gals, frac w/38K# 16/30

DELAWARE BRUSHY CANYON *(8/12/04)*
7660' - 7682'
Frac 7660-7682 w/100K# 16/30

7-7/8" Hole
5-1/2", 15.5# & 17#, J55, @ 7,864'
Cmt'd w/1710 sx, circ to surface



7868' TD

Formation Tops per cmpl rpt

Rustler	378
Salado	683
Delaware	3866
Cherry Canyon	4813
Brushy Canyon	6425
Bone Spring	7813

2-7/8", 6.5#, J55, production tubing *(4/3/07)*

TAC @ 7643'

SN @ 7714
Mud Anchor; EOT @ 7741' *(4/3/07)*

Tag @ 7810' *(4/2/07)*

7828' PBTD

DEVON ENERGY PRODUCTION COMPANY LP

Well Name: APACHE 25 FEDERAL 8	Field: QUAHADA RIDGE SE	
Location: 2455' FNL & 1980' FEL; SEC 25-T22S-R30E	County: EDDY	State: NM
Elevation: 3365' KB; 3352' GL	Spud Date: 7/3/04	Compl Date: 8/12/04
API#: 30-015-33439 / Prepared by: Ronnie Slack	Date: 8/3/09	Rev:

PROPOSED SWD

17-1/2" hole
13-3/8", 48#, H40, @ 631'
Cmt'd w/400 sx, circ to surface

11" Hole
8-5/8", 32#, J55, @ 3,849'
Cmt'd w/1020 sx, circ to surface

DV Tool @ ~~4527'~~ 3982'

Formation Tops per cmpl rpt

Rustler	378
Salado	683
Delaware	3866
Cherry Canyon	4813
Brushy Canyon	6425
Bone Spring	7813

Proposed:
2-7/8" IPC tubing

Proposed:
Packer @ 5650'

Proposed SWD Zone-DELAWARE CHERRY CANYON
Proposed SWD Injection Interval 5678'-5930'
5678'-5690' *(proposed perf add)*
5722'-5746' *(proposed perf add)*
5758'-5796' *(proposed perf add)*
5854'-5884' *(proposed perf add)*

DELAWARE CHERRY CANYON *(2/15/06)*
5920' - 5930' (acidized w/1K gals, frac w/28K#)

DELAWARE CHERRY & BRUSHY CANYON *(2/15/06)*
6058' - 6074' (acidized w/1500 gals)
6225' - 6236' (acidized w/1K gals)
6861' - 6867' (acidized w/1K gals, frac w/28K #)

DELAWARE BRUSHY CANYON *(4/7/05)*
7018' - 7022' (acidzied w/1K gals)
7189' - 7200'
7392' - 7404'
Acidized 7018-7404 w/1K gals, frac w/38K# 16/30

DELAWARE BRUSHY CANYON *(8/12/04)*
7660' - 7682'
Frac 7660-7682 w/100K# 16/30

Proposed:
CIBP @ 6030'. 35' cement on top. 5980' PBD.

7-7/8" Hole
5-1/2", 15.5# & 17#, J55, @ 7,864'
Cmt'd w/1710 sx, circ to surface

7828' PBTD

7868' TD

APACHE 25 FEDERAL #8

API: 30-015-33439
APPLICATION FOR INJECTION
Form C-108 Section III

III. Well Data--On Injection Well

A. Injection Well Information

(1)	Lease	Apache 25 Federal
	Well No	#8
	Location	2455' FNL & 1980' FEL
	Sec,Twn,Rnge	Sec 25-T22S-R30E
	Cnty, State	Eddy County, NM

(2) Casing

13-3/8", 48#, H40, @ 631' in 17-1/2" hole. Cmt'd w/ 400 sxs. Cement circulated to surface

8-5/8", 32#, J55, @ 3849'. Cmt'd w/ 1020 sxs. Cement circulated to surface

5-1/2", 15.5# & 17#, @ 7864'. Cmt'd w/ 1710 sxs. Cement circulated to surface

(3) Injection Tubing — 2-7/8", 6.5#, IPC Injection tubing

(4) Packer — 5-1/2" IPC Packer @ 5650'

B. Other Well Information

(1) **Injection Formation:** Delaware Cherry Canyon
Field Name: Quahada Ridge SE

(2) **Injection Interval:** Delaware Cherry Canyon 5678' - 5930'

(3) **Original Purpose of Wellbore:**

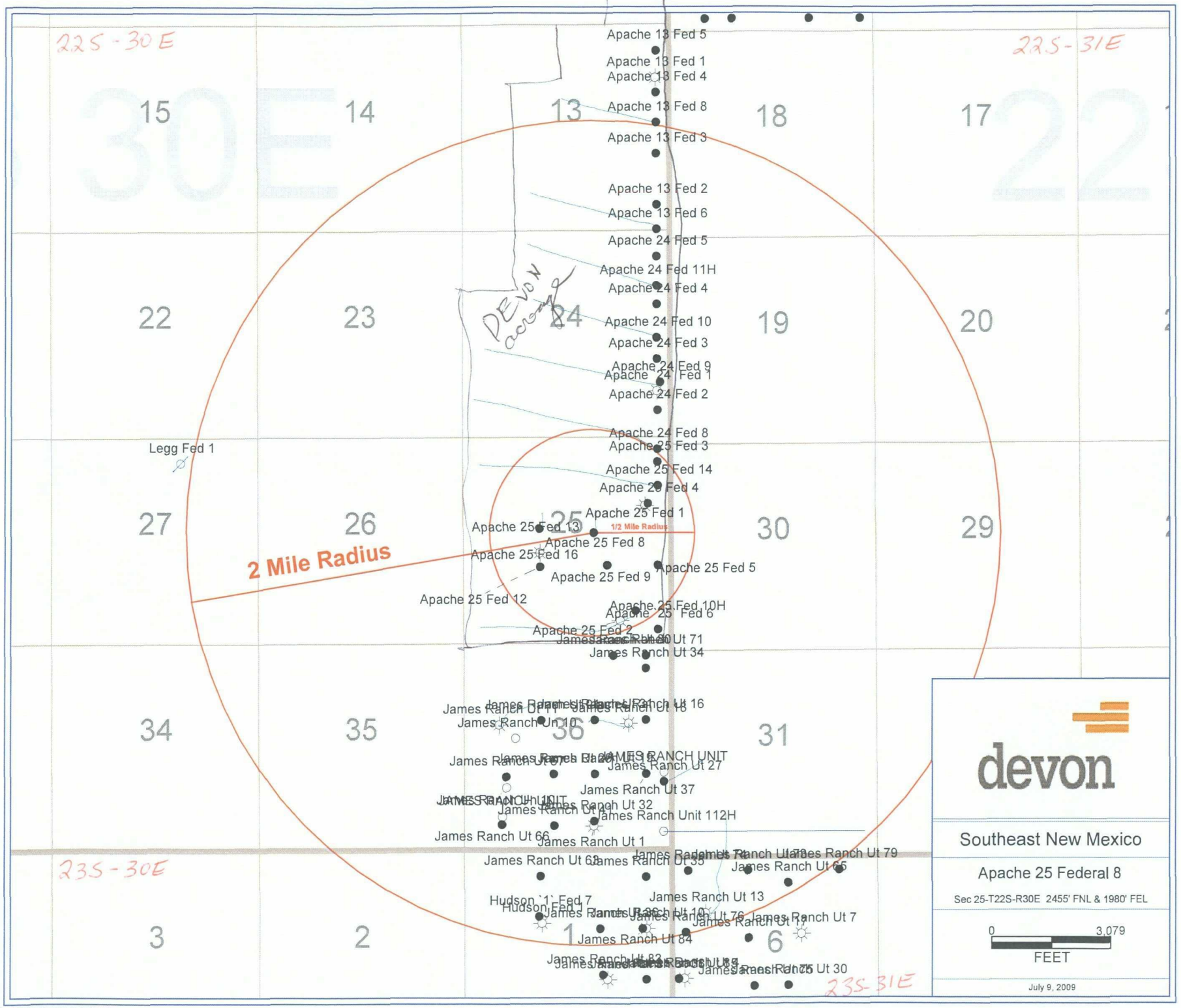
Drilled and completed (8/12/04) as an oil producer in the Delaware. Cumulative production is 19 MBO, 36 MMCF, & 334 MBW to date. Last tested 7/14/09 at 1 bopd, 6 mcfd, 98 bwpd.

(4) **Other perforated intervals:**

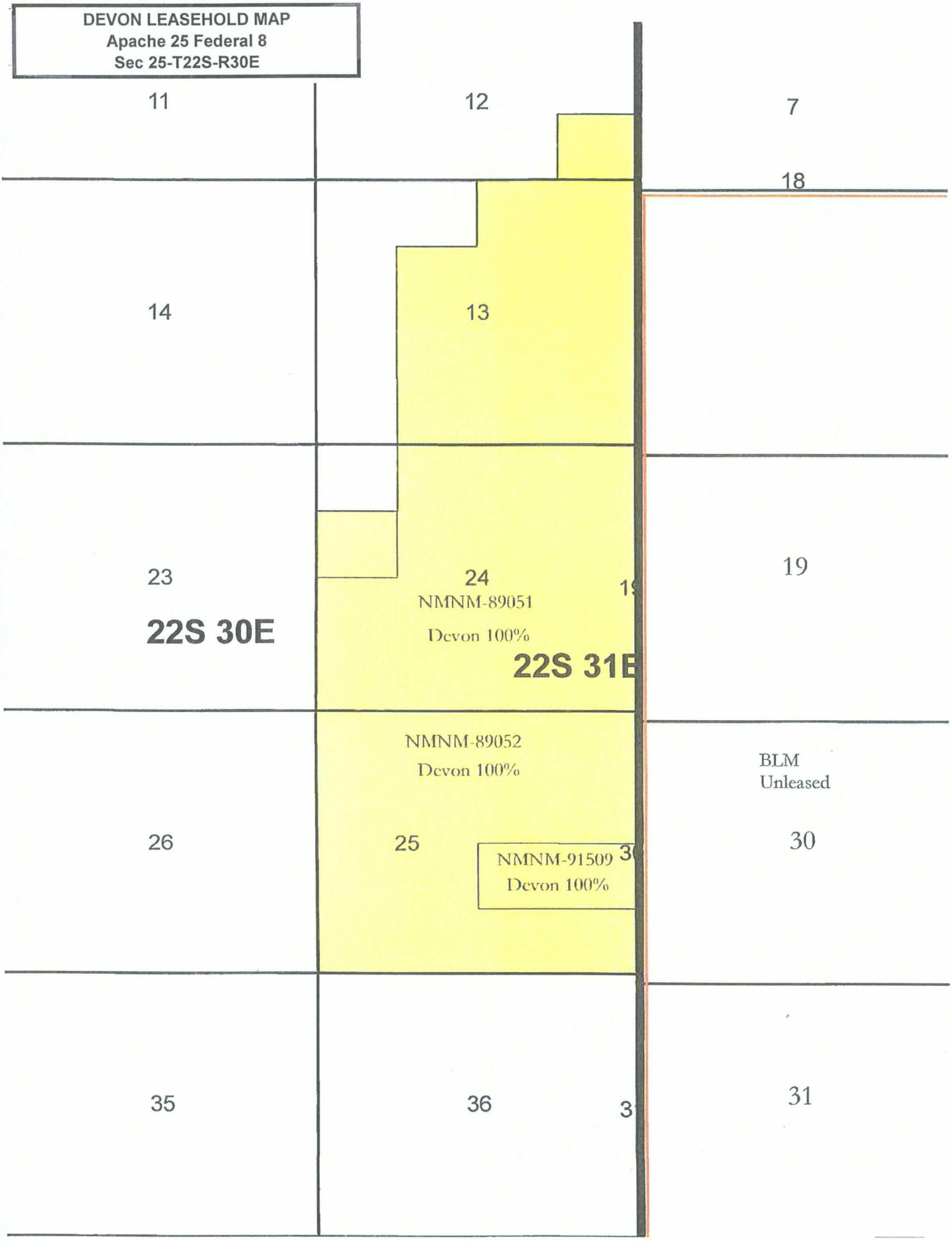
Completed Intervals
Delaware Cherry Canyon 5920'-6236'; Delaware Brushy Canyon 6861'-7682'

(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.**

Delaware 3866; Bone Spring 7813'; Wolfcamp 11170; Strawn 12600; Atoka 12914; Morrow 13138'



PETRA 7/9/2009 11:00:58 AM


DEVON LEASEHOLD MAP
Apache 25 Federal 8
Sec 25-T22S-R30E
11
12
7
18
14
13
23
24
NMNM-89051
Devon 100%
19
22S 30E
22S 31E
NMNM-89052
Devon 100%
BLM
Unleased
26
25
NMNM-91509
Devon 100%
30
35
36
31

C108 ITEM VI--Well Tabulation in Review Area
Devon Energy Production Company, LP
Proposed Disposal Well: Apache 25 Federal 8

Operator	Well Name	API NO	County	Footage	Sec	Twn	Rnge	Type	Status	Spud Date	Comp Date	TD	PBTD	Comp Zone	Comp Interval-Ft	Casing Program	Cement / TOC
Devon Energy Prod Co LP	Apache 25 Federal #8	30-015-33439	Eddy	2455 fnl 1980 fel	25	22S	30E	Oil	SI-hwor	7/3/04	8/12/04	7868	7828	Delaware CC/BB Delaware BC Delaware BC	5920-6867 (open)--ok all open 7018-7404 (open) 7660-7682 (open)	13-3/8", H40, 48#, @ 631' 8-5/8", J55, 32#, @ 3849' 5-1/2", J55, 15.5 & 17#, @ 7864'	400 sx / surf 1020 sx / surf 1710 sx / surf
Devon Energy Prod Co LP	Apache 25 Federal #1	30-015-27410	Eddy	1730 fnl 660 fel	25	22S	30E	Gas	Prod	5/5/93	10/14/93	14493	14133	Morrow Atoka Morrow	13911-13916 (open) 12982-12992 (sqzd) 14321-14391 (cibp 14163)	13-3/8", K55, 54.5#, @ 550' 9-5/8", K55, 40#, @ 3878' 7", S95 & N80, 26#, @ 12317' 4-1/2" liner, 11980' - 14490'	750 sx / surf 1400 sx / surf 2440 sx / 1415'-calc 330 sx / liner top
Devon Energy Prod Co LP	Apache 25 Federal #2	30-015-27478	Eddy	660 fsl 1310 fel	25	22S	30E	Gas	Prod	8/16/93	10/27/93	14575	11536	Bone Spring Wolfcamp Atoka Morrow Morrow	10884-10944 (open) 11824-12154 (cibp-11536/11650) 13076-13084-wet cibp-13020) 14113-14132 (cibp-14105) 14296-14316'-wet	13-3/8", K55, 54.5#, @ 550' 9-5/8", K55, 40#, @ 3864' 7", S95 & N80, 26#, @ 12410' 4-1/2", 13.5# liner, 12006' - 14565'	550 sx / surf 1580 sx / surf 1875 sx / 1240-calc 300 sx / liner top
Devon Energy Prod Co LP	Apache 25 Federal #3	30-015-32719	Eddy	660 fnl 330 fel	25	22S	30E	Oil	Prod	7/11/03	8/10/03	7960	7900	Delaware BC	7636-7660 (open)	13-3/8", H40, 48#, @ 624' 8-5/8", J55, 32#, @ 3812' 5-1/2", J55, 15.5# & 17#, @ 7960'	560 sx / surf 1054 sx / surf 1155 sx / 250'-cbl
Devon Energy Prod Co LP	Apache 25 Federal #4	30-015-33152	Eddy	1730 fnl 585 fel	25	22S	30E	Oil	Prod	3/23/04	4/6/04	7769	7723	Delaware BC	7618-7634 (open)	13-3/8", H40, 48#, @ 633' 8-5/8", J55, 32#, @ 3870' 5-1/2", J55, 17#, @ 7769'	550 sx / surf 1000 sx / surf 1775 sx / surf
Devon Energy Prod Co LP	Apache 25 Federal #5	30-015-32720	Eddy	1980 fsl 330 fel	25	22S	30E	Oil	Prod	3/31/03	5/22/03	11300	9700	Delaware BC Bone Spring Bone Spring Wolfcamp	7571-7588 (open) 9874-10546 (cibp-9700'cmt) 10950-10975 11121-11134	13-3/8", H40, 48#, @ 596' 8-5/8", J55, 32#, @ 3868' 5-1/2", J55, 17#, @ 11295'	560 sx / surf 1050 sx / surf 1440 sx / 3080-cbl
Devon Energy Prod Co LP	Apache 25 Federal #6	30-015-29894	Eddy	330 fsl 330 fel	25	22S	30E	Oil	Prod	11/13/97	1/13/98	7870	7774	Delaware CC Delaware BC Delaware Delaware	6899-6914 (open) 6520-34; 7065-71 (open) 7326-7384 (open) 7559-7675 (open)	13-3/8", 54.5#, @ 524' 8-5/8", K55, 32#, @ 3847' 5-1/2", J55, 17#, @ 7870'	570 sx / surf 1910 sx / surf 1220 sx / 3500-cbl
Devon Energy Prod Co LP	Apache 25 Federal #9	30-015-32797	Eddy	1980 fsl 1650 fel	25	22S	30E	Oil	Prod	6/9/03	7/19/03	11230	11170	Bone Spring Wolfcamp	10906-10964 (open) 11109-11125 (open commingled)	13-3/8", H40, 48#, @ 605' 8-5/8", J55, 32#, @ 3830' 5-1/2", P110, 17#, @ 11230'	560 sx / surf 900 sx / surf 2345 sx / surf
Devon Energy Prod Co LP	Apache 25 Federal #12	30-015-33112	Eddy	1950 fsl 2000 fwl	25	22S	30E	Oil	Prod	12/29/03	1/19/04	7825	7776	Delaware BC	7550-7569 (open)	13-3/8", H40, 48#, @ 616' 8-5/8", HCK55, 32#, @ 3827' 5-1/2", J55, 15.5/17#, @ 7825	725 sx / surf 1000 sx / surf 1470 sx / surf
Devon Energy Prod Co LP	Apache 25 Federal #13	30-015-33440	Eddy	2360 fnl 1980 fwl	25	22S	30E	Oil	Prod	6/9/04	7/14/04	7853	7806	Delaware BC	7620-7636 (open)	13-3/8", H40, 48#, @ 640' 8-5/8", J55, 32#, @ 3830' 5-1/2", J55, 15.5# & 17#, @ 7853'	600 sx / surf 1100 sx / surf 700 sx / surf
Devon Energy Prod Co LP	Apache 25 Federal #14	30-015-33791	Eddy	1254 fnl 330 fel	25	22S	30E	Oil	Prod	1/16/05	3/23/05	11699	10000	Delaware BC Delaware BC	8066-9482 (open) 10190-11606 (cbp @ 10000')	13-3/8", H40, 48#, @ 625' 9-5/8", J55, 40#, @ 3860' 7", J55, 23# & 26#, @ 8022' 4-1/2" liner, L80, 11.6#, 7353-11695	600 sx / surf 1350 sx / surf 800 sx / surf 630 sx / liner top
Devon Energy Prod Co LP	Apache 24 Federal #8	30-015-34020	Eddy	330 fnl 330 fel	25	22S	30E	Oil	Prod	3/29/05	5/21/05	11998	11950	Delaware BC Delaware BC	8123-9633 (open) 10439-11858 (open)	13-3/8", H40, 48#, @ 625' 9-5/8", J55, 40#, @ 3875' 7", J55, 26#, @ 7995' 4-1/2", N80, 11.6#, @ 7450-11996	600 sx/ surf 1350 sx / surf 1360 sx / surf 475 sx / liner top
Devon Energy Prod Co LP	Apache 25 Federal #16	30-015-34328	Eddy	1980 fsl 660 fwl	25	22S	30E	Gas	Prod	9/21/05	2/3/06	14450	12830	Strawn Atoka Atoka Morrow Morrow	12610-12617 (open) 12885-12892 (sqza off, cibp 12865) 12999-13308 (cibp 12950) 13656-13902 (cibp 13590) 14250-14303 (cibp @ 14202)	13-3/8", H40, 48#, @ 620' 9-5/8", J55, 40#, @ 3818' 7", P110, 26#, @ 12265' 4-1/2", P110, 13.5#, @ 11928-14450	650 sx/ surf 1575 sx / surf 2840 sx / surf 331 sx / liner top
Devon Energy Prod Co LP	Apache 25 Federal #10H	30-015-35597	Eddy	810 fsl 910 fel	25	22S	30E	Oil	Prod	7/29/07	10/9/07	11420	11336	Delaware BC Delaware BC	8207-9502 (open) 10136-11332 (open)	13-3/8", H40, 48#, @ 637' 9-5/8", J55, 40#, @ 3870' 7", J55, 26#, @ 7935' 4-1/2", N80, 11.6#, @ 7273-11420'	650 sx / surf 1550 sx / surf 1310 sx / surf 485 sx / liner top

C108 ITEM VI--Well Tabulation in Review Area
Devon Energy Production Company, LP
Proposed Disposal Well: Apache 25 Federal 8

				Cement Summary		
Operator	Well Name	CBL	DV Tool	Stage #1	Stage #2	Stage #3
Devon Energy Prod Co LP	Apache 25 Federal #8	Logged from 6000-7799'	3982'	Top:4530' Bottom:7864' Full returns? Yes Cmt returned? 30bbls. **LEAD** Top:4530' Bottom:6000'; 300sxs, Class C, pumped 107bbls. **TAIL** Top:6000' Bottom:7864'; 1150sxs, Class C, pumped 274bbls	Top:0' Bottom:4530' Full Returns? Yes. Cmt returned? 7bbls. **LEAD** Top:0' Bottom:3850', 260sxs, Class C, 95bbls. **TAIL** Top:3850' Bottom:4530', 240sxs, Class C, pumped 59bbls	
Devon Energy Prod Co LP	Apache 25 Federal #1	Logged from 6600-7920', 11700-14436'	7803	**LEAD** 230sxs **TAIL 675sxs**	**LEAD** 435sxs **TAIL** 1100sxs. Preflush &cmt cut mud returns form the 1st stage. Lost 40bbls 2nd stage	
Devon Energy Prod Co LP	Apache 25 Federal #2	Logged from 11950-14470'	7780'	1000sx Class C. Pumped 228bbls	**LEAD** 550sxs, 195bbls **TAIL** 325sxs, 74bbls	
Devon Energy Prod Co LP	Apache 25 Federal #3	Logged from: 80-304; 1480' - 2300'; 5980-7895'. TOC @ 250'	4000'	Top:4001' Bottom:7960' FR? No. Cmt Rtn? 2bbls **LEAD** Top:6960' Bottom:7960', 165sxs, Class C, 58bbls. **TAIL** Top:4001' Bottom:6960', 560sxs, Class C, 129bbls	Top:0' Bottom:4001' FR? No **LEAD** Top:18' Bottom:3035', 260sxs, Class C, 94bbls **TAIL** Top:3035' Bottom:4001', 170sxs, Class C, 41.5bbls	
Devon Energy Prod Co LP	Apache 25 Federal #4	Logged from 6000-7722' TOC @ Surface	3981'	Top:3980' Bottom:7769' FR? Yes. Cmt Rtn? 17bbls. **LEAD** 3980' - 5000', 165sxs, Class C, 57bbls. **TAIL** 5000' - 7769', 910sxs, Class C, 217bbls	Top:0' Botton: 3980' FR? Yes Cmt Rtn? 26bbls. **LEAD** 0' - 3570', 500sxs, Class C, 182bbls **TAIL** 3570' - 3980', 200sxs, Class C, 49bbls	
Devon Energy Prod Co LP	Apache 25 Federal #5	Logged from: 2810' - 3146'; 5982' - 11186'	7780'	Top:7786' Bottom:12295' FR? No. Cmt Rtn? 10bbls. **LEAD** 7786' - 12295' 680sxs, Class H, 173bbls	Top:0' Bottom:7786' FR? No. **LEAD** 0' - 6400', 760 sxs, Class H, 312bbls. **TAIL** 6400' - 7786', 370sxs, Class H, 88bbls	
Devon Energy Prod Co LP	Apache 25 Federal #6	Logged from 3300' - 3690'; 6500-7500'	7284	Intermediate: cmt w/1910sxs of cmt to surface.	Production Sting: cmt w/ 1220sxs. TOC @ 3500'	
Devon Energy Prod Co LP	Apache 25 Federal #9	Logged from 6000-11180'. 4700-5300' TOC @ 5100'	7790	Top:7800' Bottom:11230' FR? No. Cmt RTN? 40bbls **LEAD** 7805' - 11220', 720sxs, Class H, 183bbls	Top:4005' Bottom:7805' FR? No **LEAD** 4005' - 4600', 160sxs, Class C, 59bbls **TAIL** 4600' - 7805', 810sxs, Class C, 193bbls	Top:0' Bottom:4005' FR? No. Cmt Rtn? 47bbls **LEAD** 0' - 2240', 365sxs, Class C, 133bbls **TAIL** 2240' - 4005', 290sxs, Class C, 71 bbls
Devon Energy Prod Co LP	Apache 25 Federal #12	Logged from 6000-7771'	3992'	Top:3991' Bottom:7825' FR? Yes. Cmt Rtn? 15bbls LEAD 3991' - 5000', 200sxs. Class C, 72bbls TAIL 5000' - 7825', 610sxs, Class C, 146bbls	Top:0' Bottom:3991' FR? Yes. Cmt Rtn? 22bbls **LEAD** 0' - 3330', 440sxs, Class C, 160bbls **TAIL** 3300' - 3991', 220sxs, Class C, 54bbls	
Devon Energy Prod Co LP	Apache 25 Federal #13	Logged from 6000-7791'; 3820' - 4108' ; 5970' - 7810'	3968	Top:4009' Bottom:7853' FR? Yes. Cmt Rtn? 22bbls **LEAD** 4009' - 5000', 200sxs, Class C, 71bbls **TAIL** 5000' - 7853', 1050sxs, Class C, 251bbls	Top:0' Bottom:4009' FR? Yes. **LEAD** 0' - 2500', 250sxs, Class C, 91bbls **TAIL** 2500' - 4009', 250sxs, Class C, 61bbls	
Devon Energy Prod Co LP	Apache 25 Federal #14	Logged from 7400-7855'	4040'	Intermediate #1: Top 0' Bottom 3860', FR? Yes. Cmt Rtn? 68bbls. LEAD 0' - 3060', 1100sxs, Class C, 400bbls TAIL 3060' - 3860', 250sxs, Class C, 61bbls	Intermediate #2: Top 4043' Bottom 8022' FR? Yes. **LEAD** 4043' - 5875', 250sxs, Class C, 89bbls **TAIL** 5875' - 8022', 550sxs, Class C, 133bbls	Liner: Top 7353' Bottom 11699' FR? Yes **LEAD** 7353' - 11699', 630sxs, Class H, 151bbls
Devon Energy Prod Co LP	Apache 24 Federal #8	No CBL	3975'	Top: 3980' Bottom:7995' FR? Yes LEAD 3980' - 7745', 225sxs, Class C, 80bbls TAIL 7745' - 7995', 575sxs, Class C, 139bbls	Top: 0' Bottom:3980' FR? Yes **LEAD** 0' - 3730', 280sxs, Class C, 101bbls **TAIL** 3730' - 3980', 280sxs, Class C, 68bbls	Liner: Top 7450' Bottom 11966' FR? Yes **LEAD** 7450' - 11966, 475sxs, Class H, 113bbls
Devon Energy Prod Co LP	Apache 25 Federal #16	CBL-1/21/06-TOC @ 3000'. Sqz holes shot in 7" csg & cmt sqzd & circ to surf.	5281' 10505	Top:0' Bottom:12265' LEAD 10505' - 12265', 400sxs, Class H, 100bbls LEAD 5281' - 5381', 400sxs, Class H, 144bbls TAIL 5381' - 10505', 950sxs, Class H, 237bbls LEAD 0' - 2886', 250sxs, Class C, 91bbls TAIL 2886' - 5281', 840sxs, Class C, 205bbls	Liner: Top 11928' Bottom 14448. FR? Yes. Cmt Rtn? 12bbls **LEAD** 11928' - 14448', 331sxs, Class H, 70bbls	
Devon Energy Prod Co LP	Apache 25 Federal #10H	No CBL	4001'	Top: 4001' - 7935', FR? Yes. Cmt Rtn? 80bbls LEAD 4001' - 7935', 620sxs, Class C, 222 bbls TAIL 6000' - 7935', 315sxs, Class C, 76bbls	Top:17' Bottom:4001' FR? Yes **LEAD** 17' - 4001', 225sxs, Class C, 810bbls **TAIL** 3000' - 4001', 150sxs, Class C, 36bbls	Liner: Top 7935' Bottom 11420' FR? Yes **LEAD** 7935' - 11420', 485sxs, Class H, 116bbls

APACHE 25 FEDERAL #8
APPLICATION FOR INJECTION
Form C-108 Section VII to XII

VII Attach data on the proposed operation, including:

(1) Proposed average injection rate: 1000 BWPD
Proposed maximum injection rate: 1200 BWPD

(2) The system will be a closed system.

(3) Proposed average injection pressure: 800 psi
Proposed max injection pressure: 1000 psi

(4) The proposed injection fluid is produced water from the Delaware that will be re-injected into the Delaware (Cherry Canyon) zone.

(5) Attached is a water analysis of Delaware produced water from the Apache 24-3 and Apache 25-6 that will be injected in the Delaware zone of the Apache 25 Federal 8.

VIII Gelologic Injection Zone Data

The Delaware Cherry Canyon formation from 5678' to 5930' is being submitted for permit for salt water disposal. The Delaware formation is a Permian aged sandstone. The proposed injection interval is 252' thick. The average depth of water report notes aquifers at an average depth of 208'. Surface casings have been set below the average water depth and are cemented to surface in all wells in the review area.

IX Proposed Stimulation

Acid Frac w/3000 gals 15% HCl acid, 65000 gals spectra frac 2500 frac fluid, 5590 gals 10# linear gel flush, and 160000 lb 16/30 proppant.

X Log Data

Well logs have previously been submitted to the OCD.

XI Fresh Water Analysis

No fresh water wells were indicated within one mile of proposed injection well per New Mexico office of the State Engineer web site.

XII Geologic / Engineering Statement

An examination of this area has determined there are no open faults or other hydrologic connection between the disposal zone and any underground drinking water.

XIII Proof of Notice

Proof of notice to surface owner, and public legal notification is attached. Devon owns 100% of the leasehold in review area.

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	Twn	Rng	X	Y	Depth Well	Depth Water	Water Column
C 01916		PRO	ED	4	3	2	21	22S	30E	605068	3582947*	500		
C 02111		MIN	ED	2	2	2	33	22S	30E	605505	3580336*	248	155	93
C 02637		MON	ED	1	3	3	24	22S	30E	608950	3582377*	759		
C 02638			ED	4	3	3	35	22S	30E	607558	3578948*	528		
C 02638		STK	ED	4	3	3	35	22S	30E	607558	3578948*	528		
C 02723		MON	ED	2	2	3	15	22S	30E	606282	3584363*	651		
C 02724		MON	ED	4	4	2	29	22S	30E	603860	3581329*	503		
C 02950 EXPL		EXP	ED	4	2	4	23	22S	30E	608740	3582576*	845		
C 03015		MON	ED	1	4	3	22	22S	30E	606099	3582353*	1316	262	1054
C 03220 EXPLORE		MON	ED	1	3	4	33	22S	30E	604911	3579127*	224		

Average Depth to Water: **208 feet**

Minimum Depth: **155 feet**

Maximum Depth: **262 feet**

Record Count: 10

Basin/County Search:

County: Eddy

PLSS Search:

Township: 22S **Range:** 30E

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

WATER ANALYSIS
Delaware Disposal Water
Apache 25 Fed 6

Laboratory Services, Inc.
4016 Fiesta Drive
Hobbs, New Mexico 88240
Telephone: (505) 397-3713

Water Analysis

COMPANY Devon Energy

SAMPLE Apache 25-6
SAMPLED BY

DATE TAKEN
REMARKS

Barium as Ba	0	
Carbonate alkalinity PPM	0	
Bicarbonate alkalinity PPM	80	
pH at Lab	6.05	
Specific Gravity @ 60°F	1.195	
Magnesium as Mg	59,566	
Total Hardness as CaCO3	102,700	
Chlorides as Cl	192,032	
Sulfate as SO4	200	
Iron as Fe	33	
Potassium	85	
Hydrogen Sulfide	0	
Rw	0.046	@ 23° C
Total Dissolved Solids	295,500	
Calcium as Ca	43,134	
Nitrate	35	

Results reported as Parts per Million unless stated

Langelier Saturation Index 0.65

Analysis by: Vickie Biggs
Date: 3/5/04

WATER ANALYSIS
Delaware Disposal Water
Apache 24 Fed 3

Laboratory Services, Inc.
4016 Fiesta Drive
Hobbs, New Mexico 88240
Telephone: (505) 397-3713

Water Analysis

COMPANY Devon Energy

SAMPLE Apache 24-3
SAMPLED BY

DATE TAKEN
REMARKS

Barium as Ba	0	
Carbonate alkalinity PPM	0	
Bicarbonate alkalinity PPM	92	
pH at Lab	5.87	
Specific Gravity @ 60°F	1.2	
Magnesium as Mg	60,900	
Total Hardness as CaCO3	105,000	
Chlorides as Cl	188,855	
Sulfate as SO4	225	
Iron as Fe	45	
Potassium	88	
Hydrogen Sulfide	0	
Rw	0.047	@ 23° C
Total Dissolved Solids	294,600	
Calcium as Ca	44,100	
Nitrate	33	

Results reported as Parts per Million unless stated

Langelier Saturation Index 0.52

Analysis by: Vickie Biggs
Date: 3/5/04

Form 3160-5
August 1999)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB NO. 1004-0135
EXPIRES: NOVEMBER 30, 2000

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals

SUBMIT IN TRIPLICATE

5. Lease Serial No.
NMNM89052

6. If Indian, Allottee or Tribe Name

7. Unit or CA Agreement Name and No.

a. Type of Well ☑ Oil Well ☐ Gas Well ☐ Other

8 Well Name and No.
Apache 25 Federal 8

. Name of Operator
DEVON ENERGY PRODUCTION COMPANY, LP

9. API Well No.
30-015-33439

. Address and Telephone No.
20 North Broadway, Ste 1500, Oklahoma City, OK 73102 **405-552-4615**

10. Field and Pool, or Exploratory
QUAHADA RIDGE SE

. Location of Well (Report location clearly and in accordance with Federal requirements)*
2455 FNL 1980 FEL **Sec 25 T22S R30E**

12. County or Parish 13. State
EDDY **NM**

CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OS SUBMISSION	TYPE OF ACTION			
☑ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☐ Other
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☑ Water Disposal	

3. . Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work and approximate duration thereof. If the proposal eepen directionally or recomplete horizontally, give subsurface location and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide ıe Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new ıterval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirement, including reclamation, have been completed, and the operator has etermined that the site is ready for final inspection)

Devon is filing C108 (Application for Authorization to Inject) with the OCD-Santa Fe Office
Proposed SWD Zone is Delaware Cherry Canyon from 5678' to 5930'.

1. MIRU. POOH with 2-7/8" rod pump and production tubing.
2. Add additional perforations in Delaware Cherry Canyon at 5678'-5690'; 5722'-5746'; 5758'-5796'; 5854'-5884', 2 spf, 120° phase.
3. Set CIBP @ +/-6030' and dump 35' cement.
4. Temporarily isolate perfs at 5920-5930. Pump acid frac consisting of 3000 gal 15% HCl and 160000# 16/30 proppant on perforations from 5678' to 5884'. Remove temporary plug over perfs at 5920'-5930'.
5. Run 2-7/8", 6.5# IPC tubing and 5-1/2" IPC packer. Set packer @ +/- 5650'.
6. Commence water disposal into Delaware Cherry Canyon from 5678' to 5930'.

4. I hereby certify that the foregoing is true and correct

Signed Ronnie Slack Name **Ronnie Slack** Title Engineering Technician Date 8/4/2009

This space for Federal or State Office use)

Approved by _____ Title _____ Date _____
Conditions of approval, if any:

itle 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make any department or agency of the United States any false, fictitious or fraudulent statements or representations to any matter within s jurisdiction.

***See Instruction on Reverse Side**

Form C-108 Section XIV
Proof of Notice to Surface Land Owner

Application For Injection in Apache 25 Federal #8
Devon Energy Production Company, LP

Surface Land Owner

Bureau of Land Management
Carlsbad Field Office
620 East Greene Street
Carlsbad, NM 88220

Certified receipt No.
7008 1140 0004 6107 8896

A copy of this application has been mailed to the above surface land owner by certified mail, pertaining to Devon Energy's application for salt water disposal in the Apache 25 Federal #8.

Date Mailed: 8/4/2009

Signature: Ronnie Slack Date: 8/4/2009

Ronnie Slack, Engineering Technician
Devon Energy Production Co., L.P.
20 N. Broadway, Suite 1500
Oklahoma City, OK 73102

Affidavit of Publication

State of New Mexico,
County of Eddy, ss.

Kathy McCarroll, being first duly sworn, on oath says:

That she is the Classified Supervisor of the Carlsbad Current-Argus, a newspaper published daily at the City of Carlsbad, in said county of Eddy, state of New Mexico and of general paid circulation in said county; that the same is a duly qualified newspaper under the laws of the State wherein legal notices and advertisements may be published; that the printed notice attached hereto was published in the regular and entire edition of said newspaper and not in supplement thereof on the date as follows, to wit:

July 26 2009

That the cost of publication is **$45.99** and that payment thereof has been made and will be assessed as court costs.

Kathy McCarroll

Subscribed and sworn to before me this

27th day of July, 2009

Stephanie Dobson

My commission Expires on 1/25/2010

Notary Public

OFFICIAL SEAL
STEPHANIE DOBSON
Notary Public
State of New Mexico
My Comm. Expires 1/25/2010

July 26, 2009

Legal Notice

Devon Energy Production Company, LP, 20 North Broadway, Oklahoma City, OK, 73102-8260 has filed form C-108 (Application for Authorization to Inject) with the New Mexico Oil Conservation Division seeking administrative approval for an injection well. The proposed well, the Apache 25 Federal #8, located 2455' FNL & 1980' FEL, Section 25, Township 22 South, Range 30 East, in Eddy County, New Mexico, will be used for salt water disposal. Disposal waters from the Delaware will be injected into the non productive members of the Delaware formation at a depth of 5678'-5930' at a maximum pressure of 1000 psi and a maximum rate of 1200 BWPD.

All interested parties opposing the aforementioned must file objections or request for a hearing with the Oil Conservation Division, 1220 South Saint Francis Drive, Santa Fe, New Mexico 87505-5472, within 15 days. Additional information can be obtained by contacting: Jim Cromer at (405) 228-4464.

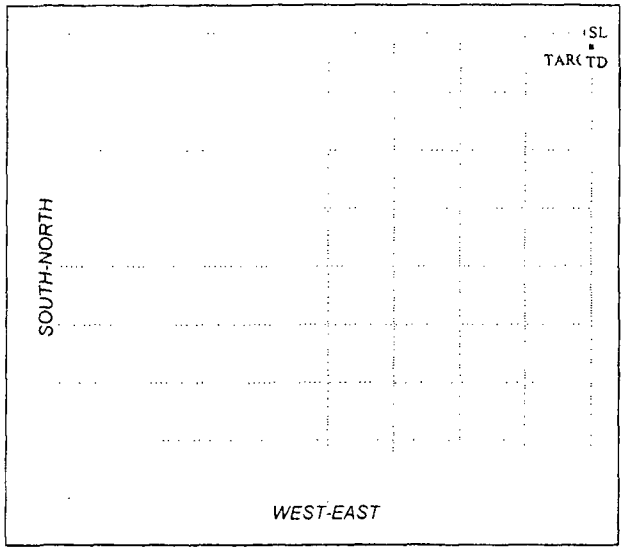
Directional Well Planner
Ramp-Shaped Well

FILE: build and hold.XLS

devon
Apache 25 Fed #8
Quahada Ridge
UL G, Sec 25, T22S, R30E

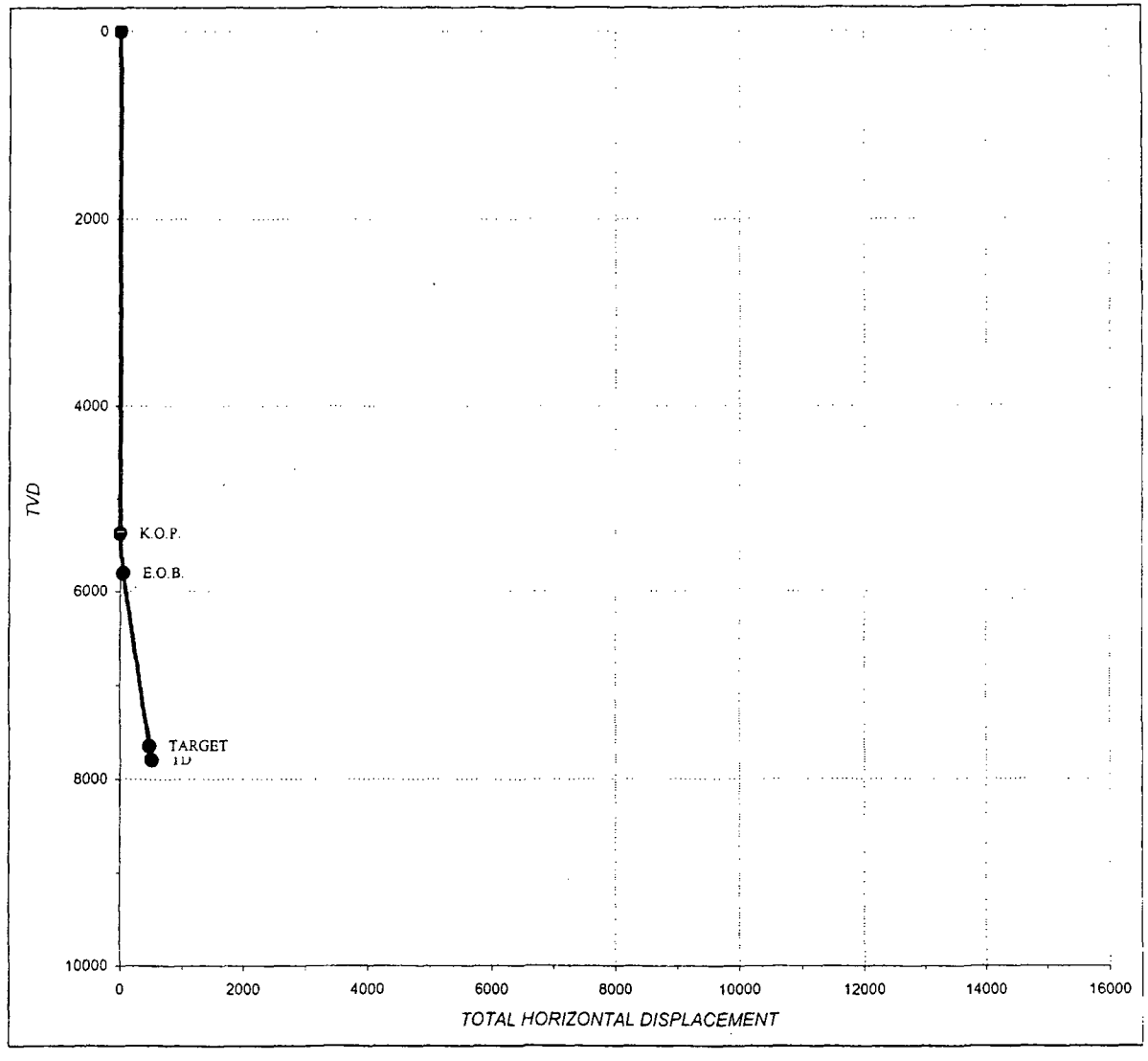
devon

3/17/2004



Design Data	MD	TVD	Total Disp.		
Kick Off Point	5,375	5,375	0	Azimuth:	S 0° W
End of Build	5,808	5,805	49	Build Rate (Deg/100'):	3.00°
TD	7,856	7,800	510	Ramp Angle (Deg):	13.00°

Locations & Targets	MD	TVD	Distance		Distance		Block No.
Surface	0	0					
Target	7,702	7,650					
BHL	7,856	7,800					
ZONE OF INTEREST	6,522	6,500					



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
2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

2040 South Pacheco
Santa Fe, New Mexico 87504-2088

Form C-102
Revised March 17, 1999

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
	50443	Quahada Ridge Southeast Delaware

Property Code	Property Name	Well Number
	APACHE "25" FEDERAL	8

OGRID No.	Operator Name	Elevation
6137	DEVON ENERGY PRODUCTION COMPANY LP	3352'

Surface Location

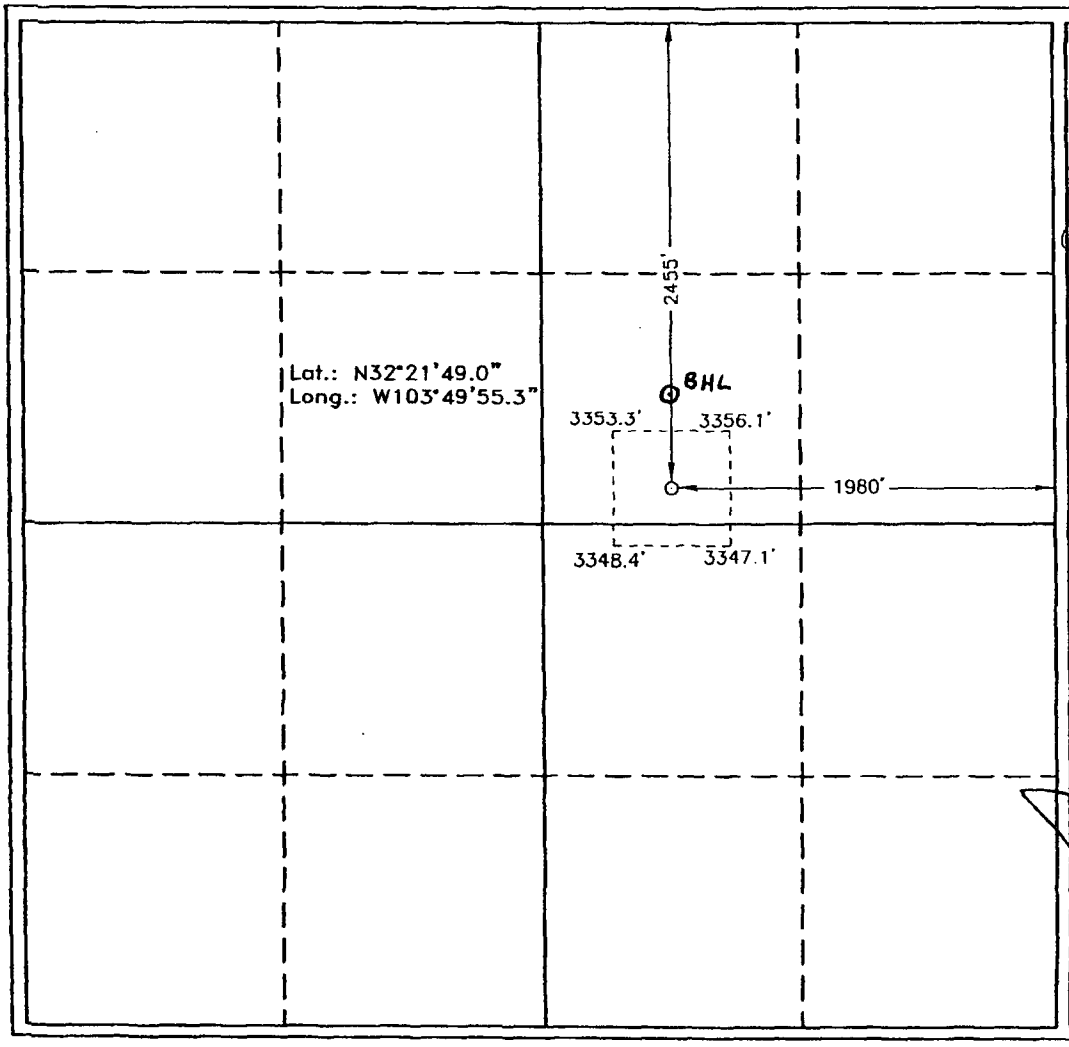
Ul or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
G	25	22 S	30 E		2455	NORTH	1980	EAST	EDDY

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
G	25	22S	30E		1945	NORTH	1980	EAST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
40			

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



OPERATOR CERTIFICATION

I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.

Signature

Karen Cottom
Printed Name

Sr. Operations Technician
Title

March 24, 2004
Date

SURVEYOR CERTIFICATION

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

MARCH 18, 2004
Date Surveyed

Signature & Seal of Professional Surveyor

7977

W.O. No. 4085

Certificate No. Gary L. Jones 7977

JLP

BASIN SURVEYS

Form 3160-5
(August 1999)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB NO. 1004-0135
Expires: November 30, 2000

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE - Other instructions on reverse side.

5. Lease Serial No.
NMNM89052

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.

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

8. Well Name and No.
APACHE 25 FEDERAL 8

2. Name of Operator
DEVON ENERGY PRODUCTION CO L P
Contact: LINDA GUTHRIE
E-Mail: linda.guthrie@dvn.com

9. API Well No.
30-015-33439-00-X1

3a. Address
20 NORTH BROADWAY SUITE 1500
OKLAHOMA CITY, OK 73102

3b. Phone No. (include area code)
Ph: 405.228.8209
Fx: 405.552.4621

10. Field and Pool, or Exploratory
QUAHADA RIDGE SE

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
Sec 25 T22S R30E SWNE 2455FNL 1980FEL

RECEIVED
AUG 11 2004
OCD-ARTESIA

11. County or Parish, and State
EDDY COUNTY, NM

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☐ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☒ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other Drilling Operations
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

07/03/04 Spud 17 1/2" hole
07/04/04 Ran 13 jts 13 3/8" 48# H40 ST&C csg @ 631'. Cmt lead w/ 400 sx Class C, tail w/ 250 sx Class C. Circ 120 sx to pit. WOC 24 hrs.
07/07/04 Pressure test csg to 1000 psi--held.
07/11/04 TD 11" hole @ 3849'
07/12/04 Ran 85 jts 8 5/8" 32# J55 @ 3849'. Cmt lead w/ 820 sx Class C, tail w/ 200 sx Class C. Circ 103 sx to pit. WOC 24 hrs.
07/13/04 Test csg to 1000 psi -- held.
07/23/04 TD @ 7868'. Circ & cond hole. Tight hole- stuck drillpipe.
07/25/04 Back off @ 7050'. TOOH, TIH to work fish.
07/30/04 TOOH w/ fish. Lay down fish. Log well.
07/31/04 Ran 174 jts 15.5# & 17# J55 LT&C csg @ 7864'. Cmt lead w/ 300 sx Poz 35:65 & tail w/

14. I hereby certify that the foregoing is true and correct.
Electronic Submission #34229 verified by the BLM Well Information System
For DEVON ENERGY PRODUCTION CO L P, sent to the Carlsbad
Committed to AFMSS for processing by LINDA ASKWIG on 08/09/2004 (04LA0651SE)

Name *(Printed/Typed)* LINDA GUTHRIE — Title REGULATORY SPECIALIST

Signature (Electronic Submission) — Date 08/06/2004

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By ACCEPTED — LES BABYAK Title PETROLEUM ENGINEER — Date 08/09/20

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Office Carlsbad

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

**** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ****

Additional data for EC transaction #34229 that would not fit on the form

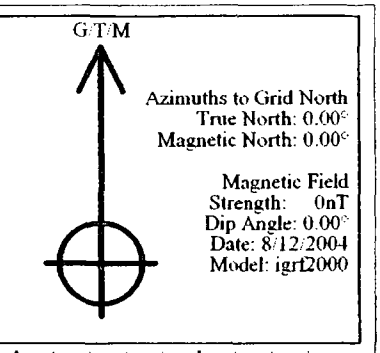
32. Additional remarks, continued

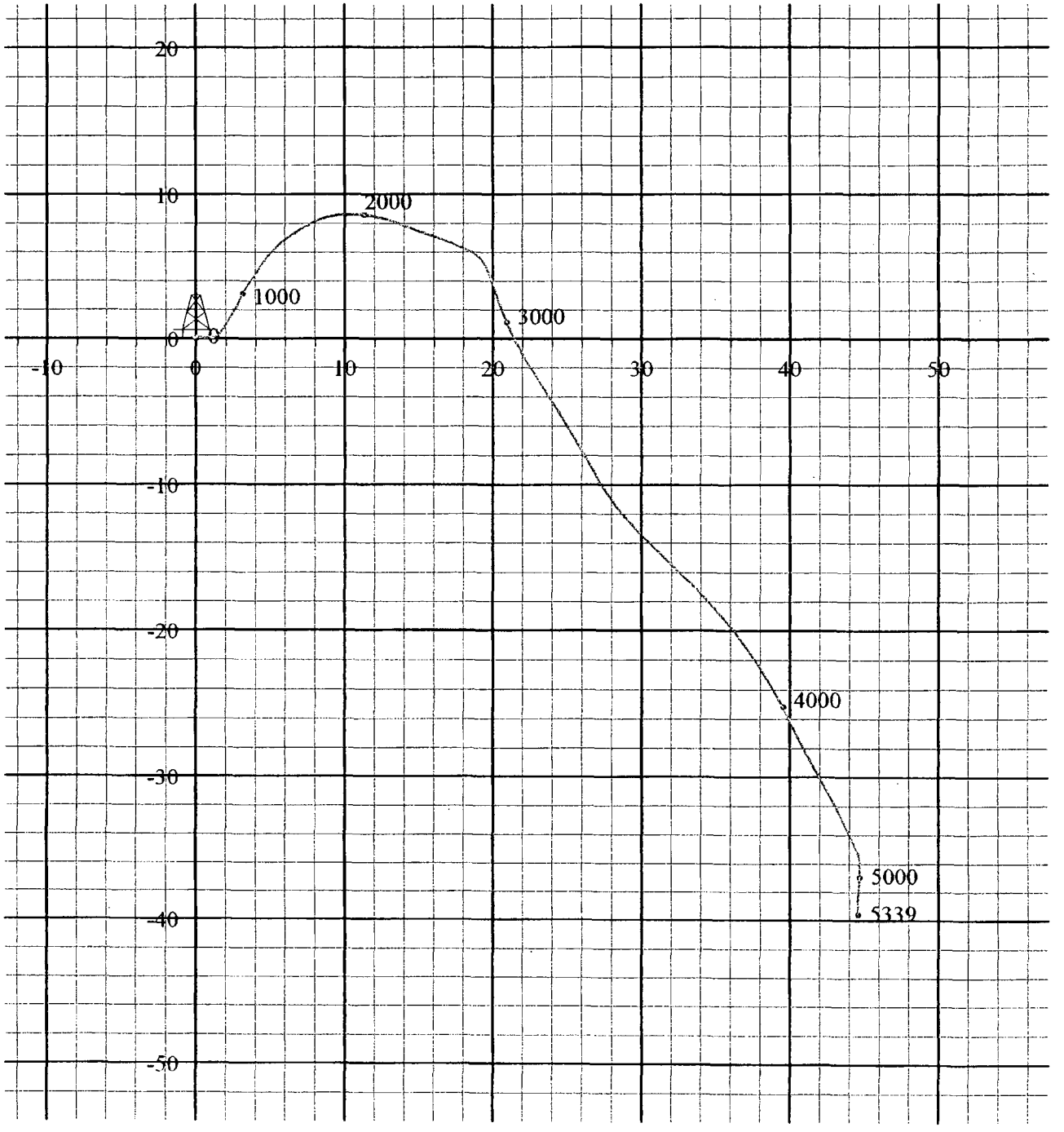
1150 sx 60:40 Poz. Circ 85 sx to pits off DV tool. Cmt stg 2 lead w/ 260 sx 35:65 Pozmix & tail w/ 240 sx 60:40 Pozmix. Circ 20 sx to pit.
08/01/04 Released rig.

@ 3982'

Scientific Drilling

Field: Quahada Ridge, SE
Site: Eddy County, NM
Well: Apache 25 Fed. #8
Wellpath: VH - Job #32K0704440
Survey: 07/15/04





South(-)/North(+) [10ft/in]

West(-)/East(+) [10ft/in]

DEVON ENERGY

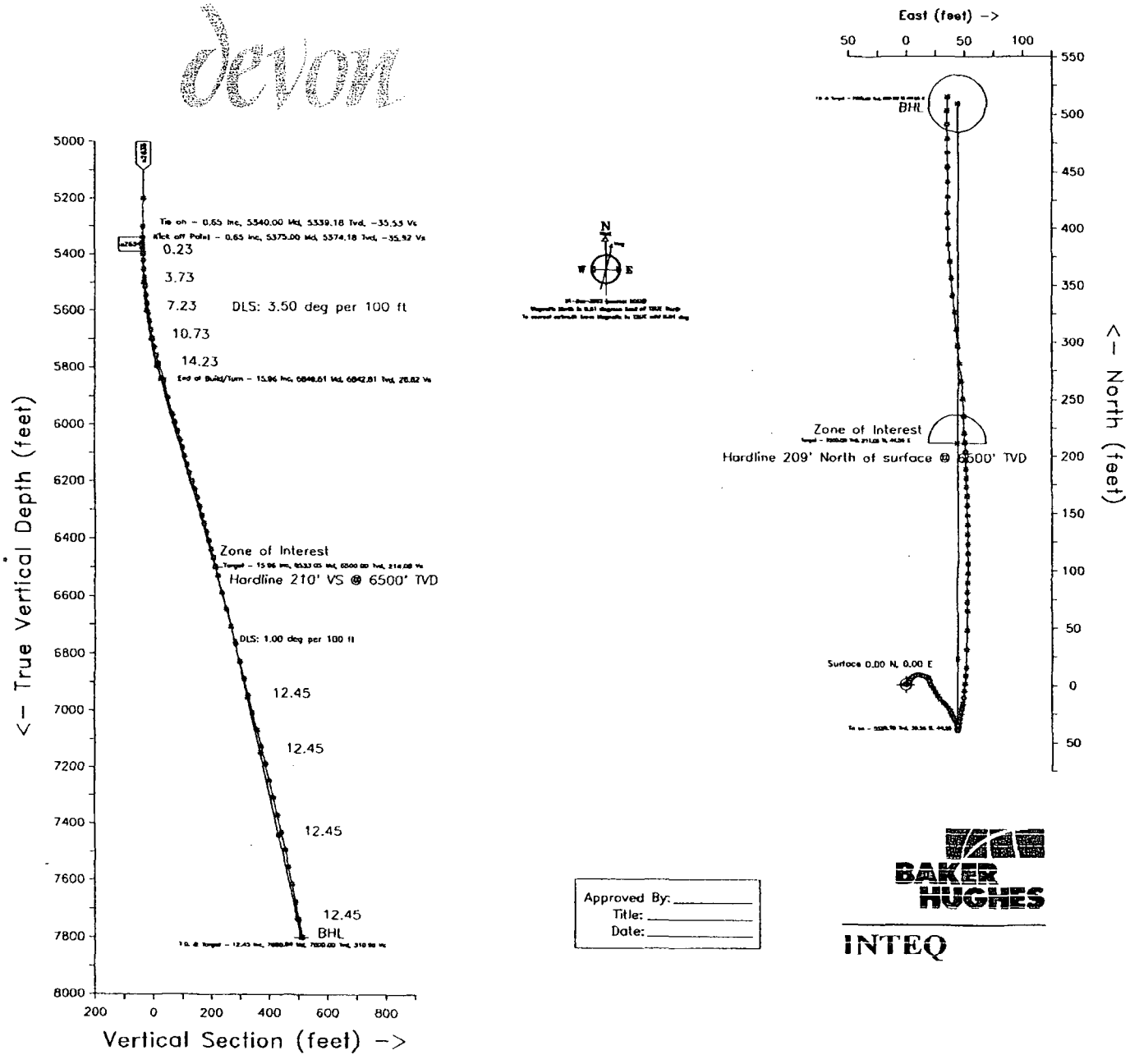
Structure : Apache 25 Fed No. 8 Slot : slot #1

Field : Quahada Ridge (Delaware) Location : EDDY COUNTY, NM.

Created by adryanm
Date plotted : 27-Jul-2004
Plot Reference is Pln 2.
Coordinates are in feet reference structure.
True Vertical Depths are reference structure.
apBgva
--- Baker Hughes INTEQ ---

WELL PROFILE DATA

Point	MD	Inc	Dir	TVD	North	East	V. Sect	Deg/100
Tie on	5340.00	0.65	185.28	5339.18	-39.56	44.55	-35.53	0.00
KOP	5375.00	0.65	185.28	5374.18	-39.96	44.51	-35.92	0.00
End of Build/Turn	5849.51	15.96	0.06	5842.81	23.05	44.34	26.82	3.50
Target Zone of Interes	6533.05	15.96	0.06	6500.00	211.00	44.55	214.08	0.00
KOP	6884.10	12.45	0.00	6840.26	297.13	44.60	299.89	1.00
T.D. & Target BHL	7866.94	12.45	359.97	7800.00	509.00	44.55	510.95	0.00



Azimuth 5.00 with reference 0.00 N, 0.00 W from structure

Approved By: _____
Title: _____
Date: _____

BAKER HUGHES
INTEQ

Form 3160-5
(August 1999)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

N.M. Oil Cons. DIV-Dist. 2
1301 W Grand Avenue
Artesia, NM 88210

FORM APROVED
OMB NO. 1004-0135
EXPIRES: NOVEMBER 30, 2000

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE

RECEIVED
MAR 28 2006
OCD-ARTESIA

1a. Type of Well ☑ Oil Well ☐ Gas Well ☐ Other	5. Lease Serial No. **NMNM89052**
	6. If Indian, Allottee or Tribe Name
	7. Unit or CA Agreement Name and No.
2. Name of Operator **Devon Energy Production Co., LP**	8. Well Name and No. **Apache 25 Federal 8**
	9. API Well No. **30-015-33439**
3. Address and Telephone No. **20 North Broadway, Ste 1500, Oklahoma City, OK 73102** **405-552-7802**	10. Field and Pool, or Exploratory **Quahada Ridge SE; Cherry Canyon**
4. Location of Well (Report location clearly and in accordance with Federal requirements)* **2455' FNL & 1980' FEL** **Sec 25 T22S R30E Unit G**	12. County or Parish **Eddy** 13. State **NM**

CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OS SUBMISSION	TYPE OF ACTION			
☐ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☑ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☑ Other Add Pay Cherry Canyon
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. . Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work and approximate duration thereof. If the proposal deepen directionally or recomplete horizontally, give subsurface location and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirement, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection)

02/14/05 - 03/15/06:

MIRU PU. POOH w/rods, pmp & tbg. RU WL & perf Cherry Canyon 5920-30', 6058-74', 6225-36', & 6861-67'; (2 SPF) 86 shots. Set RBP @ 6950'. Set pkr to 6882' flush w/150 bbls of 2% KCL. PUH pkr @ 6758' & acidize 6861'- 6867' w/1000 gal 7.5% Pentol acid & 200 ball slrs. PUH w/pkr @ 6758'. Swab, flow back. RIH w/swab to SN. Frac 6861'-6867' w/28,000# 16/30 Ottawa RC sn --screened out with 7 ppg slug hitting perfs. Unset pkr, rev out sn w/100 bbls of 2% KCL. Rls pkr & POOH w/tbg & co sn. Dmp 2 sx sn dwn tbg, pmp to EOT. RIH w/tbg & pkr above top perf. POH w/tbg & pkr. Reperf 6861'-6867'; (6 SPF) 12 holes. Set pkr @ 6758', swab. Acidize & refrac w/1000 gal 7.5% Pentol acid, 11,000 gal Spectra Star 2500 w/28,000# 16/30 Ottawa & RC & 6000# 16/30 Siberprop. Flush w/1680 gal 2% KCL. Swab. Rls pkr, RIH w/retr tool, set RBP @ 6788'. PUH pkr @ 6124'. Swab. Acidized 6225'-6236' w/1000 gal 7.5% Pentol acid, flush w/2% KCL. Swab. Rls RBP, MUH @ 6186', rls pkr reset @ 5989'. Acidize 6058'-6074' w/1500 gal 7.5% Pentol acid w/48 ball slrs. Rls pkr, swab. Rls pkr, POOH. Pkd up ON/OFF tool, rls plug set @ 5993'. POOH w/ON/OFF tool, set pkr @ 5802'. Swab. Acidize 5920'-5930' w/1000 gal 7.5% Pentol acid. Swab. Rls pkr, rev tbg clean. POOH w/pkr & SD. Frac w//28,000# 16/30 Ottawa & RC. RIH w/ON/OFF tool. Rls plug, POOH w/tbg, RIH w/blr. POOH w/blr. POOH w/RPB & RIH w/prod tbg, pmp & rods. Hung well on. Well turned over to production.

14. I hereby certify that the foregoing is true and correct

Signed _____ Name **Stephanie A. Ysasaga**
Title Sr. Staff Engineering Technician Date 3/20/2006

(This space for Federal or State Office use)

Approved by _____ Title _____ Date _____
Conditions of approval, if any:

ACCEPTED FOR RECORD
/S/ DAVID R. GLASS
MAR 24 2006
DAVID R. GLASS
PETROLEUM ENGINEER

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make any department or agency of the United States any false, fictitious or fraudulent statements or representations to any matter within its jurisdiction.

*See Instruction on Reverse Side

Jones, William V., EMNRD

From: Jones, William V., EMNRD
Sent: Friday, August 14, 2009 11:15 AM
To: 'Slack, Ronnie'
Cc: 'Wesley_Ingram@blm.gov'; Ezeanyim, Richard, EMNRD; Reeves, Jacqueta, EMNRD
Subject: FW: Injection Application from Devon Energy - Apache 25 Fed 8 SWD

Hello Ronnie:
I have not yet looked at this application - but since Wesley has these specific concerns, please let Wesley and myself know what you think? Specifically let us know what the plan would be for concerns #1 and #3 below? Please send wellbore diagrams with DV tools and cement tops (above and below) marked for these two wells.

Regards,

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

-----Original Message-----
From: Wesley_Ingram@blm.gov [mailto:Wesley_Ingram@blm.gov]
Sent: Friday, August 14, 2009 8:18 AM
To: Jones, William V., EMNRD; Warnell, Terry G, EMNRD
Cc: Shannon_Shaw@blm.gov; Fesmire, Mark, EMNRD
Subject: RE: Injection Application from Devon Energy - Apache 25 Fed 8 SWD

Will,

Regarding the conversion of the Apache 25 Fed 8 SWD, the BLM has the following comments regarding wells within the 0.5 mile radius:

1. Well 30-015-27410 has an unknown TOC. TOC needs to be verified.

2. Well 30-015-32720 has cement top at 3080' which is above proposed injection zone.

3. Well 30-015-27478 has estimated TOC of 3400'. TOC may or may not cover injection zone.

Thanks, Wesley

Jones, William V., EMNRD

Cancelled 8/12/09

From: Jones, William V., EMNRD
Sent: Monday, August 17, 2009 3:10 PM
To: 'Slack, Ronnie'
Cc: Ezeanyim, Richard, EMNRD; Warnell, Terry G, EMNRD; Reeves, Jacqueta, EMNRD; Gray, Darold, EMNRD; 'Wesley_Ingram@blm.gov'
Subject: Disposal application from Devon: Apache 25 Federal #8: 30-015-33439 Cherry Canyon

Hello Ronnie:
After reviewing your application, we have the following questions or requests – (i) primarily related to ensuring cement coverage within this well and surrounding wells and (ii) that proper notice was provided. This is a proposed disposal well directly offsetting the WIPP site, and the ½ mile AOR extends into the WIPP area.

1. Please look at the post drill deviation survey and let us know the bottom hole location of the proposed Cherry Canyon disposal interval (bottom of interval).
2. Has Devon surveyed this area (within 1 mile) for windmills or other drinking water wells which would not be recorded on the State Engineer's web site?
3. Why was the completed and produced interval from 5920 to 5930 proposed to be included as the lowermost disposal interval? Was it considered to be relatively water bearing?
4. How does Devon know the proposed injection interval does not contain hydrocarbons? Please send a water saturation calculation or copy of a mudlog over this interval.
5. Please send a production plot of this well (with applicable open perforations marked) from the first date of production to the last.
6. Why was this well chosen for disposal rather than the other wells?
7. The DV tool depth on your wellbore diagram is different from that marked on the CBL (see the OCD imaged well logs). Which is correct?
8. The completion information on this well shows that cement circulated on both sides of the DV tool (both stages circulated). However, the CBL for this well (in the OCD imaging system) does not go to the depths you are proposing to use for disposal – and the included CBL (interval over the DV tool depth) does not show cement below or above the tool – is this a mistake or was the cement used so thin that the CBL did not pick it up? Was this the typical cementing program for all these wells?
9. For all wells in Section 25, please research the DV tool setting depth and determine if cement circulated in the cementing stages below and above these tools. Include that data either on wellbore diagrams of all these wells or in the spreadsheet data for these wells. If the wells have CBL's run on them, please record which ones on the spreadsheet and send copies of the CBL's to the Hobbs office for scanning into the OCD imaging system.
10. Please notice the nearest Potash lessee and send proof of this notice (this area is included in the Potash area defined in R-111-P).
11. Does Devon own (control) the mineral rights within the Delaware in the W/2 W/2 of offsetting Section 30 (to the east of your well)?
12. Please note: Due to the proximity to the WIPP site, this well (if permitted for disposal) may never be allowed a higher injection pressure than the 0.2 psi/ft gradient.

13. Please send proof of notice to the following State and Local managers of the WIPP. (We would likely require this notice even if the proposed disposal site was further from the WIPP area):
    Anne Clarke
    NM Radioactive Waste Consultation Task Force Coordinator
    1220 South Saint Francis Drive
    Santa Fe, NM 87505

    Rodger Nelson
    WIPP Chief Science Officer

devon

Devon Energy Corporation
20 North Broadway
Oklahoma City, OK 73102-8260

405 235 3611 Phone
www.devonenergy.com

RECEIVED
2009 AUG 31 PM 2 02

August 25, 2009

Oil Conservation Division
1625 N French Dr.
Hobbs, NM 88240

RE: Apache 25 Federal 8 (C108 submittal)
Offset well logs for scanning into the OCD imaging system
Eddy County, NM
Section 25, T22S, R30E

Gentlemen:

In reviewing Devon's Apache 25 Federal #8 for SWD, we found that the following logs for these offset wells are not scanned into the OCD imaging system. We submit these copies for your files and scanning.

Apache 25 Federal #4 (30-015-33152); CBL-4/13/04
Apache 25 Federal #5 (30-015-32720); CBL-5/13/03
Apache 25 Federal #6 (30-015-29894); CBL-4/16/00; Platform Express/Induction-12/1/97
Apache 25 Federal #9 (30-015-32797); CBL-7/16/03
Apache 25 Federal #14 (30-015-33791); CBL-2/27/05

If you have any questions, you can contact Ronnie Slack at (405)-552-4615.

Sincerely,

Ronnie Slack

Ronnie Slack
Engineering Technician

RS/rs
Enclosure

cc: William V. Jones PE (OCD in Santa Fe)
OKC central files

Jones, William V., EMNRD

From: Jackson, Kale [Kale.Jackson@dvn.com]
Sent: Tuesday, September 01, 2009 10:13 AM
To: Jones, William V., EMNRD
Cc: Slack, Ronnie
Subject: RE: SWD application from Devon near WIPP: Apache 25#8 SWD into Bell Canyon
Attachments: Apache 25 Fed 8 well review area.xls; Campana.xps

Mr.. Jones,

Sorry it took me so long to get back to you. I hope you find the information I'm sending you to be helpful in answering all of your questions.

Kale:
Thank you for these answers to questions.
I am confuses as to why you included (attached) the C-108 application, since we got it from Ronnie in the mail – is this a revised version?
I went ahead and sent you an electric copy for your own use. Ronnie and I had a lot of spreadsheets/paper work everywhere and I didn't send you the right excel sheet with the updated list of DV tool depth and top of cement.
Where should I look for the updated spreadsheet of Area of Review wells showing cement tops above and below the DV tools? I liked those well diagrams you sent for the wells that Wesley had a question about. Since this is near the WIPP site, we need to be absolutely convinced that all surrounding cement tops are fine to release this permit. So the well diagrams would be great – but the spreadsheet will work if all details are there. **I'm sending those to you today. Everything should be in an easy to read/understand format that should help answer your questions about our drilling program. If there are still some wells in question, can we pressure up on the backside like I talked about in the last email so that we can prove TOC is inside the casing shoe?**

It does seem there was some breakdown while cementing some of these wells. Could you say something about the typical cement types used in these jobs? I.e. what was in the lead and the final stages. Both above the DV tool and below. **These are all included in the spreadsheet.**

Where is the current SWD for this area? What API number and what injection interval? **The current SWD in this area is the Campana 1 SWD. As per Jim Cromer, the BLM has been monitoring us about our injection pressure. Since we have been close to reaching this max injection pressure, we have been looking into other wells in the area that could handle this same amount of water. This is where the Apache 25#8 comes into play. This well is to replace the Campana SWD and comply with the BLM, while still maintaining our current level of bbls of water injected/day.**

The Campana is located in section 6 blk 22S 31E. 1980' FNL & 660' FWL. API # 30-015-21098. I'm also sending you a detailed schematic of this well. Injection interval is: 5947' - 6012'

From: Jackson, Kale [mailto:Kale.Jackson@dvn.com]
Sent: Thursday, August 27, 2009 10:31 AM
To: Jones, William V., EMNRD; Wesley_Ingram@blm.gov

Cc: Cromer, James; Slack, Ronnie
Subject: Apache 25#8 SWD

Gentleman,

I have been working on this SWD project from the start, and taken some time to answer the questions both of you have emailed Ronnie about. TOC for all the wells within the radius requested have been scanned and are currently being sent to the Hobbs office. If any questions should arise from any of these two documents, don't hesitate to contact Jim, Ronnie, or myself.

<<Apache 25#8 Q&A.doc>> <<Apache 25 Fed 8 C108 submittal.pdf>>
Thanks,

Kale Jackson
Engineer: SENM
Cell: (405) 208-0358
Direct: (405) 552-5310

---

1. Please look at the post drill deviation survey and let us know the bottom hole location of the proposed Cherry Canyon disposal interval (bottom of interval).

   Top perf @ 5675': 50'; E 9' S
   Bottom perf @ 5930': 52' E; 51'N

2. Has Devon surveyed this area (within 1 mile) for windmills or other drinking water wells which would not be recorded on the State Engineer's web site?

   After reviewing the NMOSE web site in the township and range of 22S 30E we found that no water wells were in section 25 or within a 1 mile distance. Our field personnel also checked for water wells that were not reported on the web site and found this information above to be correct.

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	Twp	Rng	X	Y	Depth Well	Depth Water	Water Column
C 01916		PRO	ED	4	3	2	21	22S	30E	605068	3582947*	500		
C 02111		MIN	ED	2	2	2	33	22S	30E	605505	3580336*	248	155	93
C 02637		MON	ED	1	3	3	24	22S	30E	608950	3582377*	759		
C 02638			ED	4	3	3	35	22S	30E	607558	3578948*	528		
C 02638		STK	ED	4	3	3	35	22S	30E	607558	3578948*	528		
C 02723		MON	ED	2	2	3	15	22S	30E	606282	3584363*	651		
C 02724		MON	ED	4	4	2	29	22S	30E	603860	3581329*	503		
C 02950 EXPL		EXP	ED	4	2	4	23	22S	30E	608740	3582576*	845		
C 03015		MON	ED	1	4	3	22	22S	30E	606099	3582353*	1316	262	1054
C 03220 EXPLORE		MON	ED	1	3	4	33	22S	30E	604911	3579127*	224		

Average Depth to Water: **208 feet**
Minimum Depth: **155 feet**
Maximum Depth: **262 feet**

Record Count: 10

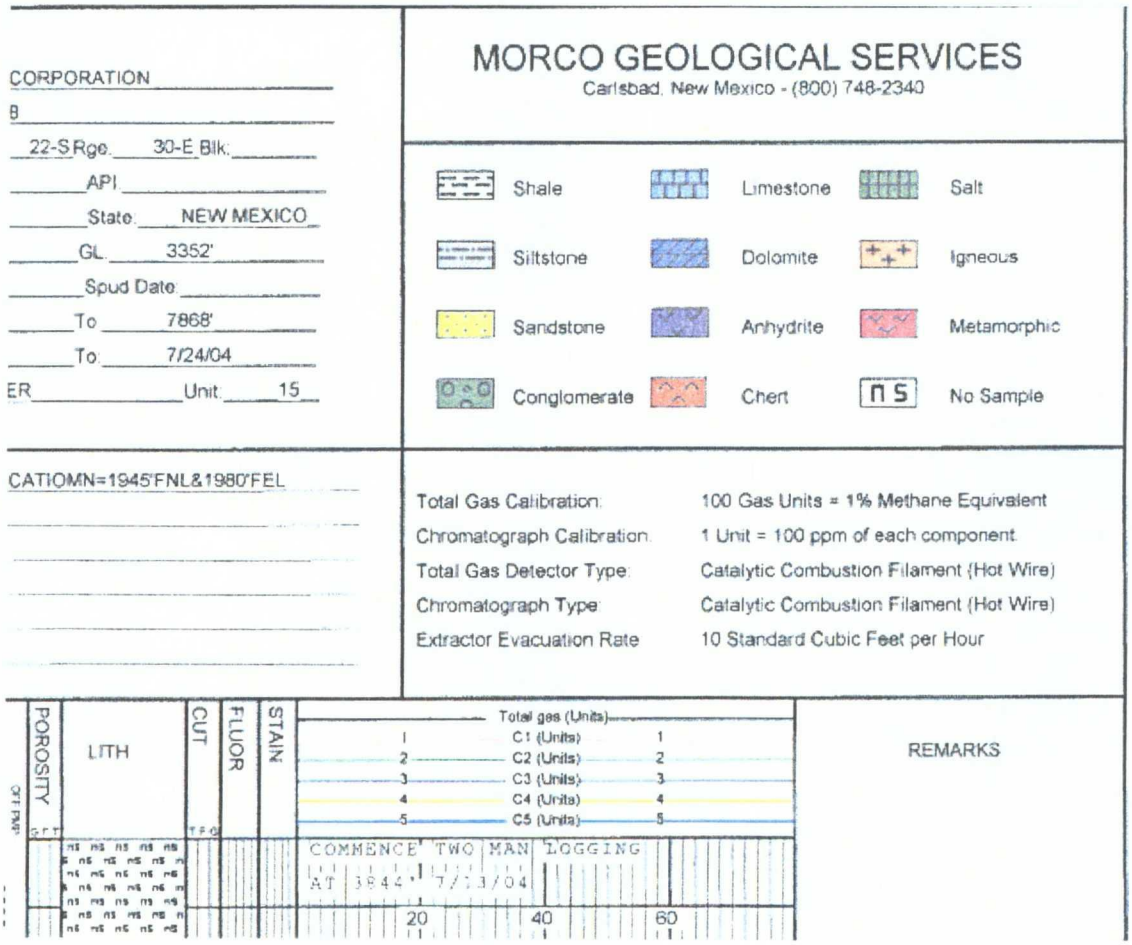
Basin/County Search:
County: Eddy

PLSS Search:
Township: 22S Range: 30E

3. Why was the completed and produced interval from **5920 to 5930** proposed to be included as the lowermost disposal interval? Was it considered to be relatively water bearing?
   The current perforations for the Apache 25#8 had log correlations to other producing well intervals in the same area. The perforated interval above was the only zone that was highly water saturated and did not correlate to any producing wells. This zone also had a thick shale barrier beneath it. These set of perfs were then identified to be a prime candidate for water injection. The other set of perforation determined for

water injection were determined based off high permeability and porosity in a non hydrocarbon bearing zone. An upper zone consisting of intervals: 5065' – 5105', 5110' – 5210', 5240' – 5295', 5305' – 5335', 5345' – 5395 was indentified as another ideal zone that could be opened up when economically feasible, as well as, if the need should arise for additional capacity for increased water injection for future drilled wells.

4. How does Devon know the proposed injection interval does not contain hydrocarbons? Please send a water saturation calculation or copy of a mud log over this interval.
Mud logs showed that the only zone bearing hydrocarbons was the interval of 5920-5930 which has now watered-out.



CORPORATION
B
22-S Rge: 30-E Blk:
API
State: NEW MEXICO
GL: 3352'
Spud Date:
To: 7868'
To: 7/24/04
ER Unit: 15

MORCO GEOLOGICAL SERVICES
Carlsbad, New Mexico - (800) 748-2340

Shale
Limestone
Salt
Siltstone
Dolomite
Igneous
Sandstone
Anhydrite
Metamorphic
Conglomerate
Chert
NS No Sample

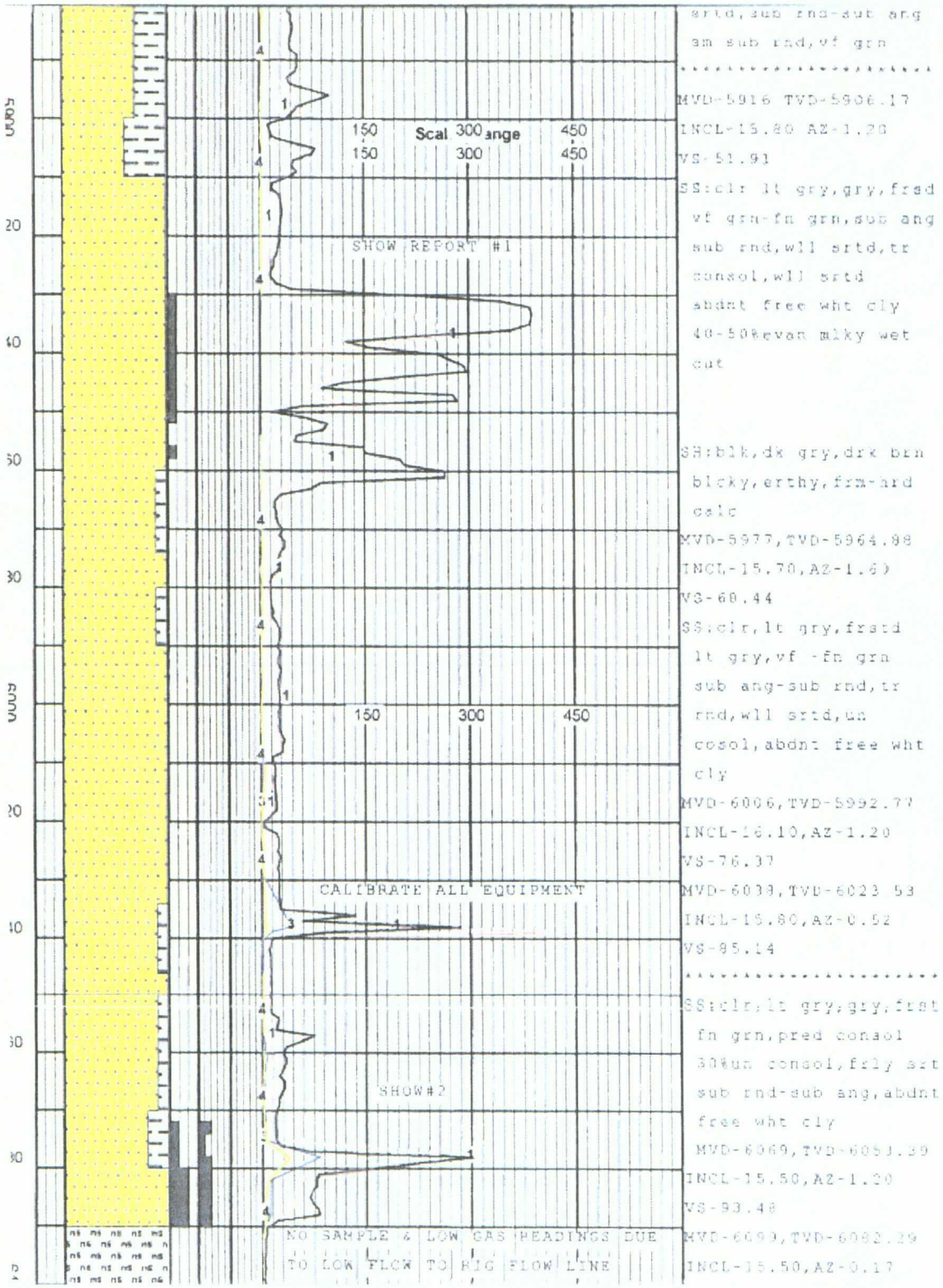
CATIOMN=1945'FNL&1980'FEL

Total Gas Calibration: 100 Gas Units = 1% Methane Equivalent
Chromatograph Calibration: 1 Unit = 100 ppm of each component
Total Gas Detector Type: Catalytic Combustion Filament (Hot Wire)
Chromatograph Type: Catalytic Combustion Filament (Hot Wire)
Extractor Evacuation Rate: 10 Standard Cubic Feet per Hour

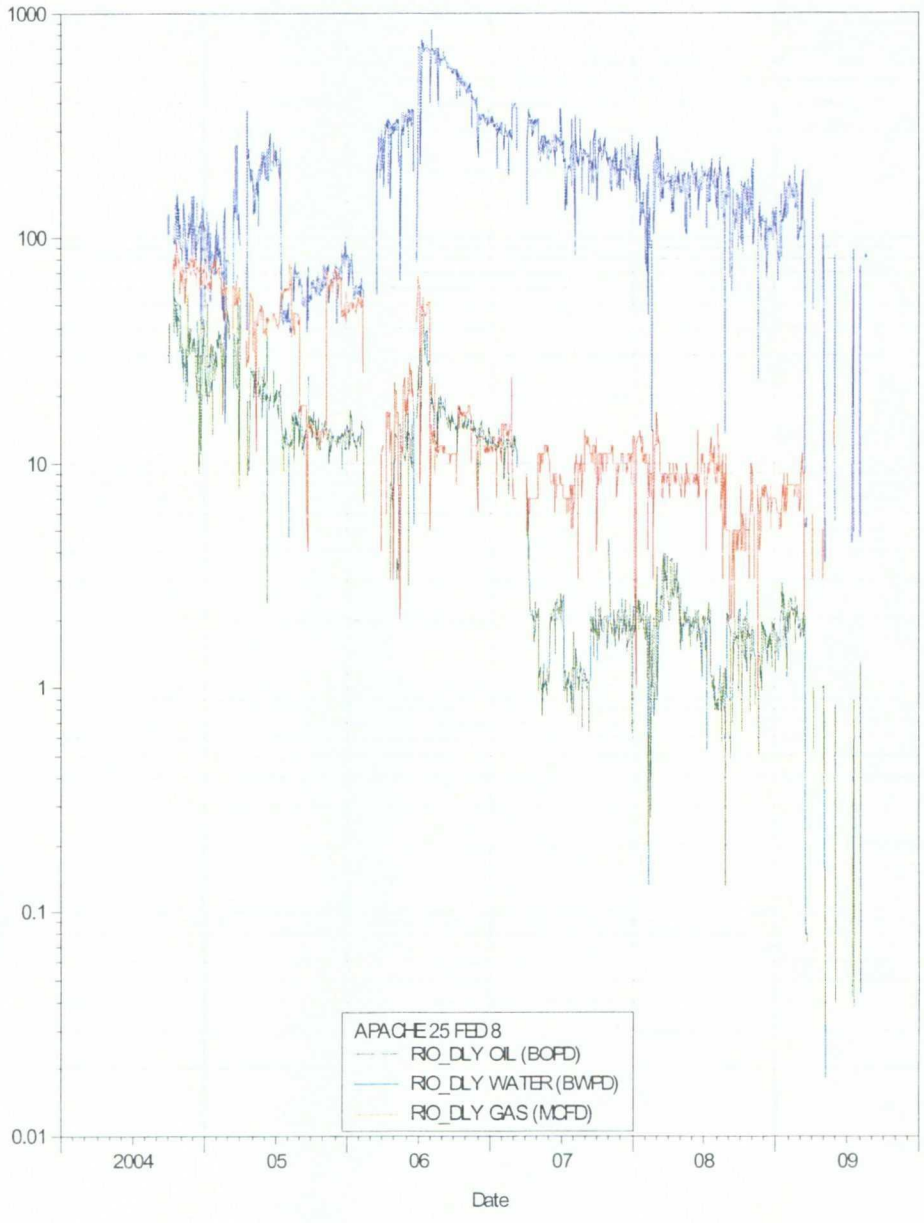
POROSITY | LITH | CUT | FLUOR | STAIN | Total gas (Units) | C1 (Units) | C2 (Units) | C3 (Units) | C4 (Units) | C5 (Units) | REMARKS

COMMENCE TWO MAN LOGGING AT 3944' 7/13/04

20 40 60



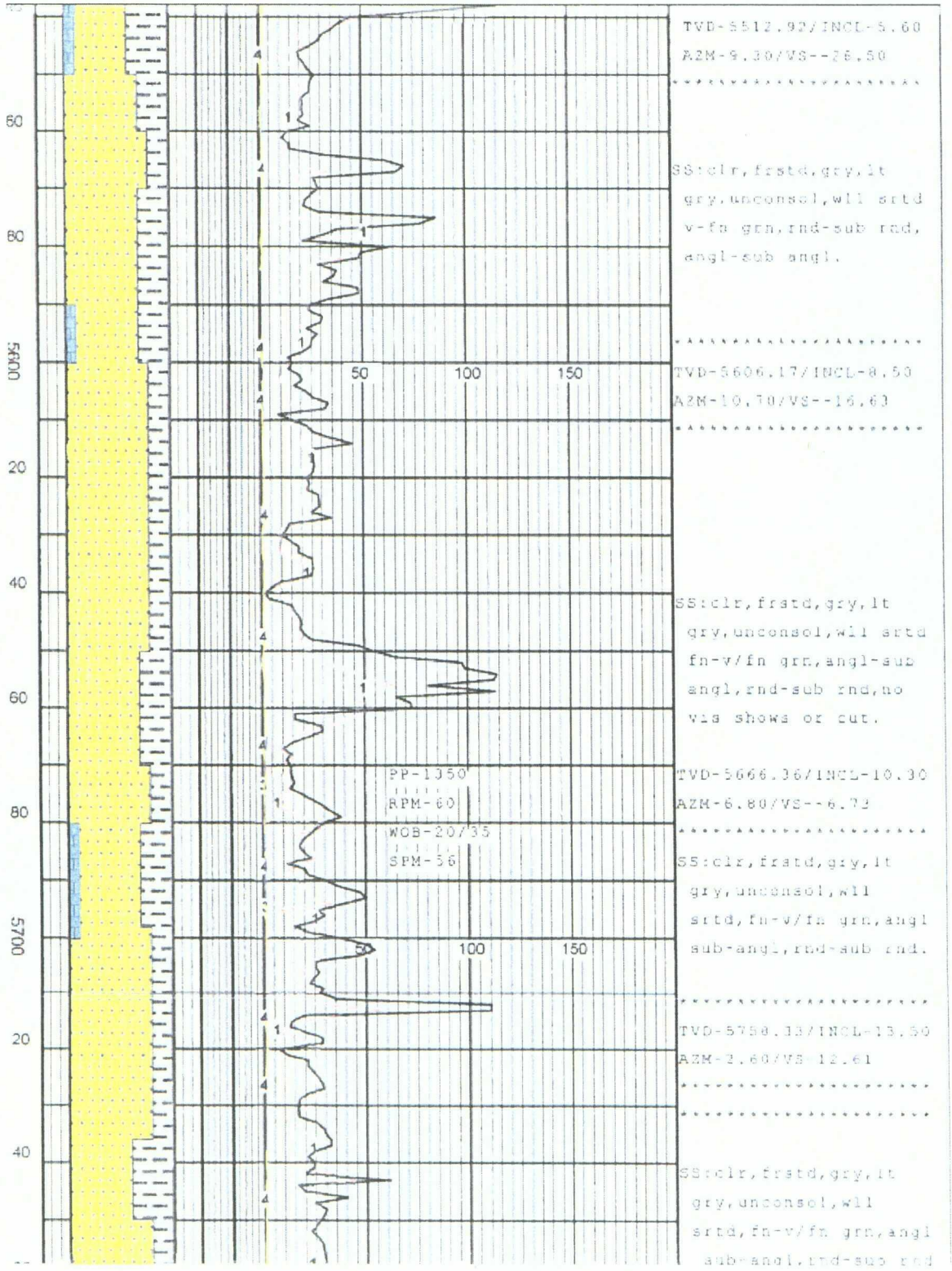
5. Please send a production plot of this well (with applicable open perforations marked) from the first date of production to the last.

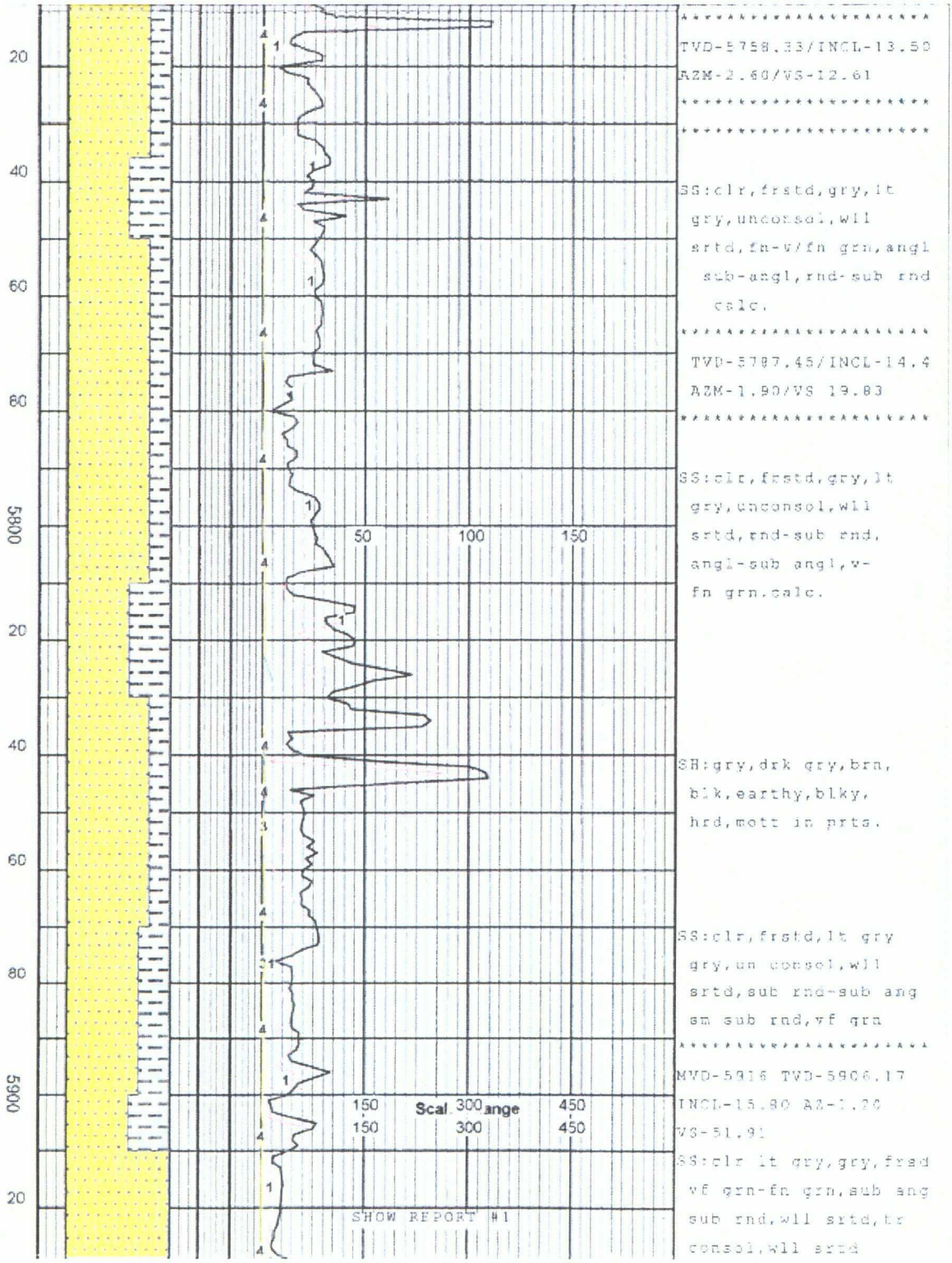


7/30/04: Perforated 7660' – 7682'; 4/4/05: Perforated 7018' – 7404'; 2/14/06: Perforated 5920' – 6867'.

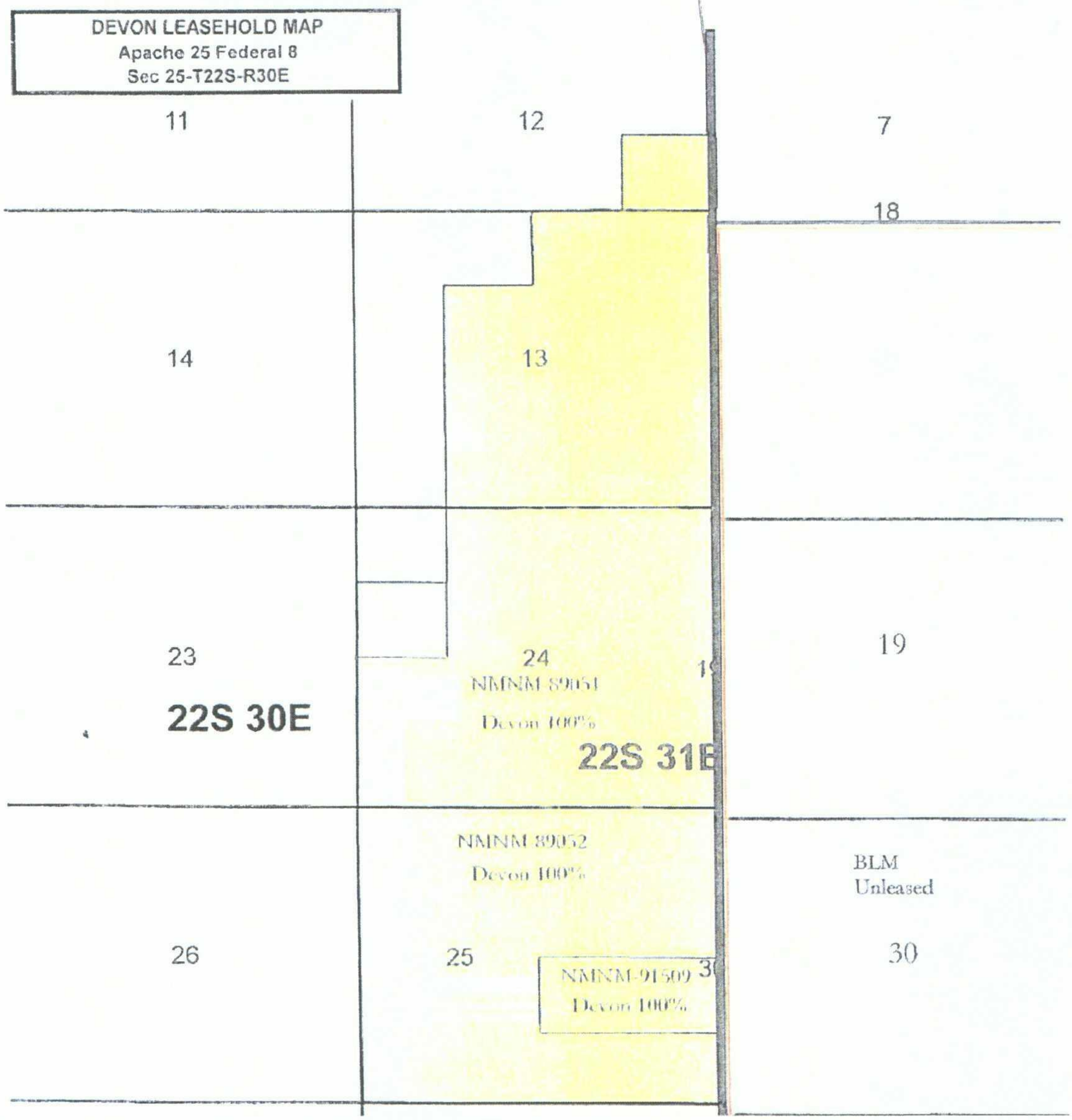
6. Why was this well chosen for disposal rather than the other wells?

As you can see from the production graph above, this well is uneconomic due to the extremely high water cut. Rather than P&A this well, we found that this would be a prime candidate for an injection well. We are looking at the future, and with more


TVD-5512.92/INCL-5.60
AZM-9.30/VS--26.50
SS:clr,frstd,gry,lt gry,unconsol,wll srtd v-fn grn,rnd-sub rnd, angl-sub angl.
TVD-5606.17/INCL-8.50
AZM-10.70/VS--16.63
SS:clr,frstd,gry,lt gry,unconsol,wll srtd fn-v/fn grn,angl-sub angl,rnd-sub rnd,no vis shows or cut.
TVD-5666.36/INCL-10.30
AZM-6.80/VS--6.72
PP-1350
RPM-60
WOB-20/35
SPM-56
SS:clr,frstd,gry,lt gry,unconsol,wll srtd,fn-v/fn grn,angl sub-angl,rnd-sub rnd.
TVD-5758.33/INCL-13.50
AZM-2.60/VS 12.61
SS:clr,frstd,gry,lt gry,unconsol,wll srtd,fn-v/fn grn,angl sub-angl,rnd-sub rnd
50
100
150
5600
5700
60
80
20
40


20
40
60
80
5900
20
40
60
80
5900
20
50
100
150
150
Scal 300 ange
150
300
450
450
SHOW REPORT #1
TVD-5758.33/INCL-13.50
AZM-2.60/VS-12.61
SS:clr,frstd,gry,lt gry,unconsol,wll srtd,fm-v/fn grn,angl sub-angl,rnd-sub rnd calc.
TVD-5787.45/INCL-14.4
AZM-1.90/VS 19.83
SS:clr,frstd,gry,lt gry,unconsol,wll srtd,rnd-sub rnd, angl-sub angl,v-fn grn.calc.
SH:gry,drk gry,brn, blk,earthy,blky, hrd,mott in prts.
SS:clr,frstd,lt gry gry,un consol,wll srtd,sub rnd-sub ang sm sub rnd,vf grn
MVD-5916 TVD-5906.17
INCL-15.80 AZ-1.20
VS-51.91
SS:clr lt gry,gry,frsd vf grn-fn grn,sub ang sub rnd,wll srtd,tr consol,wll srtd

Devon does not own the mineral rights in that section. BLM owns the land and it is unleased. We have sent the appropriate paper work to notify them.



12. Please note: Due to the proximity to the WIPP site, this well (if permitted for disposal) may never be allowed a higher injection pressure than the 0.2 psi/ft gradient.
    Are you taking this from surface? I.e. from top perf: 5678ft * .2 psi/ft = 1136psi?

13. Please send proof of notice to the following State and Local managers of the WIPP. (We would likely require this notice even if the proposed disposal site was further from the WIPP area):
    We are sending out a PON this week. assume 8/4/09

wells being drilled, we are looking to lessen our dependency on the Campana SWD to handle our water injection. The Apache 25#8 is in close proximity to the Campana SWD, as well as, the producing wells in the area. It would easy to move and reuse most of the equipment at the Campana facility and use it on the 25#8 in order to avoid high facility costs.

7. The DV tool depth on your wellbore diagram is different from that marked on the CBL (see the OCD imaged well logs). Which is correct?
   The OCD log was correct of the DV tool @ 3982'. After reviewing our own logs, we found that the well report in which we looked for the DV tool was entered into our well files wrong by field personnel. It has since been updated.

8. The completion information on this well shows that cement circulated on both sides of the DV tool (both stages circulated). However, the CBL for this well (in the OCD imaging system) does not go to the depths you are proposing to use for disposal – and the included CBL (interval over the DV tool depth) does not show cement below or above the tool – is this a mistake or was the cement used so thin that the CBL did not pick it up? Was this the typical cementing program for all these wells?
   Cement was circulated above and bellow the DV tool. The log was then cut off when they established that cement had been directed and bonded in both directions. After looking at all the CBL logs in the area, the results were mixed. Some logs were run from TD to surface, others had just the producing interval logged, and others ran a log over the producing interval then moved to the DV tool and noted TOC. Since these wells seem to very so greatly, the best way to go about looking at the top of cement is to look at the drilling reports and see if they circulated returns to the surface. Most if not all of our wells have cement to surface. With any wells in question, the best method to check TOC without having to pull a well and spend the money running a bond log would be to pressure up on the backside. If the pressure holds, we know that the cement is well within the casing shoe. The economics are not favorable to pull 14 wells and run CBL's from top to bottom.

9. For all wells in Section 25, please research the DV tool setting depth and determine if cement circulated in the cementing stages below and above these tools. Include that data either on wellbore diagrams of all these wells or in the spreadsheet data for these wells. If the wells have CBL's run on them, please record which ones on the spreadsheet and send copies of the CBL's to the Hobbs office for scanning into the OCD imaging system.
   We are including an attached spreadsheet for these wells. Hopefully with the additional information, it will be easier to see what I was trying to convey in the paragraph above. I'm also attaching a spreadsheet of calculations we did on the TOC of those wells in question.

10. Please notice the nearest Potash lessee and send proof of this notice (this area is included in the Potash area defined in R-111-P).
    We are sending out a PON this week. assume Sept 4 09

11. Does Devon own (control) the mineral rights within the Delaware in the W/2 W/2 of offsetting Section 30 (to the east of your well)?

KMJ- Petroleum Engineer SENM (8/19/09)

In addition to the information above, I'm also noting some of Wesley Ingram's questions concerning the following:

1. Well 30-015-27410 has an unknown TOC. TOC needs to be verified.

2. Well 30-015-32720 has cement top at 3080' which is above proposed injection zone.

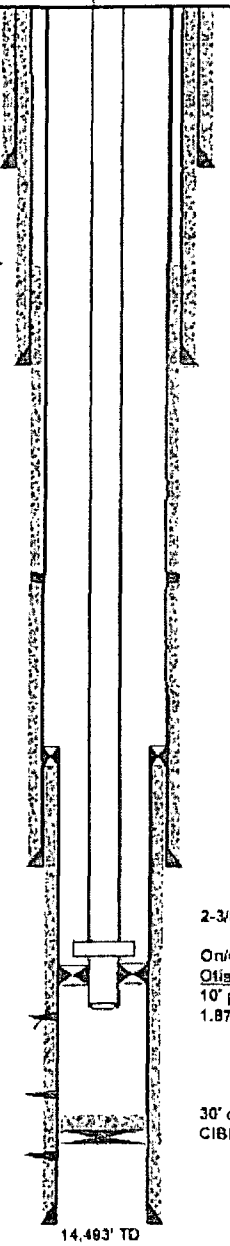
3. Well 30-015-27478 has estimated TOC of 3400'. TOC may or may not cover injection zone.

I'm providing schematics and the resulting calculations done to indentify TOC for these wells. To help with the questions above, please take a look at the schematics provided and their explanation. With the top injection perf of 5678ft, the concerns regarding TOC should cover this injection zone. For further testing, see question #8.

Apache 25 #1:

DEVON ENERGY PRODUCTION COMPANY LP

Well Name: APACHE 25 FED #1	Field: LOS MEDANOS		
Location: 1730' FNL & 660' FEL, SEC 25-T22S-R30E	County: EDDY	State: NM	
Elevation: 3366' GL	Spud Date: 5/5/93	Compl Date: 10/14/93	
API#: 30-015-27410 | Prepared by: Ronnie Slack	Date: 8/17/09	Rev:	



17-1/2" Hole
13-3/8", 64.8#, K55, ST&C, @ 550'
Cmt'd w/750 sx to surface

7" TOC calculated @ 1415'
(enough cement volume was pumped to bring to surface, but reports indicate that circulation was lost during last 40 bbls of disp. Backed out 40 bbls to get TOC @ 1415'. CBL run @ 6600-7920; 11700-14436

12-1/4" Hole
9-5/8", 40#, K55, @ 3,878'
Cmt'd w/1400 sx to surface

9-5/8" X 7" csg= 1583 ft^3/ft
8-3/4" hole X 7" csg= 1503 ft^3/ft

DV Tool @ 7803'

4-1/2" liner top @ 11,960'

8-3/4" Hole
7", 26#, S95 & N80, @ 12,317'
Cmt'd 1st stg w/905 sx to DV tool
Cmt'd 2nd stg w/1535 sx
(lost circulation during last 40 bbls)

Atoka (8/18/93)
12982' - 12992' (sqzd w/50 sx-7/18/03)

Morrow (7/25/03)
13911' - 13916' (7/25/03)

Morrow (7/23/93)
14321' - 14391'

6" hole
4-1/2", 13.5#, liner 11,960' - 14,490'
Cmt'd w/330 sx

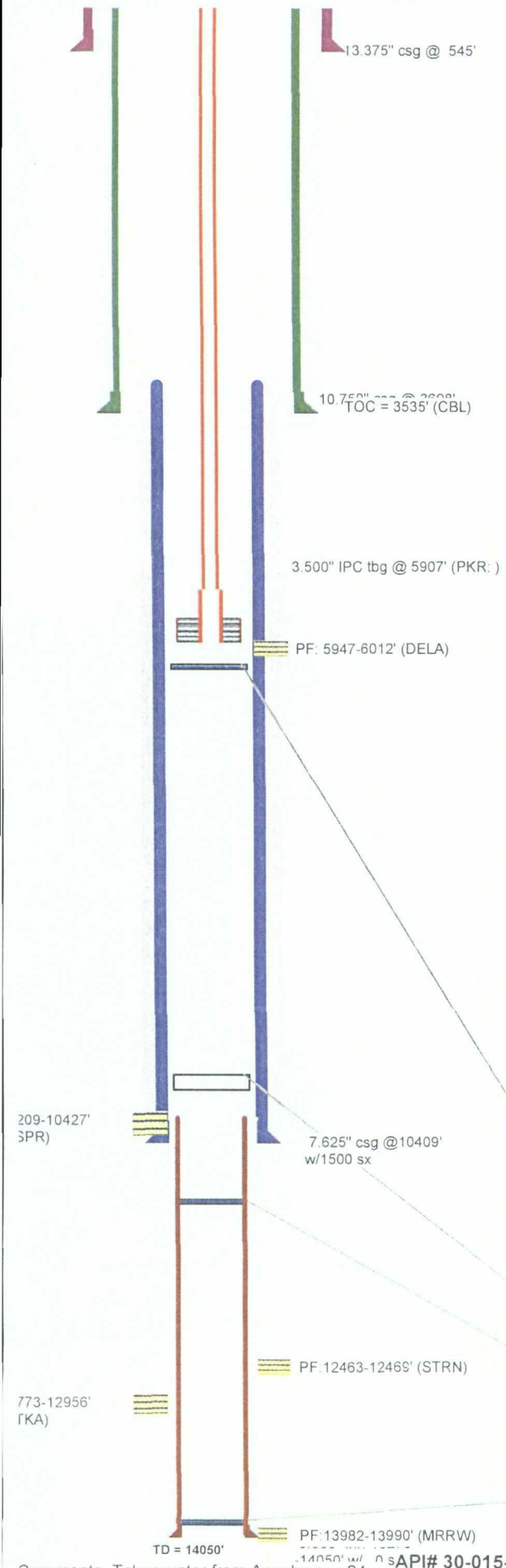
14,493' TD

2-3/8" production tubing to 12,861'

On/Off tool w/1.875 profile
Otis Perma Latch packer
10' pup jt
1.875 profile w/1.822 no go

Note: Exact packer setting depth not noted in wellview

30' cement. 14133' pbd.
CIBP @ 14163' (8/14/93)



DEVON ENERGY CORP. SAMI ANA #1 (SWD)

Field, EDDY Co., NM — **Area: INGLE WELLS/SAN**

1980' FNL, 660' FWL, Sec 6, 22S 31E. — Elev: 3375.0' (16.0' AGL)

Last updated by:

Jim Cromer 12/18/2006

Surface Casing Record
13.375"/ 54.50#/ K-55/ 8RD @ 545'

Intermediate Casing Record
10.750"/ 40.00#/ J-55/ 8RD @ 3698'
45.00#/ J-55/ 8RD @ 3698'

Production Casing Record
7.63"/ 26.40#/ N-80/ 8RD @ 10409'
39.00#/ CS95 @ 10409'

Production Liner Record
5.00"/ 0.00#/ / @ 10276'-14050'

Tubing Record
3.500"/ 9.30#/ J-55/ 8RD @ 5907'

Well History (spudded 02/19/1974):

8/74. DC. Set 5" liner @ 14050'. Tested Morrow, Atoka, Strawn, Bone Spring, all unsuccessful. Plugged and abandoned.

7/04 - re-entry to convert to SWD in Delaware. Ran CBL from 6310' - 3500' and csg inspection log fm 6320' up to 3506'. TOC @ top of liner (3535'). PF 5947' - 6012' 4 SPF. Set 7-5/8" CIBP @ 6200', dump 1 bailer cmt. ACDZ w/ 3k g 7.5% NEFeHCl+ 300 BS. Min PSI 625, MAX 1989#, AIP = 1384 @ 6.3 BPM. ISDP 625 PSI. Set inj pkr @ 5907' on 3½" tbg in 15k# compression. Ran MIT test. OK.

TUBING DETAIL

Descrip.	Jts	O.D./	Wt/	Gr /	Conn	Depth		Int'vl
TBG JNT(S)	1	3.500/	9.3/	J-55 /	EUE	16-	47	
TBG SUB	1	3.500/	9.3/		/EUE	47-	58	
TBG JNT(S)	185	3.500/	9.3/		/EUE	58-	5885	

Plugs:

CIBP @ 6165'
CMT @ 9871'
PKR @11012'
CIBP @13920'

Perf Detail

Interval	spf	Date

Comments: Takes water from Apache sec 24

API# 30-015-21098

Current status: INJ

NM OIL CONS. COMMISSION
Artesia, NM 88210

Form 3160-5
(June 1990)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED
JUN 11 8 52 AM '93

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals

SUBMIT IN TRIPLICATE

5. Lease Designation and Serial No.: NM 89052
6. If Indian, Allottee or Tribe Name: N/A
7. If Unit or CA, Agreement Designation: N/A
8. Well Name and No.: Apache "25" Fed No. 1
9. API Well No.: 30-015-27410
10. Field and Pool, or Exploratory Area: Wildcat
11. County or Parish, State: Eddy County, New Mexico

1. Type of Well: ☐ Oil Well ☒ Gas Well ☐ Other
2. Name of Operator: Mitchell Energy Corporation
3. Address and Telephone No.: P. O. Box 4000, The Woodlands, Texas 77387-4000 (713) 377-5855
4. Location of Well (Footage, Sec., T., R., M., or Survey Description): 1730' FNL and 660' FEL (SE/NE) Section 25, T22S, R30E

12. CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION	
☐ Notice of Intent	☐ Abandonment	☐ Change of Plans
☒ Subsequent Report	☐ Recompletion	☐ New Construction
☐ Final Abandonment Notice	☐ Plugging Back	☐ Non-Routine Fracturing
	☐ Casing Repair	☐ Water Shut-Off
	☐ Altering Casing	☐ Conversion to Injection
	☒ Other Csg & Cmtg	☐ Dispose Water

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

5/13/93 - 5/17/93 Drld 8-3/4" hole to 7780'. Ran open-hole logs.

5/18/93 - 6/4/93 Drld 8-3/4" hole to 12317'. Ran open-hole logs.

6/5/93 - 6/8/93 Ran 280 jts (12320') 7" 26# S-95 & N-80 LT&C LSS csg. Set float shoe @ 12317', FC @ 12226', DV @ 7803'. Ppd 10 BFW + 500 gals Super Flush + 10 BFW. Cmtd w/230 sx Halliburton Light + 0.3% Halad 322 (12.4 ppg, 1.97 ft^3/sx) and 675 sx 50/50 Poz + 2% gel + 6% salt + 0.3% Halad 322 (14.2 ppg, 1.30 ft^3/sx). Disp w/464 bbls mud. PD @ 1045 hrs 6/5/93 w/1680 psi. Float held. Open DV tool and circ 6 hrs. Circ cmt preflush from above DV tool. Ppd 10 BFW + 500 gals Super Flush + 10 BFW. Cmtd w/435 sx Halliburton Light + 0.3% Halad 322 (12.4 ppg, 1.97 ft^3/sx) and 1100 sx 50/50 Poz + 2% gel + 6% salt + 0.3% Halad 322 (14.2 ppg, 1.30 ft^3/sx). Disp w/294 bbls mud. Lost circ during last 40 bbls of disp. PD @ 1820 hrs 6/5/93 w/2300 psi. DV did not close. Attempted 4 times inc press up to 3000 psi and DV would not close. Hold pressure. WOC. ND BOP. Set slips w/300,000#. Cut-off 7" csg. NU 11" - 5000 x 7-1/16" -10,000 tbg spool. Test seals to 4000 psi. NU 10,000 psi BOP. Test BOPE, chk lines, valves and manifold to 5000 psi. Test hydril to 3500 psi. Install wear bushing. Drill out DV tool 7685-7875'.

6/9/93 Drld 6" hole to 12426'. PU 3-1/2" DP. Tag TOC @ 12130'. Test csg to 2000 psi for 15 min. DOC. Drill 15' new formation. Close hydril and pressure to 1200 psi for 15 min. (EMW test to 12.0 ppg mud). Displace hole w/10.0 ppg brine.

14. I hereby certify that the foregoing is true and correct
Signed George W. Tullos Title District Drilling Manager Date 6/9/93

(This space for Federal or State office use)

Approved by _____ Title _____ Date _____
Conditions of approval, if any:

JUN 18 1993

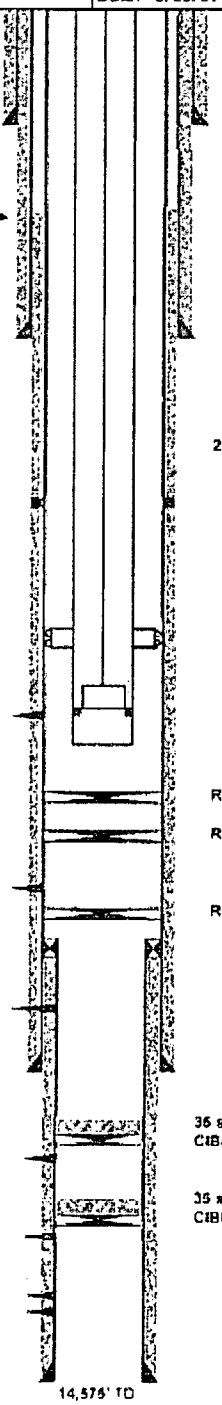
Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

*See Instruction on Reverse Side

Apache 25 #2:

DEVON ENERGY PRODUCTION COMPANY LP

Well Name: APACHE 25 FED #2		Field: LOS MEDANOS	
Location: 660' FSL & 1310' FEL, SEC 25-T22S-R30E		County: EDDY	State: NM
Elevation: 3336' GL		Spud Date: 8/16/93	Compl Date: 10/27/93
API#: 30-015-27478	Prepared by: Ronnie Slack	Date: 8/20/09	Rev:



17-1/2" Hole
13-3/8", 54.5#, K55, STC, @ 650'
Cmt'd w/550 sx to surface

7" TOC calculated @ 1240'
Per drilling rpt--full returns throughout cmt job
ETOC from drlg report @ 3400'. Calculated TOC @ 1240' CBL-10/26/93 logged 11950-14470.

12-1/4" Hole
9-5/8", 40#, K55, LTC, @ 3,664'
Cmt'd w/1580 sx to surface

9-5/8" X 7" cap= 1583 ft³/ft
8-3/4" hole X 7" cap= 1503 ft³/ft

DV Tool @ 7780'

BONE SPRING (3/2/03)
10884' 10944'

WOLFCAMP
11624' 11968' (4/13/94)

4-1/2" liner top @ 12,006'

WOLFCAMP
12032' 12154' (3/23/94)

8-3/4" Hole
7", 26#, S95 & N80, @ 12,410'
Cmt'd 1st stg w/1030 sx to DV tool
Cmt'd 2nd stg w/875 sx

ATOKA (3/3/94)
13078' 13084' (wet)

MORROW (10/27/93)
14113' - 14132'

MORROW
14296' - 14304' (1/30/94) wet
14310' - 14316' (1/28/94) wet

6" hole
4-1/2", 13.5#, S95, liner 12,006' - 14,560'
Cmt'd w/360 sx

14,575' TD

2-7/8", 6.4#, N80 production tubing to 10938' *(4/9/04)*

RBP @ 11536' *(3/3/03)*

RBP @ 11660' *(3/1/03)*

RBP @ 12003' *(4/13/94)*

35 sx cement on top *(3/24/94)*
CIBP @ 13020' *(3/24/94)*

35 sx cement on top *(3/2/94)*
CIBP @ 14105' *(3/2/94)*

Form 3160-5
(June 1990)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals

SUBMIT IN TRIPLICATE

5. Lease Designation and Serial No.: NM 89052
6. If Indian, Allottee or Tribe Name: N/A
7. If Unit or CA, Agreement Designation: N/A
8. Well Name and No.: Apache "25" Fed Com #2
9. API Well No.: 30-015-27478
10. Field and Pool, or Exploratory Area: Wildcat
11. County or Parish, State: Eddy County, New Mexico

1. Type of Well: [ ] Oil Well [X] Gas Well [ ] Other
2. Name of Operator: Mitchell Energy Corporation
3. Address and Telephone No.: P. O. Box 4000, The Woodlands, TX 77387-4000 (713) 377-5855
4. Location of Well (Footage, Sec., T., R., M., or Survey Description): 1310' FEL and 660' FSL, Section 25, T22S, R30E

12. CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION	
[ ] Notice of Intent	[ ] Abandonment	[ ] Change of Plans
[ ] Subsequent Report	[ ] Recompletion	[ ] New Construction
[ ] Final Abandonment Notice	[ ] Plugging Back	[ ] Non-Routine Fracturing
	[ ] Casing Repair	[ ] Water Shut-Off
	[ ] Altering Casing	[ ] Conversion to Injection
	[X] Other Csg & Cmtg	[ ] Dispose Water

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

8/28/93 - 9/4/93 Drld 8-3/4" hole to 7825'. Ran open-hole logs.

9/5/93 - 9/20/93 Drld 8-3/4" hole to 12417'. Ran open-hole logs.

9/21/93 - 9/22/93 Ran 287 jts (12407') 7" 26# N-80 & S-95 LT&C USS & LSS csg. Set FS @ 12410'; FC @ 12321'; DV tool @ 7783'. Cmtd w/1000 sx 50/50 Poz/H + 5% salt + 2% gel + 0.5% CF-2 + 0.2% Diacel LWL (14.26 ppg, 1.28 ft^3/sx). PD w/1700 psi @ 0430 hrs (MDT) 9/21/93. Did not bump plug. Full returns. Float held. Drop DV opening bomb and open DV tool. Cmtd w/550 sx Pacesetter Litc + 6% gel + 0.15% Diacel LWL (12.36 ppg, 1.99 ft^3/sx) and 325 sx 50/50 Poz/H + 5% salt + 2% gel + 0.5% CF-2 (14.26 ppg, 1.28 ft^3/sx). PD @ 1000 hrs 9/21/93 w/1900 psi. Closed DV tool. Full returns throughout. Est TOC @ 3400'. ND BOPs. Set slips w/283,000# csg wt. Install 10000 psi tbg spool. Test seals to 4000 psi. NU BOPs. Test BOPs, chk man and lines and valves to 10000 psi; hydril to 3500 psi.

14. I hereby certify that the foregoing is true and correct
Signed George W. Tullos Title District Drilling Manager Date 9/22/93

(This space for Federal or State office use)
Approved by _____ Title _____ Date _____
Conditions of approval, if any:

ACCEPTED FOR RECORD
OCT 20 1993
CARLSBAD, NEW MEXICO

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

*See Instruction on Reverse Side

Apache 25#8:

DEVON ENERGY PRODUCTION COMPANY LP

Well Name: APACHE 25 FEDERAL 8		Field: QUAHADA RIDGE SE	
Location: 2455' FNL & 1980' FEL, SEC 25-T22S-R30E		County: EDDY	State: NM
Elevation: 3365' KB; 3352' GL		Spud Date: 7/3/04	Compl Date: 8/12/04
API#: 30-015-33439	Prepared by: Ronnie Slack	Date: 8/18/09	Rev:

PROPOSED SWD

17-1/2" hole
13-3/8", 48#, H40, @ 831'
Cmt'd w/400 sx, circ to surface

11" Hole
8-5/8", 32#, J55, @ 3,849'
Cmt'd w/1020 sx, circ to surface

DV Tool @ 3982' (per cbl-5/5/04)
(dv tool noted at wrong depth of 4527' on csg rpt)

Formation Tops per cmpl rpt

Rustler	378
Salado	683
Delaware	3866
Cherry Canyon	4813
Brushy Canyon	6425
Bone Spring	7813

Proposed:
2-7/8" IPC tubing

Proposed:
Packer @ 5650'

Proposed SWD Zone-DELAWARE CHERRY CANYON
Proposed SWD Injection Interval 5678'-5930'
5678'-5690' (proposed perf add)
5722'-5746' (proposed perf add)
5758'-5796' (proposed perf add)
5854'-5884' (proposed perf add)

DELAWARE CHERRY CANYON (2/15/06)
5920' - 5930' (acidized w/1K gals, frac w/28K#)

DELAWARE CHERRY & BRUSHY CANYON (2/15/06)
6058' - 6074' (acidized w/1500 gals)
6225' - 6236' (acidized w/1K gals)
6861' - 6867' (acidized w/1K gals, frac w/28K #)

DELAWARE BRUSHY CANYON (4/7/05)
7018' - 7022' (acidized w/1K gals)
7189' - 7200'
7392' - 7404'
Acidized 7018-7404 w/1K gals, frac w/38K# 16/30

DELAWARE BRUSHY CANYON (8/12/04)
7660' - 7682'
Frac 7660-7682 w/105K# 16/30

Proposed:
CIBP @ 6030' 35' cement on top. 5980' PBD.

7-7/8" Hole
5-1/2", 15.5# & 17#, J55, @ 7,864'
Cmt'd w/1710 sx, circ to surface

7868' TD

7828' PBTD

Jones, William V., EMNRD

From: Jones, William V., EMNRD
Sent: Tuesday, September 29, 2009 2:33 PM
To: 'Slack, Ronnie'
Cc: Brooks, David K., EMNRD; Ezeanyim, Richard, EMNRD; Warnell, Terry G, EMNRD; 'Wesley_Ingram@blm.gov'; Clark, Anne, EMNRD; Reeves, Jacqueta, EMNRD; Inge, Richard, EMNRD
Subject: Disposal application from Devon: Apache 25 Federal #8: 30-015-33439 Cherry Canyon next to WIPP

Hello Ronnie:
Sorry for the delay and thank you and the other folks at Devon for sending the requested data.

We talked this over today and concerns I still have are:

a. Have you received any feedback from the federal WIPP people? If you have a waiver from them, that would be best.
b. Are any of the deviated wells within AOR actually deviated above this proposed injection interval? Or is the KOP's below this?
c. The CBL on this well does not (to me) show cement above and below the DV tool even though the cement should be definitely above the Tool – how does this look to you? Sorry if this is duplicated question from before.
d. Would you send Bradenhead surveys and/or pressure tests on all intermediate-production casings within AOR to verify the cement top on production pipe is into the intermediate casing shoe and to verify there are no bradenhead flows. Please call our Artesia OCD office and ask if they wish to witness this work.
e. Please send a simple stick diagram of all wells in the AOR showing DV tool depths and cement tops above and below these DV tools (best estimates) with the injection interval also marked on each well.

Because of proximity to WIPP, we will let you know soon if this must go to hearing, but meanwhile please address the above points?

Regards,

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

Tracking:

Recipient	Read
'Slack, Ronnie'	
Brooks, David K., EMNRD	
Ezeanyim, Richard, EMNRD	
Warnell, Terry G, EMNRD	Read: 9/29/2009 2:34 PM
'Wesley_Ingram@blm.gov'	
Clark, Anne, EMNRD	
Reeves, Jacqueta, EMNRD	
Inge, Richard, EMNRD	

Jones, William V., EMNRD

From: Jackson, Kale [Kale.Jackson@dvn.com]
Sent: Friday, November 06, 2009 12:49 PM
To: Jones, William V., EMNRD
Subject: Apache 25#8
Attachments: Apache 25#8 SWD Directional Survey.xls; Apache Pressure Tests.doc; DV stick diagram.xls

Mr. Jones,

I had sent this email to Jim Cromer Monday so he could be caught up to speed and add any extra input into my answers. Let me know as soon as you can on any details regarding this well.

Thanks,

Kale Jackson
Petroleum Engineer: SENM
Cell: (405) 208-0358
Direct: (405) 552-5310

From: Jackson, Kale
Sent: Tuesday, November 03, 2009 11:05 AM
To: Cromer, James
Subject: Apache 25#8

We talked this over today and concerns I still have are:
a. Have you received any feedback from the federal WIPP people? If you have a waiver from them, that would be best.
I talked to Ross Kirkes from the WIPP about a month ago and walked him through everything we were planning to do. I sent him all information regarding our new frac procedure in the Apache 25#8 and spent about 30min on the phone discussing various questions he had asked me. He seemed like there wasn't much for concern.

Ronnie had called to follow up with Ross (10-8-09), but he said that it was now in the hands of the higher ups at the WIPP & DOE. He recommended this project to the DOE that Devon would be approved to convert this well to an SWD. He acted like it was up to the DOE to approve this project. Have you heard anything back from either Ross or the DOE?

b. Are any of the deviated wells within AOR actually deviated above this proposed injection interval? Or is the KOP's below this?

All wells showed that the deviations were minimum through all injection zones. I am attaching a list of these deviations.

<<Apache 25#8 SWD Directional Survey.xls>>
c. The CBL on this well does not (to me) show cement above and below the DV tool even though the cement should be definitely above the Tool – how does this look to you? Sorry if this is duplicated question from before.

From an engineering standpoint, this well looks fine. The CBL looks the way it does, because sometimes they release the pressure when they log across the DV because the pressure is not noted on the log above that

Hello Ronnie:
Would you please scan or "copy and scan" the existing bond log for this well from "below the intended injection interval" extending up to "above the top of the DV tool" and email or overnight it to me? The log as shown on the web site does not cover the intended injection interval and shows ringing collars below and above the DV tool. You guys sent an explanation, but this seems odd.

Depending on what you send me, probably should be prepared to run another bond log with and without internal pressure on the 5-1/2 inch casing.

Thank You,

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

Jones, William V., EMNRD

From: Kirkes, G Ross [grkirke@sandia.gov]
Sent: Wednesday, October 21, 2009 3:04 PM
To: Jones, William V., EMNRD
Subject: RE: Apache 25 Fed #8

Very good. I will be in the office all day tomorrow, if that's possible.

Ross

From: Jones, William V., EMNRD [mailto:William.V.Jones@state.nm.us]
Sent: Wednesday, October 21, 2009 3:02 PM
To: Kirkes, G Ross
Subject: RE: Apache 25 Fed #8

Ross:
I am back from a 2 week absence and will try to call you?

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

From: Kirkes, G Ross [mailto:grkirke@sandia.gov]
Sent: Thursday, October 08, 2009 9:03 AM
To: Jones, William V., EMNRD
Subject: Apache 25 Fed #8

William:

I am working for the DOE WIPP Project and have reviewed the Application for Authorization to Inject at the Apache 25 Fed #8. I would like to discuss this proposal with you when possible.

Thank You,

Ross Kirkes
JHA P.A.
Sandia National Laboratories
575-234-0187

Jones, William V., EMNRD

From: Slack, Ronnie [Ronnie.Slack@dvn.com]
Sent: Friday, November 06, 2009 12:22 PM
To: Jones, William V., EMNRD
Cc: Jackson, Kale; Cromer, James
Subject: RE: Disposal applications near the WIPP site

Hi Will,

Kale has compiled the additional information that you requested in your email dated 9/29/09 for the Apache 25 Fed #8. It took a bit of time to coordinate/schedule the pressure testing on wells in the review area and then compile. You should be getting a response back from Kale next week.

Thanks,

Ronnie Slack
Operations Technician
Devon Energy Corporation
CT 3.033
(405) 552-4615 (office)
(405) 552-1415 (fax)
Email: Ronnie.Slack@dvn.com

From: Jones, William V., EMNRD [mailto:William.V.Jones@state.nm.us]
Sent: Friday, November 06, 2009 12:36 PM
To: Slack, Ronnie; Jose L. Velez
Cc: Ezeanyim, Richard, EMNRD; Reeves, Jacqueta, EMNRD
Subject: Disposal applications near the WIPP site

Hello Ronnie and Jose:
We have two and will soon have three pending applications for disposal near the WIPP site. You each have one here in my office. I have not received the third.

Today I talked with the Sandia Labs scientist assigned to the DOE WIPP project and he has been looking at each of these. He is meeting next week with the DOE and will call me immediately with any concerns they express after he makes his recommendation to them. I think he is in favor of allowing your applications to be approved – so I expect this DOE decision will come out fine for you both.

However, I have asked each of you for additional notices and additional information and am sorting through your applications today to see if we have received a reply and what the resulting application looks like.

Ronnie: I don't seem to have a reply from you to the latest email I sent on Sept 29 – did your guys reply to that? And what is the schedule to reply?

Jose: I received a nice package from you and don't see any discussion of a waiver from Yates – but do see you noticed them again, so this is probably OK. I will look it over today and if OK will prepare the permit for release when DOE gives me the OK – hopefully by the end of next week or first of the week after.

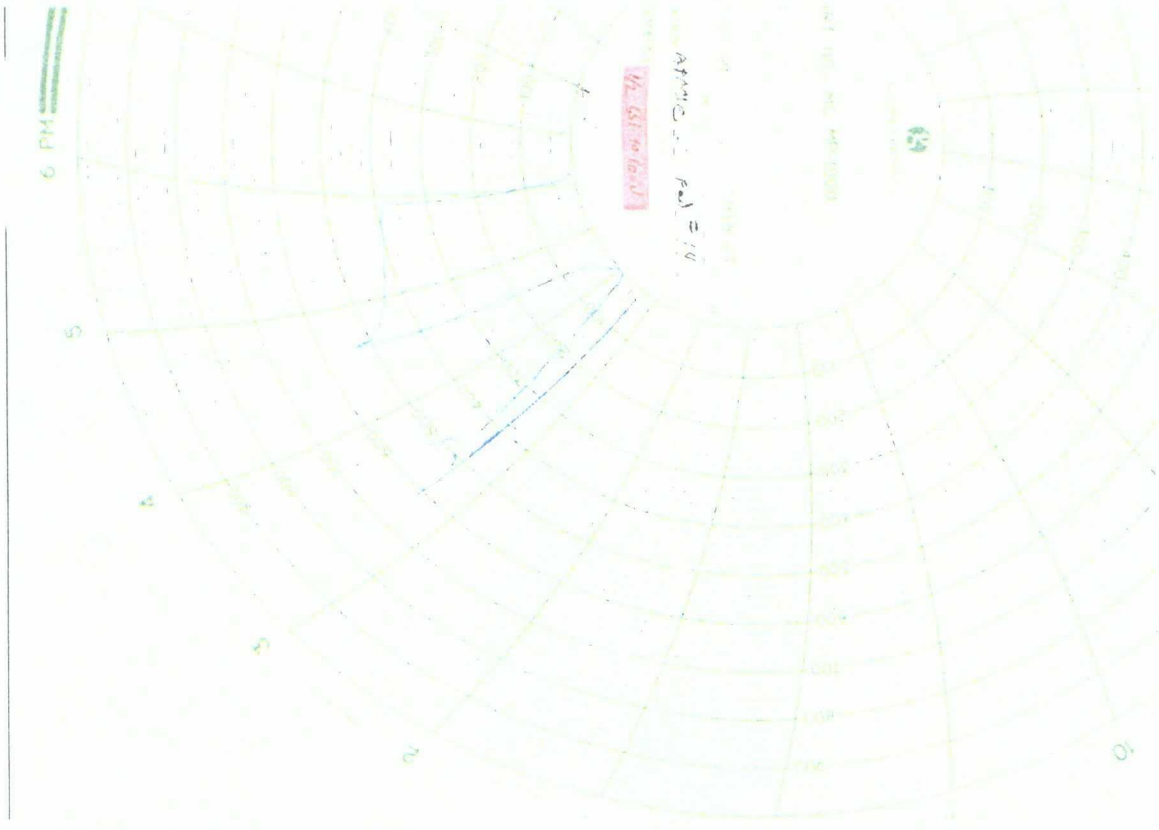
Thank you both,

William V. Jones PE

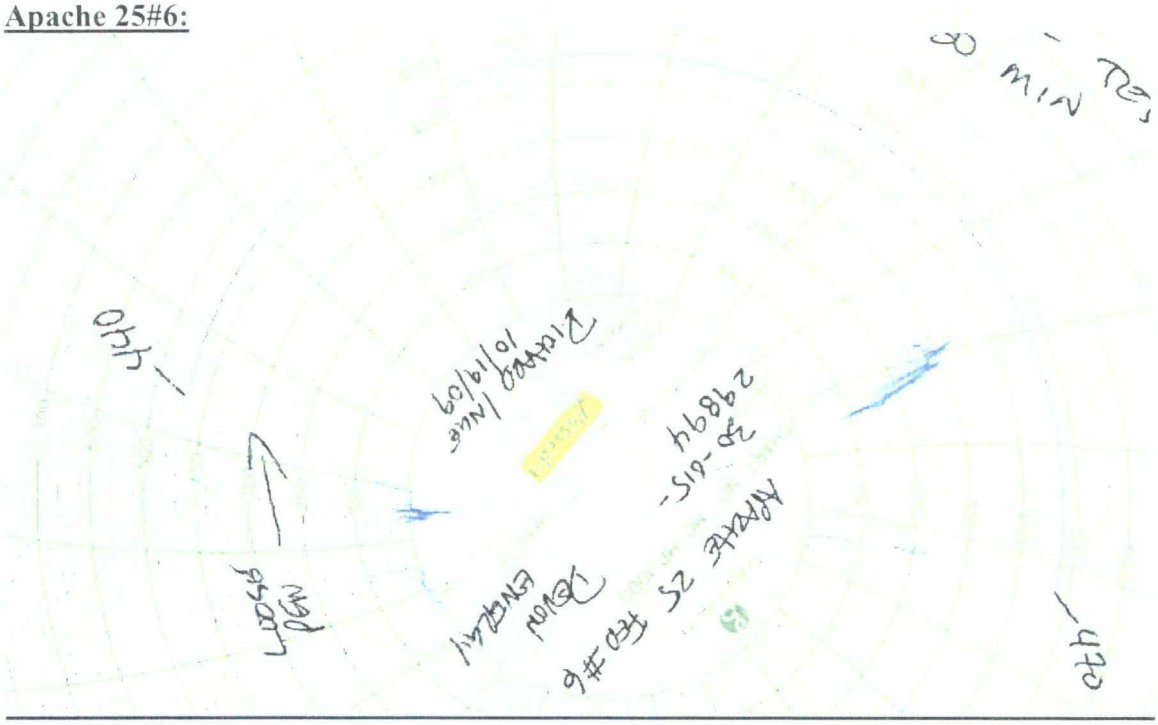
Here is a list of wells that failed. T.C.

Apache 25-8 ½ bbl to load	0
Apache 25-1 12 bbls to load	1,415 Calc
Apache 25-4 ½ bbl to load	0
Apache 25-13 1 bbl to load	0
Apache 25-14 .5 bbl to load	0
Apache 24-8 ½ bbl to load	0
Apache 25-16 .5 bbl to load	0
Apache 25-10 .5 bbl to load	0

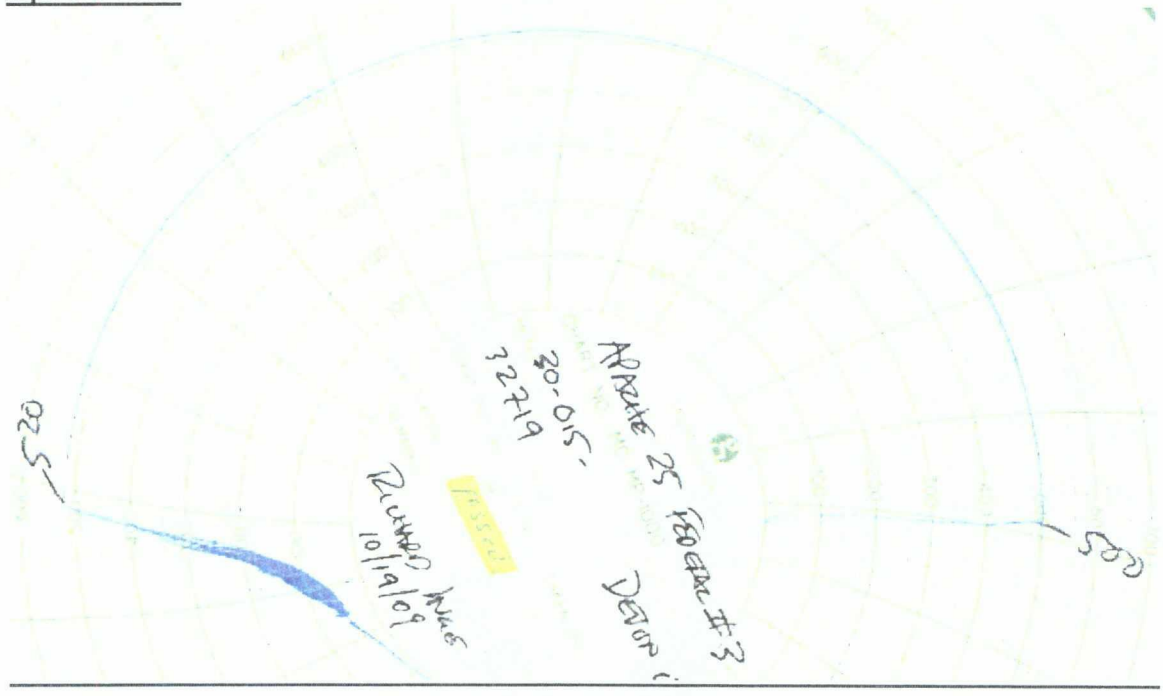
Apache 25#14: 0.5bbl to load



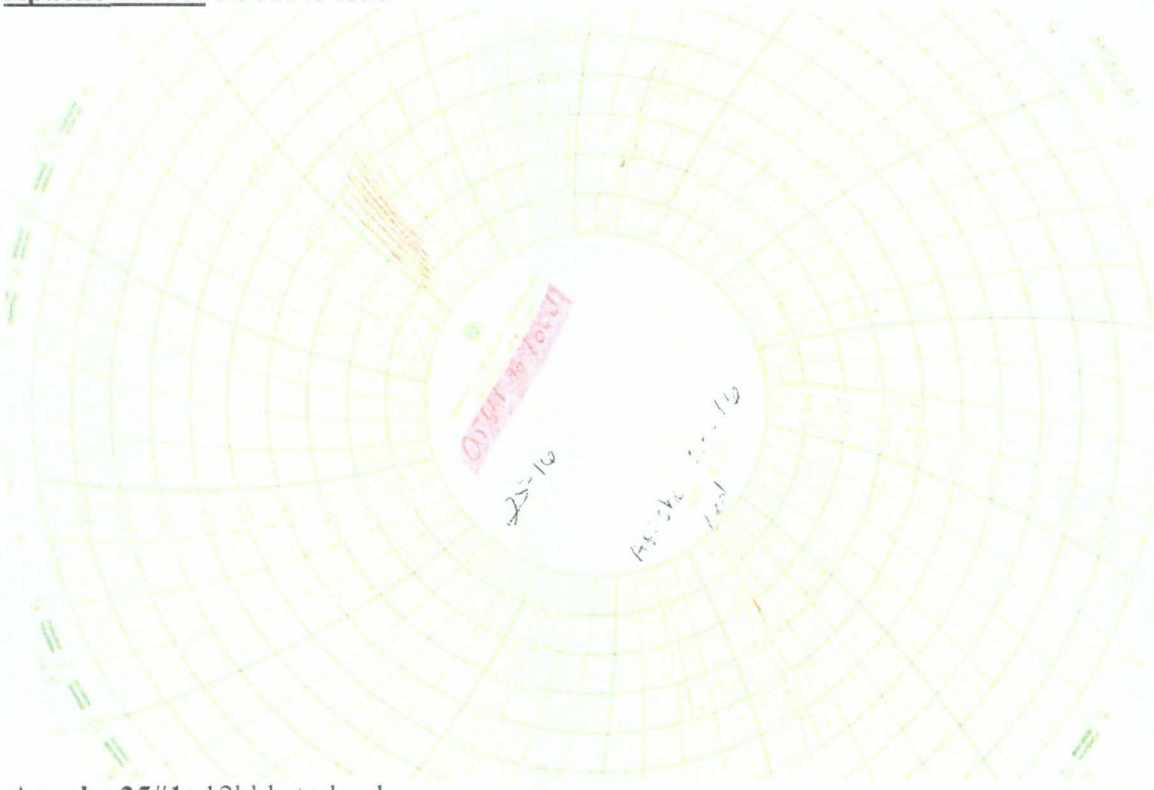
Apache 25#6:



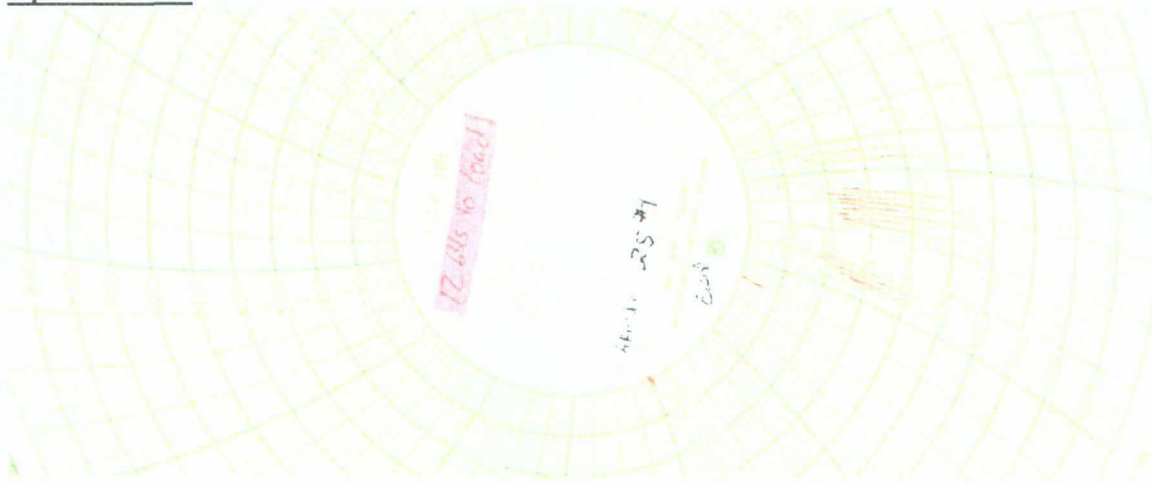
Apache 25#3



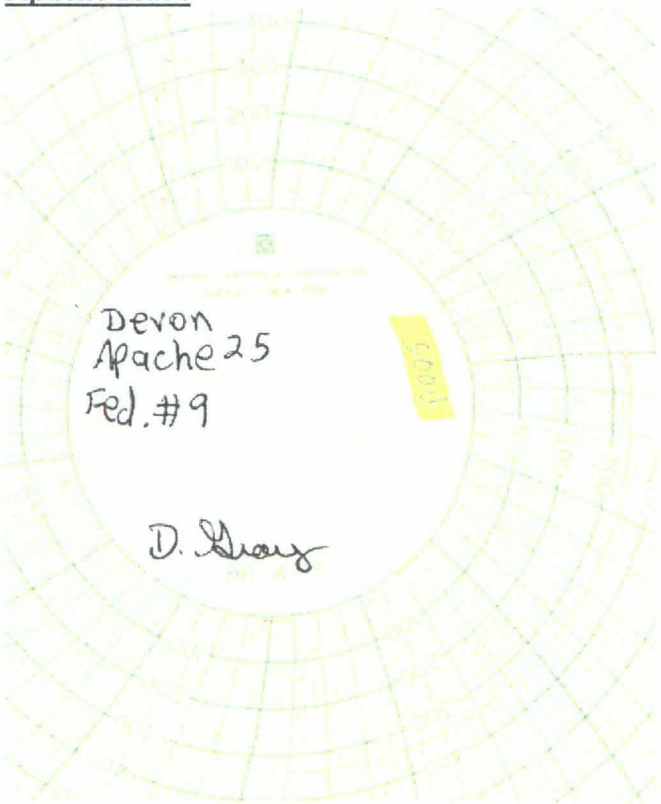
Apache 25#16: 0.5bbl to load



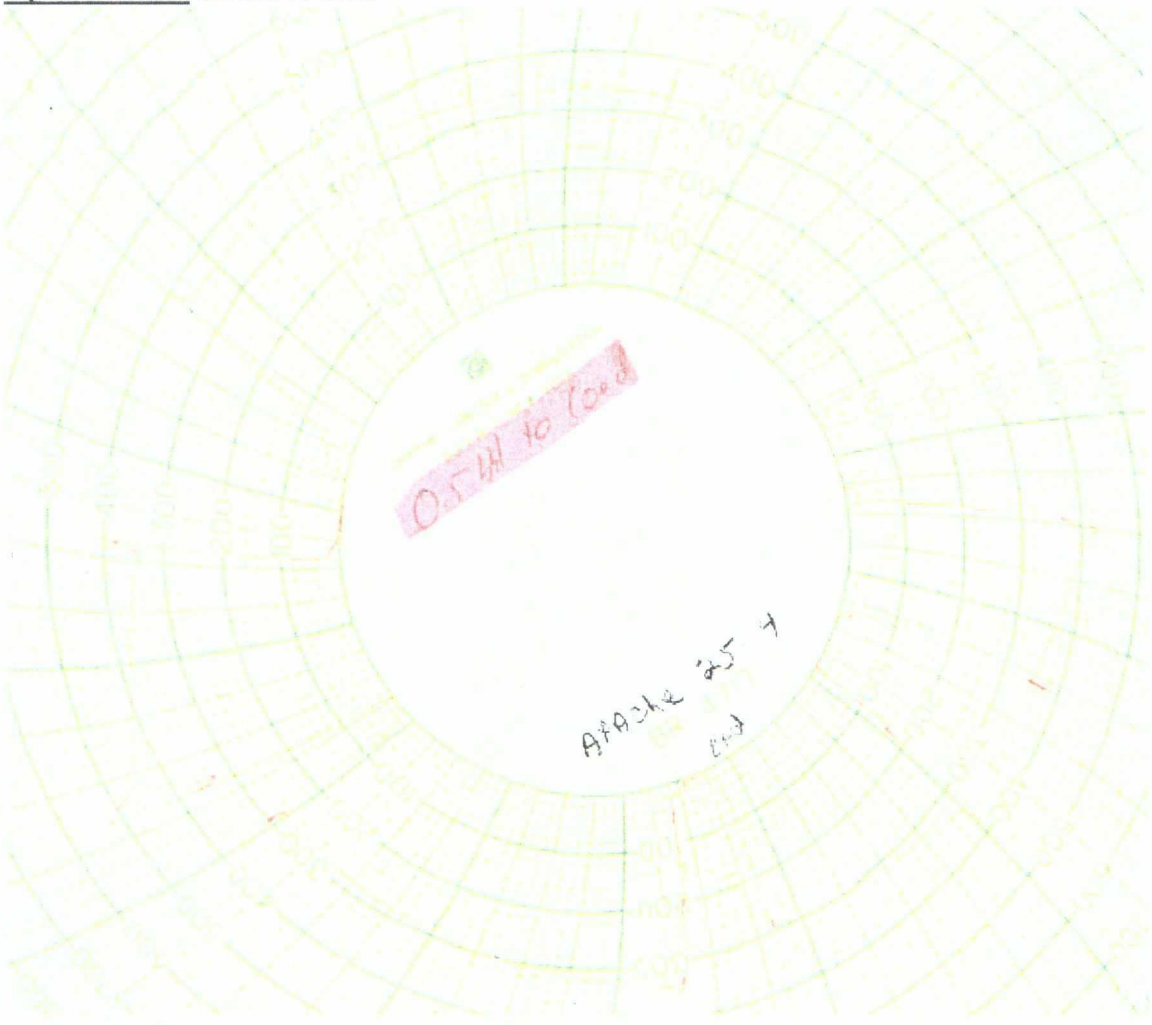
Apache 25#1: 12bbls to load



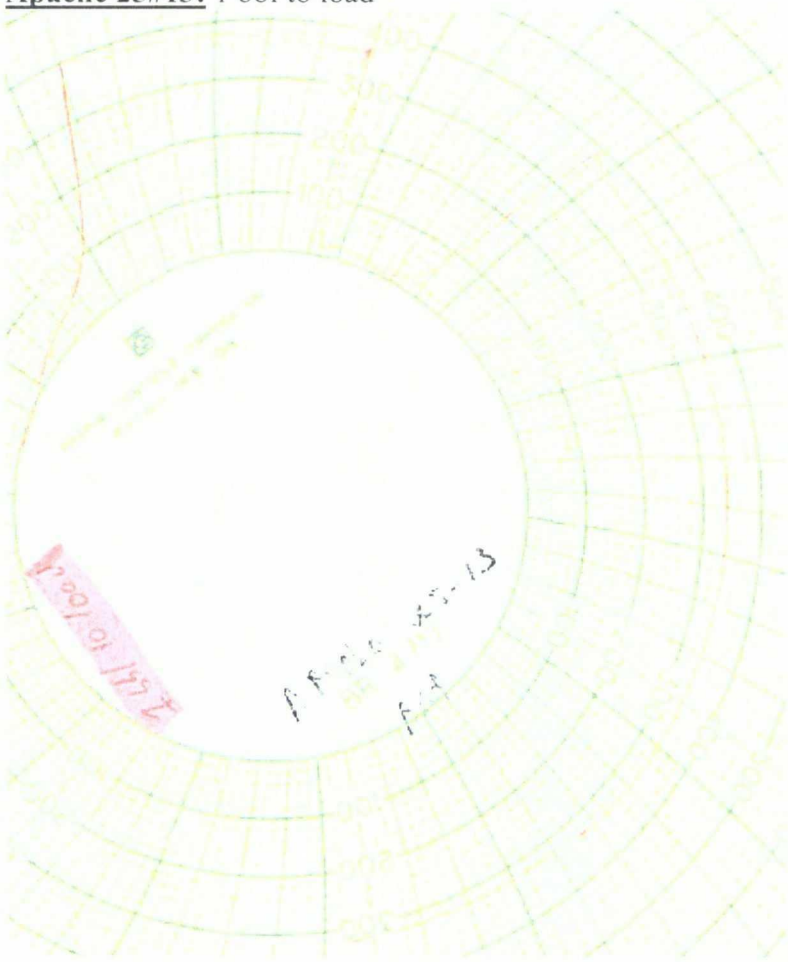
Apache 25#9:



Apache 25#4: 0.5bbl to load

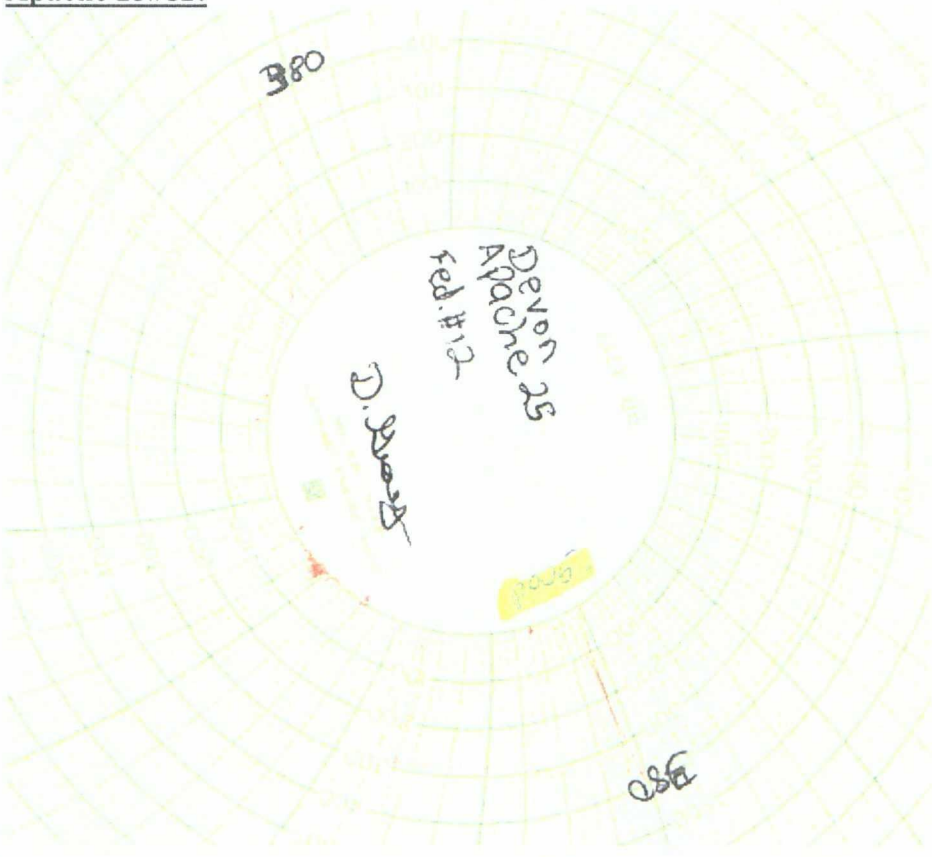


Apache 25#13: 1 bbl to load

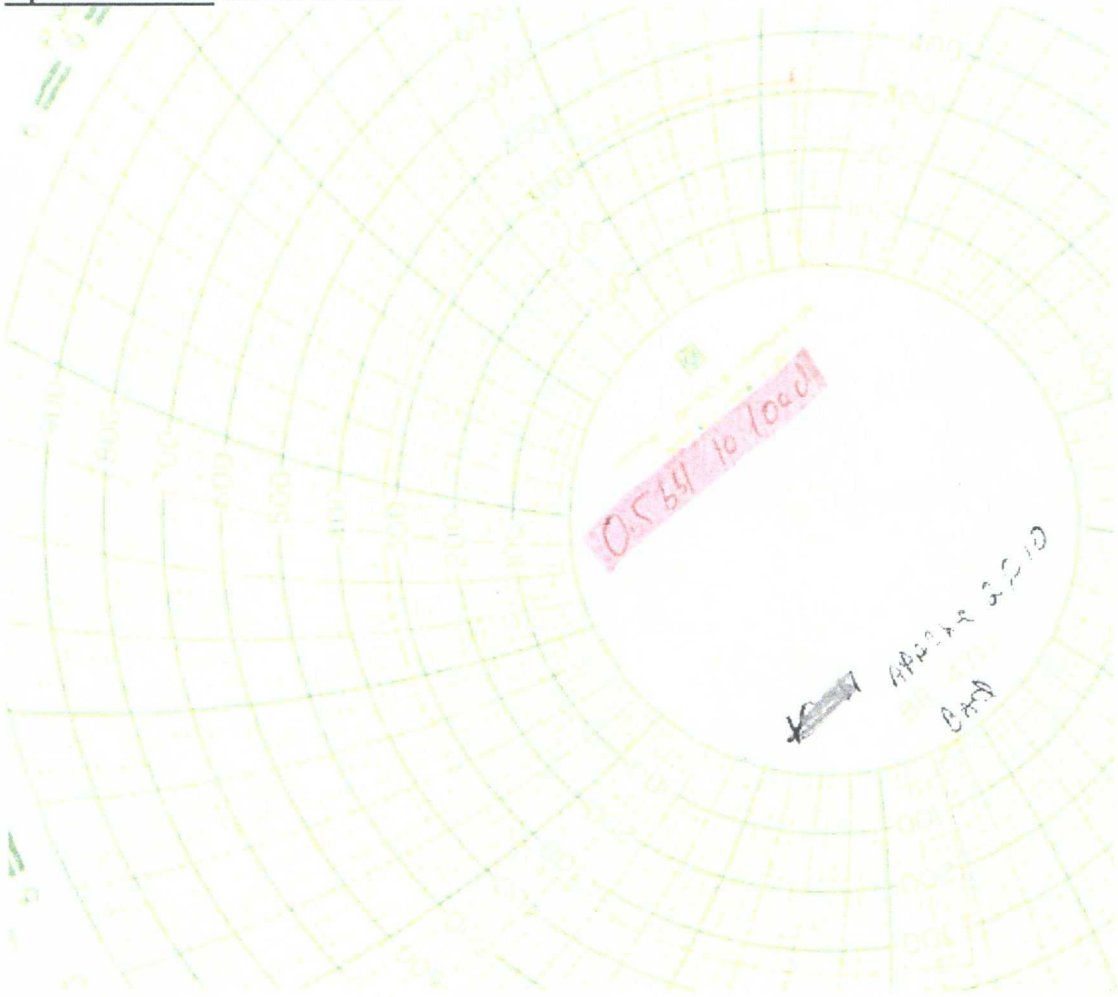


Wells that past

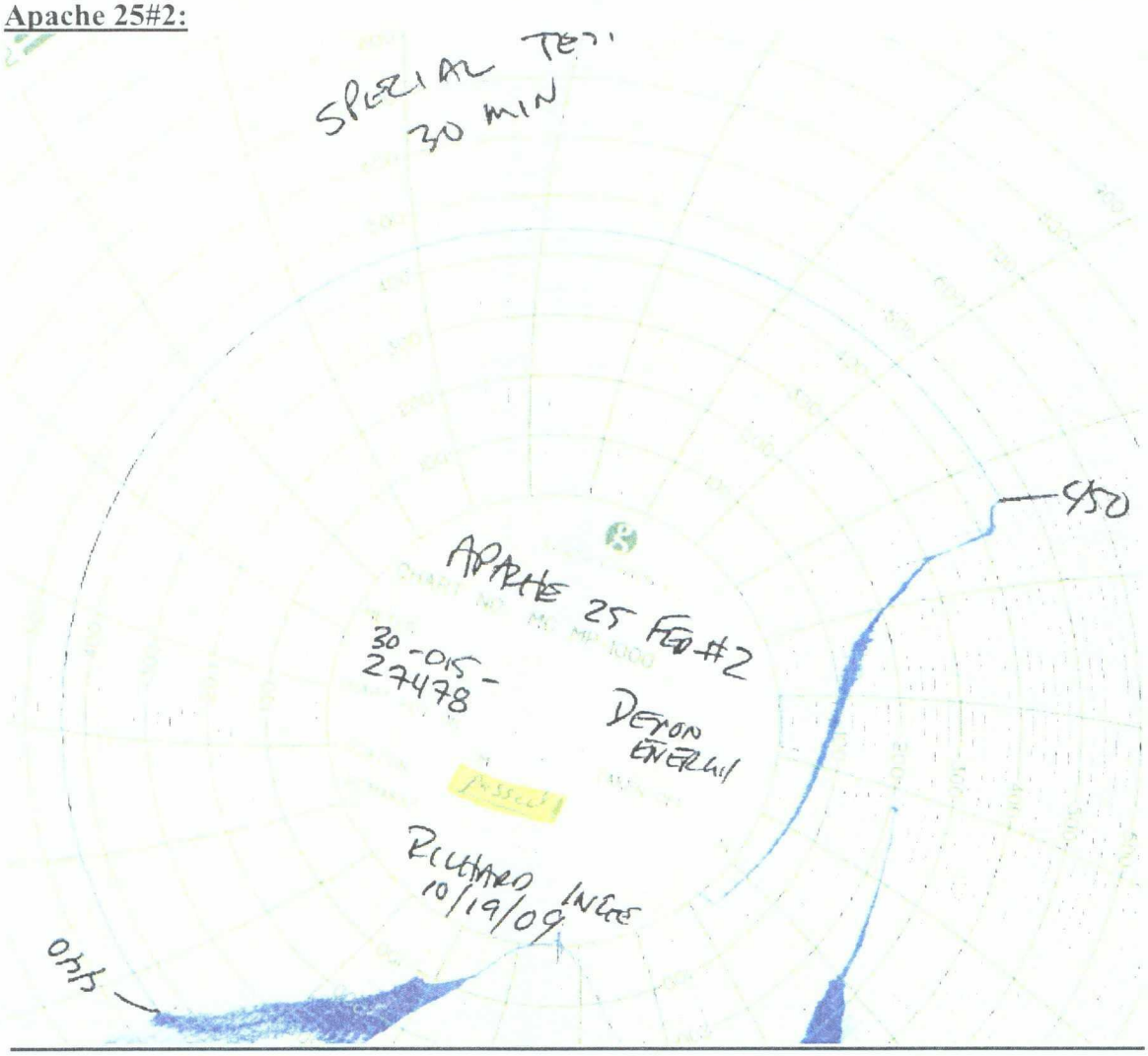
Apache 25#12:



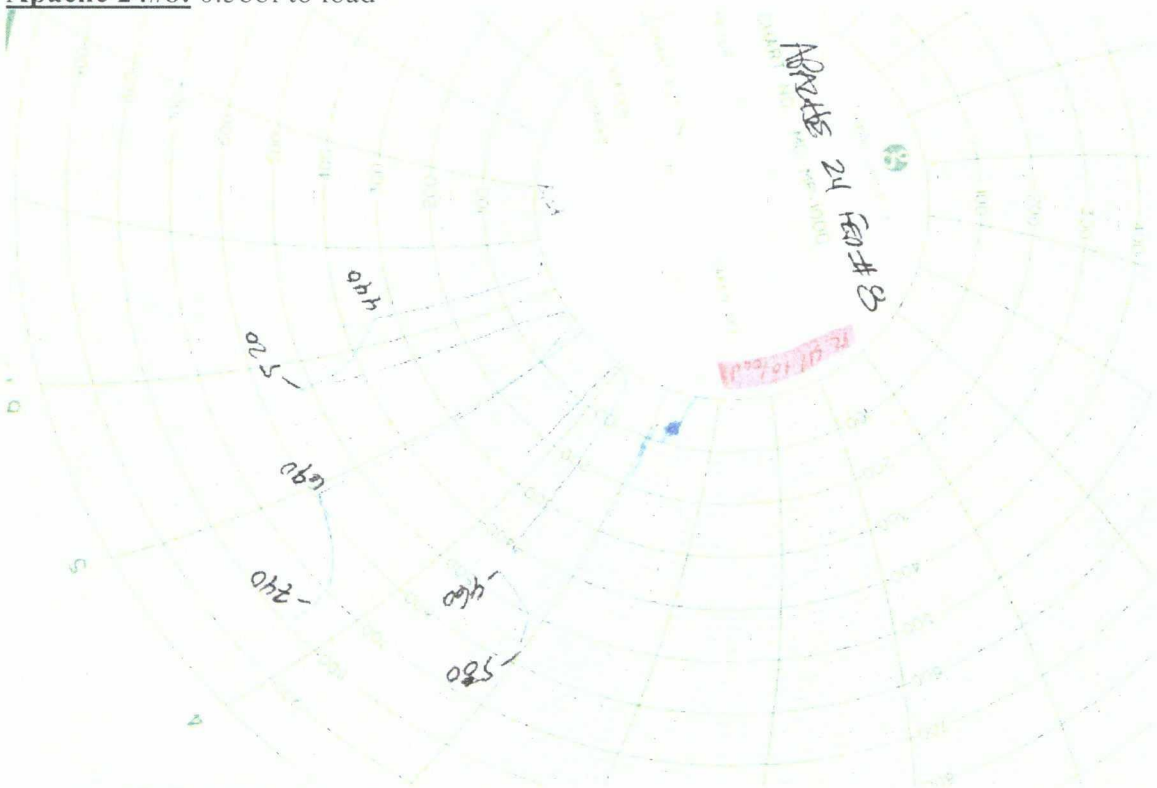
Apache 25#10: 0.5bbl to load



Apache 25#2:

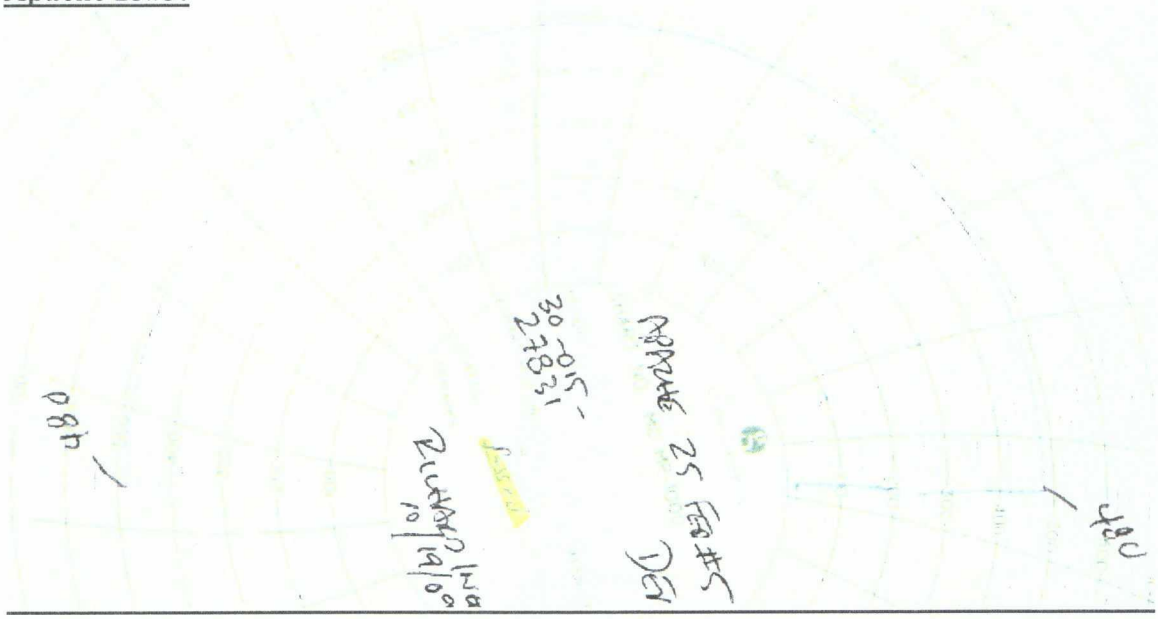

SPECIAL TEST
30 MIN
APACHE 25 FED #2
30-015-27478
DEVON ENERGY
RICHARD INGE
10/19/09
450
0#5

Apache 24#8: 0.5bbl to load



Apache 25#8: 0.5bbl to load

Apache 25#5:



Jones, William V., EMNRD

From: Jones, William V., EMNRD
Sent: Monday, November 09, 2009 2:58 PM
To: 'Jackson, Kale'
Cc: Cromer, James; Slack, Ronnie
Subject: RE: Disposal application from Devon: Apache 25 Fed #8 30-015-33439

Kale:
No need to send.

I don't see any other issue than this one prior to approval.
If you guys can tell me:

1. How hard would it be to run a CBL prior to running injection tubing? We can approve the injection permit conditional on running another CBL and examining it.
2. The reports say cement circulated below the DV tool, but the reports had the DV tool depth wrong, so this may be a problem.
3. The 5920-5930 interval that was acidized and fraced should have treating reports that may verify the cement was OK?
4. What would calculations say about a cement top below the DV tool? What pct fillup is required to circulate?
5. Do you have the cement treating reports from Halliburton or Dowell for the production pipe?

Let me know...

From: Jackson, Kale [mailto:Kale.Jackson@dvn.com]
Sent: Monday, November 09, 2009 2:23 PM
To: Jones, William V., EMNRD
Cc: Cromer, James; Slack, Ronnie
Subject: RE: Disposal application from Devon: Apache 25 Fed #8 30-015-33439

Mr.. Jones,

I will copy and try to send the log out by tomorrow. The CBL is logged from 3880' - 4090' where the DV tool is set. The rest of the log starts ~6000' - 7800' The proposed SWD interval has not been logged. Is this CBL even worth sending to you?

I'm curious as to the direction we are headed with this well? If we run a new CBL and the cement looks good across the DV tool / perf interval, are we close to getting your approval? (What else, or anything do we have left to cover?) If it doesn't, what is your suggestion(s) to wrap this project up? Like you, I see the severity of making sure cement in the 25#8 is in good shape, but I'd like to get your perspective on how you are feeling about this well and moving forward.

Again, let me know ASAP if the current CBL is not what you want, so I can hold off overnighting this to you.

Thanks again,
Kale Jackson

From: Jones, William V., EMNRD [mailto:William.V.Jones@state.nm.us]
Sent: Monday, November 09, 2009 12:44 PM
To: Slack, Ronnie
Cc: Jackson, Kale; Cromer, James; Ezeanyim, Richard, EMNRD; Kirkes, G Ross; Warnell, Terry G, EMNRD
Subject: Disposal application from Devon: Apache 25 Fed #8 30-015-33439

section. It could be a slight micro-annulus, too, but overall it looks fine. There was 20 sx of cement circulated to the surface, which tells me this is probably the distortion you see in the CBL.

d. Would you send Bradenhead surveys and/or pressure tests on all intermediate-production casings within AOR to verify the cement top on production pipe is into the intermediate casing shoe and to verify there are no bradenhead flows. Please call our Artesia OCD office and ask if they wish to witness this work.

Here are the tests we received back form the field. I tried my best to scan these so that they were readable. If you enlarge the picture they seem to show up better. I didn't want to brighten the lines up, as to alter the data in anyway.

Most of the wells that were on the "failed" list seemed to only take a small amount of water to pressure up. If you look, the most one well took was 12bbls, with the rest of them taking barely 0.5bbl to load. These wells that were classified as "failed" were then re-pressurized and tried again. If you compare the wells that passed vs. the well's that failed with their TOC, the findings seem to be inconclusive. By pumping such a low volume and trying to pressure up that close to surface, the slight drop offs can almost be contributed to micro-annuluses. Even if you look at the worst well (Apache 25#1) the TOC is up to 1415'. I believe upon the best of my knowledge that if the production cement wasn't circulated up to the intermediate casing shoe, that we would have pumped a larger amount of volume than 12 bbls. Most likely, we would have not been able to even hold pressure that long on any of these wells.

<<Apache Pressure Tests.doc>>

e. Please send a simple stick diagram of all wells in the AOR showing DV tool depths and cement tops above and below these DV tools (best estimates) with the injection interval also marked on each well.

<<DV stick diagram.xls>>

Jones, William V., EMNRD

From: Jones, William V., EMNRD
Sent: Wednesday, January 06, 2010 12:14 PM
To: 'Jackson, Kale'; 'Slack, Ronnie'
Cc: Ezeanyim, Richard, EMNRD; Brooks, David K., EMNRD; Reeves, Jacqueta, EMNRD; Dade, Randy, EMNRD
Subject: Disposal Application from Devon: Apache 25 Fed #8 API: 30-015-33439

Kale or Ronnie:
I have this application as inactive, but pulled it out again today...because I believe this issue was left up in the air.

We have not received a written waiver from the DOE and so we must conclude they may never send one. They have been noticed on this issue.

I believe all else we are waiting on is another CBL on this well, run from below the intended disposal interval (approx 6100 feet) up and into the intermediate casing shoe (approx 3700 feet) and if it looks good, then I will argue for approval of this permit.

Any permit may be limited in future injection pressure increases.

Also, it could be that this office may refer the application to an examiner hearing – but in any case another CBL would likely be needed.

Regards,

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

received NEW CBL (29/March/2010 all OK

SHL: BHL: 1945 FNL 1980 FEL

Injection Permit Checklist (8/14/09)

Case ______ R-______ SWD 1208 WFX______ PMX______ IPI______ Permit Date 3/29/10 UIC Qtr ~~AS~~ TFM

Wells 1 Well Name: APACHE 25 Fed #8

API Num: (30-) 015-33439 Spud Date: 7/3/04 New/Old: N (UIC primacy March 7, 1982)

Footages 2455 FNL/1980 FEL Unit G Sec 25 Tsp 22S Rge 30E County Eddy

Operator: DEVON Energy Production Co., LP. Contact Ronnie SLACK

OGRID: ~~234728~~ 6137 RULE 5.9 Compliance (Wells) 5 [illegible] (Finan Assur) OK — OK

Operator Address: 20 N. BROADWAY, SUITE 1500, OKC, OK, 73102

Current Status of Well: ______

Planned Work to Well: PB@6030' Planned Tubing Size/Depth: 2 7/8 @ 5650'

	Sizes Hole.......Pipe	Setting Depths	Cement Sx ~~or Cf~~	Cement Top and Determination Method
Existing ✓ Surface	17 1/2 13 3/8	631	400	CIRC
Existing ✓ ~~Intermediate~~	11 8 5/8	3849	1020	CIRC
Existing ✓ Long String	7 7/8 5 1/2	7864	1710	CIRC ?

DV Tool ~~4527~~ ~~Liner~~ / ~~Open Hole~~ / Total Depth ~~7,868~~

Well File Reviewed ✓

Diagrams: Before Conversion ✓ After Conversion ✓ Elogs in Imaging File: ✓ Send — CBL of TOP

Intervals:	Depths	Formation	Producing (Yes/No)
Above (Name and Top)			
Above (Name and Top)	3866	DEL TOP.	
Injection...... Interval TOP:	5678	Cherry Canyon	NO
Injection........... Interval BOTTOM:	5,930	" "	NO
Below (Name and Top)	7,813	B.S.	

QUAHADA RIDGE SE DEL

1136 PSI Max. WHIP

~~Open Hole (Y/N)~~

Yes Deviated Hole? ?

5678/2 = 1136

3983

Sensitive Areas: Capitan Reef ______ ~~Cliff House~~ ______ Salt Depths 540 — 3625'

.... Potash Area (R-111-P) Yes Potash Lessee ? Noticed? No ?

Fresh Water: Depths: 0 - 298' Wells none Analysis? — Affirmative Statement ✓

Disposal Fluid Sources: Del Analysis?

Disposal Interval Production Potential/Testing/Analysis Analysis: ______

Notice: Newspaper(Y/N) ✓ Surface Owner BLM Mineral Owner(s) ______

RULE 26.7(A) Affected Parties: Devon

MITS every year

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

Active Wells 14 Num Repairs 0 Producing in Injection Interval in AOR NO

..P&A Wells 0 Num Repairs — All Wellbore Diagrams Included? —

Questions to be Answered:

5,920-5930 = Depleted? — Send Deviation Plat w/depths

add DV Tool? Cmt TOP's below/above to Table

Send Deviation PLAT

TRANSP. TO WIPP SITE

DOE

Required Work on This Well: ______ Request Sent ______ Reply: ______

AOR Repairs Needed: ______ Request Sent ______ Reply: ______

On Edge of WIPP SITE Request Sent ______ Reply: ______