DATE 08/06/13	SUSPENSE	ENGINEER PG	LOGGED IN 08/08/13	TYPE SWD	APP NO. PPRG1322051737

ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION
- Engineering Bureau -
1220 South St. Francis Drive, Santa Fe, NM 87505

ADMINISTRATIVE APPLICATION CHECKLIST

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

Application Acronyms:

[NSL-Non-Standard Location] [NSP-Non-Standard Proration Unit] [SD-Simultaneous Dedication]
[DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]
[PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]
[WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]
[SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]
[EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

Cotton Draw Unit #84
30-015-29728
Devon Energy Prod

RECEIVED OCD
2013 AUG -8 A 11:51

[1] **TYPE OF APPLICATION** - Check Those Which Apply for [A]

[A] Location - Spacing Unit - Simultaneous Dedication
☐ NSL ☐ NSP ☐ SD

Check One Only for [B] or [C]

[B] Commingling - Storage - Measurement
☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM

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

[D] Other: Specify ______

[2] **NOTIFICATION REQUIRED TO:** - Check Those Which Apply, or ☐ Does Not Apply

[A] ☐ Working, Royalty or Overriding Royalty Interest Owners

[B] ☒ Offset Operators, Leaseholders or Surface Owner

[C] ☒ Application is One Which Requires Published Legal Notice

[D] ☒ Notification and/or Concurrent Approval by BLM or SLO
U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office

[E] ☒ For all of the above, Proof of Notification or Publication is Attached, and/or,

[F] ☐ Waivers are Attached

[3] **SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED ABOVE.**

[4] **CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is **accurate** and **complete** to the best of my knowledge. I also understand that **no action** will be taken on this application until the required information and notifications are submitted to the Division.

Note: Statement must be completed by an individual with managerial and/or supervisory capacity.

Stephanie A. Porter	[signature]	Operations Technician	8/5/2013
Print or Type Name	Signature	Title	Date

Stephanie.Porter@dvn.com
e-mail Address

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

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

FORM C-108
Revised June 10, 2003

APPLICATION FOR AUTHORIZATION TO INJECT

I. PURPOSE: _____Secondary Recovery ___Pressure Maintenance ___X___Disposal _____Storage
Application qualifies for administrative approval? __X_____Yes _____No

II. OPERATOR: ____Devon Energy Production Company, LP_____

ADDRESS: _____333 West Sheridan Avenue, Oklahoma City, Oklahoma 73102-5010_____

CONTACT PARTY: __Stephanie A. Porter_____PHONE: _405-552-7802

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: ___Stephanie A. Porter_____TITLE: _____Operations Technician____
SIGNATURE: _____DATE: 9/5/2013

E-MAIL ADDRESS: ____Stephanie.Porter@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.

Proposed Injection Well: Cotton Draw Unit #84
API: 30-29728 30-015-29728
APPLICATION FOR INJECTION
Form C-108 Section III

III. Well Data--On Injection Well

A. Injection Well Information

(1)	**Lease**	Cotton Draw Unit
	Well No	#84
	Location	~~2615' FSL & 3455' FEL~~ C-102 2615 FSL & 1160 FEL
	Sec,Twn,Rnge	Sec 2-T25S-R31E
	Cnty, State	Eddy County, NM
(2)	**Casing**	18-5/8", 87.5#, K-5, BTC, @ 700' Cmt w/1350 sx, circ cmt to surf 13-3/8", 68#, N-80, BTC, @ 4350' Cmt'd w/3250 sx, circ cmt to surf 9-5/8", 47/53.5#, P-110-55 LTC, @ 12200' Cmt'd w/6056, cbl 4090 7 5/8", 39#, P110 liner, @ 14657' Cmt w/650 sx, tol @ 11858' 7", 35#, TCA-80, LTC, @ 11687' 5-1/2" x 7" X/O @ 11687' Cmt w/400 sx, etoc @ 11256' 5 1/2", 20#, P110 SLX, @ 16295' Cmt w/650 sx, tol @ 14289'
(3)	**Injection Tubing**	3-1/2" 9.3# P-110 8rd EUE IPC tubing
(4)	**Packer**	5-1/2" Baker DB Packer @ +/- 16180'

B. Other Well Information

(1)	**Injection Formation:**	Paduca; Devonian, NW
	Field Name:	(To Be Assigned)
(2)	**Injection Interval:**	16,295 - 16,585'

(3) Original Purpose of Wellbore:

Oil & Gas Producer, SWD Injector

(4) Other perforated intervals:

Devonian: Open Hole – 16,295-16,585'

(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.

Rustler 666'; Salado 1034' (Barren); Lamar 4356 (Oil)'; Ramsey 4375 (Oil); Cherry Canyon 5350' (Oil); Brushy Canyon 7051 (Oil)'; Bone Spring 8273' (Oil); Wolfcamp 12132 (Gas)'; Strawn 13626' (Gas); Atoka 13757' (Gas); Morrow 14408' (Gas); Mississippian 15896' (Barren); Woodford 16202' (Barren); Devonian/Silurian 16349' (Barren)

Proposed Injection Well: Cotton Draw Unit #84
API: 30-015-29728
APPLICATION FOR INJECTION
Form C-108 Section VII to XIII

VII Attach data on the proposed operation, including:

(1) Proposed average injection rate: 5000 BWPD
Proposed maximum injection rate: 10000 BWPD

(2) The system will be a closed system.

(3) Proposed average injection pressure: 1629 psi
Proposed max injection pressure: 3259 psi

(4) The injection fluid will be produced water from area wells producing from the Bone Spring and/or Delaware formations that will be injected into the Delaware/Silurian formation.

(5) A representative water analysis is submitted for Bone Spring and Delaware formation.

VIII Geologic Injection Zone Data

The injection zone is the Devonian/Silurian formation from 16295 - 16585'. The gross injection interval is 290' thick. The Devonian formation is a Permian aged sandstone. The average depth to fresh water is less than 800' in this area.

IX Proposed Stimulation

Based on injectivity results this interval could be stimulated with ~30,000 gals HCL.

X Log Data

Logs have been provided with previous completion report filed.

XI Fresh Water Analysis

A Fresh Water Analysis Report for the Paduca Delaware Water Well, in Sec 2-T25S-R31E located @ Lat 32.09' 56.7" Long -103.44' 51.3" has been provided.

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.

Engineering: Devon respectfully requests permission to convert the Cotton Draw Unit #84 to a salt water disposal well. This wells average production is 120 mcf/d in gas, and 486 bbl water, currently this well has been shut in since June 6, 2013 due to the production of formation solids. It is currently completed to the Devonian and produces below a 5-1/2" liner set at 16,295' thru 4-1/2" open hole with a TD of 16,585'. The conversion would consist of removing the existing 3-1/2" production string and installing a 3-1/2" internally plastic coated injection string, with a packer set at +/-16,535'. The formation will be treated with 30,000 gals of 15% HCl acid. Current and proposed well bore diagrams attached.

Reservoir: At current production rates and high water hauling cost of $2.80/bbl this well produces uneconomically. Devon has been told by Enterprise that due to the H2S content of the Devonian gas, our market for this and other Devonian producers will disappear within 6 months. There are 2 wells within a ½ mile radius, the CDU 65 and the CDU 76. The CDU 65 is an active SWD well that injects into the Delaware, and the CDU 76 which is another Devonian producer which also produces uneconomically and will lose its market at the same time, this well will is planned to be TA'd to evaluate it for up hole or conversion potential.

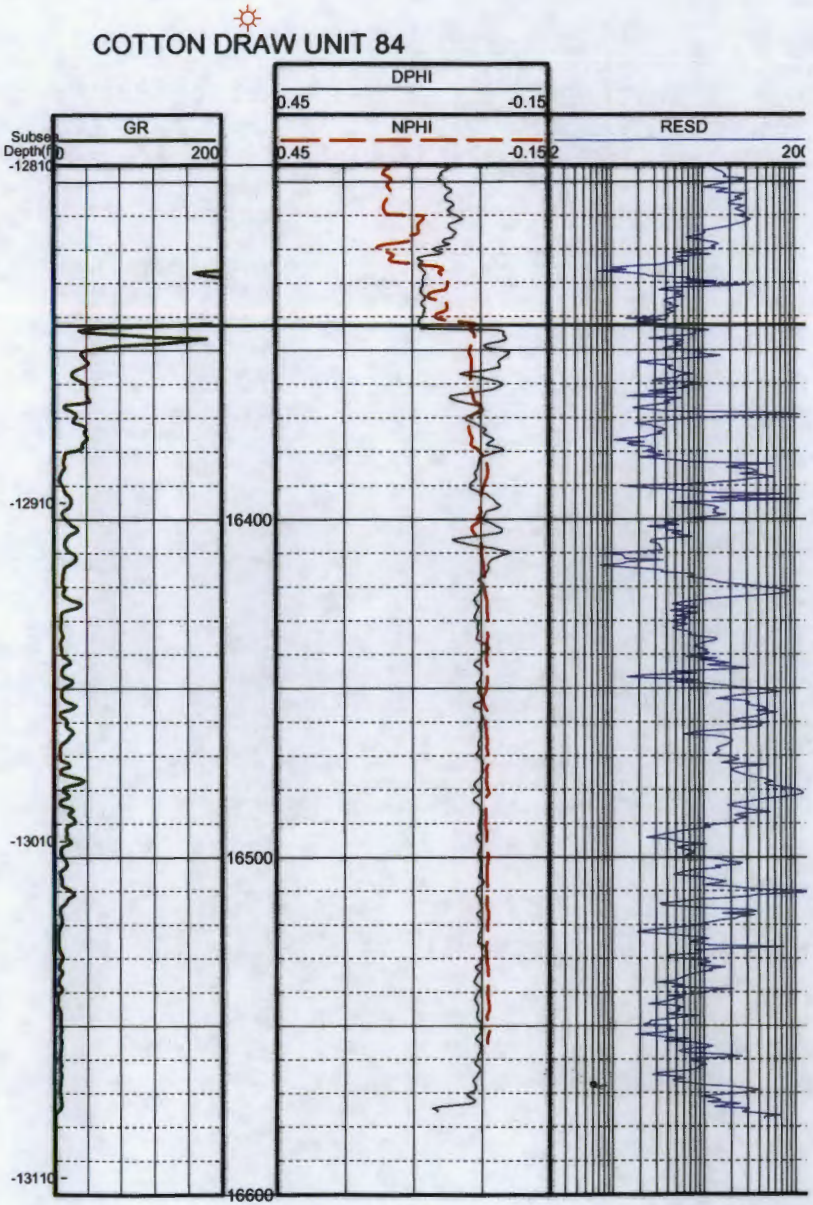
Geology: The Devonian is highly fractured and believed to act like an infinite reservoir in the vertical direction, therefore making it an ideal SWD candidate. This closest Devonian SWD well is the CDU 89 which is 1.2 miles from the CDU 84 and due to the vertically fractured nature of the Devonian and the distance between the two it is believed that these wells will not communicate. Beyond the CDU 76 there is one more Devonian producer in the area the, CDU 86, which is 1.4 miles from the CDU 84. But, due to the vertically fractured nature of the Devonian and the distance between the two it is not believed the two will communicate.

Craig Harran, Geologist
Direct #: (405)-228-7711
Cell #: (405)-626-2369

Date: 10/23/13

XIII Proof of Notice

Proof of notice to surface owner, and public legal notification are attached.


COTTON DRAW UNIT 84
DPHI
0.45
-0.15
GR
NPHI
RESD
Subsea Depth(Ft)
200
0.45
-0.15
200
-12810
-12910
-13010
-13110
16400
16500
16600

Side 1

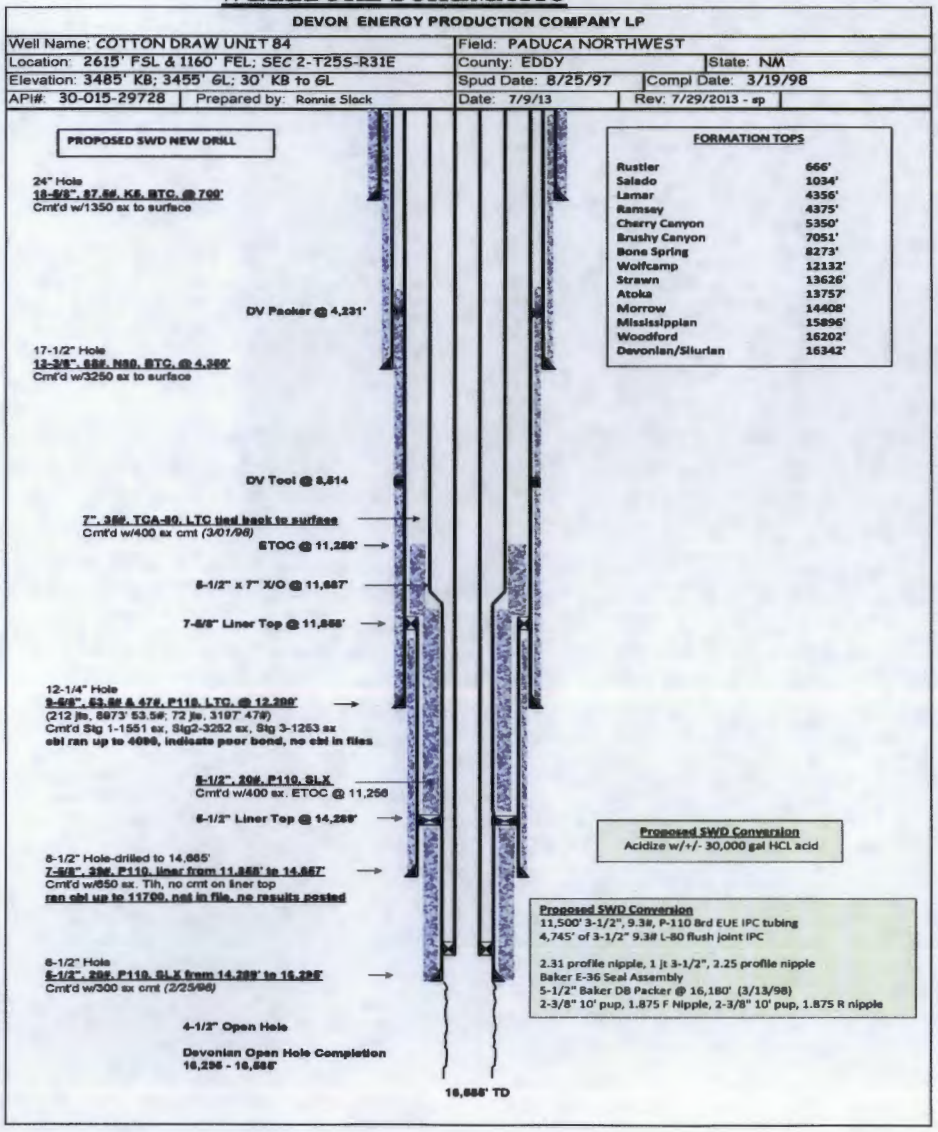
INJECTION WELL DATA SHEET

OPERATOR: Devon Energy Production Company, LP

WELL NAME & NUMBER: COTTON DRAW UNIT #84

WELL LOCATION: 2615' FSL & 1160' FEL I Sec 2 T25S R31E
FOOTAGE LOCATION | UNIT LETTER | SECTION | TOWNSHIP | RANGE

WELLBORE SCHEMATIC



WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 24" Casing Size: 18-5/8,87.5# @ 700'

Cemented with: 1350 sx. *or* _____ ft³

Top of Cement: Surface Method Determined: Circ. cement

Intermediate Casing

Hole Size: 17-1/2" Casing Size: 13-3/8", 68#, @ 4350'

Cemented with: 3250 sx. *or* _____ ft³

Top of Cement: Surface Method Determined: Circ. cement

Intermediate Casing

Hole Size: 12-1/4" Casing Size: 9-5/8", 47/53.5#, @ 12200'

Cemented with: 6056 sx. *or* _____ ft³

Top of Cement: 4090 Method Determined: Circ. CBL

Production Casing

Hole Size: 8-1/2" Casing Size: 7-5/8", 39#, @ 14657'

Cemented with: 650 sx. *or* _____ ft³

Top of Cement: TOL @ 11858' Method Determined: Calc TOC

Total Depth: 5-1/2" 20# 16295 TD @16585'

Injection Interval (Open Hole)

16295' to 16585'

(Perforated or ~~Open Hole~~; indicate which)

INJECTION WELL DATA SHEET

Tubing Size: 3-1/2" Lining Material: IPC

Type of Packer: 5-1/2" Baker DB Packer

Packer Setting Depth: ~~+/- 16,180'~~ max distance 100-ft → ≤16195' depth

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

Additional Data

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

   If no, for what purpose was the well originally drilled? Oil & Gas Producer, SWD Injector

   _____

2. Name of the Injection Formation: Paduca; Devonian, NW

3. Name of Field or Pool (if applicable): To be Assigned by NMOCD

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.

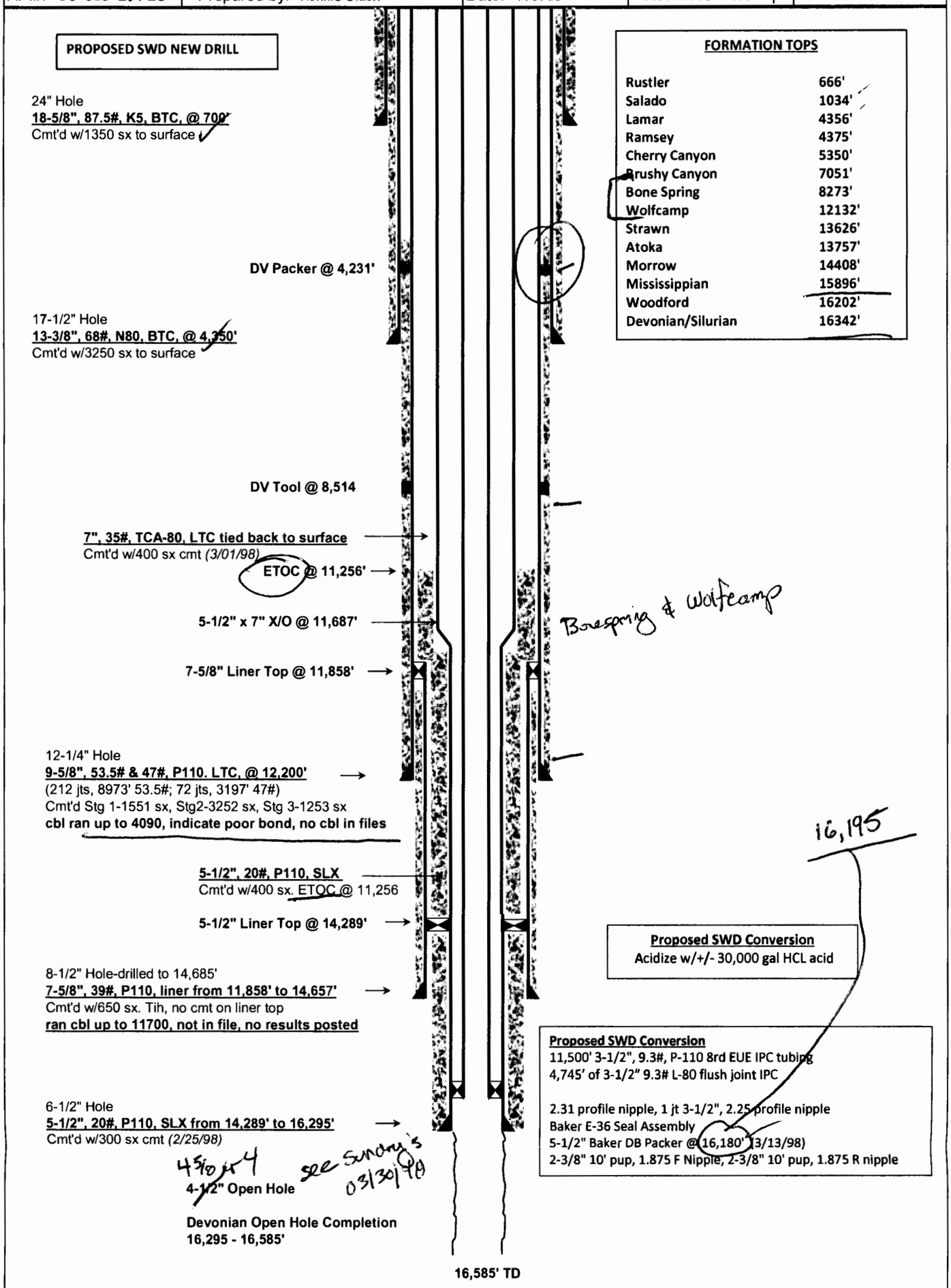
   Devonian: Open Hole – 16,295-16,585'

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

   Rustler 666'; Salado 1034' (Barren); Lamar 4356 (Oil)'; Ramsey 4375 (Oil); Cherry Canyon 5350' (Oil); Brushy Canyon 7051 (Oil)'; Bone Spring 8273' (Oil); Wolfcamp 12132 (Gas)'; Strawn 13626' (Gas); Atoka 13757' (Gas); Morrow 14408' (Gas); Mississippian 15896' (Barren); Woodford 16202' (Barren); Devonian/Silurian 16349' (Barren)

DEVON ENERGY PRODUCTION COMPANY LP

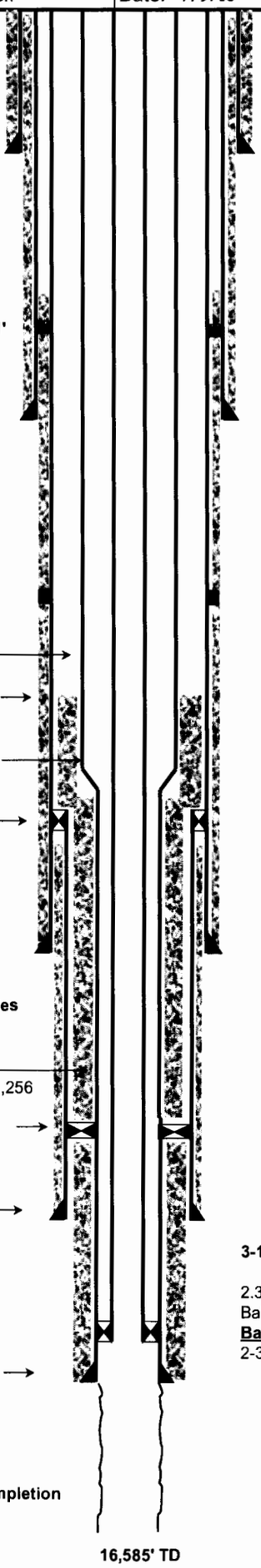
Well Name: COTTON DRAW UNIT 84	Field: PADUCA NORTHWEST		
Location: 2615' FSL & 1160' FEL; SEC 2-T25S-R31E	County: EDDY	State: NM	
Elevation: 3485' KB; 3455' GL; 30' KB to GL	Spud Date: 8/25/97	Compl Date: 3/19/98	
API#: 30-015-29728	Prepared by: Ronnie Slack	Date: 7/9/13	Rev: 7/29/2013 - sp



DEVON ENERGY PRODUCTION COMPANY LP

Well Name: COTTON DRAW UNIT 84	Field: PADUCA NORTHWEST		
Location: 2615' FSL & 1160' FEL; SEC 2-T25S-R31E	County: EDDY	State: NM	
Elevation: 3485' KB; 3455' GL; 30' KB to GL	Spud Date: 8/25/97	Compl Date: 3/19/98	
API#: 30-015-29728	Prepared by: Ronnie Slack	Date: 7/9/13	Rev:

CURRENT WELLBORE SCHEMAT



24" Hole
18-5/8", 87.5#, K5, BTC, @ 700'
Cmt'd w/1350 sx to surface

DV Packer @ 4,231'

17-1/2" Hole
13-3/8", 68#, N80, BTC, @ 4,350'
Cmt'd w/3250 sx to surface

DV Tool @ 8,514

7", 35#, TCA-80, LTC tied back to surface
Cmt'd w/400 sx cmt *(3/01/98)*

ETOC @ 11,256'

5-1/2" x 7" X/O @ 11,687'

7-5/8" Liner Top @ 11,858'

12-1/4" Hole
9-5/8", 53.5# & 47#, P110. LTC, @ 12,200'
(212 jts, 8973' 53.5#; 72 jts, 3197' 47#)
Cmt'd Stg 1-1551 sx, Stg2-3252 sx, Stg 3-1253 sx
cbl ran up to 4090, indicate poor bond, no cbl in files

5-1/2", 20#, P110, SLX
Cmt'd w/400 sx. ETOC @ 11,256

5-1/2" Liner Top @ 14,289'

8-1/2" Hole-drilled to 14,685'
7-5/8", 39#, P110, liner from 11,858' to 14,657'
Cmt'd w/650 sx. Tih, no cmt on liner top
ran cbl up to 11700, not in file, no results posted

3-1/2", 9.3#, L80 CS Hydril tubing *(3/14/98)*

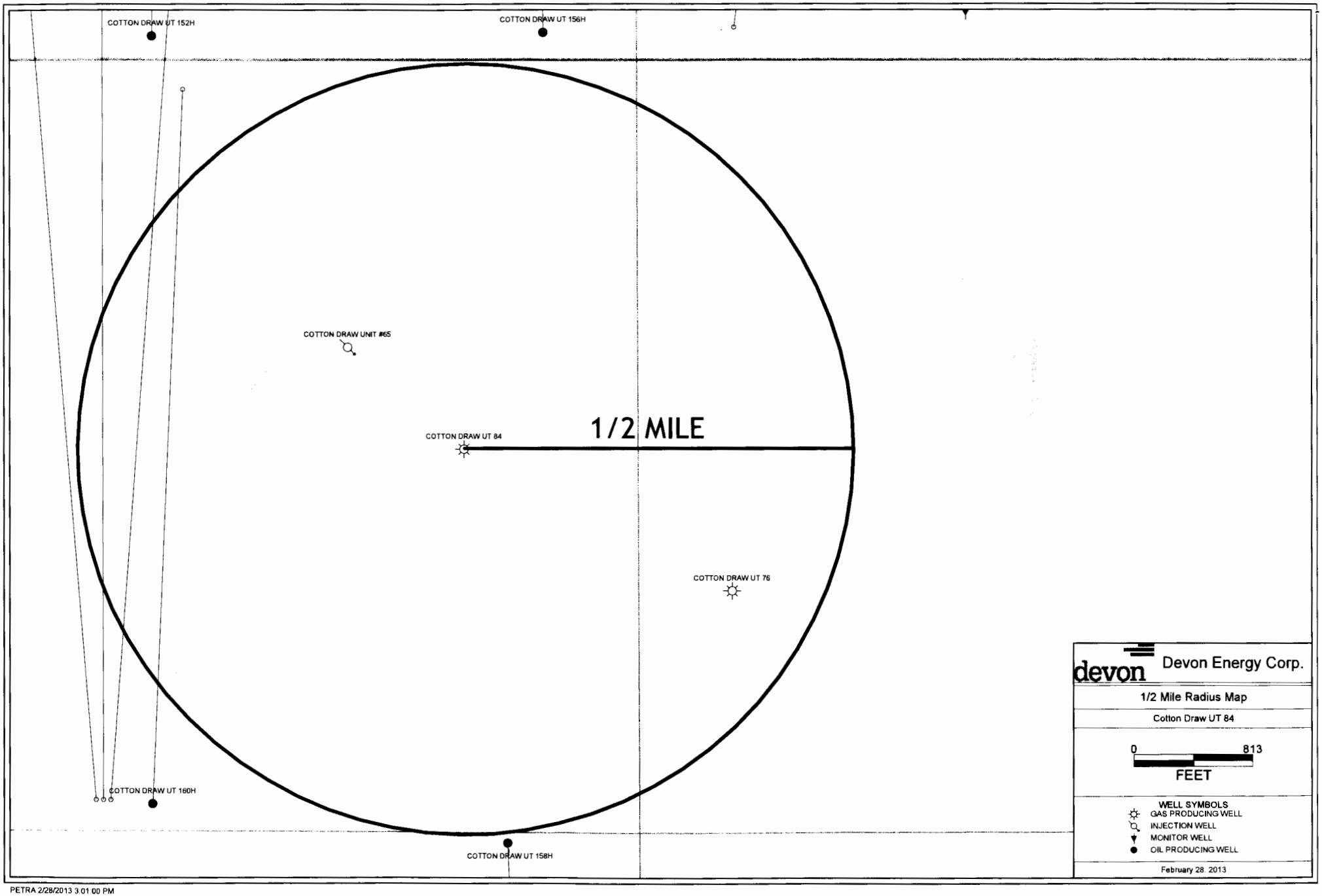
2.31 profile nipple, 1 jt 3-1/2", 2.25 profile nipple
Baker E-36 Seal Assembly
Baker DB Packer @ 16,180' *(3/13/98)*
2-3/8" 10' pup, 1.875 F Nipple, 2-3/8" 10' pup, 1.875 R nipple

6-1/2" Hole
5-1/2", 20#, P110, SLX from 14,289' to 16,295'
Cmt'd w/300 sx cmt *(2/25/98)*

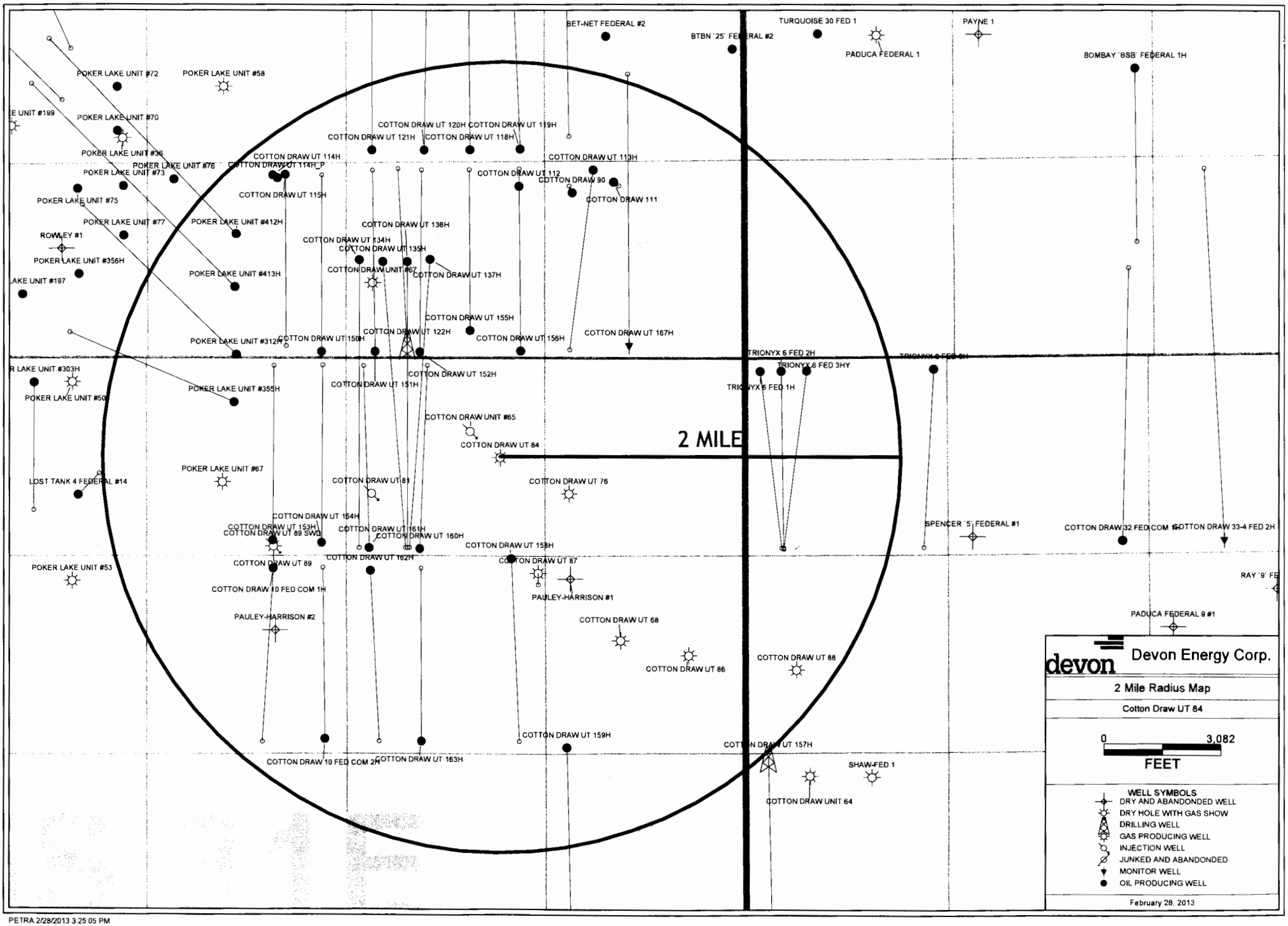
4-1/2" Open Hole

Devonian Open Hole Completion

16,585' TD



PETRA 2/28/2013 3:01:00 PM



PETRA 2/28/2013 3:25:05 PM

C108 ITEM VI--Well Tabulation in 1/2 Mile Review Area
Devon Energy Production Company, LP
Proposed Inj Well: COTTON DRAW UNIT 84
Proposed Formation: DEVONIAN
Proposed Interval: 16295' - 16585'

Operator	Well Name	API NO	County	Surf Location	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	Cotton Draw 65	30-015-10843	Eddy	1980' FNL 1980' FEL	2	25S	31E	Inj	Active	7/8/1966	6/3/1967	19546	8180	Delaware Wolfcamp Morrow Devonian	5326-5714' (swd inj int) 12785-12851' (squeezed off) 14606-14625' CIBP @ 146444' 14787-14835' CIBP @ 15050' 16250-19546' (Open Hole) (See wellbore schematics)	20", 94# @ 600' 13-3/8", 54.5#, @ 4365' 10-3/4", 60.7#, @ 12570' 8-5/8" liner, 48, @ 16250'	1300 sx / surface 4300 sx / surface 4450 sx / 3555 ts 2350 sx / 11553 tol
Devon Energy Prod Co LP	Cotton Draw Unit 76	30-015-29252	Eddy	1680' FSL 1660' FWL	1	25S	31E	Gas	Active	10/27/1996	5/1/1997	16623	16623	Devonian	16400-16623'	18-5/8", 87.5#, @ 700' 13-3/8", 68#, @ 4578' 9-5/8", 53.5#, @ 12033' 7", 38#, @ 11552' 7-5/8" liner, 39#, @ 14698 5-1/2", 20# @ 16307	1350 sx / surface 3300 sx / surface 4250 sx / surface 700 sx / 11656 tol 240 sx / 11552 tol
Devon Energy Prod Co LP	Cotton Draw Unit 84	30-015-29728	Eddy	2615' FSL 1160' FEL	2	25S	31E	Gas	Active	8/25/1997	3/19/1998	16585	16585	Devonian	16295-16585'	18-5/8", 87.5#, @ 700' 13-3/8", 68#, @ 4350' 9-5/8", 53.5/47#, @ 12200' 7", 35#, @ 11687' 7-5/8", 39#, @ 14657' 5-1/2", 20# @ 16295'	1350 sx / surface 3250 sx / surface 6056 sx / 4090 cbl 400 sx / etoc 11256 650 sx / 11858 tol 300 sx / 14289 tol

SWD-699 & IPI-170

SWD-699: Bell Canyon and Cherry Canyon 14542' to 5714'

Cotton Draw Unit 84
C108 Application for Injection
Injection Water Analysis
Delaware Formation
Devon Energy Production Co LP

North Permian Basin Region
P.O. Box 740
Sundown, TX 79372-0740
(806) 229-8121
Lab Team Leader - Sheila Hernandez
(432) 495-7240

Water Analysis Report by Baker Petrolite

Company:	DEVON ENERGY CORPORATION	Sales RDT:	33521.1
Region:	PERMIAN BASIN	Account Manager:	GENE ROGERS (575) 910-1022
Area:	ARTESIA, NM	Sample #:	633542
Lease/Platform:	NEW MEXICO COM UNIT	Analysis ID #:	125781
Entity (or well #):	3	Analysis Cost:	$90.00
Formation:	UNKNOWN		
Sample Point:	WELLHEAD		

Summary	
Sampling Date:	10/19/12
Analysis Date:	10/31/12
Analyst:	SANDRA GOMEZ
TDS (mg/l or g/m3):	232774.2
Density (g/cm3, tonne/m3):	1.16
Anion/Cation Ratio:	1
Carbon Dioxide:	240 PPM
Oxygen:	
Comments:	

Analysis of Sample 633542 @ 75 ℉

Anions	mg/l	meq/l	Cations	mg/l	meq/l
Chloride:	**143232.0**	**4040.05**	**Sodium:**	**67508.7**	**2936.46**
Bicarbonate:	**73.2**	**1.2**	**Magnesium:**	**3523.0**	**289.82**
Carbonate:	**0.0**	**0.**	**Calcium:**	**15857.0**	**791.27**
Sulfate:	**887.0**	**18.47**	**Strontium:**	**440.0**	**10.04**
Phosphate:			**Barium:**	**0.1**	**0.**
Borate:			**Iron:**	**8.0**	**0.29**
Silicate:			Potassium:	1245.0	31.84
			Aluminum:		
Hydrogen Sulfide:		0 PPM	Chromium:		
pH at time of sampling:		7.07	Copper:		
pH at time of analysis:			Lead:		
pH used in Calculation:		**7.07**	Manganese:	0.200	0.01
			Nickel:		

Conditions		Values Calculated at the Given Conditions - Amounts of Scale in lb/1000 bbl										
Temp	Gauge Press.	Calcite $CaCO_3$		Gypsum $CaSO_4*2H_2O$		Anhydrite $CaSO_4$		Celestite $SrSO_4$		Barite $BaSO_4$		CO_2 Press
℉	psi	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount	psi
80	0	0.83	4.20	0.00	3.08	0.04	33.62	0.05	21.57	-0.49	0.00	0.04
100	0	0.83	4.76	-0.07	0.00	0.03	27.18	0.03	12.89	-0.69	0.00	0.05
120	0	0.83	5.32	-0.13	0.00	0.05	41.47	0.02	9.53	-0.86	0.00	0.07
140	0	0.84	5.88	-0.18	0.00	0.09	71.16	0.03	10.65	-1.01	0.00	0.09

Note 1: When assessing the severity of the scale problem, both the saturation index (SI) and amount of scale must be considered.

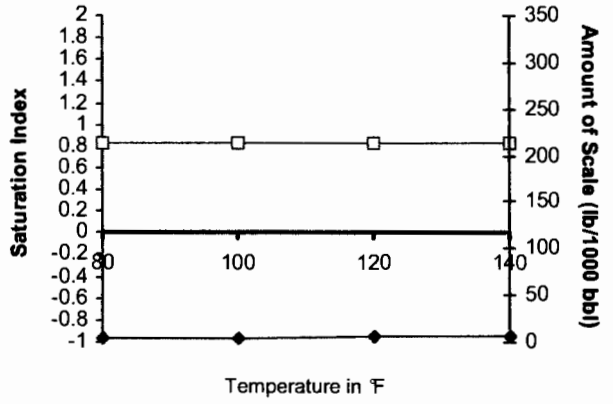
Note 2: Precipitation of each scale is considered separately. Total scale will be less than the sum of the amounts of the five scales.

Note 3: The reported CO2 pressure is actually the calculated CO2 fugacity. It is usually nearly the same as the CO2 partial pressure.

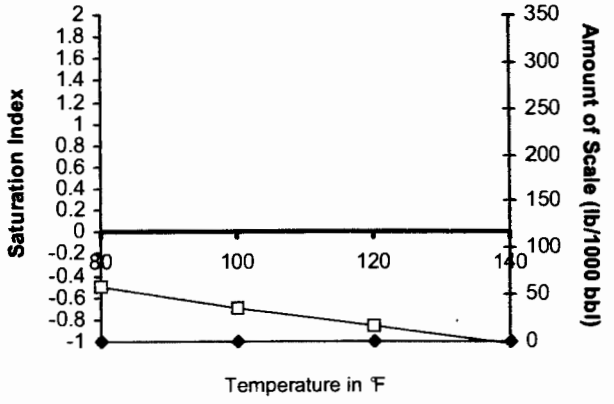
Scale Predictions from Baker Petrolite

Analysis of Sample 633542 @ 75 ℉ for DEVON ENERGY CORPORATION, 10/31/12

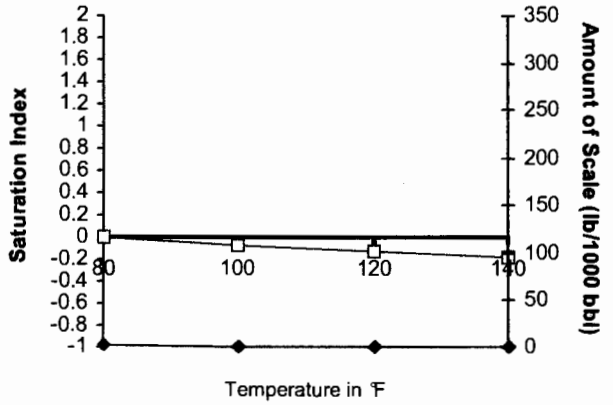
Calcite - CaCO3



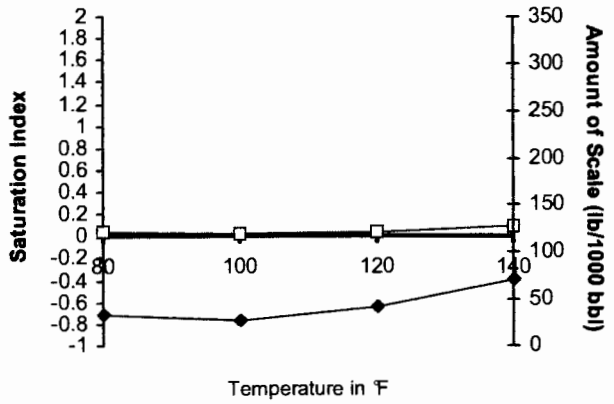
Barite - BaSO4



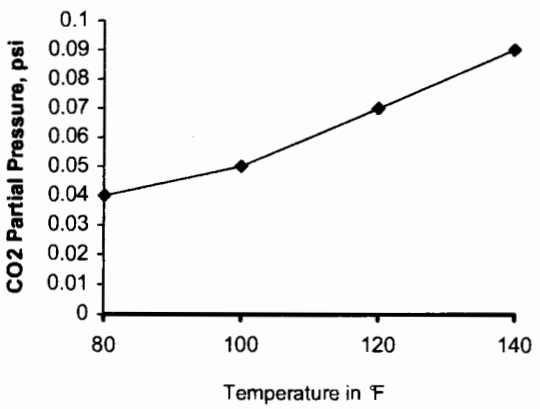
Gypsum - CaSO4*2H20



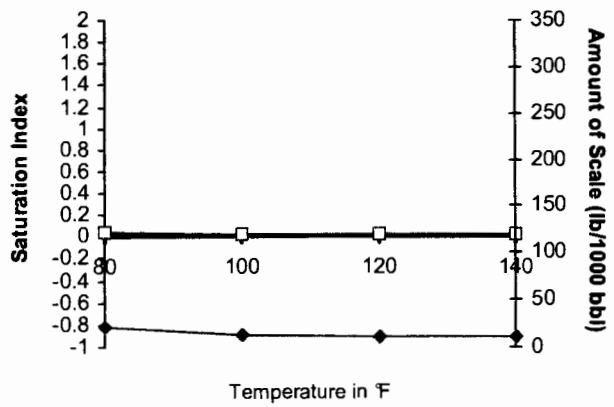
Anhydrite - CaSO4



Carbon Dioxide Partial Pressure



Celestite - SrSO4



Cotton Draw Unit 84
C108 Application for Injection
Injection Water Analysis
Bone Spring Formation
Devon Energy Production Co LP

North Permian Basin Region
P.O. Box 740
Sundown, TX 79372-0740
(806) 229-8121
Lab Team Leader - Sheila Hernandez
(432) 495-7240

Water Analysis Report by Baker Petrolite

Company:	DEVON ENERGY CORPORATION	Sales RDT:	33521.1
Region:	PERMIAN BASIN	Account Manager:	GENE ROGERS (575) 910-1022
Area:	ARTESIA, NM	Sample #:	633540
Lease/Platform:	CAPELLA UNIT	Analysis ID #:	125780
Entity (or well #):	1	Analysis Cost:	$90.00
Formation:	UNKNOWN		
Sample Point:	WELLHEAD		

Summary	
Sampling Date:	10/19/12
Analysis Date:	10/31/12
Analyst:	SANDRA GOMEZ
TDS (mg/l or g/m3):	199313.2
Density (g/cm3, tonne/m3):	1.142
Anion/Cation Ratio:	1
Carbon Dioxide:	250 PPM
Oxygen:	
Comments:	

Analysis of Sample 633540 @ 75 ℉

Anions	mg/l	meq/l	Cations	mg/l	meq/l
Chloride:	**120450.0**	**3397.46**	**Sodium:**	**62153.2**	**2703.51**
Bicarbonate:	**61.0**	**1.**	**Magnesium:**	**1705.0**	**140.26**
Carbonate:	**0.0**	**0.**	**Calcium:**	**10875.0**	**542.66**
Sulfate:	**1966.0**	**40.93**	**Strontium:**	**431.0**	**9.84**
Phosphate:			**Barium:**	**0.5**	**0.01**
Borate:			**Iron:**	**33.0**	**1.19**
Silicate:			Potassium:	1637.0	41.86
			Aluminum:		
Hydrogen Sulfide:		0 PPM	Chromium:		
pH at time of sampling:		6.69	Copper:		
pH at time of analysis:			Lead:		
pH used in Calculation:		**6.69**	Manganese:	1.500	0.05
			Nickel:		

Conditions		Values Calculated at the Given Conditions - Amounts of Scale in lb/1000 bbl										
Temp	Gauge Press.	Calcite $CaCO_3$		Gypsum $CaSO_4 \cdot 2H_2O$		Anhydrite $CaSO_4$		Celestite $SrSO_4$		Barite $BaSO_4$		CO_2 Press
℉	psi	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount	psi
80	0	0.21	1.16	0.21	402.17	0.23	344.60	0.47	167.23	0.63	0.29	0.08
100	0	0.27	1.74	0.14	287.31	0.23	339.39	0.44	161.74	0.44	0.29	0.1
120	0	0.33	2.03	0.08	177.94	0.25	363.40	0.43	159.42	0.27	0.00	0.12
140	0	0.38	2.60	0.03	77.54	0.29	409.12	0.43	159.42	0.12	0.00	0.15

Note 1: When assessing the severity of the scale problem, both the saturation index (SI) and amount of scale must be considered.

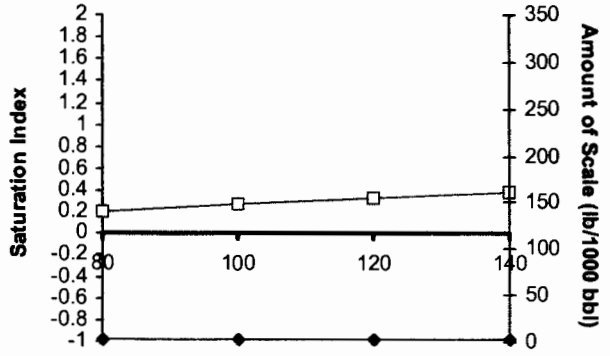
Note 2: Precipitation of each scale is considered separately. Total scale will be less than the sum of the amounts of the five scales.

Note 3: The reported CO2 pressure is actually the calculated CO2 fugacity. It is usually nearly the same as the CO2 partial pressure.

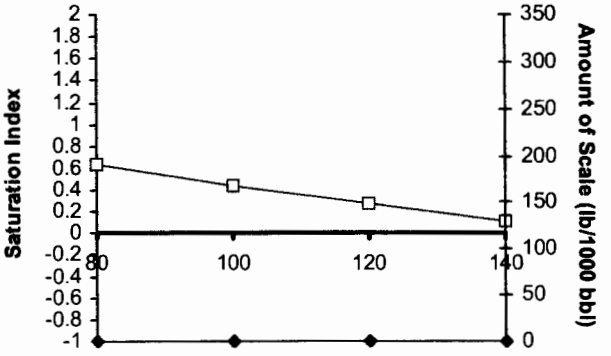
Scale Predictions from Baker Petrolite

Analysis of Sample 633540 @ 75 ℉ for DEVON ENERGY CORPORATION, 10/31/12

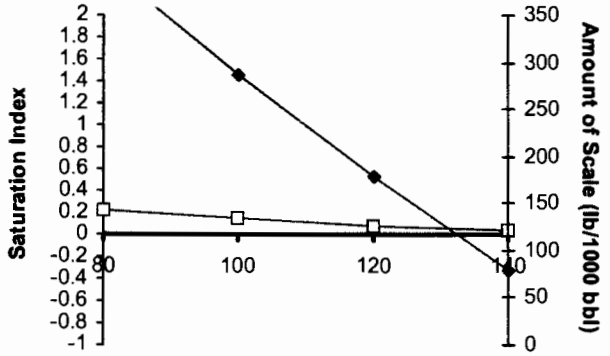
Calcite - CaCO3



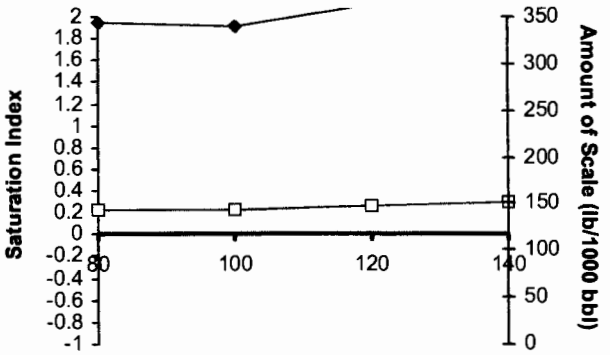
Barite - BaSO4



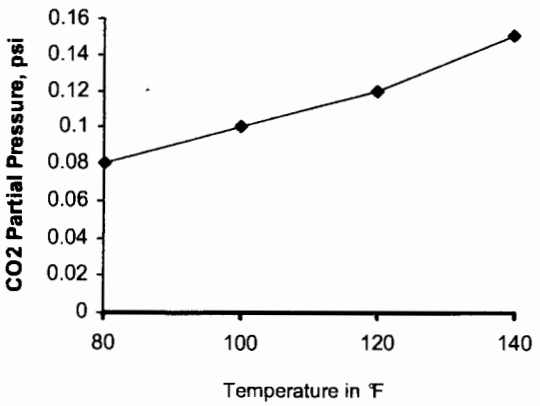
Gypsum - CaSO4*2H20



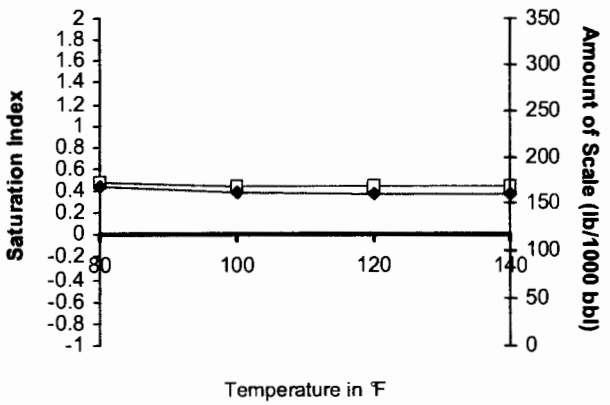
Anhydrite - CaSO4



Carbon Dioxide Partial Pressure



Celestite - SrSO4



Cotton Draw Unit 84
C108 Application for Injection
Injection Water Analysis
Delaware Formation
Devon Energy Production Co LP

North Permian Basin Region
P.O. Box 740
Sundown, TX 79372-0740
(806) 229-8121
Lab Team Leader - Sheila Hernandez
(432) 495-7240

Water Analysis Report by Baker Petrolite

Company:	DEVON ENERGY CORPORATION	Sales RDT:	33521.1
Region:	PERMIAN BASIN	Account Manager:	GENE ROGERS (575) 910-1022
Area:	ARTESIA, NM	Sample #:	633541
Lease/Platform:	BROWN BEAR	Analysis ID #:	125782
Entity (or well #):	1	Analysis Cost:	$90.00
Formation:	UNKNOWN		
Sample Point:	WELLHEAD		

Summary	
Sampling Date:	10/19/12
Analysis Date:	10/31/12
Analyst:	SANDRA GOMEZ
TDS (mg/l or g/m3):	85195.9
Density (g/cm3, tonne/m3):	1.061
Anion/Cation Ratio:	1
Carbon Dioxide:	130 PPM
Oxygen:	
Comments:	

Analysis of Sample 633541 @ 75 ℉

Anions	mg/l	meq/l	Cations	mg/l	meq/l
Chloride:	**52707.0**	**1486.67**	**Sodium:**	**23678.3**	**1029.95**
Bicarbonate:	**109.8**	**1.8**	**Magnesium:**	**1474.0**	**121.26**
Carbonate:	**0.0**	**0.**	**Calcium:**	**6421.0**	**320.41**
Sulfate:	**77.0**	**1.6**	**Strontium:**	**161.0**	**3.67**
Phosphate:			**Barium:**	**0.3**	**0.**
Borate:			**Iron:**	**23.0**	**0.83**
Silicate:			Potassium:	542.0	13.86
			Aluminum:		
Hydrogen Sulfide:		0 PPM	Chromium:		
pH at time of sampling:		6.73	Copper:		
pH at time of analysis:			Lead:		
pH used in Calculation:		**6.73**	Manganese:	2.500	0.09
			Nickel:		

Conditions		Values Calculated at the Given Conditions - Amounts of Scale in lb/1000 bbl										
Temp	Gauge Press.	Calcite $CaCO_3$		Gypsum $CaSO_4*2H_2O$		Anhydrite $CaSO_4$		Celestite $SrSO_4$		Barite $BaSO_4$		CO_2 Press
℉	psi	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount	psi
80	0	0.21	2.90	-1.27	0.00	-1.30	0.00	-1.08	0.00	-0.71	0.00	0.15
100	0	0.29	4.19	-1.31	0.00	-1.28	0.00	-1.09	0.00	-0.88	0.00	0.19
120	0	0.38	5.80	-1.34	0.00	-1.22	0.00	-1.08	0.00	-1.03	0.00	0.24
140	0	0.47	7.41	-1.35	0.00	-1.15	0.00	-1.07	0.00	-1.16	0.00	0.29

Note 1: When assessing the severity of the scale problem, both the saturation index (SI) and amount of scale must be considered.

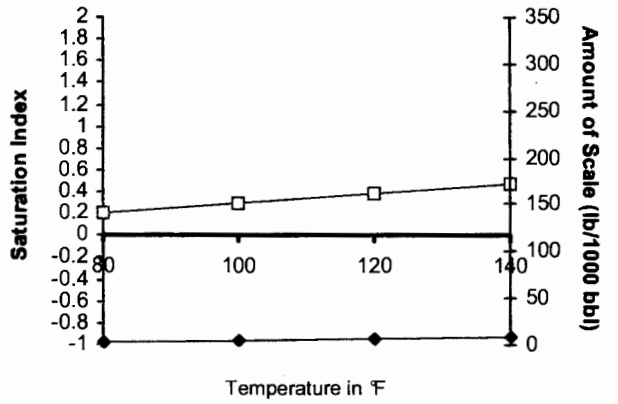
Note 2: Precipitation of each scale is considered separately. Total scale will be less than the sum of the amounts of the five scales.

Note 3: The reported CO2 pressure is actually the calculated CO2 fugacity. It is usually nearly the same as the CO2 partial pressure.

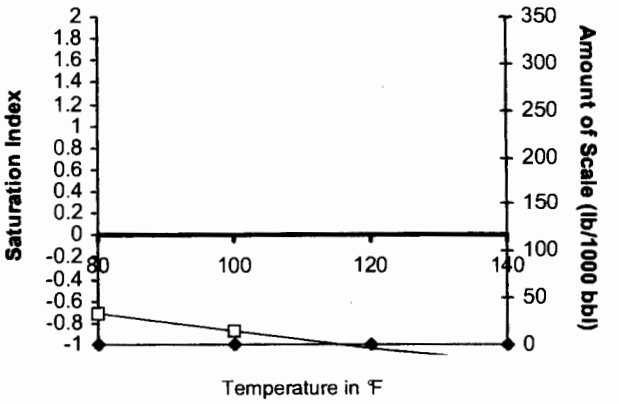
Scale Predictions from Baker Petrolite

Analysis of Sample 633541 @ 75 ℉ for DEVON ENERGY CORPORATION, 10/31/12

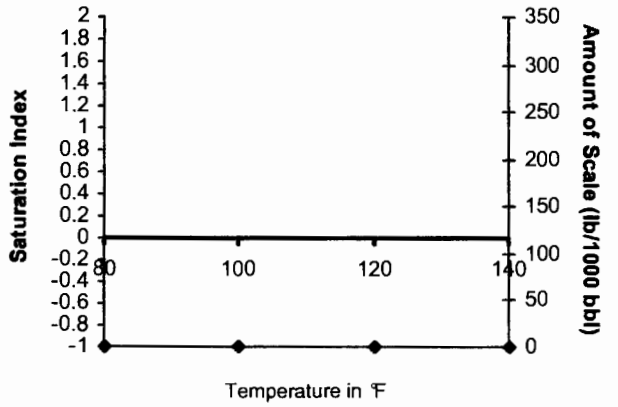
Calcite - CaCO3



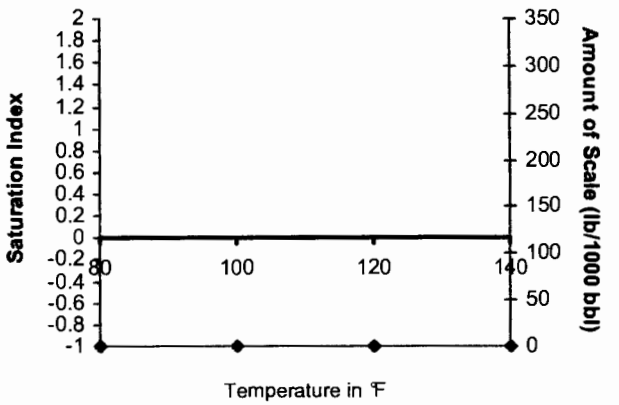
Barite - BaSO4



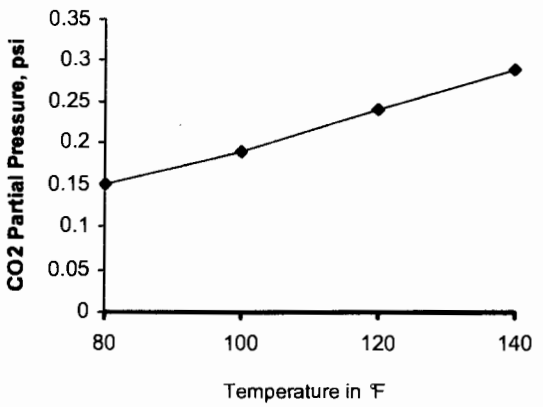
Gypsum - CaSO4*2H20



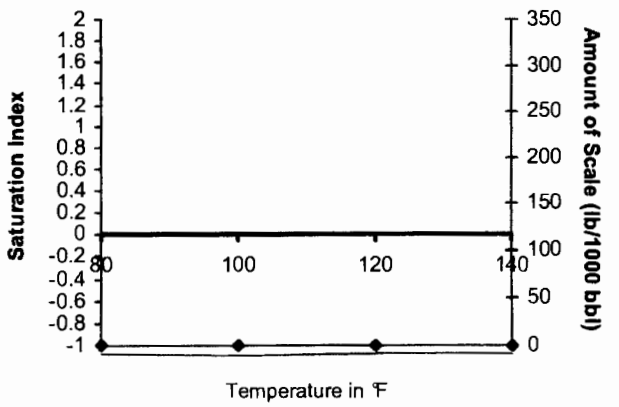
Anhydrite - CaSO4



Carbon Dioxide Partial Pressure



Celestite - SrSO4



Fresh Water Analysis Report
Paduca Delaware Water Well
SEC 2-T25S-R31E
Lat 32.09' 56.7" Long -103.44' 51.3"

North Permian Basin Region
P.O. Box 740
Sundown, TX 79372-0740
(806) 229-8121
Lab Team Leader - Sheila Hernandez
(432) 495-7240

Water Analysis Report by Baker Petrolite

Company:	DEVON ENERGY CORPORATION	Sales RDT:	33521.1
Region:	PERMIAN BASIN	Account Manager:	GENE ROGERS (575) 910-1022
Area:	ARTESIA, NM	Sample #:	575022
Lease/Platform:	PADUCA LEASE	Analysis ID #:	113161
Entity (or well #):	FRESH WATER	Analysis Cost:	$90.00
Formation:	UNKNOWN		
Sample Point:	WELLHEAD		

Summary	
Sampling Date:	10/06/11
Analysis Date:	10/10/11
Analyst:	SANDRA GOMEZ
TDS (mg/l or g/m3):	3720.6
Density (g/cm3, tonne/m3):	1.004
Anion/Cation Ratio:	1.0000004
Carbon Dioxide:	20 PPM
Oxygen:	
Comments:	

Analysis of Sample 575022 @ 75 ℉

Anions	mg/l	meq/l	Cations	mg/l	meq/l
Chloride:	**328.0**	**9.25**	**Sodium:**	**452.1**	**19.66**
Bicarbonate:	**24.4**	**0.4**	**Magnesium:**	**120.0**	**9.87**
Carbonate:	**0.0**	**0.**	**Calcium:**	**531.0**	**26.5**
Sulfate:	**2248.0**	**46.8**	**Strontium:**	**7.0**	**0.16**
Phosphate:			**Barium:**	**0.1**	**0.**
Borate:			**Iron:**	**0.5**	**0.02**
Silicate:			Potassium:	9.5	0.24
			Aluminum:		
Hydrogen Sulfide:		0	Chromium:		
pH at time of sampling:		7	Copper:		
pH at time of analysis:			Lead:		
pH used in Calculation:		7	Manganese:	0.025	0.
			Nickel:		

Conditions		Values Calculated at the Given Conditions - Amounts of Scale in lb/1000 bbl										
Temp	Gauge Press.	Calcite $CaCO_3$		Gypsum $CaSO_4*2H_2O$		Anhydrite $CaSO_4$		Celestite $SrSO_4$		Barite $BaSO_4$		CO_2 Press
℉	psi	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount	psi
80	0	-0.84	0.00	-0.03	0.00	-0.10	0.00	-0.26	0.00	1.06	0.00	0.03
100	0	-0.72	0.00	-0.04	0.00	-0.04	0.00	-0.26	0.00	0.90	0.00	0.04
120	0	-0.59	0.00	-0.03	0.00	0.04	55.87	-0.24	0.00	0.78	0.00	0.05
140	0	-0.45	0.00	-0.01	0.00	0.15	173.21	-0.21	0.00	0.68	0.00	0.06

Note 1: When assessing the severity of the scale problem, both the saturation index (SI) and amount of scale must be considered.

Note 2: Precipitation of each scale is considered separately. Total scale will be less than the sum of the amounts of the five scales.

Note 3: The reported CO2 pressure is actually the calculated CO2 fugacity. It is usually nearly the same as the CO2 partial pressure.

Injection Water Analysis Report
Mad Dog 15 #1
SEC 15-T23S-R34E
(Devonian Formation Water)

North Permian Basin Region
P.O. Box 740
Sundown, TX 79372-0740
(806) 229-8121
Lab Team Leader - Sheila Hernandez
(432) 495-7240

Water Analysis Report by Baker Petrolite

Company:	DEVON ENERGY CORPORATION	Sales RDT:	33517
Region:	PERMIAN BASIN	Account Manager:	FRANK GARDNER (575) 390-5194
Area:	JAL, NM	Sample #:	481511
Lease/Platform:	MAD DOG '15' LEASE	Analysis ID #:	102920
Entity (or well #):	1	Analysis Cost:	$90.00
Formation:	DEVONIAN		
Sample Point:	WELLHEAD		

Summary	
Sampling Date:	08/24/10
Analysis Date:	09/13/10
Analyst:	LEAH DURAN
TDS (mg/l or g/m3):	69356
Density (g/cm3, tonne/m3):	1.051
Anion/Cation Ratio:	1
Carbon Dioxide:	20 PPM
Oxygen:	N/A
Comments:	

Analysis of Sample 481511 @ 75 ℉

Anions	mg/l	meq/l	Cations	mg/l	meq/l
Chloride:	**40711.0**	**1148.31**	**Sodium:**	**24262.3**	**1055.35**
Bicarbonate:	**366.0**	**6.**	**Magnesium:**	**298.0**	**24.51**
Carbonate:	**0.0**	**0.**	**Calcium:**	**1833.0**	**91.47**
Sulfate:	**1404.0**	**29.23**	**Strontium:**	**55.0**	**1.26**
Phosphate:			**Barium:**	**1.0**	**0.01**
Borate:			**Iron:**	**4.5**	**0.16**
Silicate:			Potassium:	421.0	10.77
			Aluminum:		
Hydrogen Sulfide:		153 PPM	Chromium:		
pH at time of sampling:		8.4	Copper:		
pH at time of analysis:			Lead:		
pH used in Calculation:		**8.4**	Manganese:	0.200	0.01
			Nickel:		

Conditions		Values Calculated at the Given Conditions - Amounts of Scale in lb/1000 bbl										
Temp	Gauge Press.	Calcite $CaCO_3$		Gypsum $CaSO_4 * 2H_2O$		Anhydrite $CaSO_4$		Celestite $SrSO_4$		Barite $BaSO_4$		CO_2 Press
℉	psi	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount	psi
80	0	1.80	51.07	-0.42	0.00	-0.46	0.00	-0.15	0.00	1.22	0.65	0.01
100	0	1.70	54.67	-0.46	0.00	-0.43	0.00	-0.16	0.00	1.04	0.65	0.02
120	0	1.62	58.60	-0.49	0.00	-0.38	0.00	-0.16	0.00	0.89	0.65	0.05
140	0	1.56	62.86	-0.51	0.00	-0.31	0.00	-0.15	0.00	0.76	0.33	0.08

Note 1: When assessing the severity of the scale problem, both the saturation index (SI) and amount of scale must be considered.

Note 2: Precipitation of each scale is considered separately. Total scale will be less than the sum of the amounts of the five scales.

Note 3: The reported CO2 pressure is actually the calculated CO2 fugacity. It is usually nearly the same as the CO2 partial pressure.

WATER ANALYSIS
Bone Spring Formation
Chimayo 16 ST #1

North Permian Basin Region
P.O. Box 740
Sundown, TX 79372-0740
(806) 229-8121
Lab Team Leader - Sheila Hernandez
(432) 495-7240

Water Analysis Report by Baker Petrolite

Company:	DEVON ENERGY CORPORATION	Sales RDT:	33521.1
Region:	PERMIAN BASIN	Account Manager:	GENE ROGERS (575) 910-1022
Area:	ARTESIA, NM	Sample #:	492168
Lease/Platform:	CHIMAYO UNIT	Analysis ID #:	100662
Entity (or well #):	16-1	Analysis Cost:	$90.00
Formation:	Bone Spring		
Sample Point:	HEATER DUMP		

Summary	
Sampling Date:	05/12/10
Analysis Date:	05/18/10
Analyst:	STACEY SMITH
TDS (mg/l or g/m3):	235300.4
Density (g/cm3, tonne/m3):	1.157
Anion/Cation Ratio:	1
Carbon Dioxide:	1400 PPM
Oxygen:	
Comments:	

Analysis of Sample 492168 @ 75 °F

Anions	mg/l	meq/l	Cations	mg/l	meq/l
Chloride:	**142827.0**	**4028.63**	**Sodium:**	**76546.4**	**3329.58**
Bicarbonate:	**73.0**	**1.2**	**Magnesium:**	**1589.0**	**130.72**
Carbonate:	**0.0**	**0.**	**Calcium:**	**10332.0**	**515.57**
Sulfate:	**1021.0**	**21.26**	**Strontium:**	**1192.0**	**27.21**
Phosphate:			**Barium:**	**2.5**	**0.04**
Borate:			**Iron:**	**379.0**	**13.7**
Silicate:			Potassium:	1334.0	34.12
			Aluminum:		
Hydrogen Sulfide:		17 PPM	Chromium:		
pH at time of sampling:		6.5	Copper:		
pH at time of analysis:			Lead:		
pH used in Calculation:		**6.5**	Manganese:	4.500	0.16
			Nickel:		

Conditions		Values Calculated at the Given Conditions - Amounts of Scale in lb/1000 bbl										
Temp	Gauge Press.	Calcite $CaCO_3$		Gypsum $CaSO_4*2H_2O$		Anhydrite $CaSO_4$		Celestite $SrSO_4$		Barite $BaSO_4$		CO_2 Press
°F	psi	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount	psi
80	0	0.18	1.40	-0.08	0.00	-0.03	0.00	0.58	321.11	1.00	1.12	0.14
100	0	0.24	1.95	-0.16	0.00	-0.05	0.00	0.55	310.50	0.80	1.12	0.18
120	0	0.30	2.51	-0.23	0.00	-0.04	0.00	0.54	304.91	0.62	1.12	0.21
140	0	0.35	3.35	-0.29	0.00	-0.01	0.00	0.53	303.52	0.47	0.84	0.25

Note 1: When assessing the severity of the scale problem, both the saturation index (SI) and amount of scale must be considered.
Note 2: Precipitation of each scale is considered separately. Total scale will be less than the sum of the amounts of the five scales.
Note 3: The reported CO2 pressure is actually the calculated CO2 fugacity. It is usually nearly the same as the CO2 partial pressure.

WATER ANALYSIS
Delaware Formation
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

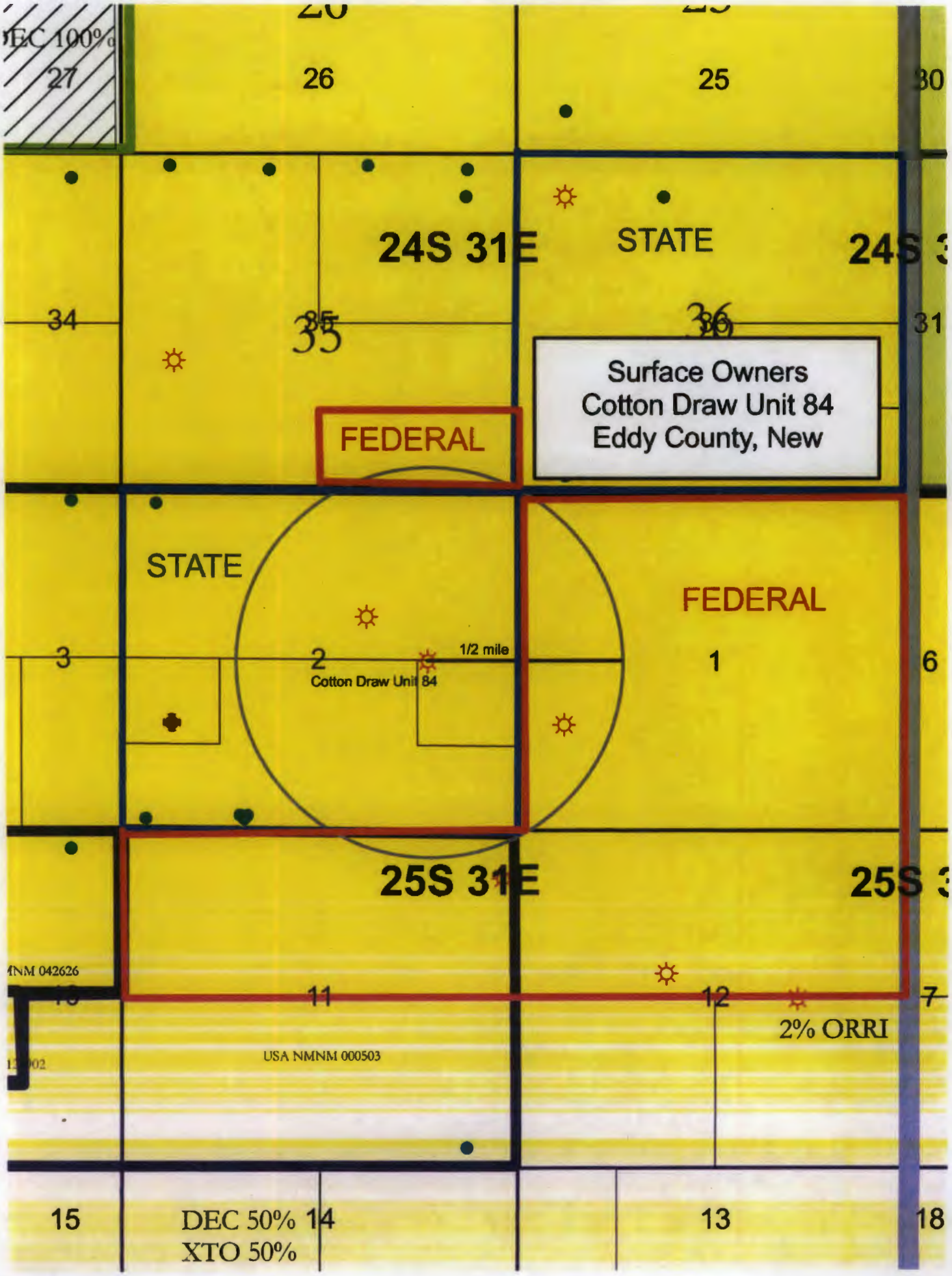
DATE TAKEN
REMARKS

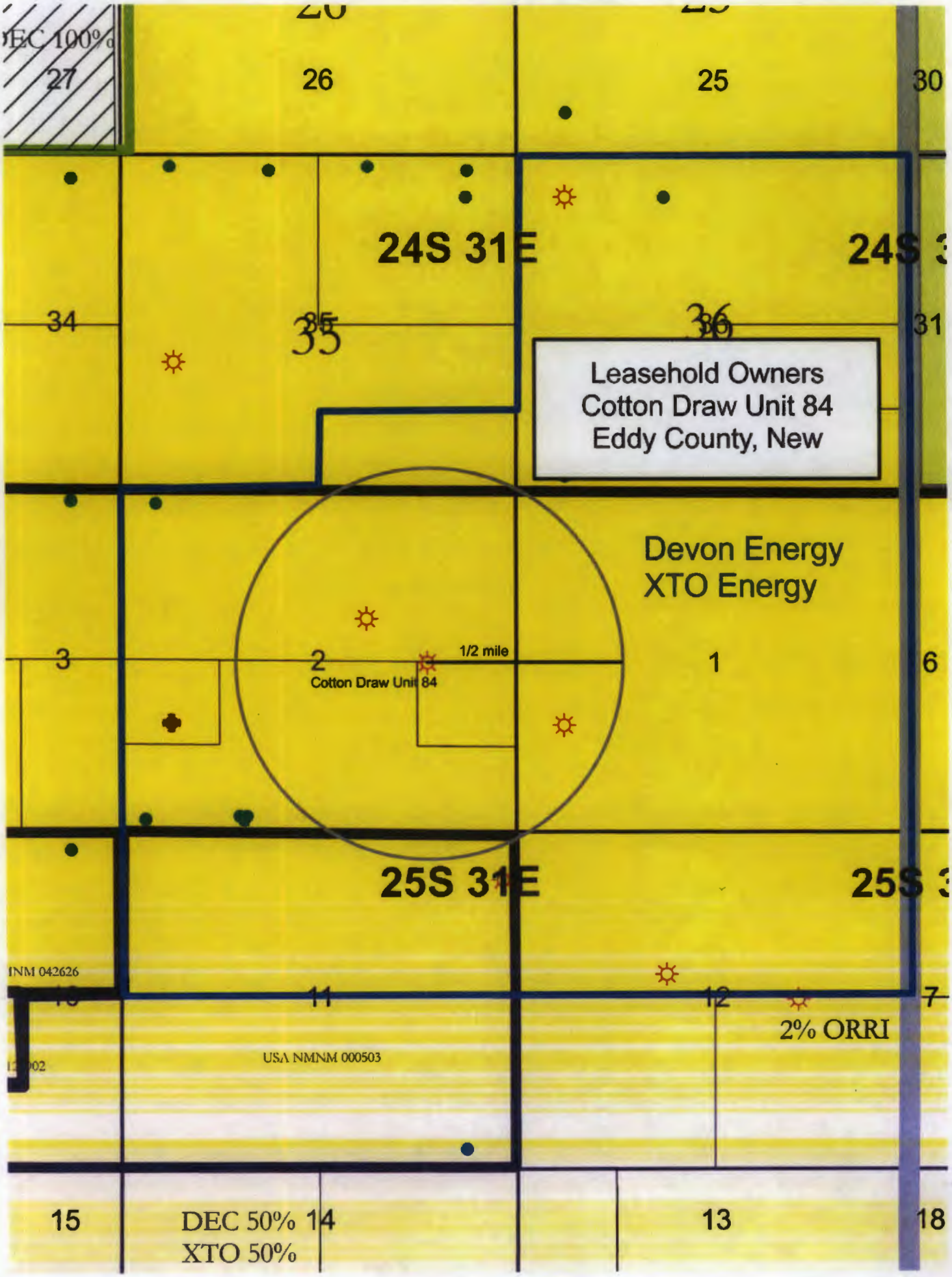
Barium as Ba	0	
Carbonate alkalinity PPM	0	
Bicarbonate alkalinity PPM	80	
pH at Lab	6.05	
Specific Gravity @ 60°F	1.195	
Magnesium as Mg	59,566	
Total Hardness as CaCO3	102,700	
Chlorides as Cl	192,032	
Sulfate as SO4	200	
Iron as Fe	33	
Potassium	85	
Hydrogen Sulfide	0	
Rw	0.046	@ 23° C
Total Dissolved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


EC 100%
27
26
25
24S 31E
STATE
34
35
36
31
Surface Owners
Cotton Draw Unit 84
Eddy County, New
FEDERAL
STATE
FEDERAL
3
2
1/2 mile
Cotton Draw Unit 84
1
6
25S 31E
NM 042626
11
12
7
2% ORRI
USA NMNM 000503
15
DEC 50%
XTO 50%
14
13
18


EC 100%
27
26
25
30
24S 31E
24S 3
34
35
36
31
Leasehold Owners
Cotton Draw Unit 84
Eddy County, New
Devon Energy
XTO Energy
3
2
1/2 mile
Cotton Draw Unit 84
1
6
25S 31E
25S 3
NM 042626
11
12
7
2% ORRI
USA NMNM 000503
15
DEC 50% 14
XTO 50%
13
18

Leasehold Ownership
½ mile Cotton Draw Unit 84

24S-31E Section 35: S/2 SE/4

Devon Energy Production Company, L.P.	.500000
XTO Energy, Inc. 810 Houston Street Fort Worth, Texas 76102-6298	.500000
	Total: 1.000000

24S-31E Section 36: All

Devon Energy Production Company, L.P.	.500000
XTO Energy, Inc.	.500000
	Total: 1.000000

25S-31E Section 1: All

Devon Energy Production Company, L.P.	.500000
XTO Energy, Inc.	.500000
	Total: 1.000000

25S-31E Section 2: All

Devon Energy Production Company, L.P.	.500000
XTO Energy, Inc.	.500000
	Total: 1.000000

25S-31E Section 11: N/2

Devon Energy Production Company, L.P.	.500000
XTO Energy, Inc.	.500000
	Total: 1.000000

25S-31E Section 12: N/2

Devon Energy Production Company, L.P.	.500000
XTO Energy, Inc.	.500000

Total: 1.000000

Section XIV--Proof of Notice to Surface Land Owner
Devon Energy Prod Co LP
C108 Application For Injection
Proposed Well: Cotton Draw Unit 84

Proof of Notice to Surface Land Owner of well location site.

Certified receipt No.
7008 1830 0002 7421 6153

New Mexico State Land Office
Attn: Donald Martinez – Surface Division
310 Old Santa Fe Trail
Santa Fe, New Mexico 87501

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 Cotton Draw Unit 84.

Date Mailed: 5/13/2013

Signature: _____ Date: 5/13/2013

Stephanie A. Porter, Operations Technician
Devon Energy Production Co., L.P.
333 West Sheridan Avenue
Oklahoma City, OK 73102

Section XIV--Proof of Notice to Leasehold Operators
Devon Energy Prod Co LP
C108 Application For Injection
Proposed Well: Cotton Draw Unit 84

Proof of Notice to Leasehold Operators within 1/2 mile of Cotton Draw Unit 76

Certified receipt No.
7008 1830 0002 7421 6160

XTO Energy, Inc
810 Houston Street
Fort Worth, Texas 76102-6298

A copy of this application has been mailed to the above leasehold operators by certified mail, pertaining to Devon Energy's application for salt water disposal in the Cotton Draw Unit 84.

Date Mailed: 3/13/2013

Signature: _____ Date: 3/13/2013

Stephanie A. Porter, Operations Technician
Devon Energy Production Co., L.P.
333 West Sheridan Avenue
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 18 2013

That the cost of publication is **$48.00** and that payment thereof has been made and will be assessed as court costs.

Kathy McCarroll

Subscribed and sworn to before me this

18th day of July, 2013

Shirley Maxwell

My commission Expires on May 18, 2015

Notary Public

OFFICIAL SEAL
Shirley Maxwell
NOTARY PUBLIC
STATE OF NEW MEXICO
My Commission Expires 5/18/15

July 18, 2013

Legal Notice

Devon Energy Production Company, LP, 333 West Sheridan Avenue, 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 existing well, the Cotton Draw Unit 84 is located at 2615' FSL & 1160' FEL, Section 2, Township 25 South, Range 31 East, in Eddy County, New Mexico. Disposal water will be sourced from area wells producing from the Bone Spring and/or Delaware formations. The disposal water will be injected into the Devonian formation at a depth of 16,295' to 16,585', open hole, at a maximum surface pressure of 3259 psi and a maximum rate of 10,000 BWPD. Any interested party who has an objection to this must give notice in writing to the Oil Conservation Division, 1220 South Saint Francis Drive, Santa Fe, New Mexico 87508, within (15) days of this notice. Any interested party with questions or comments may contact Trevor Klaassen at Devon Energy Corporation, 333 West Sheridan Avenue, Oklahoma City, OK 73102-8260, or call (405) 552-5069.

devon

Devon Energy Corporation
333 West Sheridan Avenue
Oklahoma City, OK 73102-5010

405 235 3611 Phone
www.devonenergy.com

August 5th, 2013

Oil Conservation Division
811 S. First Street
Artesia, New Mexico 88210

RE: Form C-108, Application for Authorization to Inject
Cotton Draw Unit #84; API 30-015-29728
Eddy County, NM
Section 2, T25S, R31E

Dear Conservation Division-Artesia District Office:

Please find attached Devon Energy Production Company, LP's Form C-108, Application for Authorization to Inject. The original application has been filed with the Oil Conservation Division-Santa Fe Office.

Devon's application proposes to convert the Cotton Draw Unit #84 to salt water disposal in the Devonian formation.

The surface land owner and operators with leasehold ownership have been notified with Devon's application to inject via certified mail.

If you have any questions, please contact Trevor Klaassen (405)-552-5069 or myself at (405)-552-7802.

Sincerely,

Stephanie A. Porter
Operations Technician

SP/sp
Enclosure

devon

Devon Energy Corporation
333 West Sheridan Avenue
Oklahoma City, OK 73102-5010

405 235 3611 Phone
www.devonenergy.com

August 5th, 2013

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

RE: Form C-108, Application for Authorization to Inject
Cotton Draw Unit #84; API 30-015-29728
Eddy County, NM
Section 2, T25S, R31E

Dear Santa Fe Oil Conservation Division:

Please find attached Devon Energy Production Company, LP's Form C-108, Application for Authorization to Inject. Devon's application proposes to convert the Cotton Draw Unit #84 to salt water disposal in the Devonian formation.

The surface land owner and operators with leasehold ownership have been notified with Devon's application to inject via certified mail. A copy of this application has been filed with the OCD-Artesia office.

If you have any questions, please contact Trevor Klaassen at (405)-552-5069 or myself at (405)-552-7802.

Sincerely,

Stephanie A. Porter
Operations Technician

SP/sp
Enclosure

devon

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

405 235 3611 Phone
www.devonenergy.com

August 5th, 2013

New Mexico State Land Office
Surface Division
Attn: Donald Martinez
310 Old Santa Fe Trail
Santa Fe, New Mexico 87501

RE: Form C-108, Application for Authorization to Inject
Cotton Draw Unit #84; API 30-015-29728
Eddy County, NM
Section 2, T25S, R31E

Dear New Mexico State Land Office:

Please find attached Devon Energy Production Company, LP's Form C-108, Application for Authorization to Inject. Devon's application proposes to convert the Cotton Draw Unit #84 to salt water disposal in the Devonian formation.

The surface land owner and operators with leasehold ownership have been notified with Devon's application to inject via certified mail. A copy of this application has been filed with the OCD-Artesia office.

If you have any questions, please contact Trevor Klaassen at (405)-552-5069 or myself at (405)-552-7802.

Sincerely,

Stephanie A. Porter
Operations Technician

SP/sp
Enclosure

devon

Devon Energy Corporation
333 West Sheridan Avenue
Oklahoma City, OK 73102-5010

405 235 3611 Phone
www.devonenergy.com

August 5th, 2013

XTO Energy, Inc.
810 Houston Street
Ft. Worth, Texas 76102-6298

RE: Form C-108, Application for Authorization to Inject
Cotton Draw Unit #84; API 30-015-29728
Eddy County, NM
Section 2, T25S, R31E

Dear XTO Energy, Inc.:

Please find attached Devon Energy Production Company, LP's Form C-108, Application for Authorization to Inject.

Devon's application proposes to convert the Cotton Draw Unit #84 to salt water disposal in the Devonian formation.

As a requirement of the New Mexico Oil Conservation Division, we are notifying you because you have been identified as having leasehold ownership within the ½ mile review area around the Cotton Draw Unit #84 well. Any objections must be submitted in writing to NMOCD, 1220 South St. Francis Drive, Santa Fe, New Mexico 87505. Objections must be received within (15) days of receipt of this letter.

If you have any questions, please contact Trevor Klaassen at (405)-552-5069 or myself at (405)-552-7802.

Sincerely,

Stephanie A. Porter
Operations Technician

SP/sp
Enclosure

SLO/Devon states depletion - SLO & Devon negotiated settlement Oct 8th

C-108 Review Checklist: Received 08/08/13 Add. Request: 09/10/13 Reply Date: — Suspended: — [Ver 10]

PERMIT TYPE: WFX / PMX / (SWD) Number: 1447 Permit Date: 10/25/13 Legacy Permits/Orders: NA

Well No. 84 Well Name(s): Cotton Draw Unit (CDU)

API : 30-0 15-29728 Spud Date: 08/25/97 New or Old: N (UIC Class II Primacy 03/07/1982)

Footages 2615 FSL / 1160 FEL Lot ___ Unit I Sec 2 Tsp 25S Rge 31E County Eddy

General Location: Cotton Draw / south of WIPP / near TX border Pool: Padua, NW; Devonian Pool No.: 96615

Operator: Devon Energy Production Company LP OGRID: 6137 Contact: Stephanie Porter

COMPLIANCE RULE 5.9: Inactive Wells: 5 Total Wells: 1819 Fincl Assur: Yes Compl. Order? No **IS 5.9 OK?** Yes

Well File Reviewed ✓ Current Status: Former producer in Devonian

Well Diagrams: NEW: Proposed ◯ RE-ENTER: Before Conv. ✓ After Conv. ✓ Are Elogs in Imaging?: Multiple / only for ~~open hole portion~~ / 11/04/97 CBL / 4090' to 12,139'

Planned Rehab Work to Well: No changes to well construction / acidize / add tubing / packer system

Well Construction Details:	Sizes (in) Borehole / Pipe	Setting Depths (ft)		Cement (Sx) or Cf	Cement Top and Determination Method
Planned __or Existing __Conductor	—	—	Stage Tool	—	—
Planned __or Existing ✓Surface	24 / 18 5/8	0 to 700		1350	Cir. to surface
Planned__or Existing ✓(Interm)/Prod	17 1/2 / 13 3/8	0 to 4350	~~DV Packer 4231~~	3250	Cir. to surface
Planned__or Existing ✓Prod/(Interm)	12 1/4 / 9 5/8	0 to 12200	DV tool 8514	6056/3500	CBL - 4090'
Planned__or Existing ✓(Liner)Prod	8 1/2 / 7 5/8	11858 - 14057	—	650	TOL - calculated
	6 1/2 / 5 1/2	~~14289 - 16295~~		300	see above
Planned__or Existing ✓(OH) / PERF	4 3/4 / 5/8	16295 - 16585	Inj Length 290'		

Injection Stratigraphic Units:	Depths (ft)	Injection or Confining Units	Tops?
Adjacent Unit: (Litho) Struc. Por.		Morrow	14408
Confining Unit: (Litho) (Struc) (Por.)		Mississippian	15896
Proposed Inj Interval TOP:	16295	Woodford Fm	16202
Proposed Inj Interval BOTTOM:	16585	Devonian Fm	16342
Confining Unit: Litho. Struc. Por.	NA	Silurian / Fusselman (included)	
Adjacent Unit: Litho. Struc. Por.	—	Montoya	—

Completion/Operation Details:

Drilled TD 16585 PBTD NA

NEW TD NA NEW PBTD NA

NEW Open Hole NA or NEW Perfs NA

Tubing Size 3 1/2 in. Inter Coated? Yes

Proposed Packer Depth 16180 ft

Min. Packer Depth 16195 (100-ft limit)

Proposed Max. Surface Press. 3259 psi

Admin. Inj. Press. 3259 (0.2 psi per ft)

AOR: Hydrologic and Geologic Information

POTASH: R-111-P ◯ Noticed? NA **BLM Sec Ord** NA **WIPP** NA Noticed? NA **SALADO:** T: 1034 B: 4356 **CLIFF HOUSE** NA

FRESH WATER: Formation Pecos Basin Alluvial Max Depth: Est. 300' to 400 ft Wells? ∅ FW Analysis ∅ **HYDROLOGIC AFFIRM By Qualified Person** ✓

Disposal Fluid: Formation Source(s) Delaware Fm / CDU (all from) Bone Spring Fm Analysis? Yes (from Sec 2 well on lease) On Lease ◯ Operator Only ✓ or Commercial ◯

Disposal Interval: Injection Rate (Avg/Max BWPD): 5000/10000 Protectable Waters: NO (OXY USA - deep wells / No SDR in Sec. 2) **CAPITAN REEF:** thru ◯ adj ◯ NA ✓

H/C Potential: Producing Interval? Yes - see note Formerly Producing? Yes Method: E Log /Mudlog/DST/Depleted/(Other) see e-mails

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

Penetrating Wells: No. Active Wells 2 Num Repairs? ∅ on which well(s)? [one well injection / SWD into Delaware Gp] Diagrams? ~~Yes~~ - on record

Penetrating Wells: No. P&A Wells ∅ Num Repairs? ∅ on which well(s)? ___ Diagrams? NA

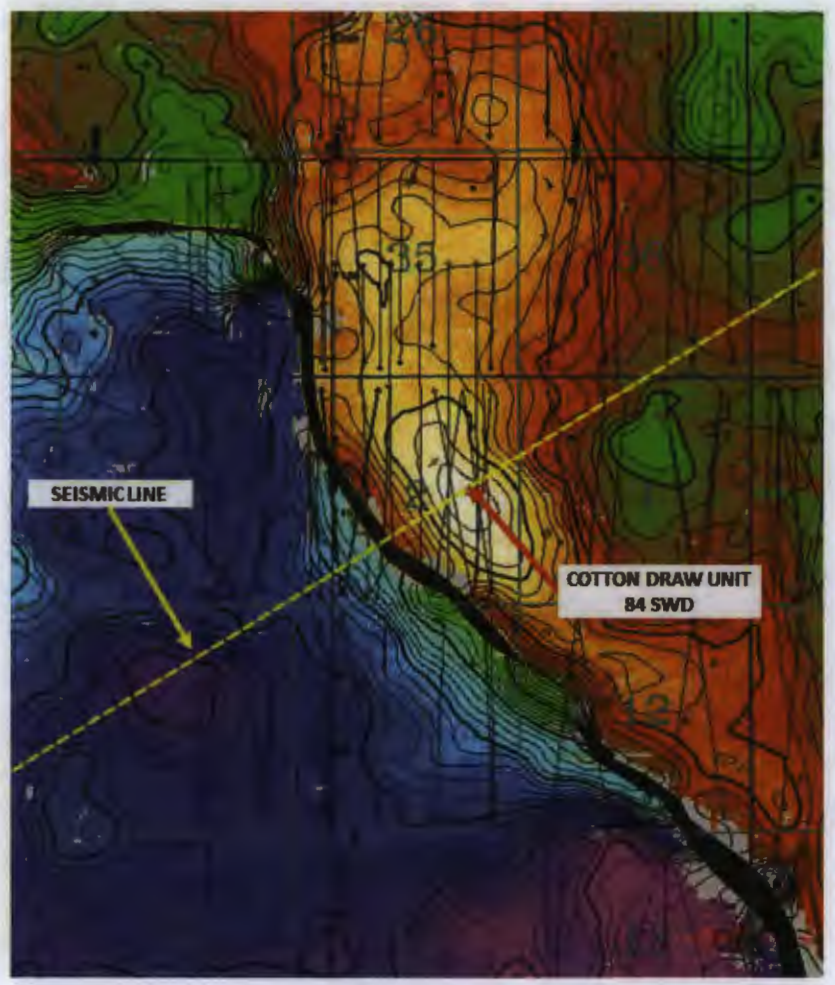
NOTICE: Newspaper Date 07/18/13 Mineral Owner SLO Surface Owner SLO N. Date 8/13/13

RULE 26.7(A): Identified Tracts? Yes Affected Persons: XTO Energy [Unit with Devon] N. Date 8/13/13

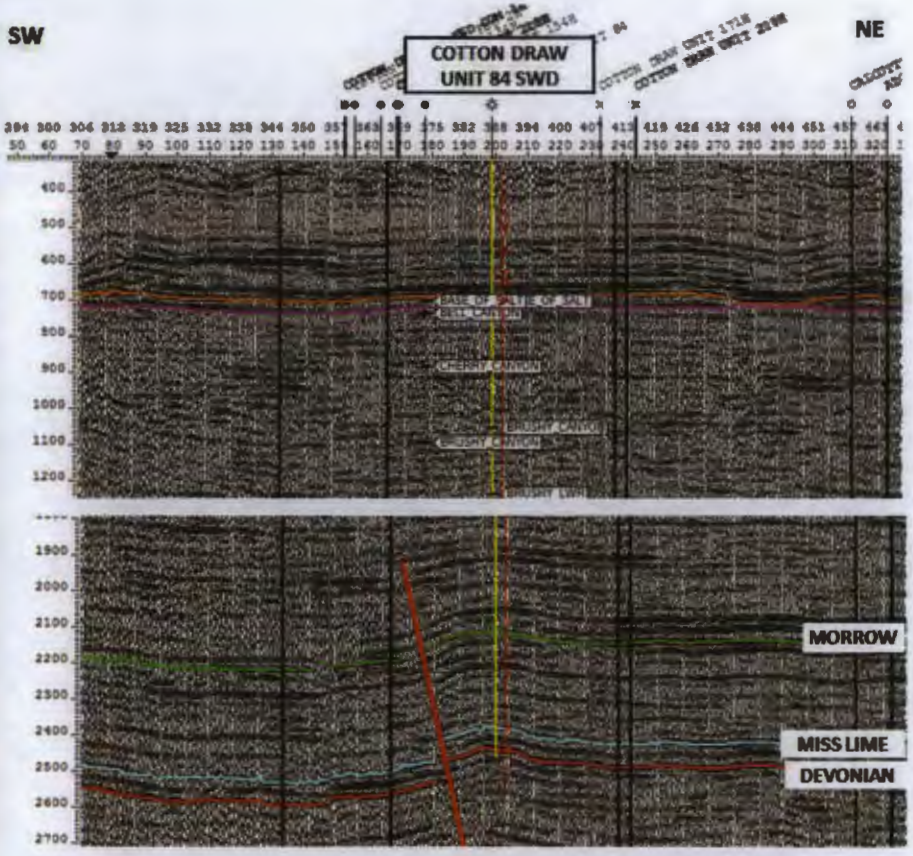
Permit Conditions: Issues: CBL not available on file.

Add Permit Cond: None identified - except restate 100-ft packer (max. depth of 16195') dist.

SLO negotiated payment for remaining HC [illegible]



MISS LIME TIME STRUCTURE MAP
C.I.= 4 MSEC= 25 FT.



SOUTHWEST-NORTHEAST TRENDING 3D SEISMIC LINE
OVER THE COTTON DRAW UNIT 84 SWD

Goetze, Phillip, EMNRD

From: Holm, Anchor <aholm@slo.state.nm.us>
Sent: Tuesday, October 08, 2013 1:18 PM
To: 'Gray, Ken'; Klaassen, Trevor
Cc: Martinez, Pete; Jones, William V.; Warnell, Terry G.; Goetze, Phillip, EMNRD; Roybal, Larry; Bloom, Gregory B.
Subject: RE: Cotton Draw Unit #84

Ken,

I think that Larry Roybal or Greg Bloom of OGMD will be signing off on this.

Anchor Holm
GeoScientist/Petroleum Engineering Specialist
NM State Land Office
Oil, Gas and Minerals Division
P.O. Box 1148
310 Old Santa Fe Trail
Santa Fe, NM 87504-1148
Ph. 505-827-5759
aholm@slo.state.nm.us

From: Gray, Ken [mailto:Ken.Gray@dvn.com]
Sent: Tuesday, October 08, 2013 9:58 AM
To: Holm, Anchor; Klaassen, Trevor
Cc: Martinez, Pete; Jones, William; Warnell, Terry; Phillip R. Goetze P.G. (Phillip.Goetze@state.nm.us)
Subject: RE: Cotton Draw Unit #84

Anchor, I am preparing the agreements for the BFDU 44 SWD and the CDU 84 SWD and have checks to send along with agreements for SLO execution. Who will be signing on behalf of SLO? And in what capacity?

From: Holm, Anchor [mailto:aholm@slo.state.nm.us]
Sent: Thursday, September 26, 2013 9:19 AM
To: Gray, Ken; Klaassen, Trevor
Cc: Martinez, Pete; Jones, William; Warnell, Terry; Phillip R. Goetze P.G. (Phillip.Goetze@state.nm.us)
Subject: RE: Cotton Draw Unit #84

Ken,

I used the following for the SLO interest: 12.5% times 23% = 0.1250 x 0.23 = 0.02875. The 23% I was given had been rounded down a little bit. However, I inadvertently did not include the 23% portion in my calculation.

Therefore, your calculation is correct. Thanks for the catch!

I recommend that the SLO change in the Advance Royalty Amount to **$4,319.01**.

Thank you,

Anchor Holm
GeoScientist/Petroleum Engineering Specialist
NM State Land Office
Oil, Gas and Minerals Division
P.O. Box 1148
310 Old Santa Fe Trail
Santa Fe, NM 87504-1148
Ph. 505-827-5759
aholm@slo.state.nm.us

From: Gray, Ken [mailto:Ken.Gray@dvn.com]
Sent: Wednesday, September 25, 2013 3:44 PM
To: Holm, Anchor; Klaassen, Trevor
Cc: Martinez, Pete; Jones, William; Warnell, Terry; Phillip R. Goetze P.G. (Phillip.Goetze@state.nm.us)
Subject: RE: Cotton Draw Unit #84

Anchor, if I understand correctly you have placed a value of $10,700 for SLO portion of the remaining (44, 027 MCF X $3.40/mcf=$149,691.80). Assuming we all agree on these estimates and projections, I can't get to your $10,700 value. Based on our records the SLO has a 0.02885271 interest in the CDU Devonian P.A. X the $149,691.80= $4,319.01. I've never claimed to be a math whiz, so is there something I'm overlooking?

From: Holm, Anchor [mailto:aholm@slo.state.nm.us]
Sent: Tuesday, September 24, 2013 8:19 AM
To: Gray, Ken; Klaassen, Trevor
Cc: Martinez, Pete; Jones, William; Warnell, Terry; Phillip R. Goetze P.G. (Phillip.Goetze@state.nm.us)
Subject: RE: Cotton Draw Unit #84

Ken,

I conservatively estimate that the remaining recoverable reserves for this well are 44,027 Mcf valued at $3.40 per Mcf with a lease royalty rate of 12.5% and a unit participation factor of 23%.

This well has produced consistently at this rate for nearly 5 years with a relatively constant water production rate. The gas market may change at the end of the year, but how much is uncertain. Also, if the price of gas increases above $5.30/Mcf, the well will be fully economic. Thus, shut-in of the well until the gas market improves in the next few years may be a prudent option, since the water drive in the Devonian appears not to be strong. Rather the reservoir appears to produce the water from natural fractures and the gas from the matrix at the mature stage of its production.

Anchor Holm
GeoScientist/Petroleum Engineering Specialist
NM State Land Office
Oil, Gas and Minerals Division
P.O. Box 1148
310 Old Santa Fe Trail
Santa Fe, NM 87504-1148
Ph. 505-827-5759
aholm@slo.state.nm.us

From: Gray, Ken [mailto:Ken.Gray@dvn.com]
Sent: Monday, September 23, 2013 3:51 PM
To: Holm, Anchor; Klaassen, Trevor

Cc: Martinez, Pete; Jones, William; Warnell, Terry; Phillip R. Goetze P.G. (Phillip.Goetze@state.nm.us)
Subject: RE: Cotton Draw Unit #84

Anchor, do you have an estimate of the gross recoverable reserves that you used to come up with the value?

From: Holm, Anchor [mailto:aholm@slo.state.nm.us]
Sent: Monday, September 23, 2013 2:54 PM
To: Klaassen, Trevor; Gray, Ken
Cc: Martinez, Pete; Jones, William; Warnell, Terry; Phillip R. Goetze P.G. (Phillip.Goetze@state.nm.us)
Subject: RE: Cotton Draw Unit #84

Ken and Trevor,

I have reviewed the additional information you have provided regarding the Devonian gas reserves producible by the Cotton Draw Unit #4 well. Below is our review results and we request to know if Devon Energy is agreeable to the proposed terms. If agreeable, we will prepare a formal letter from the Commissioner of Public Lands including the following review:

DRAFT

Re: **Cotton Draw Unit #84**, Lease K04562-0004
Conversion from Gas Producer to Salt Water Disposal
In the 82480 PADUCA; MORROW (GAS)Pool, Unit letter G, Section 02, Township 25 South, Range 31 East, Eddy County, New Mexico

In response to your request for the New Mexico State Land Office to approve the conversion of the Cotton Draw Unit #84 well, which is currently producing sour gas and some water from the Devonian (gas) Pool. Our records, obtained through the Oil Conservation Division, indicate that the well located on the subject lease is producing in large enough amounts to hold the lease but currently has very marginal economics due to low gas prices. We are concerned that lease K-4562-4 will lose Devonian gas royalties due to our Common School beneficiary, if this well is converted to the salt water disposal (SWD) as proposed.

This Office has reviewed the following items which Devon Energy has submitted to us: the Plan of Development, Geologic Structure Map, and Economic Forecast for the subject gas well. We agree that the well is approaching it economic limit due to low gas prices, and understand that Devon Energy believes that their current gas market is to possibly discontinued next year. However, the Devonian Gas Pool is still capable of gas production and conversion to salt water disposal in the same zone will cause waste to occur and loss of royalty revenues to the State Land Office Beneficiary. The loss of royalty revenue is calculated to be $10,700.00 based on the past 12 months of production history and a gas price of $3.40/mcf.

As operator of the well, you are requested to remit to this office $10,700.00 advance royalty payment within 30 days from the date of this letter.

Thank you,

Anchor Holm
GeoScientist/Petroleum Engineering Specialist
NM State Land Office
Oil, Gas and Minerals Division
P.O. Box 1148
310 Old Santa Fe Trail
Santa Fe, NM 87504-1148
Ph. 505-827-5759
aholm@slo.state.nm.us

From: Klaassen, Trevor [mailto:Trevor.Klaassen@dvn.com]
Sent: Wednesday, September 18, 2013 8:52 AM
To: Holm, Anchor
Cc: Martinez, Pete; Jones, William; Warnell, Terry
Subject: RE: Cotton Draw 84

Anchor,
I understand the concern to preserve producible gas reserves, and we certainly don't want to waste economic resources. But, this well is at the end its economic life anyway, if we weren't planning to convert this well it would probably be ready for P&A next year since it will lose its gas market and the wellbore has little to no economic value beyond that, other than as an SWD well. I attached a seismic map showing this well is on a structural high and is fault bounded. Referring to the decline curve I sent yesterday we have already produced more than the economic volumes of gas from this well, and are in fact losing money by producing more. If nothing else I could argue that if you believe the injection would displace the gas horizontally, theoretically the remaining gas could be produced by the offsetting Devonain producers, CDU 76 and CDU 86 in the future, so they would not be wasted. Or if you agree with some geologist who are working this area, who believe the Devonian is infinite acting in the vertical direction due to fracturing, any gas displaced downward could be recovered from the same wellbore once injection is stopped and the gas is allowed to gravity separate and migrate back to the well in the natural structural high.

Trevor Klaassen
Engineer
Devon Energy
ph: 405-552-5069

From: Holm, Anchor [mailto:aholm@slo.state.nm.us]
Sent: Wednesday, September 18, 2013 8:35 AM
To: Klaassen, Trevor
Cc: Martinez, Pete; Jones, William; Warnell, Terry
Subject: RE: Cotton Draw 84

Trevor,

I have received your new well operating expense history and economic evaluation, and will review it as part of the Cotton Draw Unit plan of development.

When I have completed my review, I will discuss it with Will Jones, Terry Warnell and Pete Martinez. Pete will then send your our evaluation of this proposed conversion of a Devonian gas well to SWD service.

One concern is that the "gas zone' of the openhole likely should be isolated from the SWD zone(s). Thus, in the future, re-entry into that zone might be feasible.

Anchor Holm
GeoScientist/Petroleum Engineering Specialist
NM State Land Office
Oil, Gas and Minerals Division
P.O. Box 1148
310 Old Santa Fe Trail
Santa Fe, NM 87504-1148
Ph. 505-827-5759
aholm@slo.state.nm.us

From: Klaassen, Trevor [mailto:Trevor.Klaassen@dvn.com]
Sent: Tuesday, September 17, 2013 2:19 PM
To: Holm, Anchor
Cc: Martinez, Pete
Subject: FW: Cotton Draw 84

Mr Holm,
Earlier we discussed the reserves estimate for the CDU 84, and its future lack of market due to the sour gas. I had my reservoir engineer run an economic analysis to include the operating costs. Currently we are truck hauling produced water at $2.80/bbl for the area and the sour gas takes a $0.14/mcf hit by the gas plant to process out the H2S. Then at the end of the year the gas plants will no longer take any sour gas so we will lose out market for this gas. Do you mind incorporating this information in to your own reserves estimates for this well. Attached is a PEEP economics case print out and the LOE for each of the Devonian wells in the area. Thank you.

Trevor Klaassen
Engineer
Devon Energy
ph: 405-552-5069

From: Broussard, Andy
Sent: Tuesday, September 17, 2013 2:33 PM
To: Klaassen, Trevor
Subject: RE: Cotton Draw 84

Trevor,

Attached is a spreasheet w/ average LOE costs for the 3 Devonian producers. Average gross direct recuring LOE averaged to a bit over $11,000/mo/well, so $11M was used in the ecnomics run (plus the $0.14/mcf for sour gas processing.) Despite the well making around 120 mcfd, this well is a dry gas producer that makes a lot of water in a busy area with high lease operating expenses. Thus, in the economics PDF, the Before Tax Undiscounted Cash Flow is currently negative. This well has reached it's economic limit and has no addititional reserves. Additioanlly, we will lose the market for the sour gas around Jan 1, 2014, and the well's production does not justify any capital expenditures to find a new market for the gas.

From: Klaassen, Trevor
Sent: Tuesday, September 17, 2013 9:40 AM
To: Broussard, Andy; Gray, Ken; Hays, Ron; Cantrell, Cynthia
Subject: RE: Cotton Draw 76,84,86

I spoke with the SLO, they will be asking us to pay the royalties on the lost reserves in the CDU 84. Which isn't an issue it will be minimal, 1-3 yrs worth.

Ken, I left a message for Pete Martinez so we can get the paper work started on that. Anchor Holm gave him a range of reserves estimates for 1-3 yrs. Which I have no problem paying, economic or not. Do you mind trying to get ahold of him and seeing if we can ge that started?

Andy, I'll try to talk to a chem company and get a ball park estimate for what it would cost to treat out the H2S chemically. I wouldn't expect a quick answer they will probably want to do an analysis first. But, I'll try to get a rough number quick.

Trevor Klaassen
Engineer
Devon Energy
ph: 405-552-5069

From: Broussard, Andy
Sent: Tuesday, September 17, 2013 9:35 AM
To: Cantrell, Cynthia; Klaassen, Trevor; Hernandez, Robert
Cc: Hays, Ron
Subject: RE: Cotton Draw 76,84,86

I appreciate everyone trying to track down info on this. I know that all options for continuing to produce the CDU 84 are uneconomic and not worth pursuing. I'm just trying to get some ballpark estimates of how much it would cost to treat the gas to show the state how uneconomic it is. If we can do 25% of the work for 75% of the answer that would be ideal for this estimate. If anyone has anything for me I'd appreciate it. Thanks.

Andy

From: Cantrell, Cynthia
Sent: Tuesday, September 17, 2013 9:22 AM
To: Klaassen, Trevor; Hernandez, Robert
Cc: Broussard, Andy; Hays, Ron
Subject: RE: Cotton Draw 76,84,86

OK. I won't pursue with SUG unless you tell me otherwise.

From: Klaassen, Trevor
Sent: Tuesday, September 17, 2013 9:19 AM
To: Cantrell, Cynthia; Hernandez, Robert
Cc: Broussard, Andy; Hays, Ron
Subject: RE: Cotton Draw 76,84,86

I wouldn't worry about looking at selling to SUG if we have to run a separate line. Would be completely uneconomic to do so.

Trevor Klaassen
Engineer
Devon Energy
ph: 405-552-5069

From: Cantrell, Cynthia

Sent: Tuesday, September 17, 2013 9:14 AM
To: Klaassen, Trevor; Hernandez, Robert
Cc: Broussard, Andy; Hays, Ron
Subject: RE: Cotton Draw 76,84,86

Trevor,

See my initial email to Ron in the email chain below – Once Enterprise connects their Waha system (where these wells are now connected) to their Carlsbad System, they won't be able to take the H2S anymore. The CDU treater we have with DCP is for CO2, so it is not an option for H2S.

I haven't checked to see if Southern Union might be a possibility, and I'm not sure of the distance to their pipeline. I know they can take CO2, but I'm not very confident they can take the H2S.

Robert – I'll need to get a gas analysis on these to see if SUG is an option.

Thanks,

Cynthia

From: Klaassen, Trevor
Sent: Tuesday, September 17, 2013 9:05 AM
To: Cantrell, Cynthia
Cc: Broussard, Andy; Hays, Ron
Subject: RE: Cotton Draw 76,84,86

Cynthia, can you verify that Enterprise is actually willing to process out the H2S from our Devonian gas for $0.14/mcf? Does that apply to the entire gas sales volume or just the +/-500mcf that comes from the Devonain wells.
Also, can you give us the $/mcf we are getting paid in Cotton Draw. Thanks.

Trevor Klaassen
Engineer
Devon Energy
ph: 405-552-5069

From: Hays, Ron
Sent: Tuesday, September 17, 2013 8:59 AM
To: Klaassen, Trevor
Subject: FW: Cotton Draw 76,84,86

From: Hays, Ron
Sent: Monday, September 16, 2013 2:45 PM
To: Broussard, Andy
Subject: FW: Cotton Draw 76,84,86

fyi

From: Cantrell, Cynthia
Sent: Wednesday, July 31, 2013 7:36 AM
To: Hays, Ron
Cc: Harran, Craig; Klaassen, Trevor; McCorkell, Dan; Kidd, Tracy
Subject: RE: Cotton Draw 76,84,86

Ron,

I think both DCP and Enterprise can take the gas if it's sweet. As to how much capacity they have, that depends on timing, etc. We have an offload point to Enterprise identified at the Cotton Draw 32 in Section 1-25S-31E (it is listed on our Enterprise agreement but no meter has been installed). DCP is going to be full at Cotton Draw sometime next year based on our drilling plans (possibly 3 rigs). In short, we're going to need Enterprise or some other outlet there as an offload. We probably need to make sure if this delivery point at Cotton Draw 32 will work to offload the entire Cotton Draw area or if we need to identify other points as well.

From: Hays, Ron
Sent: Wednesday, July 31, 2013 7:00 AM
To: Klaassen, Trevor
Cc: Cantrell, Cynthia; Harran, Craig
Subject: FW: Cotton Draw 76,84,86

Trevor,
According to Cynthia (see below),in about 6 months these wells will not have a gas market due to H2S. Unless Cynthia finds someone out there other than Enterprise and DCP that could take this sour gas then we will need to find another use for these wells or P&A them as necessary.

Craig,
Is there anything uphole we would go for that an existing or future horizontal wouldn't be able to capture the reserves?

Cynthia,
If we found some sweet gas in a recompletion, could Enterprise or DCP take that gas and how much?

Thanks
Ron

From: Cantrell, Cynthia
Sent: Thursday, July 18, 2013 10:27 AM
To: Hays, Ron
Cc: McCorkell, Dan; Hise, Devyon; Thayer, Deana; Kidd, Tracy
Subject: Cotton Draw 76,84,86

Ron,

These are Devonian wells that are gathered by Enterprise on their Waha System. Volume is about 500 MCFD. Their Waha system has a treater for this gas, but in about 6 months they are planning to connect their Waha system to their Carlsbad system and will no longer be able to take this Devonian gas without treating. The agreement we have for Waha does not require them to take off-spec gas, but they have agreed to do so and they charge us a $0.07/MCF purification fee and Acid Gas Disposal fee of $0.07/MCF.

We'll need to either find another home for this or treat it. Seems like the best idea would be to connect it behind the CDU treater we installed if that makes sense from a location standpoint.

We have a little time, but let me know if you think that is feasible. I know DCP is getting full on their 10200 line, but since this isn't too much volume, we might be able to get it in. It would probably be best if we could bring it in behind another meter.

Thanks,

Cynthia

Goetze, Phillip, EMNRD

From: Goetze, Phillip, EMNRD
Sent: Friday, September 06, 2013 1:31 PM
To: Martinez, Pete (PMartinez@slo.state.nm.us)
Cc: Ezeanyim, Richard, EMNRD; Shapard, Craig, EMNRD
Subject: SLO Input on Devon's Conversion of Cotton Draw Unit #84 to SWD

Pete:

Devon Energy has submitted a C-108 for conversion of a gas producer to a SWD on state land. The well is the Cotton Draw Unit #84 [API 30-015-29728; 2615 FSL, 1160 FEL, Sec 2, T25S, R31E; Pool: Paduca, Devonian, NW; PC: 96615]. Devon states that this well has an average production of 120 Mcf/d with 486 BW. The well has been shut-in since June 6 due to the production of formation solids. Devon also states that the ability to sale the gas is limited due to the H_2S content, high water hauling costs and the unavailability of a gas processor to accept their gas. It is Devon's contention that this well will be uneconomical in six months. Devon wishes to use these finding to request conversion of the CDU #84 into a Devonian injector (open hole 16295' to 16585') for salt water disposal. It should be noted that CDU #65 (30-015-10843; SWD-699), a SWD within the Area of Review for the CDU #84, and CDU #81 (30-015-29345; SWD-1248) just outside of the Area of Review are both injecting into the shallower Delaware Mtn Group.

Any comments by the SLO on the well economics described by Devon and Devon's request for SWD (flooding) in the Devonian formation. Any input would be appreciated. Thanks. PRG

Phillip R. Goetze, P.G.
Engineering Bureau, Oil Conservation Division
1220 South St. Francis Dr., Santa Fe, NM 87505
O: 505.476.3466 F: 505.476.3462