Revised March 23, 2017

RECEIVED:	REVIEWER:	TYPE:	APP NO:
10/03/2017		SWD	pMAM1727758052

ABOVE THIS TABLE FOR OCD DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION
- Geological & 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

Applicant: LIME ROCK RESOURCES II-A, L.P. **OGRID Number:** 277558
Well Name: FEDERAL T SWD #1 **API:** 30-015-26404
Pool: SWD; WOLFCAMP-CISCO **Pool Code:** 96136

SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED BELOW

RECEIVED OCD
2017 OCT -3 P 1:32

1) **TYPE OF APPLICATION:** Check those which apply for [A]
A. Location – Spacing Unit – Simultaneous Dedication
☐ NSL ☐ NSP (PROJECT AREA) ☐ NSP (PRORATION UNIT) ☐ SD

B. Check one only for [I] or [II]
[I] Commingling – Storage – Measurement
☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM
[II] Injection – Disposal – Pressure Increase – Enhanced Oil Recovery
☐ WFX ☐ PMX ☒ SWD ☐ IPI ☐ EOR ☐ PPR

FOR OCD ONLY
☐ Notice Complete
☐ Application Content Complete

2) **NOTIFICATION REQUIRED TO:** Check those which apply.
A. ☒ Offset operators or lease holders
B. ☐ Royalty, overriding royalty owners, revenue owners
C. ☒ Application requires published notice
D. ☐ Notification and/or concurrent approval by SLO
E. ☒ Notification and/or concurrent approval by BLM
F. ☒ Surface owner
G. ☐ For all of the above, proof of notification or publication is attached, and/or,
H. ☐ No notice required

3) **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.

Mike Pippin
Print or Type Name

Mike Pippin
Signature

Date 10/1/17

505-327-4573
Phone Number

e-mail Address mike@pippinllc.com

LIME ROCK RESOURCES II-A, L.P.
Mike Pippin PE
3104 N. Sullivan Avenue
Farmington, NM 87401
505-327-4573 (phone) mike@pippinllc.com

September 30, 2017

Phil Goetze
NMOCD
1220 South St. Francis Drive
Santa Fe, NM 87505

RE: C-108, SWD APPLICATION
FEDERAL T SWD #1– API#: 30-015-26404
Unit Letter "A" Section 12 T18S R27E
Eddy County, New Mexico

Dear Mr. Goetze,

LIME ROCK RESOURCES II-A, L.P. as operator of the above-referenced well, is submitting this application to permit the referenced well for produced water disposal in the Lower Wolfcamp and Cisco (96136).

It was recently discovered that errors in Devon's original SWD application caused the State to exclude the Lower Wolfcamp perfs at 6868'-7360' in their subsequent order, SWD-1135. Approval of this application will rectify the problem.

This well is currently open and disposing of produced water in the Lower Wolfcamp 6868'-7360' and Cisco 7685'-8060'. All wells in the area of review that penetrated the proposed disposal interval (2 wells) have good cement throughout.

The Bureau of Land Management BLM as the surface owner and all offsetting operators have been notified.

Attached is the necessary C-108 information, data, maps, and proof of notices for the application.

Should you have any questions, please contact me at 505-327-4573.

Very truly yours,

Mike Pippin

Mike Pippin

Petroleum Engineer

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: **LIME ROCK RESOURCES II-A, L.P.**

ADDRESS: 1111 Bagby Street, Houston, TX 77002

CONTACT PARTY: Mike Pippin PHONE: 505-327-4573

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

IV. Is this an expansion of an existing project? __X__ Yes _____ No
If yes, give the Division order number authorizing the project: SWD-1135

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. **SEE ATTACHED**

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. **SEE ATTACHED**

VII. Attach data on the proposed operation, including: **SEE ATTACHED**

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. **SEE ATTACHED**

IX. Describe the proposed stimulation program, if any. **NONE**

*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. **SEE ATTACHED**

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. **SEE ATTACHED**

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: Mike Pippin TITLE: Petroleum Engineer

SIGNATURE: Mike Pippin DATE: 9/30/17

E-MAIL ADDRESS: mike@pippinllc.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: LIME ROCK RESOURCES II-A, L.P.

WELL NAME & NUMBER: FEDERAL T SWD #1

WELL LOCATION:	660' FNL 990' FEL	A	12	T18S	R27E
	FOOTAGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE

WELLBORE SCHEMATIC (SEE ATTACHED)

WELL CONSTRUCTION DATA

Surface Casing

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

Cemented with: 450 sx. *or* _____ ft³

Top of Cement: SURFACE Method Determined: Observation

Intermediate Casing

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

Cemented with: 900 sx. *or* _____ ft³

Top of Cement: SURFACE Method Determined: Observation

Production Casing

Hole Size: 7-7/8" Casing Size: 5-1/2"

Cemented with: 430 sx. *or* _____ ft³

Top of Cement: 4342' Method Determined: _____

Total Depth: 10,414'

Injection Interval Perforations

6868' feet to 8060'

(Perforated or Open Hole; indicate which)

Side 2

INJECTION WELL DATA SHEET

Tubing Size: 3-1/2" 9.3# Lining Material: IPC

Type of Packer: 5-1/2" IPC

Packer Setting Depth: 6789'

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

Additional Data

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

   If no, for what purpose was the well originally drilled? North Illinois Camp Morrow Gas Well

2. Name of the Injection Formation: Lower Wolfcamp & Cisco

3. Name of Field or Pool (if applicable): _____

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.

Morrow 10,008'-10,054' (perfs under CIBP @ 7595' w/35' cmt on top)
Cisco 7760'-8060' (perfs SQ w/100 sx cmt)
Cisco 8055'-8060' (perfs SQ w/100 sx cmt)
Cisco 7832'-7840' (perfs SQ w/100 sx cmt)
Cisco 7790'-7798' (perfs SQ w/100 sx cmt)
Cisco 7760'-7768' (perfs SQ w/100 sx cmt)

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

Morrow at 9600'-10,250'
Atoka at 9230'-9700'
Upper Wolfcamp at 6475'-6800'
Abo at 6015'-6200'
Yeso at 3300'-3900'
San Andres at 2072'-2800'
Queen at 1218'-1650'

LIME ROCK RESOURCES II-A, L.P.			
Well Name: **FEDERAL T SWD #1**	Field: **Lower Wolfcamp & Cisco**		
Location: 660' FNL 990' FEL, SEC 12, T18S R27E	County: Eddie	State: New Mexico	
Elevation: 3634'KB; 3618' GL	Spud Date: 6/18/90	Completion Date: 9/13/90	
API#: 30-015-26404	Prepaired by: M. Pippin	Date: 9/30/17	

Current Schematic
L. Wolfcamp and Cisco SWD

17-1/2" Hole
13-3/8", 68#, LTC, @ 472'
Cmt'd w/450 Sx. Circ to surface

12-1/4" Hole
8-5/8", J55, 32#, STC, @ 2,589'
Cmt'd w/900 Sx. Circ to surface

FORMATION TOPS	
QUEEN	1218'
SAN ANDRES	2072'
ABO	6016'
WOLFCAMP	6475'
CISCO	7670'
STRAWN	9513'

3-1/2", 9.3 #, N80, Injection tubing @ 6789'

5-1/2" IPC Packer @ 6,789'

WOLFCAMP *(8/21/93)*
6,868' - 7,038'

WOLFCAMP *(8/18/93)*
7,092' - 7,097'; 7,120' - 7,146'

WOLFCAMP *(8/16/93)*
7,330' - 7,340'; 7,350' - 7,360'

SWD Perforations:
CISCO *(8/1/93)*
7,685' - 7,695'

Frac 7758'-7840' with 4500 gals 15% Spearhead acid and 119,255 gals Spectra Star 2500 + 106,750 # 100% 20/40 White sand.

CISCO (8/14/08)
7758'-7840' (228 holes)

Frac 7893'-8060' with 5040 gals 15% HCl acid and 120,372 gals Spectra Star 2500 + 167,552 # 100% 20/40 White sand.

CISCO (8/13/08)
7893'-8060' (140 holes)

35' cement. 9,005' PBD
CIBP @ 9,040' *(7/21/93)*

4" Liner top @ 9,055'

7-7/8" Hole
5-1/2", N80, 17#, LTC, @ 9,473'
Cmt'd w/430 Sx

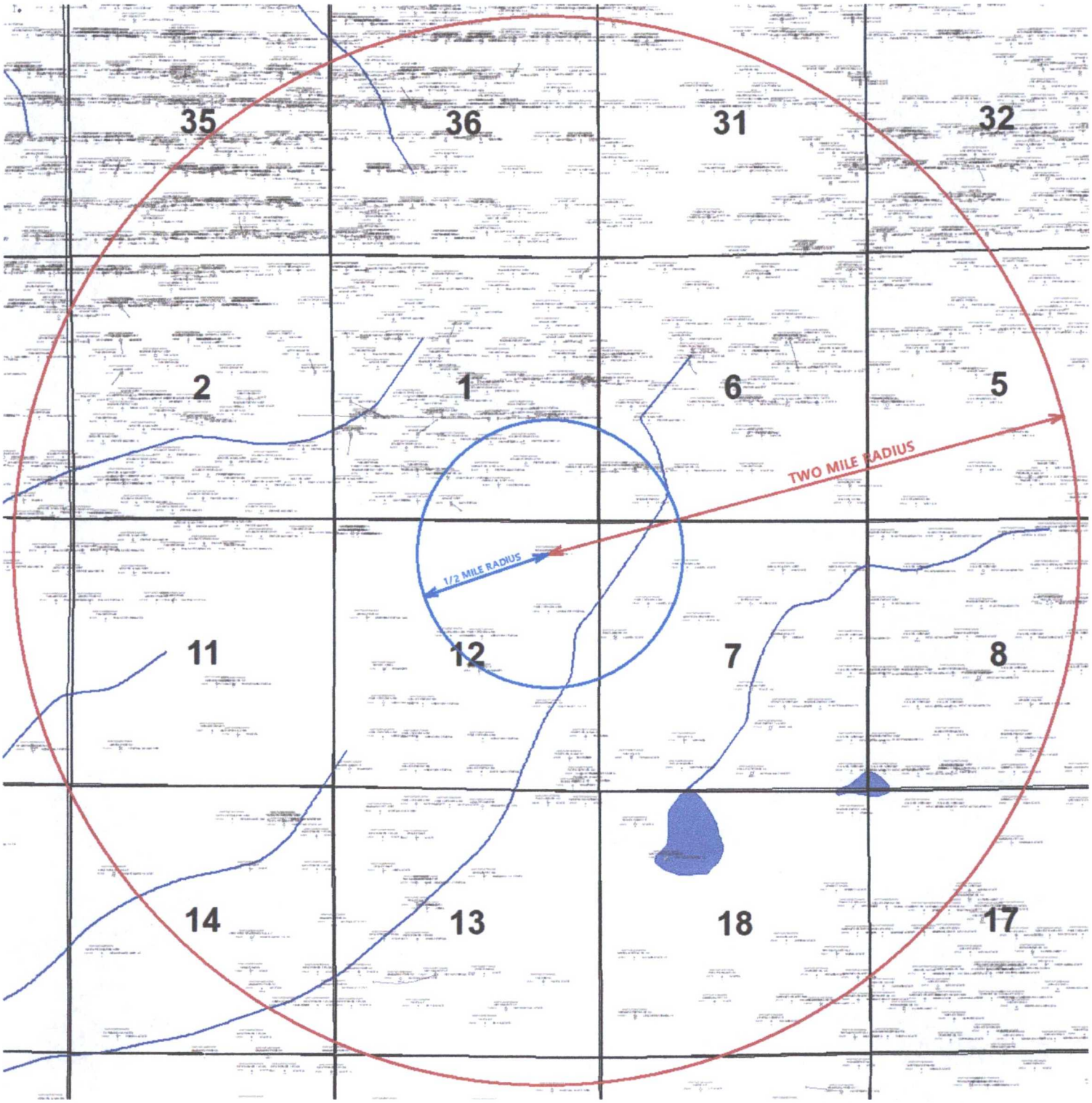
MORROW *(9/14/90)*
10,008' - 10,014'
10,038' - 10,064'

CIBP @ 9,950' *(7/19/93)*

4-3/4" Hole
4" 10.46#, L80 Liner @ 9,055' - 10,141'
Cmt'd w/80 Sx

10,100' PBD

10,141' TD



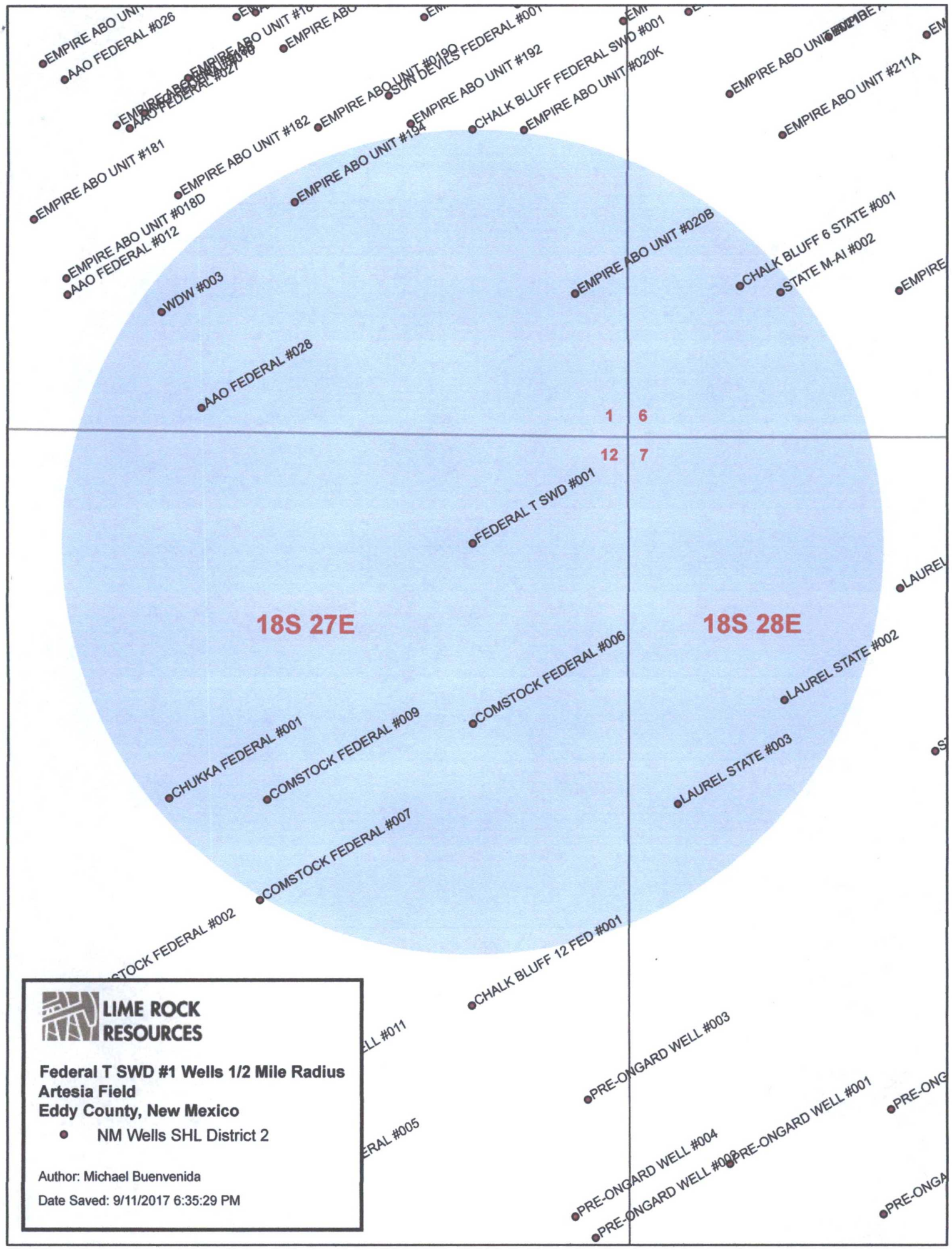
1 inch = 2640 feet

2640 0 2640 ft

LIME ROCK RESOURCES

EAST ARTESIA AREA
FEDERAL "T" #1 RADIUS MAP

Author: <name>		Date: 11 September, 2017
	Scale: <scale>	



LIME ROCK RESOURCES

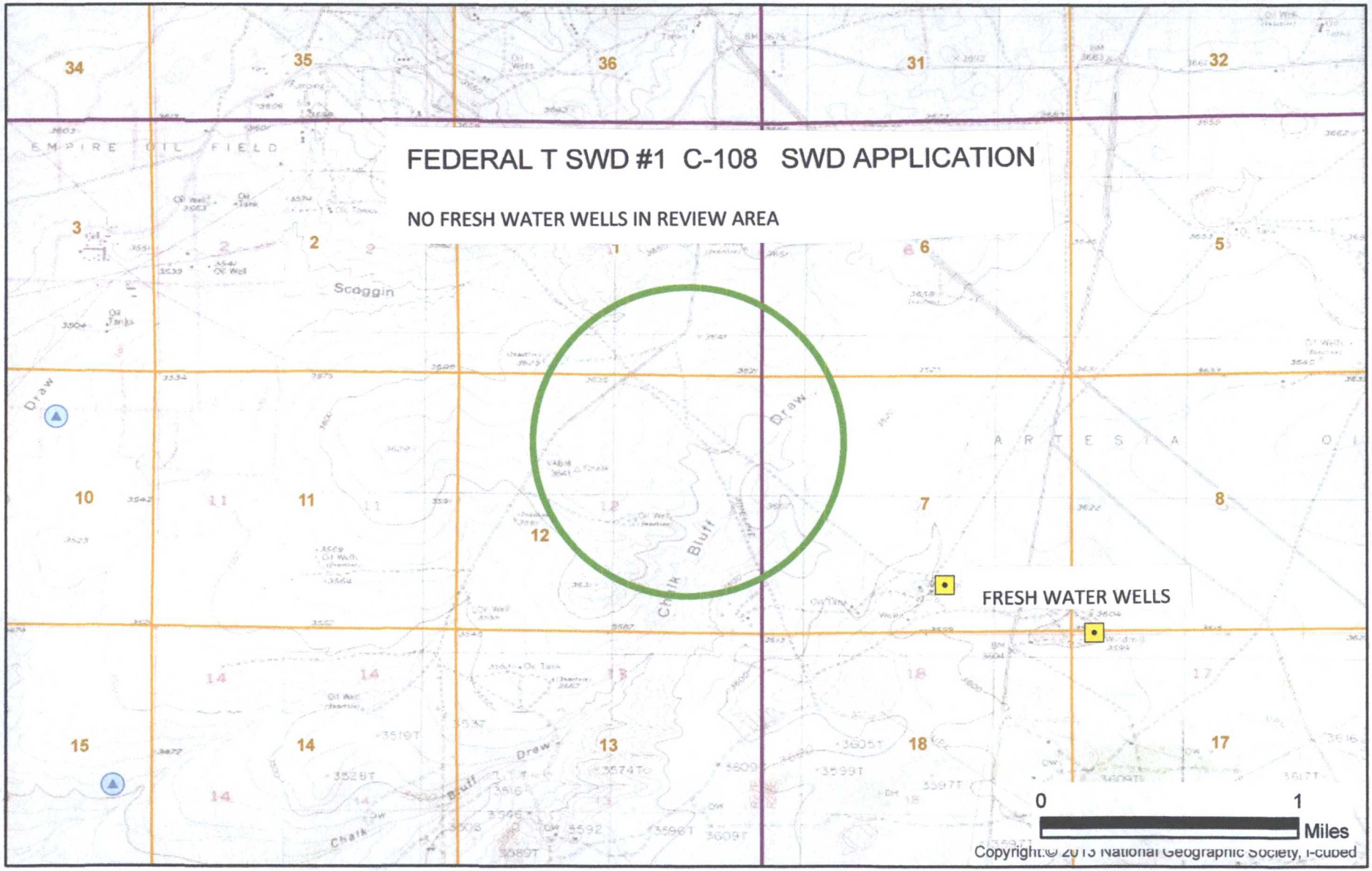
Federal T SWD #1 Wells 1/2 Mile Radius
Artesia Field
Eddy County, New Mexico

- NM Wells SHL District 2

Author: Michael Buenvenida

Date Saved: 9/11/2017 6:35:29 PM

C:\Users\RandyH\Desktop\ppUSGS plus Windmills.mxd



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W E
S

R.T. Hicks Consultants, Ltd 901 Rio Grande Blvd NW Suite F-142 Albuquerque, NM 87104 Ph: 505.266.5004	Water Wells	Draft OG
	Lime Rock	March 2017

C-108 Item VI - Well Tabulation Penetrating Injection Zone in Review Area
Lime Rock Resources II-A, L.P.
Proposed Disposal Well Federal T #1

Operator	Well Name	API #	Cty	Footage	Sec	Twn	Rnge	Type	Status	Spud Date	Comp Date	TD	PBTD	Comp Zone	Comp Interval-Ft	Casing Program	Cement /TOC
Mewbourne Oil Co.	Chalk Bluff 6 State 1	30-015-26943	Eddy	730' FWL 990' FSL	6	18S	28E	Gas	Active	2/17/92	4/16/92	10,200'	10,151'	North Illinois Camp Morrow	10,044-64' 10,084-10,092'	13-3/8" 48# & 68# @ 400' 9-5/8" 24# @ 2,600' 7" 26# @ 9,445' 4-1/2" Liner @ 10,198'	500 sx Circ 1100 sx Circ 1895 sx Circ 1st string 175 sx
Navajo Refining Co.	WDW3	30-015-26575	Eddy	790' FSL 2250' FWL	1	18S	27E	Oil	Active	12/22/90	1/29/91	10,119'	9,022'	Cisco Canyon	7660' - 8620'	13-3/8" 54.5# @ 400' 9-5/8" 36# @ 2,604' 7" 29# & 26# @ 9,450' 4-1/2" Liner @ 10,119'	425 sx Circ 1025 sx Circ 1350 sx Circ 175 sx TOL @ 9051'

FEDERAL T SWD # 1
APPLICATION FOR INJECTION
Form C-108 Section III

III Well Data-On Injection Well

A. Injection Well Information

(1) **Lease**	Federal T SWD
Well No	#1
Location	660' FNL & 990' FEL
Sec.Twn.Rnge	Sec 12, T18S-R27E, Unit Letter A
Cnty, State	Eddy County, New Mexico
(2) **Casing**	13-3/8", 68#, LTC @ 472' in 17-1/2" hole. Cmt'd w/ 450 sx TOC @ surface. Cement circulated.
	8-5/8", 32#, J-55 @ 2,589'. Cmt'd w/ 900 sx. TOC @ surface. Cement circulated.
	5-1/2", 17#, N-80 @ 9,473'. Cmt'd w/430 sx
	4", 10.46#, L-80 Liner @ 9,055'-10,141'. Cmt'd w/80 sx.
(3) **Injection Tubing**	3-1/2", 9.3#, N80 IPC coated tubing at 6789'.
(4) **Packer**	5-1/2" IPC Packer set at 6,789'

B. Other Well Information

(1) Injection Formation:	Lower Wolfcamp and Cisco
Field Name:	SWD; WOLFCAMP-CISCO (96136)
(2) Injection Interval:	6868' - 8060'
(3) Original Purpose of Wellbore:	Morrow Production 10,008'-10,054',

The Federal T #1 was spud June 28, 1990 and completed as a producer in the North Illinois Camp Morrow zones from 10,008' to 10,054'. Total cumulative production is 137,315 BO, 2,614 BW, and 41,403 MCF. The well was recompleted to the Lower Wolfcamp & Cisco on 9/17/08 as a SWD well using State order SWD-1135.

(4) Other Perforated intervals:
Only open perforated zones are:
Wolfcamp from 6,868-7,038'; 7,092'-7,097'; 7,120'-7,146'; 7,330-7,340'; 7,350-7,360'
Cisco from 7,685'-7,695'; 7758'-7840', 7893'-8060'

(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.
The top of the Atoka zone is noted at 9,230'-9,700'. The depths listed below represent the variation in production depths over a fairly large (3+ mile radius) area with a notable dip. The next lower oil zone top is the Abo at 6015'. The Federal T # 1 was productive in the North Illinois Camp Morrow from 10,008' to 10,054'. The next lower productive oil zone is in the Yeso from 3,300' to 3,900'.

Morrow 9,600-10,250'
Atoka 9,230-9,700'
Upper Wolfcamp 6475'-6800'
Abo 6015'-6,200'
Yeso 3,300'-3,900'
San Andres 2072'-2,800'
Queen 1,218'-1,650

FEDERAL T SWD # 1
APPLICATION FOR PRODUCED WATER DISPOSAL
FormC-108 Section VII to XII

VII Attach data on the proposed operation, including:

(1) Proposed average injection rate: 8355 BWPD
Proposed maximum injection rate: 12,000 BWPD
(2) The system will be a closed system.
3) Proposed average injection pressure: 1444 psi
Proposed max injection pressure: 1550 psi (Current Max. Pressure of offset well WDW-3 30-015-26575)
(4) The proposed injection fluid is produced water from the San Andres and Yeso that will be re-injected into the Lower Wolfcamp and Cisco perfs (6868'-8060'). Attached is a water analysis of San Andres and Yeso produced water going into this SWD well. No water compatibility issues have occurred since the well initiated SWD operations in 2008.
(5) No disposal zone formation water is submitted since the well has been an active SWD well for 9 years.

VIII Geologic Injection Zone Data

The proposed injection zones are the Lower Wolfcamp perfs (6868'-7360') and Cisco perfs (7685'-8060') formations. The Lower Wolfcamp and Cisco are porous carbonates. The proposed injection interval is 1192' thick. See the attached wellbore diagram.
The proposed saltwater disposal zone, the non-productive Cisco/ Lower Wolfcamp Formations, are present between the vertical depths of 6475' (Top Wolfcamp) and 9170' (base Cisco)in the subject well. The Top of the Cisco is at 7670'. The Cisco/Wolfcamp consists primarily of dolomites with some limestones and occasional shales intersparsed. The targeted disposal zones are basically all dolomitic porosity with porosities ranging from 4%-12% on a dolomite matrix scaling.
No sources of underground drinking water exist below the Cisco Formation and the deepest potential sources of underground drinking water above the Wolfcamp are less than 450' deep.
The top of the Wolfcamp Formation is approximately 6000' below the lowest possible source of underground drinking water and is separated from that potential underground sources of drinking water by thousands of feet of interbedded shales, sandstones, anhydrites, salts, limestones, and dolomites.
The average depth of water report notes aquifers at an average depth of 90'. Surface casing is set at 472' and cemented to surface in the Federal T #1.

IX Proposed Stimulation

None

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 website

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. SEE ATTACHED SIGNED AFFIRMATION

XIII Proof of Notice

Proof of notice to surface owner, leasehold operators, and public legal notification is attached

BAKER HUGHES

PERMIAN BASIN AREA LABORATORY
2101 MARKET STREET,
MIDLAND, TEXAS 79703

REPORT DATE: 9/28/2017

PARTIAL WATER ANALYSIS REPORT

CUSTOMER:	LIMEROCK RESOURCES	**ACCOUNT REP:**	GENE ROGERS
DISTRICT:	NEW MEXICO	**SAMPLE ID:**	201701048509
LEASE/AREA:	SENM	**SAMPLE DATE:**	9/12/2017
SAMPLE POINT NAME:	FEDERAL T SWD 1	**ANALYSIS DATE:**	9/25/2017
SITE TYPE:	FACILITY	**ANALYST:**	SVP
SAMPLE POINT DESCRIPTION:	H PUMP		

LIMEROCK RESOURCES, SENM, FEDERAL T SWD 1

FIELD DATA

Initial Temperature (°F):	250
Final Temperature (°F):	80
Initial Pressure (psi):	100
Final Pressure (psi):	15
pH:	
pH at time of sampling:	6.1

Scale Residual:	**ChemUsed** Total PO4	**Resid. PPM**
Alkalinity by Titration:	**mg/L**	**meq/L**
Bicarbonate (HCO_3^-):	537.0	8.8
Carbonate (CO_3^{2-}):	ND	
Hydroxide (OH^-):	ND	

aqueous CO_2 (ppm):	60.0
aqueous H_2S (ppm):	680.0
aqueous O2 (ppb):	ND
Calculated TDS (mg/L):	183449
Measured Density/Specific Gravity	1.1248
Conductivity (mmhos):	ND

ANALYSIS OF SAMPLE

ANIONS:	**mg/L**	**meq/L**
Chloride (Cl^-):	108921.9	3068.2
Sulfate (SO_4^{2-}):	4149.7	86.4
Borate (H_3BO_3):	52.0	0.8
Fluoride (F^-):	ND	
Bromide (Br^-):	ND	
Nitrite (NO_2^-):	ND	
Nitrate (NO_3^-):	ND	
Phosphate (PO_4^{3-}):	ND	
Silica (SiO_2):	ND	

Organic Acids:	**mg/L**	**meq/L**
Formic Acid:	ND	
Acetic Acid:	ND	
Propionic Acid:	ND	
Butyric Acid:	ND	
Valeric Acid:	ND	

CATIONS:	**mg/L**	**meq/L**
Sodium (Na^+):	65961.5	2880.4
Potassium (K^+):	450.0	11.5
Magnesium (Mg^{2+}):	564.6	46.5
Calcium (Ca^{2+}):	2750.3	137.2
Strontium (Sr^{2+}):	58.6	1.3
Barium (Ba^{2+}):	0.0	0.0
Iron (Fe^{2+}):	3.6	0.1
Manganese (Mn^{2+}):	0.0	0.0
Lead (Pb^{2+}):	0.0	0.0
Zinc (Zn^{2+}):	0.0	0.0
Aluminum (Al^{3+}):	0.0	0.0
Chromium (Cr^{3+}):	ND	
Cobalt (Co^{2+}):	ND	
Copper (Cu^{2+}):	0.0	0.0
Molybdenum (Mo^{2+}):	0.0	0.0
Nickel (Ni^{2+}):	ND	
Tin (Sn^{2+}):	ND	
Titanium (Ti^{2+}):	ND	
Vanadium (V^{2+}):	ND	
Zirconium (Zr^{2+}):	ND	
Total Hardness:	9269	

Anion/Cation Ratio: 1.03

ND = NOT DETERMINED

Comments: PRODUCED WATER GOING TO SWD.

XII

Statement of Affirmation

I, *Stan Bishop*, affirm that Lime Rock Resources has examined available geologic and engineering data, and find no evidence of open faults or any other hydrologic connection between disposal zones and any underground sources of drinking water.

Signed: _____

Date: 9/28/2017

LIME ROCK RESOURCES II-A, L.P.
c/o Mike Pippin LLC
505-327-4573 (phone)
Email: mike@ pippinllc.com

LEGAL NOTICE

FEDERAL T SWD #1 -- SWD Application – Form C-108

LIME ROCK RESOURCES II-A, L.P., 1111 Bagby St, Suite 4600, Houston, TX 77002, contact: Mike Pippin 505-327-4573 is seeking administrative approval from the NMOCD for produced water disposal: FEDERAL T SWD #1 is located in Sec 12, T18S, R27E, 660' FNL & 990' FEL, Eddy County, NM. Proposed injection interval is the Lower Wolfcamp and Cisco formations with perforations from about 6868'-8060' with an estimated maximum daily injection volume of produced formation water of 12,000 bbls per day and a maximum injection pressure of 1550 psi. Any objections regarding this application must file their objections or request for hearing with the NMOCD, 1220 South St. Frances Drive, Santa Fe, NM 87505 within 15 days.

Legal Notice

FEDERAL T SWD #1 -- SWD Application – Form C-108

LIME ROCK RESOURCES II-A, L.P., 1111 Bagby St, Suite 4600, Houston, TX 77002, contact: Mike Pippin 505-327-4573 is seeking administrative approval from the NMOCD for produced water disposal: FEDERAL T SWD #1 is located in Sec 12, T18S, R27E, 660' FNL & 990' FEL, Eddy County, NM. Proposed injection interval is the Lower Wolfcamp and Cisco formations with perforations from about 6868'-8060' with an estimated maximum daily injection volume of produced formation water of 12,000 bbls per day and a maximum injection pressure of 1550 psi. Any objections regarding this application must file their objections or request for hearing with the NMOCD, 1220 South St. Frances Drive, Santa Fe, NM 87505 within 15 days.

Published in the Artesia Daily Press, Artesia, N.M., Oct. 3, 2017 Legal No. 24440.

LIME ROCK RESOURCES II-A, L.P.
Mike Pippin
3104 N. Sullivan Avenue
Farmington, NM 87401
505-327-4573 (phone) mike@pippinllc.com

September 30, 2017

RE: C-108 Application for SWD Well
FEDERAL T SWD #1– API#: 30-015-26404
Unit Letter A Section 12 T18S R27E
Eddy County, New Mexico

VIA CERTIFIED MAIL
To all Interest Owners:

In accordance with the New Mexico Oil Conservation Division Rule 19.15.26 governing water disposal wells, you are hereby notified that LIME ROCK RESOURCES II-A, L.P. as operator of the above-referenced well, has submitted an application to permit the referenced well for produced water disposal in the Lower Wolfcamp and Cisco.

It was recently discovered that errors in previous operator's original SWD application dated June 10, 2008 caused the State to exclude the Lower Wolfcamp perfs at 6868'-7360' in their subsequent order, SWD-1135. Approval of this application will rectify the problem.

This well is currently open and disposing of produced water in the Lower Wolfcamp 6868'-7360' and Cisco 7685'-8060'. All wells in the area of review that penetrated the proposed disposal interval (2 wells) have good cement throughout.

Any objections or requests that a hearing be held regarding this application must be submitted within 15 days to the NMOCD at 1220 South St. Frances Drive, Santa Fe, NM 87505.

Should you have any questions or concerns, please contact me at 505-327-4573 and/or the NMOCD at 505-476-3467.

Sincerely,
LIME ROCK RESOURCES II-A, L.P.

Mike Pippin PE
Petroleum Engineer

Enclosures

FEDERAL T SWD #1 APPLICATION FOR SWD OFFSET OPERATORS

SURFACE OWNER IS THE BUREAU OF LAND MANAGEMENT

T18S-R27E-Section 1

AAO Federal #28 API: 30-015-42358
Empire Abo Unit #20B API: 30-015-00699
Empire Abo Unit #194 API: 30-015-22658
Apache Corporation
2000 Post Oak BLVD, Suite 100
Houston, TX 77056-4400

WDW #3 API: 30-015-26575
Navajo Refining Company, LLC
501 E. Main
Artesia, NM 88210

Chalk Bluff Federal SWD #1 API: 30-015-27163
Lime Rock Resources II-A, LP
1111 Bagby Street, Suite 4600
Houston, TX 77002

T18S-R27E-Section 12

Comstock Federal #6 API: 30-015-25099
Comstock Federal #9 API: 30-015-25738
Harlow Enterprises LLC
#26 Chalk Bluff Road
Artesia, NM 88210

Chukka Federal #1 API: 30-015-25270
Bill L. Miller
PO Box 3396
Evergreen, CO 80437

T18S-R28E-Section 6

Chalk Bluff 6 State #1 API: 30-015-26943
Mewbourne Oil Company
PO Box 7698
Tyler, TX 75711

State M-AI #2 API: 30-015-02627
Ruth Oil Company, LLC
PO Box 1212
Eunice, NM 88231

T18S-R28E-Section 7

Laurel State #2 API: 30-015-25675
Laurel State #3 API: 30-015-31319
M&M Oil, LLC
1902 West Hermosa Drive
Artesia, NM 88210

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City, State, ZIP+4®: Evergreen CO 80437

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City, State, ZIP+4®: Tyler TX 75711

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Street and Apt. No., or PO Box No.: #36 Chalk Bluff Rd
City, State, ZIP+4®: Artesia NM 88210

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City, State, ZIP+4®: Eunice NM 88231

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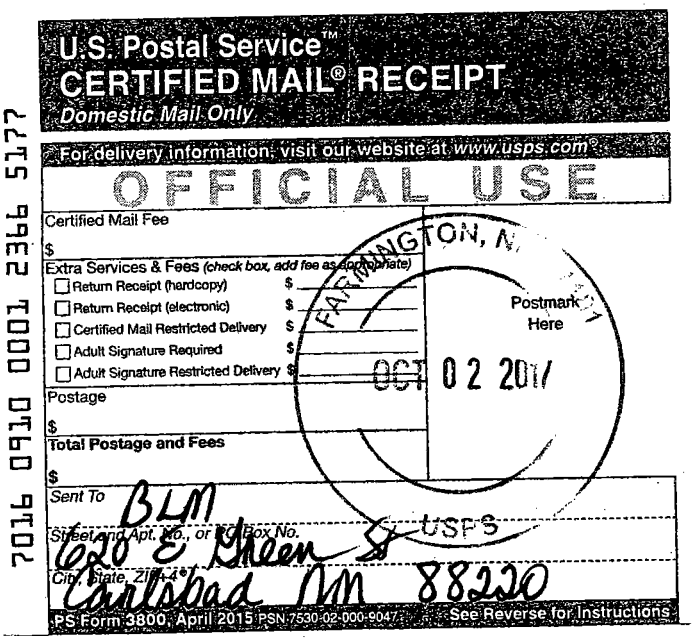

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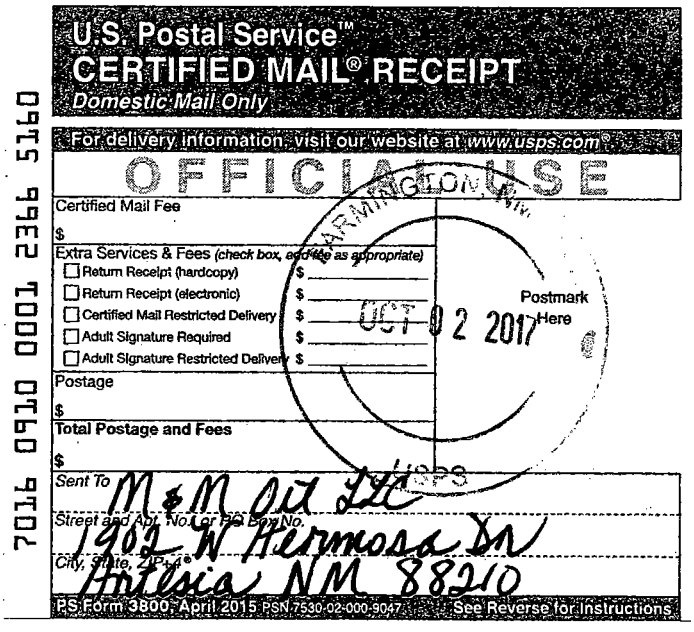

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McMillan, Michael, EMNRD

From: McMillan, Michael, EMNRD
Sent: Wednesday, October 4, 2017 4:16 PM
To: Mike Pippin
Cc: Goetze, Phillip, EMNRD
Subject: Administrative application: Lime Rock Resources II_A, L.P. Federal T SWD Well No. 1

Mike:
I received the administrative application for the Lime Rock Resources II_A, L.P. Federal T SWD Well No. 1 on October 3, 2017
I need the following information:

- Clarification of the surface owner.
- Affidavit of publication

Your application has been suspended until the OCD receives this information. If the information is not received within 10-days, your application will be cancelled.

Thanks

Mike

Michael McMillan
1220 South St. Francis
Santa Fe, New Mexico
505-476-3448
Michael.mcmillan@state.nm.us

Affidavit of Publication

No. 24440

State of New Mexico

County of Eddy:

Danny Scott

being duly sworn says that she is the **Publisher**

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

Legal Ad

was published in a regular and entire issue of the said Artesia Daily Press, a daily newspaper duly qualified for that purpose within the meaning of Chapter 167 of the 1937 Session Laws of the state of New Mexico for

1 Consecutive weeks/day on the same day as follows:

First Publication	October 3, 2017
Second Publication	
Third Publication	
Fourth Publication	
Fifth Publication	
Sixth Publication	
Seventh Publication	

Subscribed and sworn before me this

4th day of October 2017

OFFICIAL SEAL
Latisha Romine
NOTARY PUBLIC-STATE OF NEW MEXICO
My commission expires: 5/12/2019

Latisha Romine

Latisha Romine

Notary Public, Eddy County, New Mexico

Copy of Publication:

Legal Notice

FEDERAL T SWD #1 -- SWD Application – Form C-108

LIME ROCK RESOURCES II-A, L.P., 1111 Bagby St, Suite 4600, Houston, TX 77002, contact: Mike Pippin 505-327-4573 is seeking administrative approval from the NMOCD for produced water disposal: FEDERAL T SWD #1 is located in Sec 12, T18S, R27E, 660' FNL & 990' FEL, Eddy County, NM. Proposed injection interval is the Lower Wolfcamp and Cisco formations with perforations from about 6868'-8060' with an estimated maximum daily injection volume of produced formation water of 12,000 bbls per day and a maximum injection pressure of 1550 psi. Any objections regarding this application must file their objections or request for hearing with the NMOCD, 1220 South St. Frances Drive, Santa Fe, NM 87505 within 15 days.

Published in the Artesia Daily Press, Artesia, N.M., Oct. 3, 2017 Legal No. 24440.

New Mexico Energy, Minerals and Natural Resources Department

Bill Richardson
Governor

Joanna Prukop
Cabinet Secretary
Reese Fullerton
Deputy Cabinet Secretary

Mark Fesmire
Division Director
Oil Conservation Division

Administrative Order SWD-1135
July 16, 2008

APPLICATION OF DEVON ENERGY PRODUCTION COMPANY, L.P. FOR PRODUCED WATER DISPOSAL, EDDY COUNTY, NEW MEXICO

ADMINISTRATIVE ORDER
OF THE OIL CONSERVATION DIVISION

Under the provisions of Rule 701(B), Devon Energy Production Company, L.P. (OGRID No. 6137) made application to the New Mexico Oil Conservation Division for permission to utilize for produced water disposal its Federal T Well No. 1 (API No. 30-015-26404) located 660 feet from the North line and 990 feet from the East line of Section 12, Township 18 South, Range 27 East, NMPM, Eddy County, New Mexico.

THE DIVISION DIRECTOR FINDS THAT:

The application has been duly filed under the provisions of Rule 701(B) of the Division Rules. Satisfactory information has been provided that all offset operators and surface owners have been duly notified. The applicant has presented satisfactory evidence that all requirements prescribed in Rule 701 will be met and no objections have been received within the waiting period prescribed by said rule. The applicant is in compliance with Rule 40.

IT IS THEREFORE ORDERED THAT:

Devon Energy Production Company, L.P. ("operator") is hereby authorized to utilize its Federal T Well No. 1 (API No. 30-015-26404) located 660 feet from the North line and 990 feet from the East line of Section 12, Township 18 South, Range 27 East, NMPM, Eddy County, New Mexico, in such manner as to permit the injection of produced water for disposal purposes into the Lower Wolfcamp formation and the Cisco formation through perforations from 7,400 feet to 8,200 feet and through plastic-lined tubing set in a packer located within 100 feet of the top of the injection interval.

IT IS FURTHER ORDERED THAT:

The operator shall take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape to other formations or onto the surface.

After installing injection tubing, the casing shall be pressure tested from the surface to the packer setting depth to assure the integrity of said casing.

The casing-tubing annulus shall be loaded with an inert fluid and equipped with a pressure gauge or an approved *leak detection device* in order to determine leakage in the casing, tubing, or packer.

The injection well or system shall be equipped with a *pressure limiting device* in workable condition which shall, at all times, limit surface injection pressure to the maximum allowable pressure for this well. The wellhead injection pressure on the well shall be limited to **no more than 1480 psi**.

The Director of the Division may authorize an increase in the maximum injection pressure upon a proper showing by the operator that such higher pressure would not result in migration of the injected fluid from the injection formation. Such proper showing should be supported by a valid step rate test run in accordance with procedures acceptable to the Division.

The operator shall notify the supervisor of the Artesia district office of the Division of the date and time of the installation of disposal equipment and of any mechanical integrity test so that the same may be inspected and witnessed.

The operator shall immediately notify the supervisor of the Artesia district office of the Division of the failure of the tubing, casing, or packer in said well and shall take such steps as may be timely and necessary to correct such failure or leakage.

PROVIDED FURTHER THAT, jurisdiction is retained by the Division for the entry of such further orders as may be necessary for the prevention of waste and/or protection of correlative rights or upon failure of the operator to conduct operations (1) to protect fresh water or (2) consistent with the requirements in this order, whereupon the Division may, after notice and hearing, or without notice and hearing in event of an emergency subject to NMSA 1978 Section 70-2-23, terminate the injection authority granted herein.

The operator shall provide written notice of the date of commencement of injection and the initial reservoir pressure to the Artesia district office of the Division.

The operator shall submit monthly reports of the disposal operations on Division Form C-115, in accordance with Division Rules 706 and 1120.

The injection authority granted herein shall terminate one year after the effective date of this order if the operator has not commenced injection operations into the subject well, provided however, the Division, upon written request by the operator

mailed prior to the expiration date, may grant an extension thereof for good cause shown.

This order does not relieve the operator of responsibility should its operations cause any actual damage or threat of damage to protectable fresh water, human health or the environment; nor does it relieve the operator of responsibility for complying with applicable Division rules or other state, federal, or local laws or regulations.

MARK E. FESMIRE, P.E.
Director

MEF/wvjj

cc: Oil Conservation Division – Artesia
Bureau of Land Management – Carlsbad

Goetze, Phillip, EMNRD

From: Goetze, Phillip, EMNRD
Sent: Wednesday, July 5, 2017 10:51 AM
To: Mike Pippin (mike@pippinllc.com)
Cc: Jones, William V, EMNRD; McMillan, Michael, EMNRD; Lowe, Leonard, EMNRD
Subject: Response Provided by HollyFrontier to Limerock's IPI Application
Attachments: 2017-06-27 Lime Rock Pressure Application Protest with attachments.pdf

RE: Federal T SWD No. 1 (API 30-015-26404) SWD-1135

Mr. Pippin:

As per our discussion, the attached document is HollyFrontier's written response regarding the IPI application for the referenced well. HollyFrontier has requested that the application be denied. The Division is currently considering the report submitted by HollyFrontier and will provide a decision in this matter shortly. Please contact me with any additional questions concerning this subject. PRG

Phillip Goetze, PG
Engineering Bureau, Oil Conservation Division
New Mexico Energy, Minerals and Natural Resources Department
1220 South St. Francis Drive, Santa Fe, NM 87505
Direct: 505.476.3466
E-mail: phillip.goetze@state.nm.us

HOLLYFRONTIER.

June 27, 2017

Mr. David Catanach
Division Director
NMOCD
1220 South St. Francis Drive
Santa Fe, NM 87501

Via Email and Federal Express

RE: REQUEST BY HOLLYFRONTIER TO DENY LIME ROCK'S REQUEST TO INCREASE INJECTION PRESSURES AT FEDERAL T SWD#1 (API # 30-015-26404)

Dear Director Catanach,

On May 8, 2017 Lime Rock Resources II-A L.P. (Lime Rock) requested from the New Mexico Oil Conservation Department (NMOCD) an injection pressure increase for their existing permitted (Order SWD-1135, approved July 16, 2008) salt water disposal well (Federal T SWD #1; API # 3001526404). Their request asks for an increase from the original maximum allowable operating pressure (MAOP) of 1,480 psig to 2,681 psig. Lime Rock's injection pressure increase (IPI) request is based on and relies on the results of a step rate test performed on this well on May 3, 2017. For the reasons detailed below, HollyFrontier Navajo Refining LLC (HFNR) objects to the requested pressure increase and respectfully requests that NMOCD deny Lime Rock's request.

BACKGROUND

On June 23, 2004 Navajo Refining Company (now HFNR) received from the NMOCD their Approval for Discharge Permit UIC-CLI-008-3 for a Class I non-hazardous waste disposal well (WDW-3; API # 3001526575) to dispose of wastewater from the Navajo Refinery in Artesia, New Mexico. This well is located 790 FSL and 2250 FWL of Section 1, T18S, R27E in Eddy County, New Mexico.

As seen in Figure 1, there are only approximately 2,500 feet separating HNFR's WDW-3 from Lime Rock's Federal T SWD #1, and both wells have completions in the same Cisco zone. The Federal T SWD #1 perforations in the Cisco Formation range from 7,685' to 8,060', and the WDW-3 Cisco perforations run from 7,666' to 8,620'. This overlap allows pressure fronts (and fluids) to migrate from the Lime Rock SWD to HNFR's WDW-3, potentially impairing the function of WDW-3.

HNFR's permit has a maximum allowable operational pressure (MAOP) of 1,550 psig, with no specific limit on the amounts of wastewater injected. From 2008 to 2016, the well (WDW-3; API# 3001526575) has injected an average of approximately 152,000 barrels of wastewater per month. The WDW-3 well is a group of three Class I wells operated by HNFR (WDW-1; API # 3001527592 and WDW-2; API # 3001520894) that also receive non-hazardous wastewater from the HFNR Refinery.

These three wells are the Refinery's approved method of disposing their non-hazardous wastewaters, and if reservoir capacity is reached, or pressures exceed MAOPs, HFNR would face significant curtailment of its operations at the plant or a possible shut down.

BASIS OF OBJECTIONS

1: The May 2017 Step Rate Test (SRT) is Not Valid and Cannot Serve as Justification for the Requested IPI Because the Injection Zone in This Well was Extensively Hydrofractured in August 2008

NMOCD records show that on August 13, 2008 the zone from 7,893' to 8,060' was fractured with 5,040 gallons of 15% HCl, 120,372 gallons of Spectra Star 2500, and 167,552 pounds of propant (sand). On August 16, the zone from 7,758' to 8,060' was fractured with 4,500 gallons of 15% HCl, 119,255 gallons of Spectra Star 2500, and 106,750 pounds of sand (see Attachment A).

These fracture jobs are also noted in the well diagram submitted as part of Lime Rock's May 2017 pressure increase application (see Attachment B).

It is clear that the reason that Lime Rock observed that "The formation pressure did not break at a maximum surface pressure of 2681 psi (bottom hole pressure of 4140 psi)..." during their SRT is that the formation had already been broken during the hydrofracturing work done in 2008. For these reasons the step rate test results and conclusions are invalid and cannot form a defensible technical basis for Lime Rock's IPI request.

2: HFNR Has Priority of use of this Shared Injection Zone in the Cisco Reservoir

Well WDW-3 was approved in June 2004 as a Class I non-hazardous well and began operations in January 2008. The well was originally spudded in December 1990 by Mewbourne Oil Company and was advanced to 10,120 feet and completed as a Morrow gas well. For economical reasons Mewbourne temporarily shut in the well in 1993. In September 2000 the wellbore was purchased by Navajo Refining as a potential disposal well. Following the 2004 approval of their Class I injection application, Navajo re-completed the well in October 2006 as an injection well, and commenced injection in January 2008. By the end of 2008, Navajo had injected approximately 2,021,000 barrels, and in 2009 over 2,385,000 barrels.

The Devon Federal T SWD #1 was approved as a SWD well in July 2008, over 4 years after the approval of WDW-3. This well was first spudded in June of 1990 Mewbourne Oil Company and was advanced to 10,141 feet and completed as a Morrow gas well. For economical reasons Mewbourne temporarily shut in this well in 1994. The well was acquired by Devon Energy Production in April of 2008, was approved as an SWD in Order SWD-1135 in July of 2008, and re-completed by Devon in August of 2008. Throughout 2008 Devon only injected a total of 190 barrels and in 2009 did not operate the well until September, and only injected 513,281 barrels in that year.

It is clear from this history that Navajo (now HFNR) received NMOCD approval to inject in the Wolfcamp, Cisco and Canyon zones in 2004, four years prior to the Devon (now Lime Rock) 2008 application. Further, HFNR commenced significant injection rates and volumes in January 2008, while Devon only began significant injection in September 2009, 20 months later.

3: Significantly Higher Effort and Expense by the Regulators and the Operator are Required to Permit a Class I Non-Hazardous Well versus a Standard Class II SWD Well

The NMOCD, USEPA Region 6, and HFNR spent significant technical effort, professional time, and costs to perform the analyses required to permit this Class I non-hazardous injection well. This level of investment far exceeds the efforts required to permit a SWD such as Federal T SWD#1.

4: WDW-3 Is Critical to the HFNR Refinery Operations

HFNR operates, in addition to WDW-3, two additional Class I disposal wells (WDW-1 and WDW-2), all permitted under the NMOCD UIC program. These wells accept non-exempt, non-hazardous wastewaters from the Refinery, at average total amounts of approximately 15,000 barrels per day, roughly equally distributed among the 3 wells. HFNR has no other current options for disposing of this wastewater, and loss of service of even one of these wells would severely reduce refinery throughput leading to losses of jobs, and diminished revenues for HFNR, contracted operators, and the State.

5: Both the Lime Rock and HFNR Injection Wells Share the Same, Continuous Reservoir

Figure 2 is a cross-section showing the geology of injection zones of WDW-3 and Federal T SWD#1. There is clearly an overlap of the injection zones in the Cisco Formation, the lithologies of the Cisco are very similar, and it is clear that there are no stratigraphic or structural barriers between the wells. This direct connection will ensure that increased injection pressure in the Federal T SWD #1 will result in the migration of a pressure wave to WDW-3 that will negatively affect HFNR's ability to stay within their approved MAOP of 1,550 psig surface.

6: Increased Injection Pressure by Lime Rock will Raise Reservoir Pressure at WDW-3

Lime Rock proposes to increase the MAOP of their Federal T SWD #1 from 1,480 to 2,681 psig, an increase of approximately 1,200 psig, or over 180% of the current limit. Currently, the HFNR well WDW-3 has seen an annual injection average of 1,315 psig, only 235 psig below their MAOP of 1,550 psig. Only approximately 20% of Lime Rock's requested increase would push reservoir pressures above HFNR's MAOP, making WDW-3 inoperable. If the requested pressure increase is approved, the overlapping perforations in the Cisco Formation, 7,685' to 8,060' in the Federal T SWD #1, and 7,666' to 8,620' in the WDW-3, will allow pressure fronts (and fluids) to migrate from the Lime Rock SWD to HFNR's WDW-3, impairing or precluding successful injection in the WDW-3.

CONCLUSIONS

In summary, HFNR respectfully requests the NMOCD deny Lime Rock's application for an injection pressure increase for their Federal T SWD #1 for the reasons detailed above. However, should NMOCD see fit to grant this pressure increase, HFNR requests that a corresponding pressure increase be immediately granted to wells WDW-1, WDW-2, and WDW-3, that are completed in the same injection zone.

If you have any questions or require additional information regarding our request to deny Lime Rock's application please contact me at 575-746-5487 or our technical consultants on this matter Alberto Gutierrez, RG & James C. Hunter, RG at 505-842-8000.

Sincerely,

Scott M. Denton
Environmental Manager
HollyFrontier Navajo Refining LLC

cc: NMOCD – P. Goetze
Geolex – A. Gutierrez
HFNR – R. Dade

FIGURES

Figure 1:

HollyFrontier Class 1 Wells: Active Disposal Wells Within One-Mile AORs (All three Class 1 wells)

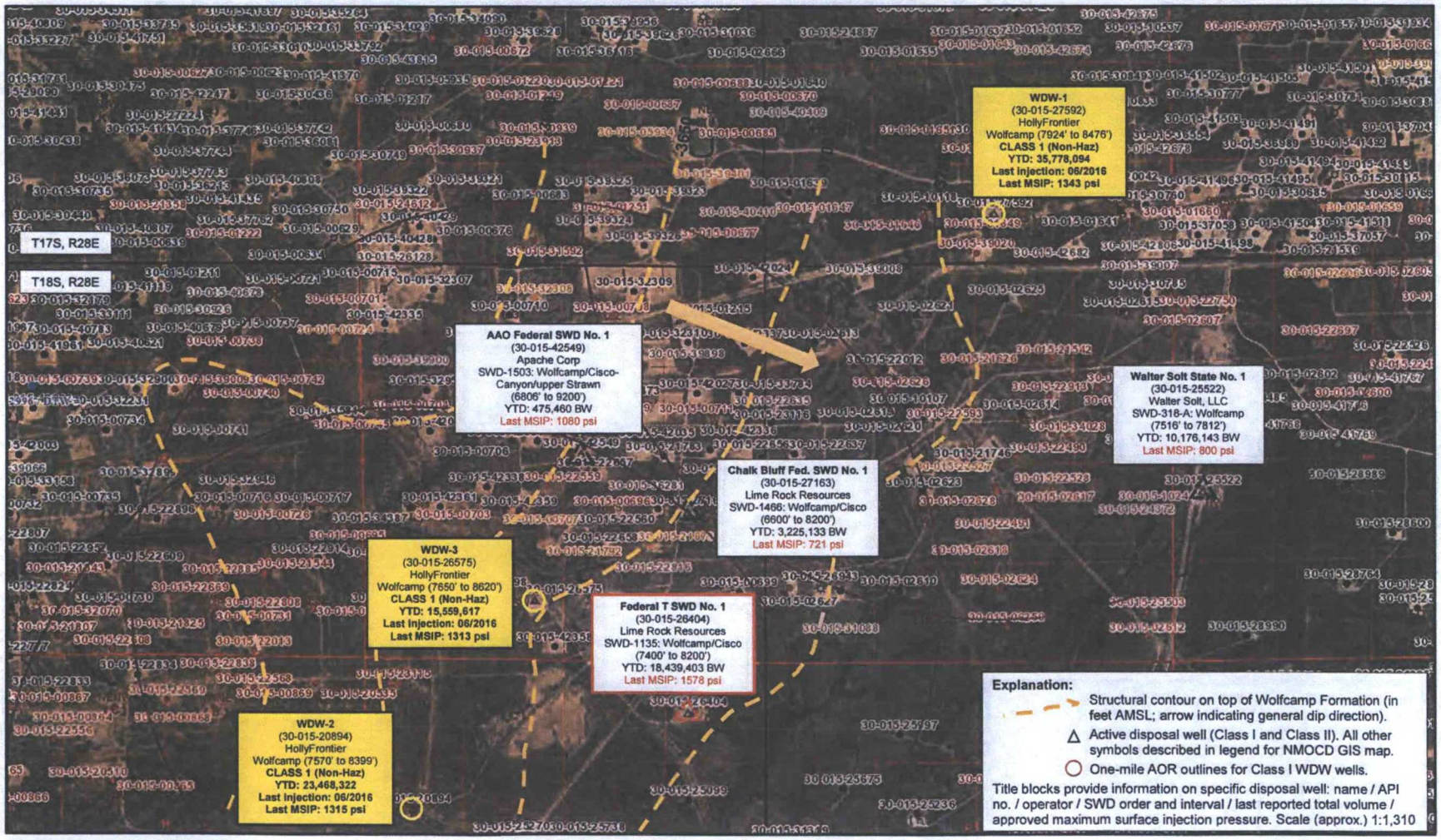
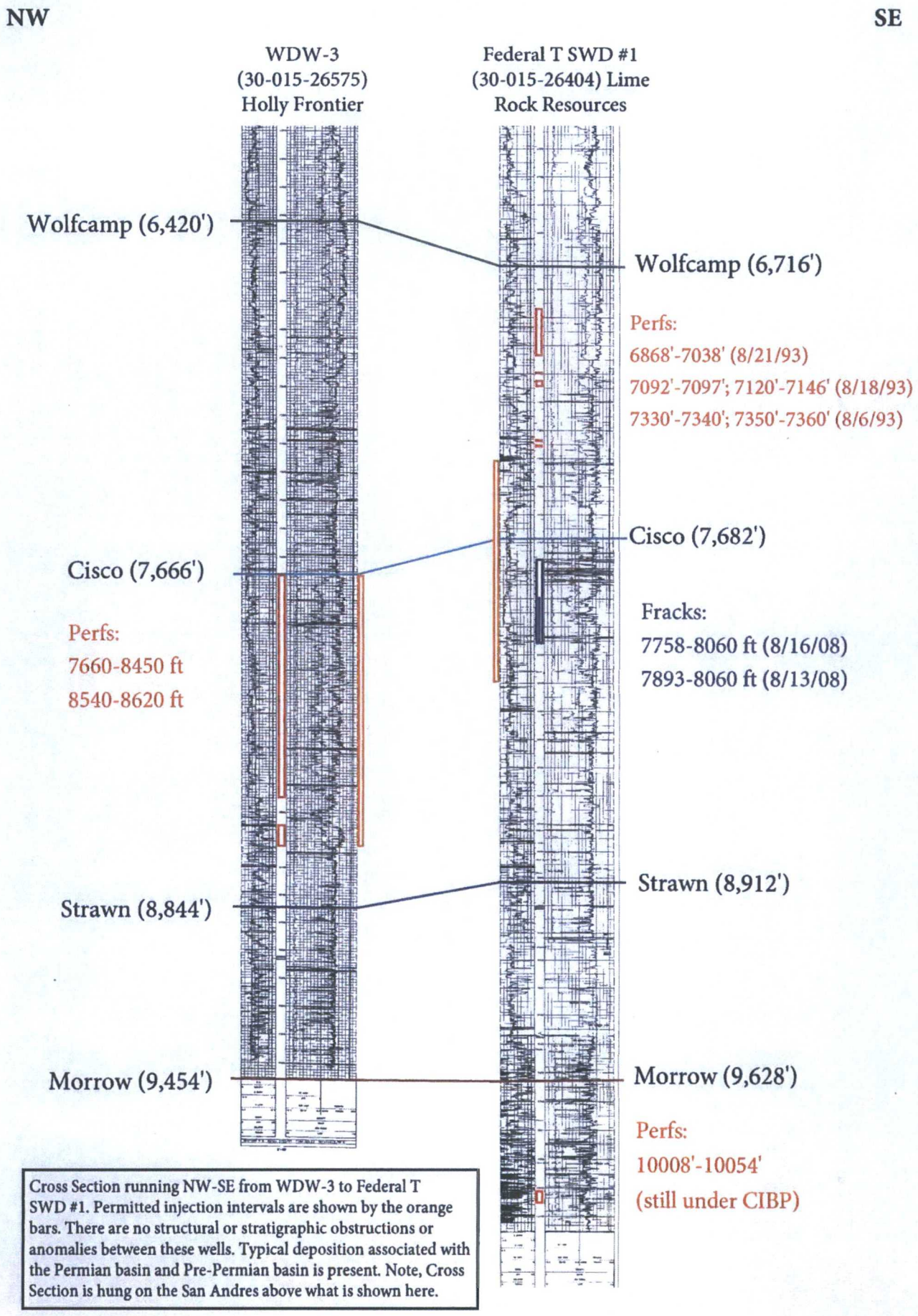


Figure 2: Cross Section between WDW-3 and Federal T SWD #1



Cross Section running NW-SE from WDW-3 to Federal T SWD #1. Permitted injection intervals are shown by the orange bars. There are no structural or stratigraphic obstructions or anomalies between these wells. Typical deposition associated with the Permian basin and Pre-Permian basin is present. Note, Cross Section is hung on the San Andres above what is shown here.

ATTACHMENT A

BLM FORM 3160-5 REPORTING THE RECOMPLETION AND HYDROFRACTURING OF FEDERAL T SWD#1

Form 3160-5
(February 2005)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APROVED
OMB NO. 1004-0137
EXPIRES: March 31, 2007

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 page 2

1. Type of Well ☐ Oil Well ☐ Gas Well ☑ Other **SWD conversion. Admin Order SWD-1135**	5 Lease Serial No **NM-42410**
	6. If Indian, Allottee or Tribe Name
	7. Unit or CA Agreement Name and No.
2. Name of Operator **DEVON ENERGY PRODUCTION COMPANY, LP**	8 Well Name and No **Federal T 1**
3a. Address **20 North Broadway, Oklahoma City, OK 73102** / 3b. Phone No. (include area code) **405-552-8198**	9 API Well No **30-015-26404**
4 Location of Well (Footage, Sec., T., R., M , or Survey Description) **660 FNL 990 FEL A 12 18S 27E**	10. Field and Pool, or Exploratory Area **L.Wolfcamp and Cisco**
	11. County or Parish, State **Eddy NM**

12. CHECK APPROPRIATE BOX(es) 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	

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)

Converted to SWD. Administrative Order SWD-1135
8/04/08 RU unit. ND wellhead and NU BOP. TIH with bit and drill collars.
8/05/08 Drill CIBP at 6800' and 7078'.
8/06/08 Drilled through cement at 7525', CIBP at 7300' and cement at 7560' and CIBP at 7595'.
8/07/08 Ran step rate test; pumped 50 bbls at ½ bbl/min – 0# psi, pumped 50 bbls at 1 bbl/min -20# psi, pumped 50 bbls at 2 bbls/min – 75# psi, pumped 50 bbls at 3 bbls/min – 170# psi, pumped 50 bbls at 4 bbls/min – 250 psi.
8/08/08 Trucked in and established injection in the Wolfcamp at 150 BWPD at 170 psi.
8/11/08 Drilled cement retainers at 7745', and 7780'.
8/12/08 Drilled cement retainer at 7820' and 8000'. Circulate hole and TOH with tubing and bit.
8/13/08 Perforate Cisco from 7893' – 8060', total 140 holes. TIH and set packer at 7688'. Frac with 5,040 gals 15% HCl + 120,372 gals Spectra Star 2500 + 167,552 # 20/40 White sand.
8/14/08 TIH with retrievable tool and latch onto packer. Release packer and TOOH with packer and tubing. RU wireline and perforate Cisco from 7758'-7840'; 228 total holes
8/15/08 TIH with packer and set at 7582'. NU frac valve.
8/16/08 Frac 7758'-8060' with 4500 gals 15% Spearhead acid + 119,255 gals Spectra 2500 + 106,750 # 20/40 100% White sand. RD.
8/18/08 Release packer. TOOH with packer and tubing
8/20/08 TIH with bailer and bailed sand. Bailed sand to 8460'. TOOH with tubing. ND BOP and NU flange. Waiting on tubing.
9/15/08 TIH with packer and tubing. Set packer at 6789'. ND BOP and NU tree Ran MIT test to 500 # for 30 minutes – ok, notified Mike Bratcher with OCD TOOH with tubing. RIH with 3 ½" IPC tubing and set at 6789'. Injection line installation in progress.

14. I hereby certify that the foregoing is true and correct
Name: Norvella Adams — Title **Sr. Staff Engineering Technician**

Signature — Date 9/17/2008

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by — Title — Date

ACCEPTED FOR RECORD
/S/ DAVID R. GLASS
SEP 29 2008

Accepted for record
NMOCD

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.

DAVID R. GLASS
PETROLEUM ENGINEER

Office

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

ATTACHMENT B

WELL COMPLETION DIAGRAM PROVIDED IN LIME ROCK'S REQUEST FOR PRESSURE INCREASE SHOWNING ZONES OF HYDROFRACTURING IN FEDERAL T SWD#1

DEVON ENERGY PRODUCTION COMPANY LP

Well Name: FEDERAL T #1	Field: NORTH ILLINOIS CAMP MORROW	
Location: 660' FNL & 990' FEL; SEC 12-T18S-R27E	County: EDDY	State: NM
Elevation: 3634' KB; 3618' GL	Spud Date: 6/28/90	Compl Date: 9/13/90
API#: 30-015-26404 / Prepared by: Norvella Adams	Date: 9/17/08	Rev.

Current Schematic
L. Wolfcamp and Cisco SWD

17-1/2" Hole
13-3/8", 68#, LTC, @ 472'
Cmt'd w/450 Sx Circ to surface

12-1/4" Hole
8-5/8", J55, 32#, STC, @ 2,589'
Cmt'd w/900 Sx Circ to surface

WOLFCAMP *(8/21/93)*
6,868' - 7,038'

WOLFCAMP *(8/18/93)*
7,092' - 7,097'; 7,120' - 7,146'

WOLFCAMP *(8/16/93)*
7,330' - 7,340'; 7,350' - 7,360'

SWD Perforations:
CISCO *(8/1/93)*
7,685' - 7,695'

CISCO (8/14/08)
7758'-7840' (228 holes)

CISCO (8/13/08)
7893'-8060' (140 holes)

4" Liner top @ 9,055'

7-7/8" Hole
5-1/2", N80, 17#, LTC, @ 9,473'
Cmt'd w/430 Sx

MORROW *(9/14/90)*
10,008' - 10,014'
10,038' - 10,054'

4-3/4" Hole
4" 10.46#, L80 Liner @ 9,055' - 10,141'
Cmt'd w/80 Sx

10,141' TD

Formation Tops

Morrow 9,600-10,250'
Atoka 9,230'- 9,700'
Upper Wolfcamp 6,400' - 7,200'
Abo 5,600' - 6,200'
Yeso 3,300' 0 3,900'
San Andres 2,000' - 2,800'
Queen 1,450' - 1,650'

3-1/2", 9.3 #, N80, Injection tubing @ 6789'

5-1/2" IPC Packer @ 6,789'

Frac 7758'-7840' with 4500 gals 15% Spearhead acid and 118,255 gals Spectra Star 2500 + 106,750 # 100% 20/40 White sand.

Frac 7893'-8060' with 5040 gals 15% HCl acid and 139,312 gals Spectra Star 2500 + 167,552 # 100% 20/40 White sand

35' cement 9,005' PBD
CIBP @ 9,040' *(7/21/93)*

CIBP @ 9,950' *(7/19/93)*

10,100' PBD

Goetze, Phillip, EMNRD

From: Goetze, Phillip, EMNRD
Sent: Friday, May 19, 2017 11:33 AM
To: Dade, Lewis (Randy)
Cc: Chavez, Carl J, EMNRD; Mike Pippin (mike@pippinllc.com); Jones, William V, EMNRD; McMillan, Michael, EMNRD
Subject: Lime Rock's IPI Application for the Federal T SWD No. 1
Attachments: HollyFrontier Class I Renewals V2.pdf; Lime Rock IPI Appl_Fed T SWD #1.pdf

RE: Federal T SWD No. 1 (API 30-015-26404) SWD-1135

Greetings Mr. Dade:

Hope all is well with you. The Division is forwarding an application for injection pressure increase submitted by Lime Rock for its Federal T SWD No. 1. A copy of the application is attached. Lime Rock is requesting an increase of the surface injection to 2681 psi. The Division has not completed its evaluation of the test data; however, the Division is providing the opportunity for input by HollyFrontier regarding the application for this disposal well and the operation of HollyFrontier's Class I wells that are in proximity to the Federal T. The Division has identified the closest well as being the WDW-3 that is approximately 2,510 feet northwest of the Federal T.

This request is based on the injection interval being common between the HollyFrontier's WDW wells and the Federal T SWD No. 1. Additionally, since HollyFrontier's wells are classified as Class I (Non-Haz), the Division must consider the potential of an approval for a pressure increase and the limitations for Class I wells as stipulated in 40 CFR 146.13. Please submit these documents to your technical staff for consideration and comment. Please contact me with any questions regarding this matter. Thank you. PRG

Phillip Goetze, PG
Engineering Bureau, Oil Conservation Division
New Mexico Energy, Minerals and Natural Resources Department
1220 South St. Francis Drive, Santa Fe, NM 87505
Direct 505.476.3466
E-mail: phillip.goetze@state.nm.us

DATE 5/11/2017	SUSPENSE	ENGINEER	LOGGED IN 5/12/17	TYPE SWD	APP NO. pMAH1713255697

ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION

- Engineering Bureau -

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

FEDERAL T SWD #1 **Order: SWD-1135**

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]

Lime Rock Resources II-A, L.P. 277558 well Federal T SWD #1 30-015-26404

[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

Pool - SWD; Wolfcamp Cisco 96136

[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.

Mike Pippin	Mike Pippin	Petroleum Engineer	5/8/2017
Print or Type Name	Signature	Title	Date

mike@pippinllc.com
e-mail Address

LIME ROCK RESOURCES II-A, L.P.
Mike Pippin
3104 N. Sullivan Avenue
Farmington, NM 87401
505-327-4573 (phone) mike@pippinllc.com

May 8, 2017

Phil Goetze
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, NM 87505

RE: **Injection Pressure Increase Request**
Administrative Order SWD-1135
FEDERAL T SWD #1
API#: 30-015-26404
Unit Letter "A" Section 12 T18S R27E
Eddy County, New Mexico

Dear Mr. Goetze,

By administrative order SWD-1135, dated July 16, 2008, the NMOCD authorized water injection into Federal T SWD #1 (API No. 30-015-26404) for the disposal of produced water. The order provides for a wellhead injection pressure of "no more than 1480 psi". On 9/16/08, this well was converted to SWD & soon started produced water injection. Lime Rock believes that this maximum pressure of 1480 psi is significantly below the formation frac pressure.

The disposal formation in this well is extremely tight. On 5/3/17, a step rate test was run to determine the actual formation frac pressure. The formation pressure did not break at a maximum surface pressure of 2681 psi (bottom hole pressure of 4140 psi), which indicates that the formation frac pressure was not exceeded at that point. Therefore, the actual formation frac pressure is higher than a surface pressure of 2681 psi. A summary of the step rate test data from Renegade Services is attached along with a wellbore diagram.

Lime Rock Resources therefore requests that the maximum wellhead injection pressure be increased to at least 2681 psi.

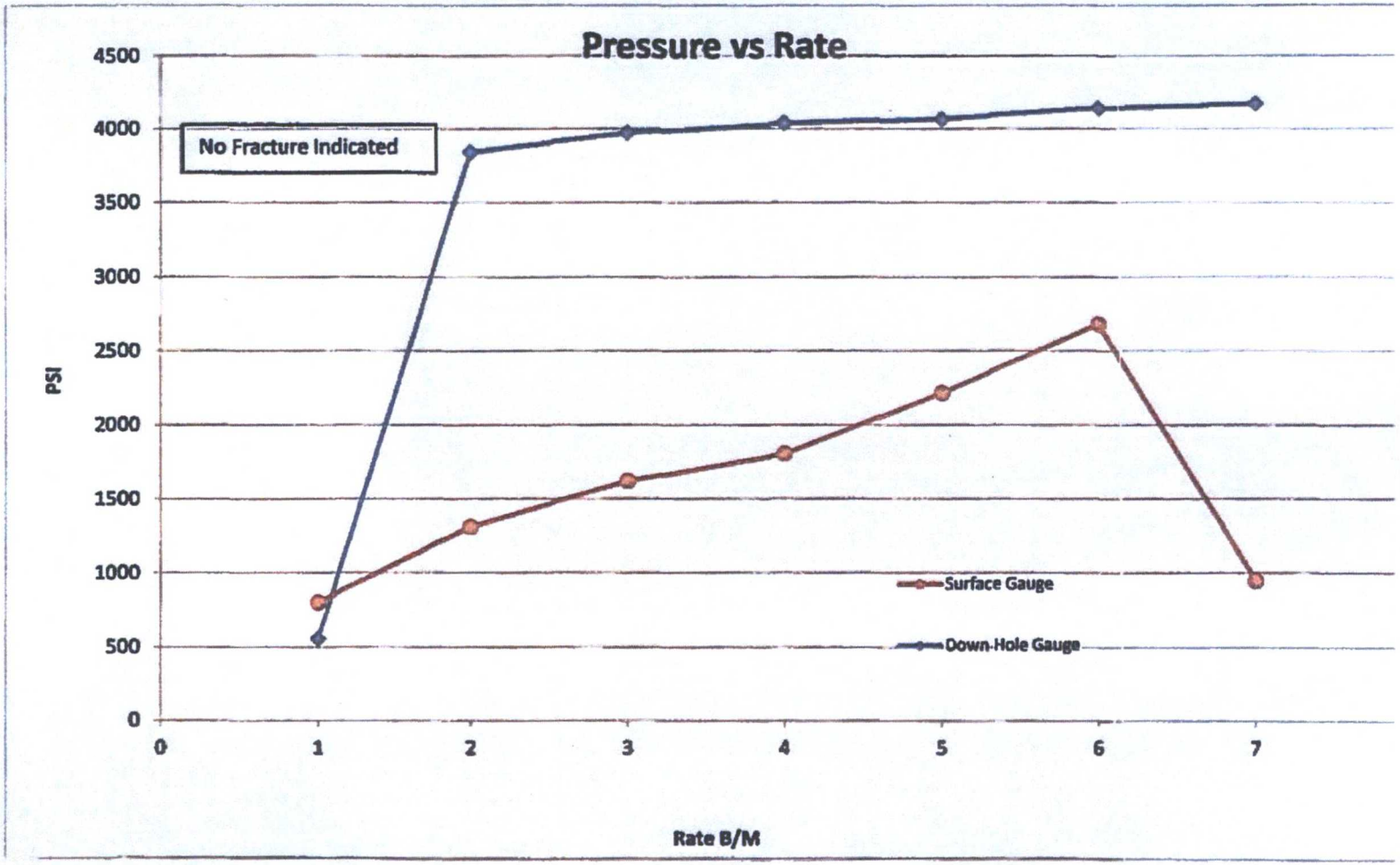
Please contact me at 505-327-4573 should you have any questions.

Very truly yours,

Mike Pippin

Mike Pippin P.E.
Petroleum Engineer

Enclosures


Pressure vs Rate
No Fracture Indicated
PSI
4500
4000
3500
3000
2500
2000
1500
1000
500
0
0
1
2
3
4
5
6
7
Rate B/M
Surface Gauge
Down-Hole Gauge

RENEGADE SERVICES

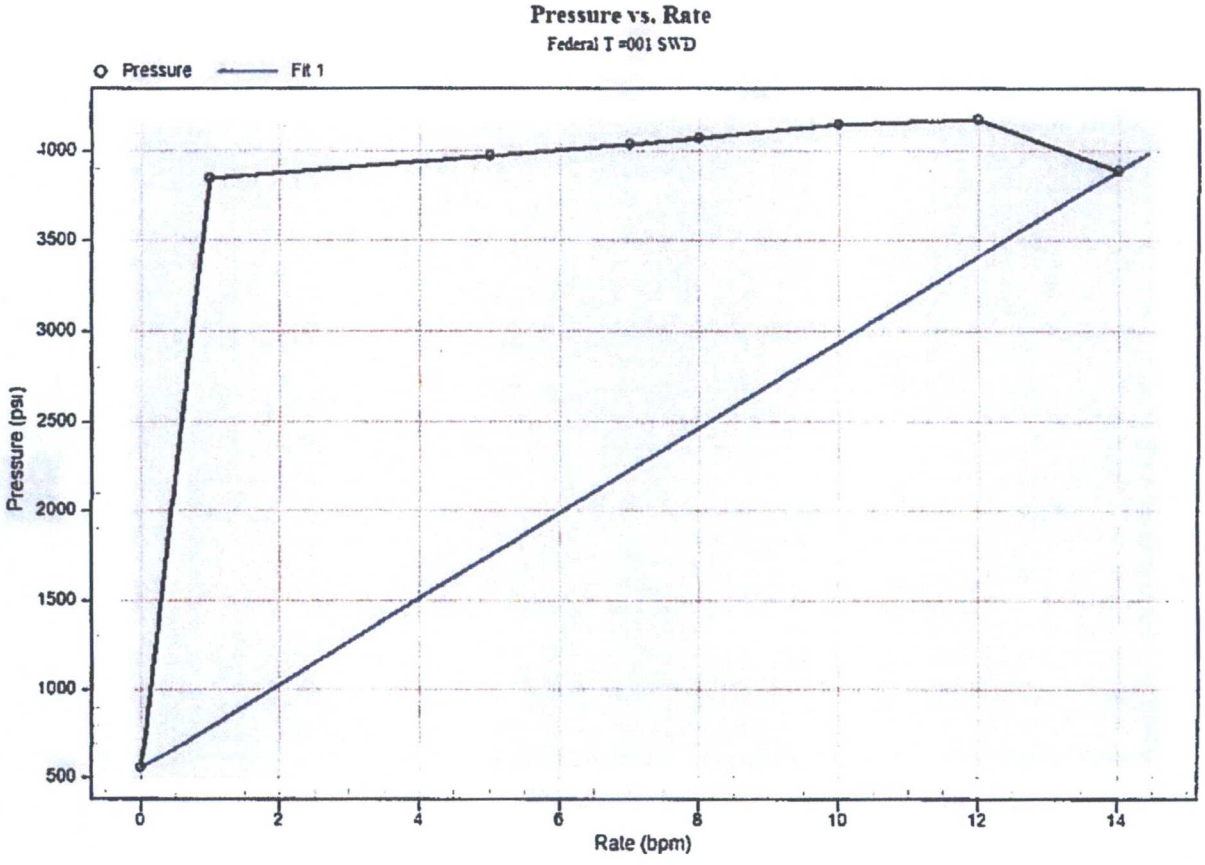
STEP RATE TEST

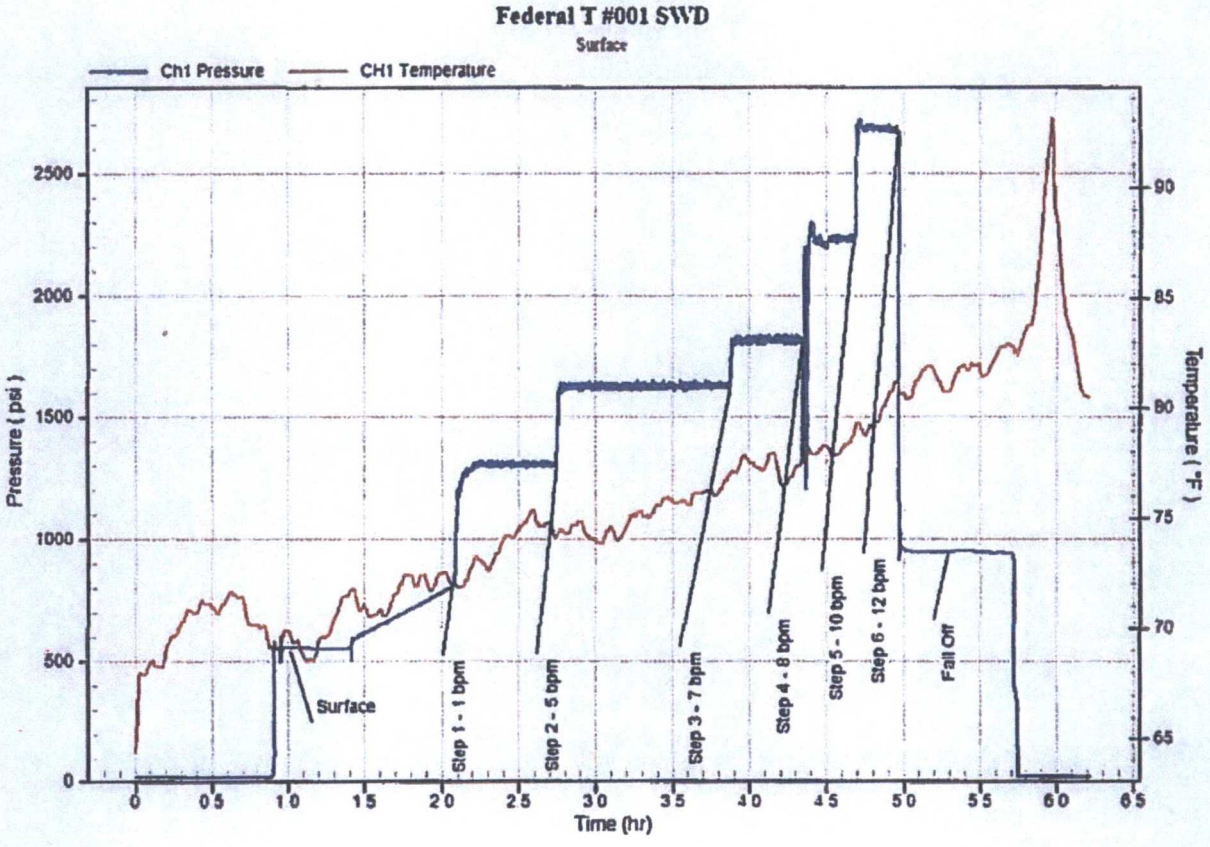
	RATE B/D	Date	Time	BH PRESS	SURF. PRESS	Comments
Step 1	1	5/3/2017	11:20 AM	558.57	801.96	
Step 2	2	5/3/2017	12:01 PM	3842.09	1311.16	
Step 3	3	5/3/2017	1:09 PM	3970.7	1619.11	
Step 4	4	5/3/2017	1:37 PM	4035.19	1803.03	
Step 5	5	5/3/2017	1:56 PM	4066.6	2219.85	
Step 6	6	5/3/2017	2:13 PM	4140.96	2681.72	
Fall Off	Fall Off	5/3/2017	2:32 PM	4169.81	944.2	

Company:	Lime Rock Resources	Recorded By:	J. Gable
Well:	Federal T #001 SWD		
Field:	LLU	Truck Number:	113
County:	Eddy, County	District:	Levelland
State:	New Mexico		
Seat Nipple Depth:	N/A		
Perforations:			
Plug Back Depth	N/A		

JOB INFORMATION SHEET

Company Information		
Company Name:	Lime Rock Resources	
Well Information		
Well Name:	Federal T #001 SWD	
Location:	Eddy County, NM	
Field – Pool.	Federal T	
Status:	SWD	
Test Information		
Type of Test:	Step Rate Test	
Gauge Depth:	6750 ft	
Temperature @ Run Depth	100.03 degF	
Surface Temperature:	68.51 degF	
Gauge Information		
	Top Recorder	Bottom Recorder
Serial Number:	79810	
Calibration Date:	10/21/16	
Pressure Range:	10000 psi	
Comments		


Pressure vs. Rate
Federal T #001 SWD
Pressure
Fit 1
4000
3500
3000
2500
2000
1500
1000
500
Pressure (psi)
0
2
4
6
8
10
12
14
Rate (bpm)


Federal T #001 SWD
Surface
Ch1 Pressure
CH1 Temperature
Pressure (psi)
Temperature (°F)
Time (hr)
Surface
Step 1 - 1 bpm
Step 2 - 5 bpm
Step 3 - 7 bpm
Step 4 - 8 bpm
Step 5 - 10 bpm
Step 6 - 12 bpm
Fall Off

DEVON ENERGY PRODUCTION COMPANY LP

Well Name FEDERAL T #1	Field NORTH ILLINOIS CAMP MORROW	
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Formation Tops

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Yeso 3,300' 0 3,900'
San Andres 2,000' - 2,800'
Queen 1,450' - 1,650'

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5-1/2" IPC Packer @ 6,789'

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CIBP @ 9,040' *(7/21/93)*

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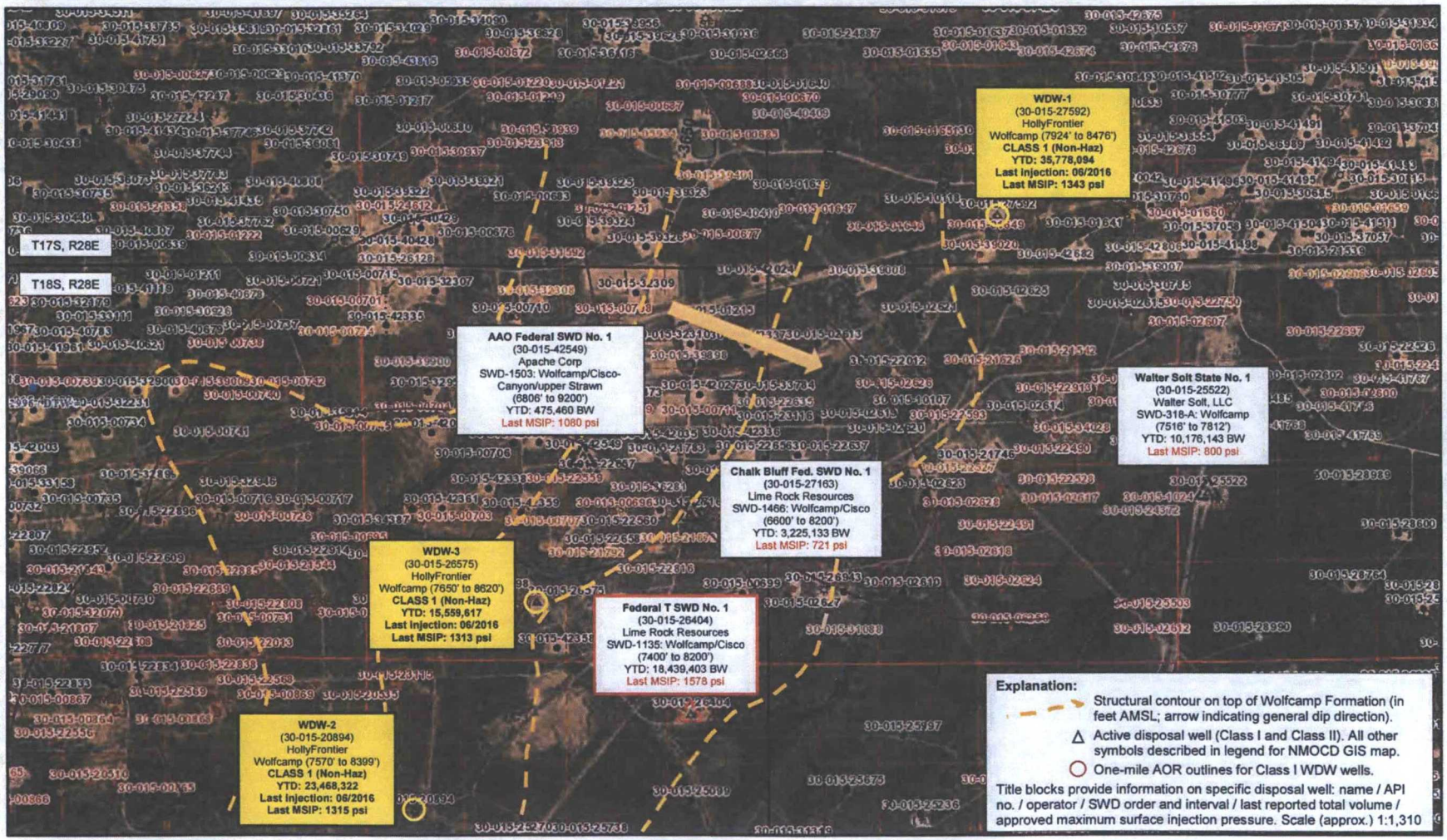
10,100' PBD

10,141' TD

HollyFrontier Class 1 Wells: Active Disposal Wells Within One-Mile AORs (All three Class 1 wells)



Production Summary Report
API: 30-015-26404
FEDERAL T SWD #001
Printed On: Tuesday, October 17 2017

			Injection				
Year	Pool	Month	Water(BBLS)	Co2(MCF)	Gas(MCF)	Other	Pressure
2009	[96136] SWD;WOLFCAMP-CISCO	Sep	82362	0	0	0	0
2009	[96136] SWD;WOLFCAMP-CISCO	Oct	154457	0	0	0	0
2009	[96136] SWD;WOLFCAMP-CISCO	Nov	137461	0	0	0	0
2009	[96136] SWD;WOLFCAMP-CISCO	Dec	139001	0	0	0	0
2010	[96136] SWD;WOLFCAMP-CISCO	Jan	147326	0	0	0	313
2010	[96136] SWD;WOLFCAMP-CISCO	Feb	173848	0	0	0	311
2010	[96136] SWD;WOLFCAMP-CISCO	Mar	205917	0	0	0	1276
2010	[96136] SWD;WOLFCAMP-CISCO	Apr	190801	0	0	0	341
2010	[96136] SWD;WOLFCAMP-CISCO	May	224642	0	0	0	306
2010	[96136] SWD;WOLFCAMP-CISCO	Jun	166685	0	0	0	316
2010	[96136] SWD;WOLFCAMP-CISCO	Jul	178497	0	0	0	334
2010	[96136] SWD;WOLFCAMP-CISCO	Aug	154510	0	0	0	325
2010	[96136] SWD;WOLFCAMP-CISCO	Sep	148819	0	0	0	591
2010	[96136] SWD;WOLFCAMP-CISCO	Oct	172602	0	0	0	1184
2010	[96136] SWD;WOLFCAMP-CISCO	Nov	165728	0	0	0	1090
2010	[96136] SWD;WOLFCAMP-CISCO	Dec	217786	0	0	0	769
2011	[96136] SWD;WOLFCAMP-CISCO	Jan	188150	0	0	0	430
2011	[96136] SWD;WOLFCAMP-CISCO	Feb	160397	0	0	0	445
2011	[96136] SWD;WOLFCAMP-CISCO	Mar	192533	0	0	0	455
2011	[96136] SWD;WOLFCAMP-CISCO	Apr	155472	0	0	0	458
2011	[96136] SWD;WOLFCAMP-CISCO	May	129030	0	0	0	447
2011	[96136] SWD;WOLFCAMP-CISCO	Jun	139745	0	0	0	428
2011	[96136] SWD;WOLFCAMP-CISCO	Jul	185458	0	0	0	430
2011	[96136] SWD;WOLFCAMP-CISCO	Aug	235508	0	0	0	416
2011	[96136] SWD;WOLFCAMP-CISCO	Sep	201430	0	0	0	382
2011	[96136] SWD;WOLFCAMP-CISCO	Oct	218665	0	0	0	434
2011	[96136] SWD;WOLFCAMP-CISCO	Nov	239865	0	0	0	384
2011	[96136] SWD;WOLFCAMP-CISCO	Dec	256091	0	0	0	412
2012	[96136] SWD;WOLFCAMP-CISCO	Jan	257691	0	0	0	568
2012	[96136] SWD;WOLFCAMP-CISCO	Feb	191896	0	0	0	352
2012	[96136] SWD;WOLFCAMP-CISCO	Mar	240162	0	0	0	590
2012	[96136] SWD;WOLFCAMP-CISCO	Apr	256040	0	0	0	632
2012	[96136] SWD;WOLFCAMP-CISCO	May	267408	0	0	0	535
2012	[96136] SWD;WOLFCAMP-CISCO	Jun	305094	0	0	0	721
2012	[96136] SWD;WOLFCAMP-CISCO	Jul	325231	0	0	0	683
2012	[96136] SWD;WOLFCAMP-CISCO	Aug	301696	0	0	0	694
2012	[96136] SWD;WOLFCAMP-CISCO	Sep	253450	0	0	0	508
2012	[96136] SWD;WOLFCAMP-CISCO	Oct	268407	0	0	0	640
2012	[96136] SWD;WOLFCAMP-CISCO	Nov	246472	0	0	0	607
2012	[96136] SWD;WOLFCAMP-CISCO	Dec	279136	0	0	0	571
2013	[96136] SWD;WOLFCAMP-CISCO	Jan	274106	0	0	0	569
2013	[96136] SWD;WOLFCAMP-CISCO	Feb	188190	0	0	0	418
2013	[96136] SWD;WOLFCAMP-CISCO	Mar	225696	0	0	0	476
2013	[96136] SWD;WOLFCAMP-CISCO	Apr	209247	0	0	0	563
2013	[96136] SWD;WOLFCAMP-CISCO	May	225753	0	0	0	592
2013	[96136] SWD;WOLFCAMP-CISCO	Jun	184408	0	0	0	523
2013	[96136] SWD;WOLFCAMP-CISCO	Jul	185290	0	0	0	528
2013	[96136] SWD;WOLFCAMP-CISCO	Aug	205872	0	0	0	638
2013	[96136] SWD;WOLFCAMP-CISCO	Sep	182394	0	0	0	567
2013	[96136] SWD;WOLFCAMP-CISCO	Oct	205535	0	0	0	531
2013	[96136] SWD;WOLFCAMP-CISCO	Nov	207976	0	0	0	807
2013	[96136] SWD;WOLFCAMP-CISCO	Dec	205656	0	0	0	813

2014	[96136] SWD;WOLFCAMP-CISCO	Jan	231433	0	0	0	857
2014	[96136] SWD;WOLFCAMP-CISCO	Feb	243705	0	0	0	975
2014	[96136] SWD;WOLFCAMP-CISCO	Mar	267235	0	0	0	1047
2014	[96136] SWD;WOLFCAMP-CISCO	Apr	259985	0	0	0	1074
2014	[96136] SWD;WOLFCAMP-CISCO	May	208023	0	0	0	977
2014	[96136] SWD;WOLFCAMP-CISCO	Jun	187435	0	0	0	967
2014	[96136] SWD;WOLFCAMP-CISCO	Jul	183979	0	0	0	899
2014	[96136] SWD;WOLFCAMP-CISCO	Aug	205361	0	0	0	973
2014	[96136] SWD;WOLFCAMP-CISCO	Sep	210251	0	0	0	1135
2014	[96136] SWD;WOLFCAMP-CISCO	Oct	221273	0	0	0	1131
2014	[96136] SWD;WOLFCAMP-CISCO	Nov	220387	0	0	0	1020
2014	[96136] SWD;WOLFCAMP-CISCO	Dec	237600	0	0	0	1074
2015	[96136] SWD;WOLFCAMP-CISCO	Jan	186478	0	0	0	1060
2015	[96136] SWD;WOLFCAMP-CISCO	Feb	180651	0	0	0	1125
2015	[96136] SWD;WOLFCAMP-CISCO	Mar	202660	0	0	0	843
2015	[96136] SWD;WOLFCAMP-CISCO	Apr	123646	0	0	0	780
2015	[96136] SWD;WOLFCAMP-CISCO	May	104932	0	0	0	676
2015	[96136] SWD;WOLFCAMP-CISCO	Jun	198714	0	0	0	882
2015	[96136] SWD;WOLFCAMP-CISCO	Jul	162213	0	0	0	1250
2015	[96136] SWD;WOLFCAMP-CISCO	Aug	212833	0	0	0	1327
2015	[96136] SWD;WOLFCAMP-CISCO	Sep	213207	0	0	0	1357
2015	[96136] SWD;WOLFCAMP-CISCO	Oct	192638	0	0	0	1184
2015	[96136] SWD;WOLFCAMP-CISCO	Nov	217175	0	0	0	1337
2015	[96136] SWD;WOLFCAMP-CISCO	Dec	178755	0	0	0	1231
2016	[96136] SWD;WOLFCAMP-CISCO	Jan	172994	0	0	0	1204
2016	[96136] SWD;WOLFCAMP-CISCO	Feb	187651	0	0	0	1162
2016	[96136] SWD;WOLFCAMP-CISCO	Mar	186013	0	0	0	1229
2016	[96136] SWD;WOLFCAMP-CISCO	Apr	174776	0	0	0	1290
2016	[96136] SWD;WOLFCAMP-CISCO	May	164483	0	0	0	1161
2016	[96136] SWD;WOLFCAMP-CISCO	Jun	172498	0	0	0	1057
2016	[96136] SWD;WOLFCAMP-CISCO	Jul	164632	0	0	0	1206
2016	[96136] SWD;WOLFCAMP-CISCO	Aug	184308	0	0	0	1347
2016	[96136] SWD;WOLFCAMP-CISCO	Sep	169500	0	0	0	1273
2016	[96136] SWD;WOLFCAMP-CISCO	Oct	244343	0	0	0	1571
2016	[96136] SWD;WOLFCAMP-CISCO	Nov	306997	0	0	0	1650
2016	[96136] SWD;WOLFCAMP-CISCO	Dec	272054	0	0	0	1621
2017	[96136] SWD;WOLFCAMP-CISCO	Jan	283754	0	0	0	1495
2017	[96136] SWD;WOLFCAMP-CISCO	Feb	249049	0	0	0	1578
2017	[96136] SWD;WOLFCAMP-CISCO	Mar	307938	0	0	0	1537
2017	[96136] SWD;WOLFCAMP-CISCO	Apr	303742	0	0	0	1510
2017	[96136] SWD;WOLFCAMP-CISCO	May	280058	0	0	0	1313
2017	[96136] SWD;WOLFCAMP-CISCO	Jun	270448	0	0	0	1288
2017	[96136] SWD;WOLFCAMP-CISCO	Jul	177360	0	0	0	1145
2017	[96136] SWD;WOLFCAMP-CISCO	Aug	307109	0	0	0	1400

Goetze, Phillip, EMNRD

From: Goetze, Phillip, EMNRD
Sent: Friday, September 1, 2017 4:09 PM
To: Mike Pippin (mike@pippinllc.com)
Cc: Jones, William V, EMNRD; Chavez, Carl J, EMNRD; Sanchez, Daniel J., EMNRD; Inge, Richard, EMNRD; Dade, Lewis (Randy); Griswold, Jim, EMNRD; McMillan, Michael, EMNRD
Subject: IPI Request for the Federal T SWD No. 1
Attachments: Federal T SWD # 1 WD.PDF; Federal T SWD #1 BLM completion.pdf; SWD-1135.pdf

RE: Federal T SWD No. 1 (API 30-015-26404); SWD-1135

Mr. Pippin:

The Division has considered Limerock's alternative proposal for a limited pressure increase following consideration of the report prepared by HollyFrontier for the IPI application. The Division will not approve any partial increase in the maximum surface injection pressure without hearing due to the requirements of the UIC Program for the operation of Class I (Non-haz) wells. Additionally, the well file and associated administrative orders were reviewed for this decision and to satisfy the requirements of the Division's Primacy Agreement. This review identified issues that also supported the denial and possible noncompliance of the well's operation under its injection authority.

The review of the well file finds evidence that the perforations in the Wolfcamp from 6868 feet to 7360 feet are not within the improved injection interval (7400 feet to 8200 feet) and were not squeezed off prior to the commencement of injection [see attached well diagram]. The current well file information available to OCD shows the completion of this interval in 1993, followed by a TA status with the CIBP placed at 6800 feet. The re-entry effort by Devon for the conversion to a disposal well in 2008 makes no mention of these perforations except that they are open as described in the submittal of the 3160-4 Well Completion Form (dated September 29, 2008) to the BLM [see attached copy]. Additionally, there is no exception in the order record for the packer setting depth currently at 6789 feet. Therefore, the Division is requesting that Limerock review their sources that may show these perforations to be sealed off. If Limerock cannot provide sufficient evidence that these perforations are not accepting injection fluids, then this well will be in noncompliance of the order and will be recommended for an enforcement action.

Please contact me with any questions regarding this matter. PRG

Phillip Goetze, PG
Engineering Bureau, Oil Conservation Division
New Mexico Energy, Minerals and Natural Resources Department
1220 South St. Francis Drive, Santa Fe, NM 87505
Direct: 505.476.3466
E-mail: phillip.goetze@state.nm.us

DEVON ENERGY PRODUCTION COMPANY LP

Well Name: FEDERAL T #1	Field: NORTH ILLINOIS CAMP MORROW		
Location: 660' FNL & 990' FEL; SEC 12-T18S-R27E	County: EDDY	State: NM	
Elevation: 3634' KB; 3618' GL	Spud Date: 6/28/90	Compl Date: 9/13/90	
API#: 30-015-26404	Prepared by: Norvella Adams	Date: 9/17/08	Rev:

Current Schematic
L. Wolfcamp and Cisco SWD

17-1/2" Hole
13-3/8", 68#, LTC, @ 472'
Cmt'd w/450 Sx. Circ to surface

12-1/4" Hole
8-5/8", J55, 32#, STC, @ 2,589'
Cmt'd w/900 Sx. Circ to surface

SWD-1135 approved an injection zone from 7400 feet to 8200 feet with a packer located within 100 feet of the top of the injection interval

WOLFCAMP *(8/21/93)*
6,868' - 7,038'

WOLFCAMP *(8/18/93)*
7,092' - 7,097'; 7,120' - 7,146'

WOLFCAMP *(8/16/93)*
7,330' - 7,340'; 7,350' - 7,360'

SWD Perforations:
CISCO *(8/1/93)*
7,685' - 7,695'

CISCO *(7/30/93)*
7,760' - 7,768'

CISCO *(7/28/93)*
7,790' - 7,798'

CISCO *(7/25/93)*
7,832' - 7,940'

CISCO *(7/22/93)*
8,034' - 8,042'
8,055' - 8,060'

4" Liner top @ 9,055'

7-7/8" Hole
5-1/2", N80, 17#, LTC, @ 9,473'
Cmt'd w/430 Sx

MORROW *(9/14/90)*
10,008' - 10,014'
10,038' - 10,054'

4-3/4" Hole
4" 10.46#, L80 Liner @ 9,055' - 10,141'
Cmt'd w/80 Sx

10,141' TD

Formation Tops

Morrow 9,600-10,250'
Atoka 9.230'- 9,700'
Upper Wolfcamp 8,400' - 7,200'
Abo 6,600' - 6,200'
Yeso 3,300' 0 3,900'
San Andres 2,000' - 2,800'
Queen 1,450' - 1,650'

3-1/2", 9.3 #, N80, Injection tubing @ 6789'

5-1/2" IPC Packer @ 6,789'

Following their addition in 1993 when the well was assessed for production; there is no record of these perforations being squeezed off.

Frac 7758'-7840' with 4500 gals 15% Spearhead acid and 119,255 gals Spectra Star 2500 + 108,750 # 100% 20/40 White sand.

Frac 7693'-8060' with 6040 gals 15% HCl acid and 120,372 gals Spectra Star 2500 + 167,552 # 100% 20/40 White sand.

35' cement. 9,005' PBD
CIBP @ 9,040' *(7/21/93)*

CIBP @ 9,950' *(7/19/93)*

10,100' PBD

Form 3160-4
(February 2005)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCT 06 2008
OCD-ARTESIA

FORM APPROVED
OMB NO. 1004-0137
EXPIRES: March 31, 2007

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

1a. Type of Well: ☐ Oil Well ☐ Gas Well ☐ Dry ☑ Other SWD- Order 1135 b Type of Completion: ☐ New Well ☐ Work Over ☐ Deepen ☑ Plug Back ☐ Diff. Resvr., ☐ Other	5. Lease Serial No: NM-42410 6 If Indian, Allottee or Tribe Name
2 Name of Operator: DEVON ENERGY PRODUCTION COMPANY, LP	7 Unit or CA Agreement Name and No
3 Address: 20 North Broadway, Oklahoma City, OK 73102-8260 3a Phone No (include area code): 405-552-8198	8 Lease Name and Well No: Federal T 1 9 API Well No.: 30-015-26404 0052
4 Location of Well (Report location clearly and in accordance with Federal requirements)* At Surface: 660 FNL 990 FEL At top prod Interval reported below At total Depth	10. Field and Pool, or Exploratory: L.Wolfcamp and Cisco 96136 11. Sec, T, R, M, on Block and Survey or Area: 12 18S 27E 12. County or Parish: Eddy 13. State: NM
14 Date Spudded: 6/28/1990 15 Date T D Reached: 8/25/1990 16. Date Completed: 9/15/08 - SWD 9/13/90 orig cmpl ☐ D & A ☑ Ready to Prod. 17 Elevations (DR, RKB, RT, GL)*: 3634' KB; 3618' GL	
18. Total Depth: MD 7600' TVD 19. Plug Back T D.: MD 6142' TVI 20 Depth Bridge Plug Set: MD 6177 TVI	
21 Type Electric & Other Mechanical Logs Run (Submit copy of each): DLL-MGRD, SDL_DSN (original logs) 22 Was well cored? ☑ No ☐ Yes (Submit analysis) Was DST run? ☑ No ☐ Yes (Submit report) Directional Survey? ☑ No ☐ Yes (Submit copy)	

23. Casing and Liner Record (Report all strings set in well)

Hole Size	Size/Grade	Wt (#/ft)	Top (MD)	Bottom (MD)	Stage Cementer Depth	No of Sks & Type Cement	Slurry Vol (BBL)	Cement Top*	Amount Pulled
17-1/2"	13-3/8"/LT&C	68		472'		450 Sx		Surf	
12 1/4"	8-5/8"/J55	32		2589'		900 Sx		Surf	
7-7/8"	5-1/2"/LT&C	17		9473'		430 Sx		Surf	
4 3/4"	4" / L80	10.46		10,141'		80 Sx		9055'	

24. Tubing Record

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)
3 1/2" IPC	6789'	6789'						

25 Producing Intervals / 26 Perforation Record

Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf Status
Wolfcamp	6868'	7360'	6868'-7360'		140	Open for SWD
Cisco	7893'	7840'	7893-7840'		228	Open for SWD
Morrow	10,008'	10,054'	10,008-10,054'			Abandoned
D.						

27 Acid, Fracture, Treatment, Cement Squeeze, Etc.

Depth Interval	Amount and Type of Material
7893-8060'	Frac - 6040 gals 15% HCl acid and 120,372 gals Spectra Star 2500 + 167,552 # 100% White 20/40 sand.
7758-7840'	Frac - 4500 gals 15% Spearhead acid and 119,255 gals Spectra Star 2500 + 106,750 # 100% White 20/40 sand.

28 Production - Interval A

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
NA		24	→						
Choke Size	Tbg Press Flwg SI	Csg Press	24 Hr Rate	Oil BBL	Gas MCF	Water BBL	Gas : Oil Ratio	Well Status	
			→				#DIV/0!		

28a. Production - Interval B

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method

ACCEPTED FOR RECORD
/S/ DAVID R. GLASS
SEP 29 2008
DAVID R. GLASS
PETROLEUM ENGINEER

			→						
Choke Size	Tbg. Press Flwg SI	Csg Press	24 Hr Rate	Oil BBL	Gas MCF	Water BBL	Gas : Oil Ratio	Well Status	
			→						

(See instructions and spaces for additional data on reverse side)

28b Production - Interval C

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						
Choke Size	Tbg. Press. Flwg SI	Csg Press	24 Hr Rate	Oil BBL	Gas MCF	Water BBL	Gas : Oil Ratio	Well Status	
			→						

28c Production - Interval D

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						
Choke Size	Tbg Press. Flwg SI	Csg Press	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas : Oil Ratio	Well Status	
			→						

(See instructions and spaces for additional data on reverse side)

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

30 Summary of Porous Zones (Include Aquifers).

Show all important zones of porosity and contents thereof, Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

Formation	Top	Bottom	Descriptions, Contents, etc

31 Formation (Log) Markers

Name	Top Meas Depth
Yates	476'
Queen	1218'
Grayburg	1572'
San Andres	2072'
Tubb	4824'
Abo	6016'
Wolfcamp	7682'
Cisco	8912'
Strawn	9513'
Atoka	9628'
Morrow	9828'
Morrow Clastics	9965'
Lower Morrow	10104'

32. Additional remarks (include plugging procedure).

33 Indicate which items have been attached by placing a check in the appropriate box

☐ Electrical/Mechanical Logs (1 full set req'd) ☐ Geologic Report ☐ DST Report ☐ Directional Survey

☐ Sundry Notice for plugging and cement verification ☐ Core Analysis ☑ Other Wellbore Schematic

34. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records (see attached instructions)*

Name (Please print) Norvella Adams Title Sr. Staff Engineering Technician

Signature Date 9/17/2008

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.

Form 3160-5
(February 2005)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APROVED
OMB NO. 1004-0137
EXPIRES: March 31, 2007

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 page 2

1. Type of Well ☐ Oil Well ☐ Gas Well ☑ Other **SWD conversion. Admin Order SWD-1135**	5 Lease Serial No **NM-42410**
	6. If Indian, Allottee or Tribe Name
	7. Unit or CA Agreement Name and No.
2. Name of Operator **DEVON ENERGY PRODUCTION COMPANY, LP**	8 Well Name and No **Federal T 1**
3a. Address **20 North Broadway, Oklahoma City, OK 73102** / 3b. Phone No. (include area code) **405-552-8198**	9 API Well No **30-015-26404**
4 Location of Well (Footage, Sec., T., R., M , or Survey Description) **660 FNL 990 FEL A 12 18S 27E**	10. Field and Pool, or Exploratory Area **L.Wolfcamp and Cisco**
	11. County or Parish, State **Eddy NM**

12. CHECK APPROPRIATE BOX(es) 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	

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)

Converted to SWD. Administrative Order SWD-1135
8/04/08 RU unit. ND wellhead and NU BOP. TIH with bit and drill collars.
8/05/08 Drill CIBP at 6800' and 7078'.
8/06/08 Drilled through cement at 7525', CIBP at 7300' and cement at 7580' and CIBP at 7595'.
8/07/08 Ran step rate test; pumped 50 bbls at ½ bbl/min – 0# psi, pumped 50 bbls at 1 bbl/min -20# psi, pumped 50 bbls at 2 bbls/min – 75# psi, pumped 50 bbls at 3 bbls/min – 170# psi, pumped 50 bbls at 4 bbls/min – 250 psi.
8/08/08 Trucked in and established injection in the Wolfcamp at 150 BWPD at 170 psi.
8/11/08 Drilled cement retainers at 7745', and 7780'.
8/12/08 Drilled cement retainer at 7820' and 8000'. Circulate hole and TOH with tubing and bit.
8/13/08 Perforate Cisco from 7893' – 8060', total 140 holes. TIH and set packer at 7688'. Frac with 5,040 gals 15% HCl + 120,372 gals Spectra Star 2500 + 167,552 # 20/40 White sand.
8/14/08 TIH with retrievable tool and latch onto packer. Release packer and TOOH with packer and tubing. RU wireline and perforate Cisco from 7758'-7840'; 228 total holes
8/15/08 TIH with packer and set at 7582'. NU frac valve.
8/16/08 Frac 7758'-8060' with 4500 gals 15% Spearhead acid + 119,255 gals Spectra 2500 + 108,750 # 20/40 100% White sand. RD.
8/18/08 Release packer. TOOH with packer and tubing
8/20/08 TIH with baller and bailed sand. Bailed sand to 8460'. TOOH with tubing. ND BOP and NU flange. Waiting on tubing.
9/15/08 TIH with packer and tubing. Set packer at 6789'. ND BOP and NU tree Ran MIT test to 500 # for 30 minutes – ok, notified Mike Bratcher with OCD TOOH with tubing. RIH with 3 ½" IPC tubing and set at 6789'. Injection line installation in progress.

14. I hereby certify that the foregoing is true and correct
Name: Norvella Adams — Title **Sr. Staff Engineering Technician**
Signature — Date **9/17/2008**

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

ACCEPTED FOR RECORD
/S/ DAVID R. GLASS
SEP 29 2008
DAVID R. GLASS
PETROLEUM ENGINEER

Approved by — Title — Date

Accepted for record
NMOCD

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

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

DEVON ENERGY PRODUCTION COMPANY LP

Well Name: FEDERAL T #1		Field: NORTH ILLINOIS CAMP MORROW	
Location: 660' FNL & 990' FEL; SEC 12-T18S-R27E		County: EDDY	State: NM
Elevation: 3634' KB; 3618' GL		Spud Date: 6/28/90	Compl Date: 9/13/90
API#: 30-015-26404	Prepared by: Norvella Adams	Date: 9/17/08	Rev:

Current Schematic
L. Wolfcamp and Cisco SWD

17-1/2" Hole
13-3/8", 68#, LTC, @ 472'
Cmt'd w/450 Sx. Circ to surface

12-1/4" Hole
8-5/8", J55, 32#, STC, @ 2,689'
Cmt'd w/900 Sx. Circ to surface

WOLFCAMP *(8/21/93)*
6,868' - 7,038'

WOLFCAMP *(8/18/93)*
7,092' - 7,097'; 7,120' - 7,146'

WOLFCAMP *(8/16/93)*
7,330' - 7,340'; 7,350' - 7,360'

SWD Perforations:
CISCO *(8/1/93)*
7,685' - 7,695'

CISCO *(7/30/93)*
7,760' - 7,768'

CISCO *(7/28/93)*
7,790' - 7,798'

CISCO *(7/25/93)*
7,932' - 7,940'

CISCO *(7/22/93)*
8,034' - 8,042'
8,055' - 8,060'

4" Liner top @ 9,055'

7-7/8" Hole
5-1/2", N80, 17#, LTC, @ 9,473'
Cmt'd w/430 Sx

MORROW *(9/14/90)*
10,008' - 10,014'
10,038' - 10,054'

4-3/4" Hole
4" 10.46#, L80 Liner @ 9,055' - 10,141'
Cmt'd w/60 Sx

10,141' TD

Formation Tops

Morrow 9,600-10,250'
Atoka 9,230'- 9,700'
Upper Wolfcamp 6,400' - 7,200'
Abo 6,600' - 6,200'
Yeso 3,300' 0 3,900'
San Andres 2,000' - 2,800'
Queen 1,450' - 1,650'

3-1/2", 9.3 #, N80, injection tubing @ 6789'

5-1/2" IPC Packer @ 6,789'

Frac 7768'-7840' with 4500 gals 15% Spearhead acid and 118,255 gals Spectra Star 2500 + 106,750 # 100% 20/40 White sand.

Frac 7693'-8060' with 6040 gals 15% HCl acid and 120,372 gals Spectra Star 2500 + 167,552 # 100% 20/40 White sand.

35' cement. 9,005' PBD
CIBP @ 9,040' *(7/21/93)*

CIBP @ 9,950' *(7/19/93)*

10,100' PBD

C-108 Review Checklist: Received _____ Add. Request: _____ Reply Date: _____ Suspended: _____ [Ver 15]

ORDER TYPE: WFX / PMX / SWD Number: _____ Order Date: _____ Legacy Permits/Orders: _____

Well No. 1 Well Name(s): Federal T SWD

API : 30-0 15-26404 Spud Date: 6/29/1950 New or Old: N (UIC Class II Primacy 03/07/1982)

Footages 660 FNL 990 FEL Lot ___ or Unit A Sec 12 Tsp 18S Rge 27E County Eddy

General Location: 2 miles East/Artesia Pool: SWD;WOLFCAMP-CISCO Pool No.: 96136

BLM 100K Map: Artesia Operator: Lime Rock Resources II-A, LP OGRID: 277558 Contact: Mike Pippin; Agent

COMPLIANCE RULE 5.9: Total Wells: 570 Inactive: 5 Fincl Assur: OK Compl. Order? N/A **IS 5.9 OK?** Y **Date:** 10-26-2017

WELL FILE REVIEWED ○ Current Status: Active (updating Permit to match Perfs in Interim)

WELL DIAGRAMS: NEW: Proposed ○ or **RE-ENTER:** Before Conv. ○ After Conv. ○ Logs in Imaging: _____

Planned Rehab Work to Well: _____

Well Construction Details	Sizes (in) Borehole / Pipe	Setting Depths (ft)	Stage Tool	Cement Sx or Cf	Cement Top and Determination Method
Planned __or Existing __ Surface	17 1/2 / 13 3/8	472'		450	Surface / Visual
Planned __or Existing __ Interm/Prod	12 1/4 / 8 5/8	2589'		900	Surface / Visual
Planned __or Existing __ Interm/Prod	7 7/8 / [illegible]52	9473'		430	Surface / Visual
Planned __or Existing __ Prod/Liner					
Planned __or Existing __ Liner					
Planned __or Existing __ OH / PERF	6868 /		Inj Length		

Injection Lithostratigraphic Units:	Depths (ft)	Injection or Confining Units	Tops
Adjacent Unit: Litho. Struc. Por.		WC (6979)	6716
Confining Unit: Litho. Struc. Por.		CS (6760)	7682
Proposed Inj Interval TOP:			
Proposed Inj Interval BOTTOM:			
Confining Unit: Litho. Struc. Por.			
Adjacent Unit: Litho. Struc. Por.			

Completion/Operation Details:

Drilled TD 10141' PBTD 9005'

NEW TD _____ NEW PBTD _____

NEW Open Hole ○ or NEW Perfs ✓

Tubing Size 3½ in. Inter Coated? X

Proposed Packer Depth 6789 ft

Min. Packer Depth 6768 (100-ft limit)

Proposed Max. Surface Press. 1550 psi

Admin. Inj. Press. 1374 (0.2 psi per ft)

AOR: Hydrologic and Geologic Information

POTASH: R-111-P ___ *Noticed?* ___ **BLM Sec Ord** ○ **WIPP** ○ *Noticed?* ___ **Salt/Salado** T: ___ B: ___ **NW: Cliff House fm** ___

FRESH WATER: Aquifer _____ Max Depth _____ **HYDRO AFFIRM STATEMENT By Qualified Person** ✓

NMOSE Basin: _____ **CAPITAN REEF:** thru adj NA **No. Wells within 1-Mile Radius?** _____ FW Analysis

Disposal Fluid: Formation Source(s) San Andres/Yeso Analysis? Y On Lease ○ Operator Only ✓ or Commercial ○

Disposal Int: Inject Rate (Avg/Max BWPD): 4,355 / 12K Protectable Waters? N/A Source: _____ System: Closed or Open

HC Potential: Producing Interval? N/A Formerly Producing? Y Method: Logs/DST/P&A/Other Production test 2-Mile Radius Pool Map ○

AOR Wells: 1/2-M Radius Map? Y Well List? Y Total No. Wells Penetrating Interval: 2 Horizontals? N/A

Penetrating Wells: No. Active Wells 2 Num Repairs? ___ on which well(s)? _____ Diagrams? ___

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

NOTICE: Newspaper Date October 3 2017 Mineral Owner BLM Surface Owner BLM N. Date October 3 2017

RULE 26.7(A): Identified Tracts? Y Affected Persons: Apache, Mewbourne Oil Co N. Date October 3 2017

Order Conditions: **Issues:** _____

Add Order Cond: _____