DATE IN	ABOVE THIS LINE FOR DIVISION USE ONLY NEW MEXICO OIL CONSERVATION DIVISION	<u>1515697</u> De uon
		DO Draw Deep
т	ADMINISTRATIVE APPLICATION CHECKLIST THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES A	30-025-
\pplic	WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE INSL-Non-Standard Location] [NSP-Non-Standard Proration Unit] [SD-Simultaneous Dec [DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Comm [PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurem [WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion] [SWD-Salt Water Disposal] [IPI-Injection Pressure Increase] [EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Re	ningling] ient]
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	冒君
	[C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery WFX PMX SWD IPI EOR PPR	
	[D] Other: Specify	> <u> </u>
2]	NOTIFICATION REQUIRED TO: - Check Those Which Apply, or Does Not Apply [A] Working, Royalty or Overriding Royalty Interest Owners	2 3
	[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, a	nd/or,
	[F] Waivers are Attached	
3]	SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCI OF APPLICATION INDICATED ABOVE.	ESS THE TYPE
4]	CERTIFICATION: I hereby certify that the information submitted with this application for roval is accurate and complete to the best of my knowledge. I also understand that no action w	

ROWNIE SLACK Komme Stack
Print or Type Name Signature

Operations Technician 5/29/12

Title Date

Ronnie. Slack & dvn. com

e-mail Address



May 29, 2012

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

RE:

Form C-108, Application for Authorization to Inject

N.E. Salado Draw Deep Federal #1; API 30-025-28967

Lea County, NM

Section 6, T26S, R34E

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 N.E. Salado Draw Deep Federal #1 to salt water disposal in the Delaware Bell and Cherry Canyon formations.

Since this is a re-entry of a plugged and abandoned well, an APD (Form 3160-3) has been filed with the BLM (Carlsbad Office).

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 Jimmy Turnini at (405)-228-4479 or myself at (405)-552-4615.

Sincerely,

Ronnie Slack

Operations Technician

RS/rs

Enclosure

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

FORM C-108 Revised June 10, 2003

APPLICATION FOR AUTHORIZATION TO INJECT

I.	PURPOSE: Secondary Recovery Pressure Maintenance X_Disposal Storage Application qualifies for administrative approval? X_Yes No
II.	OPERATOR:Devon Energy Production Company, LP
	ADDRESS:20 North Broadway, Suite 1500, Oklahoma City, Oklahoma 73102
	CONTACT PARTY:Ronnie SlackPHONE: _405-552-4615
III.	WELL DATA: Complete the data required on the reverse side of this form for each well proposed for injection. Additional sheets may be attached if necessary.
IV.	Is this an expansion of an existing project? Yes X No If yes, give the Division order number authorizing the project:
V.	Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.
VI.	Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.
VII.	Attach data on the proposed operation, including:
	 Proposed average and maximum daily rate and volume of fluids to be injected; Whether the system is open or closed; Proposed average and maximum injection pressure; Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and, If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).
*VIII.	Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval.
IX.	Describe the proposed stimulation program, if any.
*X.	Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted).
*XI.	Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.
XII.	Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.
XIII.	Applicants must complete the "Proof of Notice" section on the reverse side of this form.
XIV.	Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.
	NAME:Ronnie Slack
*	E-MAIL ADDRESS:Ronnie.Slack@DVN.com

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.

INJECTION WELL DATA SHEET

OPERATOR:Devon Ener	gy Prod	luction Company, LP			·	
WELL NAME & NUMBER:	N.E.	Salado Draw Deep Federal	Unit 1			
WELL LOCATION:1980' FOOT	FNL & 6	660' FWLE OCATION	UNIT LETTER	6 SECTION	T26STOWNSHIP	
<u>WELLBORE SC</u>		•			NSTRUCTION DAT	<u>A</u>
DEVON ENERGY	PRODUCTIO	ON COMPANY LP		<u>Surface C</u>	asing	•
Well Name: N.E. SALADO DRAW DEEP FED UNIT 1 Location: 1980' FNL & 660' FWL: 6-T265-R34E Elevation: 3345' KB: 3320' GL; 25' KB to GL	County: I Spud Dat	te: 10/27/84 Compl Date: 8/20/85	Hala Sinne 26"		Casina Sizar 20 10	06 5# @ 1022
API#: 30-025-28967 Prepared by: Ronnie Slock	Date: 4/	/3/12 Rev:	Hole Size: _26"		Casing Size: 20, 10	10.5#, @ 1022
PROPOSED SWD CONVERSION		Salado 1176 Bell Canyon 5212 Cherry Canyon 6292 Brushy Canyon 7760	Cemented with: _193	30 sx.	or	ft^3
20", 108.5#, K55, @ 1.022 Cmt'd w/ 1930 sx to surface		Bone Spring 9436 Wolfcamp 12495 Atoka 14783 Morrow 15466	Top of Cement:	_Surface	Method Determined	d: Circ. cement
9-5/8" pulled from ~2000' (11/90)		Proposed: 3-1/2", 9.5#, J55, IPC Injection tubing		Intermediate	e Casing	
17-1/2" Hole 13-3/8", 96# & 72#, K65 & N80, @ 5,257" Cmtd w/ 5380 sx to surface		100 100 100 100 100 100 100 100 100 100	Hole Size:17-1/2		Casing Size: 13-3/8	3, 68-72#, @ 5257
Proposed; Bell Canyon & Cherry Canyon Injection Perfs: 6018-6028; 6040-6050; 6130-6150; 6315-6325 6365-6380; 6465-6480; 6530-6535; 6630-6640		Proposed: 9-5/8", nickel coated IPC, packer @ 5950'		5380 sx.		_
(2 SPF, 120 phase)		Proposed: CIBP @ 6750' w/35' cmt on top. 6715 PBD.		Surface		
	9.5# mud	Tanana and an and an and an		Production	Casing	
7" pulled from ~9880' (11/90)		30 sx emt 9800-9900' <i>(11/90)</i>			· · · · · · · · · · · · · · · · · · ·	
	9.6# mud	50' cement CIBP @ 12850' (11/90)	Hole Size:12-1	1/4/"	Casing Size: 9-5/8,	53.5#, @ 13000'
9-5/8", 53.5#, P110, @ 13.000' Cmt'd w/ 3690 sx. ETOC @ 2000' Wolfcamp: 13450-13656; 13829' - 13835'			Cemented with:	3690 sx.	or	ft^3
1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5		Baker Plug @ 14360 w/20 sx cmt EZ Drill Ret 14842. 85 sx pumped thru, TOC 14470' Baker Model D 14981	Top of Cement:20	000'	Method Determined	l: Estimate
8-1/2" Hole 7", 38#, Q125, @ 15,357		Cesum	Total Depth: _16320	'; 7" csg 9850-15357	5" liner 15047-1632	20
Cmtd w/ 900 sx. TOC @ 12100 (CBL) Menrow; 16385-16691; 15760-15783	⊶	W/L tools in hole Cement Plug 15921-16014		Injection Interval	(Perforated)	
<u>Моггом.</u> 18144-16203		BP @ 16133, TOC 16092	z41Fe)	6018'	to6640'	
5-7/8" Hole (proposed on apd) <u>6" Liner from 15.047" - 18.320"</u> Cmt'd w/ 160 sx	16,320' TD			Perforated or Open Ho	ole: indicate which)	

INJECTION WELL DATA SHEET

	Tubing Size: 3-1/2" Lining Material:IPC
Ty	oe of Packer:9-5/8" IPC
Pac	eker Setting Depth: 5950'
Otl	ner 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
2	No. 10 of the Latin Compatible Delegation Delegation
2.	Name of the Injection Formation: Delaware.
3.	Name of Field or Pool (if applicable):Wolfcamp N.E. Salado Draw
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 16144-16203, plugged off. Morrow15385-15691, plugged off. Wolfcamp 13450-13835, plugged off. (See schemat for plug back record.
5.	Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area:
	Rustler 897'; Salado 1176'; Delaware/Bell Canyon/Lamar 5212; Cherry Canyon 6292; Brushy Canyon 7760; Bone Spring 9436'; Wolfcamp 12495; Atoka 14783; Morrow 15466.

Form 3160-3 (August 2007)

UNITED STATES DEPARTMENT OF THE INTERIOR

FORM APPROVED OMB No. 1004-0137 Expires July 31, 2010

5. Lease Serial No.

	BUREAU OF LAND MANAGEMENT									
APPLICATION FOR PERMIT TO				6. If Indian, Allotee or Tribe Name						
la. Type of work: DRILL REENT	ER			7 If Unit or CA Agreement, Name and No.						
lb. Type of Well: Oil Well Gas Well Other SWE	o ⊘ si	ingle Zone Multip	le Zone	8. Lease Name and W N.E. Salado Draw (I		ederal 1				
Name of Operator DEVON ENERGY PRODUCTION COM	MPANY, L.P			9. API Well No. 30-025-28967						
3a. Address 333 W. SHERIDAN AVENUE, OKLAHOMA CITY, OKLAHOMA 73102		10. Field and Pool, or E Delaware	xplorato	у						
4. Location of Well (Report location clearly and in accordance with an	ny State requirer	nents.*)		11. Sec., T. R. M. or Bl	k. and Su	rvey or Area				
At surface 1980 FNL & 660 FWL, 2 At proposed prod. zone BHL: 1980 FNL & 660 FWL, 2				6-T26S-R34E						
14. Distance in miles and direction from nearest town or post office* 19 MILES WSW OF JAL, N.M.				12. County or Parish LEA		13. State NM				
15. Distance from proposed* See Attached Map location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No. of 1241.6	acres in lease	17. Spacir 40	ing Unit dedicated to this well						
 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 	19. Propose 6,750' TD	•	BIA Bond No. on file							
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	1	imate date work will star	23. Estimated duration	n						
3320' GL	06/30/20	12	45 DAYS		· · · · · · · · ·					
				omments/Schem	natics					
 The following, completed in accordance with the requirements of Onsho Well plat certified by a registered surveyor. A Drilling Plan. A Surface Use Plan (if the location is on National Forest System SUPO must be filed with the appropriate Forest Service Office). 		4. Bond to cover the ltem 20 above). 5. Operator certification	he operation	ons unless covered by an formation and/or plans as		·				
25. Signature	1	(Printed/Typed) DAVID H. COOK			Date 05/17	/2012				
Title REGULATORY ANALYST	•									
Approved by (Signature)	Name	e (Printed/Typed)			Date					
Title	Offic	Office								
Application approval does not warrant or certify that the applicant hole conduct operations thereon. Conditions of approval, if any, are attached.	ds legal or equ	itable title to those righ	nts in the su	bject lease which would o	entitle the	applicant to				
Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a	rime for any	person knowingly and	willfully to	make to any department	or agenc	y of the United				

States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

DIRECTIONS:

From intersection of SR 128 & CR 1 (Orla Rd), go south on Orla Road 13.65 miles, turn left (East) on CR 2 (Battle Axe Road), go 11.8 miles to stop sign. Turn right & go 0.3 miles past Dinwiddie Road, turn left on CR 2 and go 1.9 miles; just before cattle guard, turn right on caliche road, go south 0.15 miles, turn left 0.2 miles to caliche road on south, go approx. 1600 feet to site.

APD COMMENTS:

Devon Energy Production Co., L.P. plans to re-enter this well, plugged and abandoned by Tex/Con Oil & Gas Company, and convert to SWD in the Delaware formation from 6018-6640'. A C-108 is being filed with the OCD-Santa Fe office.

A cultural survey was completed in this area in 1984 and additional fees for being within the PBMOA will not be required, as per Martin Stein, Carlsbad Field Office, Bureau of Land Management, April 18, 2012.

District I 1625 N. French Dr., Hobbs, NM 88240 District II 1301 W. Grand Avenue, Artesia, NM 88210 District III 1000 Rio Brazos Rd., Aztec, NM 87410 District IV

1220 S. St. Francis Dr., Santa Fe, NM 87505

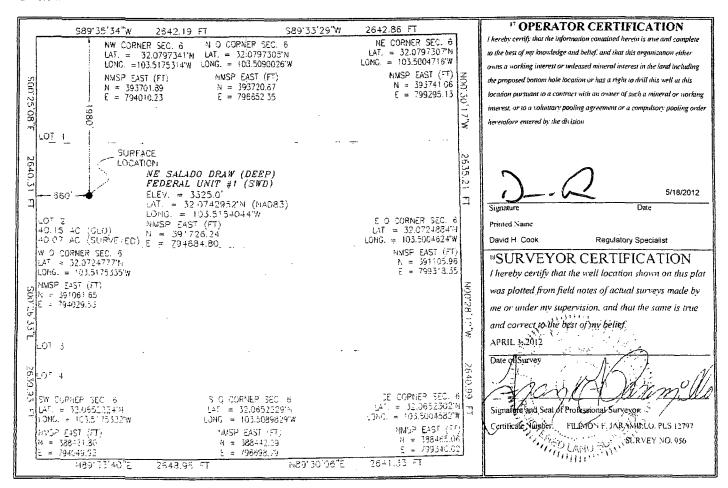
State of New Mexico Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION 1220 South St. Francis Dr. Santa Fe, NM 87505

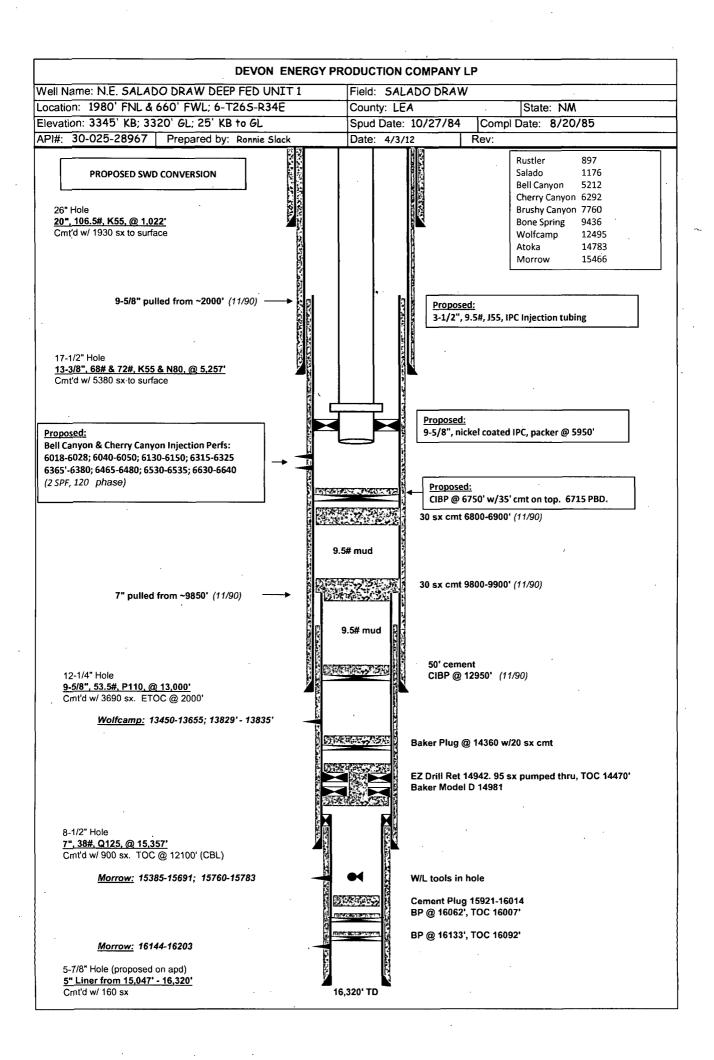
Form C-102 Revised October 15,2009 Submit one copy to appropriate District Office

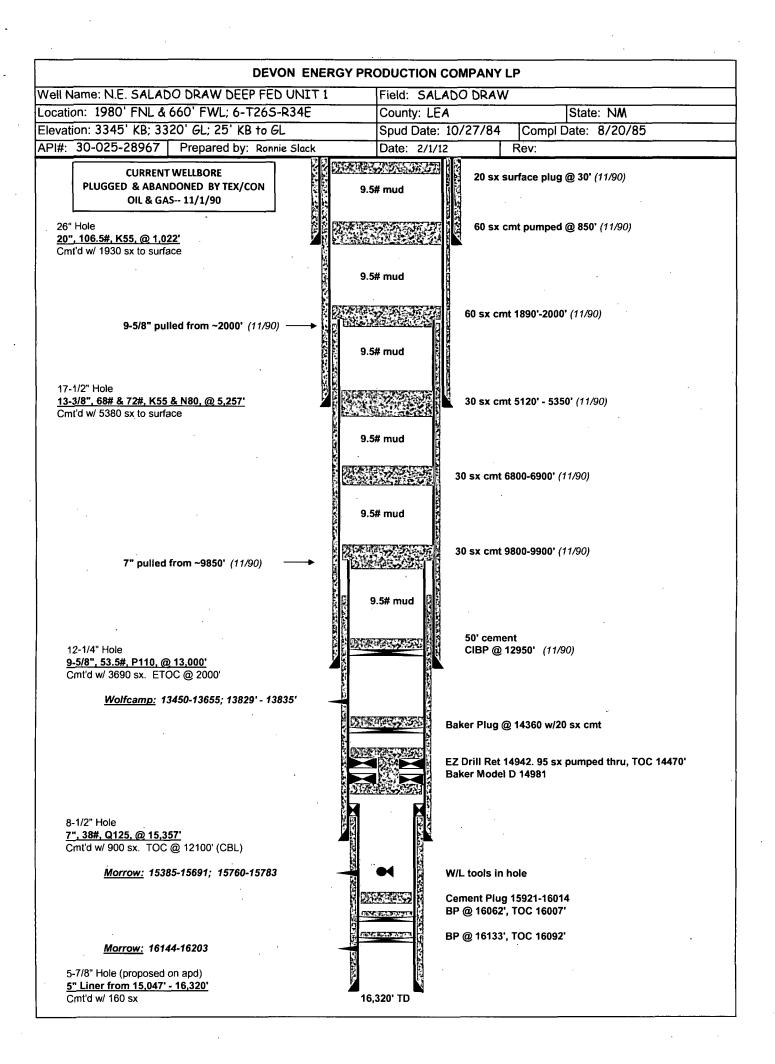
☐ AMENDED REPORT

	API Numbe		7220			EAGE DEDIC	Pool Na			
				² Pool Code	•					
3	0-025-28	967					DELAWAR	E ,		
Property	Code		<u> </u>		5 N	ell Number				
			NE SA	LADO D	RAW (DEEP)	FEDERAL UNI		1		
OGRID	No.				* Operator	Name			Elevation	
6137	6137 DEVON ENERGY PRODUCTION COMPANY, L.P. 3325.0									
					" Surface	Location				
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County	
2	6	26 S	34 E		1980	NORTH	660	WEST	LEA	
			" Bo	ttom Ho	le Location I	f Different Fron	n Surface			
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County	
	}]								
Dedicated Acres	Joint o	r Infill 12 C	onsolidation	Code 15 Or	der No.					

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.







Proposed Injection Well: N.E. Salado Draw Deep Fed Unit #1

API: 30-025-28967

APPLICATION FOR INJECTION

Form C-108 Section III

III. Well Data-On Injection Well

A. Injection Well Information

Lease

N.E. Salado Draw Deep Fed Unit

Well No Location

Sec,Twn,Rnge Cnty, State

1980' FNL & 660' FWL Sec 6-T26S-R34E

Lea County, NM

(2) Casing

20", 106.5#, K55, @ 1,022'

Cmt'd w/1930 sx to surf

13-3/8", 68# & 72#, K55 & N80 @ 5,257'

Cmt'd w/5380 sx to surf

9-5/8", 53.5#, P110, @ 13,000'

Cmt'd w/3690 sx. ETOC @ 2000'.

(9-5/8" casing pulled from ~2000, during P&A 11/1/90)

7", 38#, Q125, @ 15,357'

Cmt'd w/900 sx. TOC @ 12100 (CBL)

(7" casing pulled from ~9850' during P&A 11/1/90)

5" liner from 15,047' to 16,320'

Cmt'd w/160 sx.

Injection Tubing

3-1/2", 9.5#, J55, IPC injection tubing

<u>Packer</u>

9-5/8", nickel coated IPC packer @ 5,950"

B. Other Well Information

Injection Formation:

Delaware Bell Canyon

Field Name:

Salado Draw

Injection Interval:

6018 - 6640' (perforated)

Original Purpose of Wellbore:

Morrow producer

Other perforated intervals:

Morrow: 16144-16203; plugged off. Morrow: 15385-15783; plugged off.

Wolfcamp: 13450-13835; plugged off.

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 897'; Salado 1176'; Delaware/Bell Canyon/Lamar 5212; Cherry Canyon 6292; Brushy Canyon 7760; Bone Spring 9436'; Wolfcamp 12495; Atoka 14783; Morrow 15466

N.E. Salado Draw Deep Federal Unit #1 C108 Application for Injection Injection Water Analysis Avalon Shale Formation Devon Energy Production Co LP

Sample Point:

WELLHEAD

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

DEVON ENERGY CORPORATION 33521.1 Company: Sales RDT: Region: **PERMIAN BASIN** Account Manager: GENE ROGERS (575) 910-1022 ARTESIA, NM Area: Sample #: 578322 **ICHABOB 7 FED** Lease/Platform: Analysis ID #: 119387 Entity (or well #): \$90.00 Analysis Cost: Formation: UNKNOWN

Summary		Analysis of Sample 578322 @ 75 ℉										
Sampling Date: 04/04/	12 Anions	mg/l	meq/l	Cations	mg/l	meq/l						
Analysis Date: 04/22	12 Chloride:	125645.0	3543.99	Sodium:	71749.9	3120.95						
Analyst: STACEY SMI	H Bicarbonate:	1049.2	17.2	Magnesium:	1291.0	106.2						
TDS (Carbonate:	0.0	0.	Calcium:	7064.0	352.5						
TDS (mg/l or g/m3): 211240 Density (a/cm3, tonne/m3): 1.1	l: Sulfate:	2840.0	59.13	Strontium: Barium:	426.0 0.5	9.72						
Density (g/cm3, tonne/m3): 1.1 Anion/Cation Ratio:	Phosphate:	•				0.01						
Alion/Cation Ratio.	Borate:			Iron:	68.0	2.46						
	Silicate:			Potassium:	1111.0	28.41						
		1		Aluminum:								
Carbon Dioxide: 50 PPM	Hydrogen Sulfide:		0	Chromium:								
Oxygen:	pH at time of sampl	ina:	6.7	Copper:								
Comments:	1	J	0.7	Lead:								
	pH at time of analys	sis:		Manganese:	2.000	0.07						
	pH used in Calcula	ation:	6.7	Nickel:	,							
• 1					,	•						

Condi	itions		Values Calculated at the Given Conditions - Amounts of Scale in lb/1000 bbl													
Temp	Gauge Press.		alcite aCO ₃		sum 04*2H ₂ 0	1	nydrite aSO ₄		estite rSO ₄	Ba Ba	CO ₂ Press					
Ŧ	psi	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount	psi				
80	0	1.34	151.28	0.22	569.17	0.25	501.24	0.63	202.66	0.81	0.29	1.43				
100	0	1.40	159.85	0.14	387.63	0.24	479.26	0.61	198.10	0.61	0.29	1.8				
120	0	1.45	168.13	0.07	210.09	0.25	497.53	0.59	195.53	0.43	0.29	2.24				
140	0	1.50	176.69	0.01	40.82	0.28	548.91	0.58	194.39	0.27	0.00	2.73				

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.

N.E. Salado Draw Deep Federal Unit #1 **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:

33512

Region:

PERMIAN BASIN

Account Manager: WAYNE PETERSON (575) 910-9389

Area:

JAL, NM

Sample #:

578350

Lease/Platform:

RATTLESNAKE UNIT

Analysis ID #:

119388

Entity (or well #):

FEDERAL 6

Analysis Cost:

\$90.00

Formation:

UNKNOWN

Sample Point:

WELLHEAD

Analysis of Sample 578350 @ 75 ℉											
Anions mg/l r	meq/I Cations	mg/l	meq/l								
Chloride: 161186.0 454 Bicarbonate: ~ 24.4	46.47 Sodium: 0.4 Magnesium:	66907.2 4104.0	2910.3 337.61								
Carbonate: 0.0 Sulfate: 1252.0 Phosphate: Borate: Silicate:	0. Calcium: 26.07 Strontium: Barium: Iron: Potassium:	25146.0 1169.0 1.5 42.0 1631.0	1254.79 26.68 0.02 1.52 41.71								
Hydrogen Sulfide: pH at time of sampling: pH at time of analysis: pH used in Calculation:	Aluminum: Chromium: Copper: Lead: Manganese: Nickel:	8.500	0.31								
	Anions mg/l Chloride: 161186.0 454 Bicarbonate: 24.4 Carbonate: 0.0 Sulfate: 1252.0 Phosphate: Borate: Silicate: Hydrogen Sulfide: pH at time of sampling: pH at time of analysis:	Anions mg/l meq/l Cations Chloride: 161186.0 4546.47 Sodium: Bicarbonate: 24.4 0.4 Magnesium: Carbonate: 0.0 0. Calcium: Sulfate: 1252.0 26.07 Strontium: Phosphate: Borate: Iron: Silicate: Potassium: Hydrogen Sulfide: 0 Chromium: Copper: Lead: pH at time of analysis: Manganese:	Anions mg/l meq/l Cations mg/l Chloride: 161186.0 4546.47 Sodium: 66907.2 Bicarbonate: 24.4 0.4 Magnesium: 4104.0 Carbonate: 0.0 0. Calcium: 25146.0 Sulfate: 1252.0 26.07 Strontium: 1169.0 Phosphate: Barium: 1.5 Iron: 42.0 Silicate: Potassium: 1631.0 Aluminum: Hydrogen Sulfide: 0 Chromium: Copper: Lead: Lead: Manganese: 8.500								

Condi	itions		Values C	alculated	at the Give	itions - Amounts of Scale in lb/1000 bbl									
Temp	Gauge Press.		alcite aCO ₃		sum 04*2H ₂ 0	1	ydrite aSO ₄		estite rSO ₄	Ba Ba	CO ₂ Press				
F	psi	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount	psi			
80	0	-0.53	0.00	0.30	329.32	0.35	287.24	0.54	330.96	0.73	0.55	0.12			
100	0	-0.45	0.00	0.23	267.56	0.34	282.59	0.52	322.22	0.54	0.55	0.14			
120	0	-0.37	0.00	0.17	208.53	0.36	292.43	0.51	319.76	. 0.38	0.55	0.16			
140	0	-0.29	0.00	0.12	153.59	0.40	313.47	0.52	322.76	0.23	0.27	0.18			

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.

C108 ITEM VIWell Tab	ulation in 1/2 Mile Review Area															
Devon Energy Production	on Company, LP															
Proposed Inj Well:	N.E. Salado Draw Deep Federal	Unit 1														
Proposed Formation:	Delaware	-														
Proposed Interval:	6018' - 6640'															
Operator	Well Name	API NO	County	Surf Location	Sec Twr	Rnge	Туре	Status	Spud Date	Comp Date	TD	PBTD	Comp Zone	Comp Interval-Ft	Casing Program	Cement / TOC
Devon Energy Prod Co LP	N.E. Salado Draw Deep Federal Unit 1	30-025-28967	Lea	1980' FNL 660' FWL	6 268	34E	Gas	P&A 12/29/90		5 JZ 8/20/85	16320		Wolfcamp Morrow	13450-13835 (plugged off) 15385-16203 (plugged off)		1930 sx / surf 5380 sx / surf 3690 sx / 2000'-est 900 sx / 12100-cbl 160 sx / liner top
Ralph L Lowe	Conoco Federal 1	30-025-08396	Lea	660' FNL 660' FEL	1 268	33E	NA	D&A	4/2/1960	NA	5315		NA	NA	8-5/8", 24#, @ 937'	500 sx / surf (no wellbore abandonment records available)
							1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				5315					
·																

Proposed Injection Well: N.E. Salado Draw Deep Fed Unit #1

API: 30-025-28967

APPLICATION FOR INJECTION Form C-108 Section VII to XIII

VII Attach data on the proposed operation, including:

(1) Proposed average injection rate:

2000 BWPD

Proposed maximum injection rate:

5000 BWPD

- (2) The system will be a closed system.
- (3) Proposed average injection pressure:

600 psi

Proposed max injection pressure:

1210 psi

- (4) The injection fluid will be produced water from the Avalon and Delaware formations that will be injected into the Delaware Bell Canyon formation.
- (5) A representative water analysis is submitted for Delaware and Avalon formations.

VIII Gelologic Injection Zone Data

The injection zone is the Delaware Bell and Cherry Canyon formation from 6018' to 6640'. The gross injection interval is 622' thick. The Delaware Bell Canyon formation is a Permian aged sandstone. The average depth to fresh water is 150' in this area.

IX Proposed Stimulation

324000# 16/30 sand, 3900 gals 10# gel, 133000 gals 25# gel, 2000 gals 15% HCL acid

X Log Data

Logs have previously been submitted to the OCD.

XI Fresh Water Analysis

Two fresh water wells were identified in Sec 6-T26S-R34E. One well was caved in, the other does not have a pump. Were not able to get water samples.

Dinwiddie Cattle Co; C 03441 POD 1; X=640970 Y=3550039

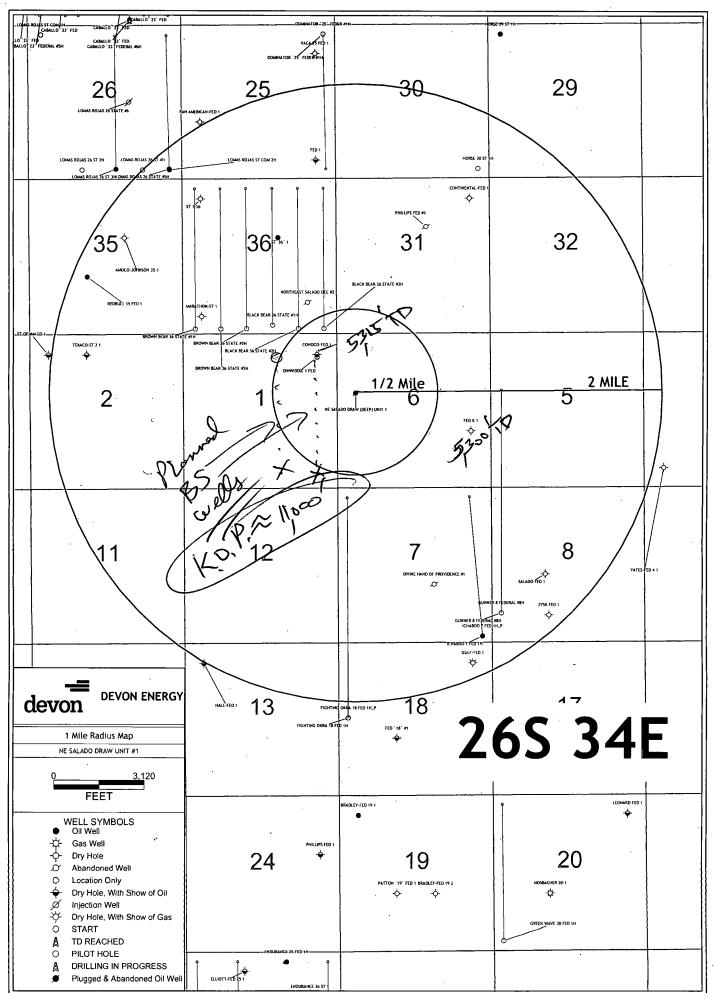
Dinwiddie Cattle Co; C 03442 POD 1; $X=641055\ Y=3550028$

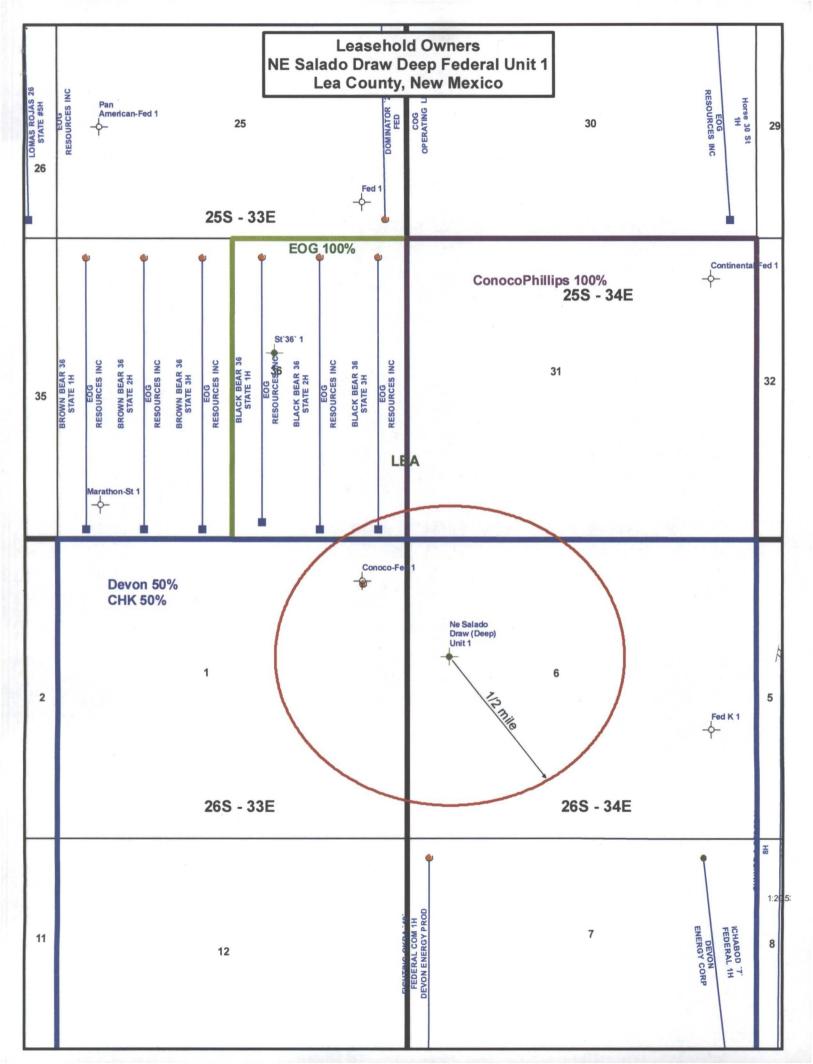
XII Geologic / Engineering Statement

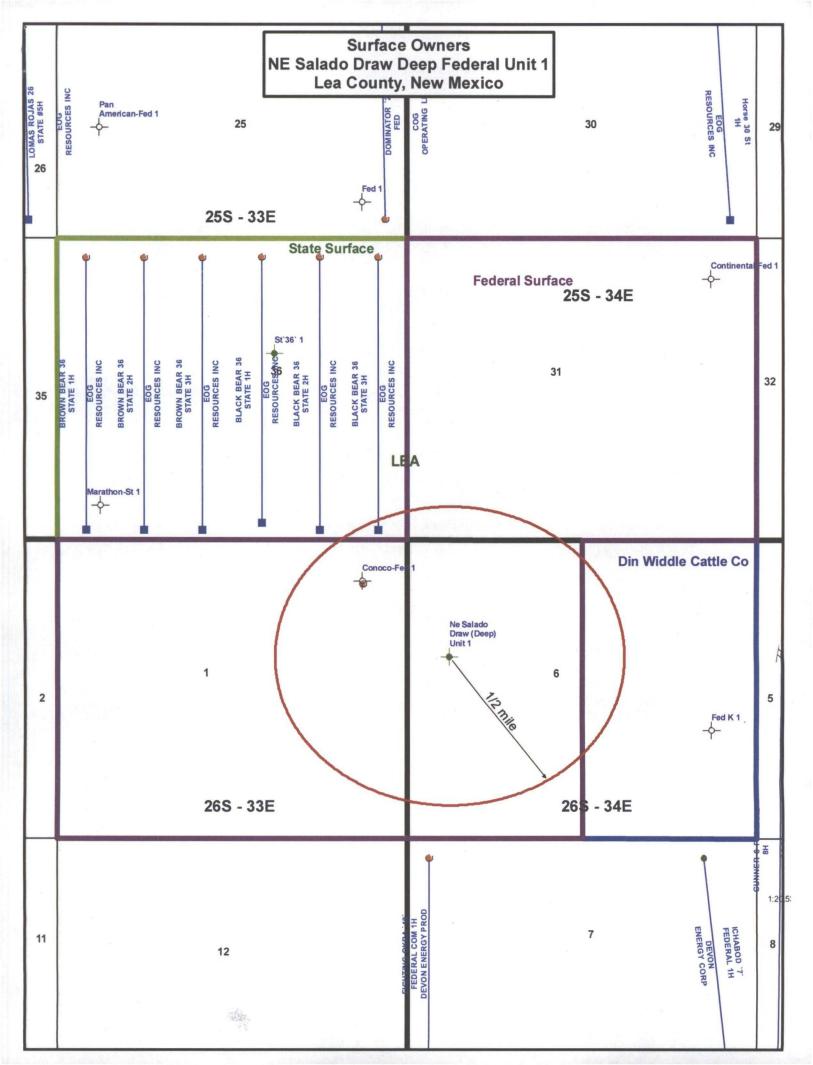
An examination of this area has determined there are no open faults or other hydrologic connection between the disposal zone and any underground drinking water.

XIII Proof of Notice

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







Leasehold OwnerTabulation
Devon-C108 SWD Application
1/2 Mile Review Area
Ne Salado Draw Deep Federal Unit 1
Lea County, NM

Company	Sec	Twn	Rng	Per Cent
EOG	36	· 25S	33E	100
ConocoPhillips	31	25\$	34E	100
Devon	. 1	26S	33E	50
Chesapeake	1	26S	33E	50
Devon	6	26S	34E	50
Chesapeake	6	26S	34E	50

Surface OwnerTabulation Devon-C108 SWD Application 1/2 Mile Review Area Ne Salado Draw Deep Federal Unit 1 Lea County, NN

Company	Sec	Twn	Rng	Per Cent
BLM	6	26S	34E	50
Din Widdle Cattle Co.	6	26S	34E	50
(100% Federal on surface local	ition of well)			

Section XIV--Proof of Notice to Surface Land Owner
Devon Energy Prod Co LP
C108 Application For Injection
Proposed Well: N.E. Salado Draw Deep Federal Unit 1

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

Certified receipt No. 7008 1830 0003 1983 5301

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

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 N.E. Salado Draw Deep Federal Unit #1.

Date Mailed:	5/29/12			
Signature:	Ronnie Slack	Date:	5/29/12	

Ronnie Slack, 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: N.E. Salado Draw Deep Federal Unit 1

<u>Proof of Notice to Leasehold Operators within 1/2 mile of N.E. Salado Draw Deep</u> Federal Unit #1

Certified receipt No.

7008 1830 0003 1983 5264

EOG Resources Inc P.O. Box 4362 Houston, TX 77210

Conoco Phillips 600 North Dairy Ashford Houston, TX 77079 Certified receipt No. 7008 1830 0003 1983 5349

Chesapeake Exploration Limited Parntership 6100 North Western Oklahoma City, OK 73118 Certified receipt No. 7008 1830 0003 1983 5295

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 N.E. Salado Draw Deep Federal Unit #1.

Date Mailed: $_{\underline{5/a}}$

Signature:

Konno Slack

Date:

5/29/12

Ronnie Slack, 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 Lea.

> I, JUDY HANNA **PUBLISHER**

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

of 1 issue(s). Beginning with the issue dated February 17, 2012 and ending with the issue dated February 17, 2012

/PUBLISHER

Sworn and subscribed to before me

this 7th day of March, 2012

Notary Public

My commission expire

February 09, 2013

(Seal)

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

Legal Notice FEBRUARY 17, 2012

Devon Energy Production Company, LP, 20 North Broadway, Oklahoma City, OK 73102-8260 has filed form C-108 (Application for Authorization to Inject) with the New Mexico Oil Conservation Division seeking administrative approval for an injection well. The proposed well, the NE Salado Draw Deep Fed Unit #1, is located 1980' FNL & 660' FWL, Section 6, Township 26 South, Range 34 East, in Lea County, New Mexico. Disposal water will be sourced from area wells producing from the Avalon and Delaware formations. The disposal water will be injected into the Delaware formation at a depth of 6018' to 6640', at a maximum surface pressure of 1210 psi and a maximum rate of 5000 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 87505, within (15) days of this notice. Any interested party with questions or comments may contact Ron Hays at Devon Energy Corporation, 20 North Broadway, Oklahoma City, OK 73102-8260, or call (405) 552-8150.

67106734

00087684

ATTN: DVNOKC98 **DEVON ENERGY - ATTN: DVNOKC98** P.O. BOX 3198 OKLAHOMA CITY, OK 73101

Jones, William V., EMNRD

From:

Turnini, Jimmy < Jimmy. Turnini@dvn.com>

Sent:

Thursday, August 09, 2012 2:53 PM

To: Cc: Jones, William V., EMNRD

- . .

Slack, Ronnie

Subject:

FW: Disposal application from Devon: NE Salado Draw Deep Federal Unit #1

30-025-28967 Sec 6 T26S R34E Bell and Brushy Canyon perfs from 6018 to 6640 feet

Attachments:

IC_Potash_Corp.pdf

William,

Please see responses to questions you asked back in June. Sorry for the delay. If you don't mind dragging this one out again to review I would appreciate it. Also can you please make a comment about the depth of the lost logging tool being adequate for the proposed SWD conversion. This would help in getting approval from the BLM.

If there are questions please don't hesitate to call.

Thank you,

Jimmy Turnini Sr. Staff Engineer Permian Basin SENM

Devon Energy Corporation OKDEC 31.322 405 637 5411 Cell 405 228 4479 Office



From: Slack, Ronnie

Sent: Thursday, August 09, 2012 10:15 AM

To: Turnini, Jimmy

Cc: Slack, Ronnie; Porter, Stephanie

Subject: FW: Disposal application from Devon: NE Salado Draw Deep Federal Unit #1 30-025-28967 Sec 6 T26S R34E

Bell and Brushy Canyon perfs from 6018 to 6640 feet

Jimmy,

See follow up response below to questions that Will Jones had on 6/22/12, regarding the NE Salado Draw Deep Federal Unit #1. Let me know if you need anything else--Ronnie

- a. I know this is a re-entry of a P&A'd well, but I didn't see any comments about potential productivity of the target disposal interval. Would you please ask your geologist or log analyst to comment on the water salinity and hydrocarbon productive capability of the target interval(s)?
- <u>aa.</u> <u>Devon Reply per geology</u>-- There appears to be no production out of the basal part of the Bell Canyon or upper part of the Cherry Canyon (our proposed perf. intervals) within 5 miles of the NE Salado Draw Deep

Fed. Unit #1. According to my database, all nearby shallow Delaware production is <5400' TVD, well above our injection zone.

- b. Fresh water may extend to 150 feet what is this stratigraphic unit called? Is it the Ogallala or Alluvium or Rustler or something else?
- bb. Devon Reply per geology-- At 150 foot depth, the stratigraphic interval would be considered Quaternary Alluvium
- c. Do you know how far this is from the newly planned Potash mine (intercontinental potash corporation BLM minerals)?
- cc. Devon Reply per land--I'm coming up with a distance of ~9.5 miles from the NE Salado Draw Deep Federal Unit #1 to ICP's 10 year and 50 year proposed mine outline. The attached map was derived from a PowerPoint presentation ICP presented to Devon earlier this year. As you will notice the section tied to the captioned well is not even close enough to be included in the map.
- d. The Kick Off Point in the newly planned Bone Spring wells to be located just west of this location in Section 1 of T26S R33E is below the top of the Bone Spring. Does Devon/Chesapeake plan tó cover this Delaware interval (6000 feet to 6700 feet) with cement?
- dd. Devon Reply per operations—Will I believe you are referring to Devon's proposed Dinwiddie 1 Federal 1H, located Sec 1-T26S-R33E. I don't think Devon will be drilling this well now, but the drilling plan was to set 13-3/8 @ 950', cemented to surface; 9-5/8 @ 5250', cemented to surface; 7" @ 12800', cemented back to 4700', then a 4-1/2" liner was going to be set 12500-16150, cemented to liner top. So yes the Delaware interval will be covered by cement.

From: Jones, William V., EMNRD [mailto:William.V.Jones@state.nm.us]

Sent: Tuesday, July 24, 2012 4:38 PM To: Turnini, Jimmy; Slack, Ronnie

Cc: Porter, Stephanie

Subject: RE: Disposal application from Devon: NE Salado Draw Deep Federal Unit #1 30-025-28967 Sec 6 T26S R34E

Bell and Brushy Canyon perfs from 6018 to 6640 feet

I am thinking this would not be an issue for SWD permitting?

If you guys will respond to the other questions I emailed to Ronnie on June 22, I will drag this one out and go over it again.

If you have already responded please forgive me – about a million things going at once.

Will Jones New Mexico Oil Conservation Division **Images Contacts**

From: Turnini, Jimmy [mailto:Jimmy.Turnini@dvn.com]

Sent: Tuesday, July 24, 2012 2:57 PM

To: Jones, William V., EMNRD; Slack, Ronnie

Cc: Porter, Stephanie

Subject: RE: Disposal application from Devon: NE Salado Draw Deep Federal Unit #1 30-025-28967 Sec 6 T26S R34E

Bell and Brushy Canyon perfs from 6018 to 6640 feet

Will,

Yes, this is the well with the lost source several thousand feet deep and I was of the opinion it was of no concern due to the depth and plugs set above it but Wesley Ingram with the BLM wanted to make sure the state was aware and approved the distance between the depth of the tool and the proposed interval. This is why we wanted to make sure you were aware and after looking at the schematic submitted I didn't see that it was clearly marked. That's all... If you would like to discuss further just let me know.

Thanks,

Jimmy Turnini Sr. Staff Engineer Permian Basin SENM

Devon Energy Corporation OKDEC 31.322 405 637 5411 Cell 405 228 4479 Office



From: Jones, William V., EMNRD [mailto:William.V.Jones@state.nm.us]

Sent: Tuesday, July 24, 2012 1:52 PM

To: Slack, Ronnie

Cc: Turnini, Jimmy; Porter, Stephanie

Subject: RE: Disposal application from Devon: NE Salado Draw Deep Federal Unit #1 30-025-28967 Sec 6 T26S R34E

Bell and Brushy Canyon perfs from 6018 to 6640 feet

Hello Ronnie,

I am in meetings all afternoon.

I think this one had an old source lost in the hole thousands of feet deeper than the proposed disposal interval? I wasn't worried about it for that reason.

Will Jones
New Mexico
Oil Conservation Division
Images Contacts

From: Slack, Ronnie [mailto:Ronnie.Slack@dvn.com]

Sent: Tuesday, July 24, 2012 12:42 PM

To: Jones, William V., EMNRD

Cc: Turnini, Jimmy; Porter, Stephanie

Subject: RE: Disposal application from Devon: NE Salado Draw Deep Federal Unit #1 30-025-28967 Sec 6 T26S R34E Bell and Brushy Canyon perfs from 6018 to 6640 feet

Will,

The NE Salado Draw Deep Federal Unit #1 has lost radioactive W/L tools at ~15679'. I have attached a revised schematic noting the tools containing Ceslium 137.

The BLM has stated the state would need to give permission for SWD conversion regarding lost radioactive tools.

Jimmy and I wanted to give you a call sometime today or tomorrow at your convenience to discuss this.

Thanks.

Ronnie Slack

Operations Technician
Devon Energy Corporation
DEC 31.334
(405) 552-4615 (office)
(405) 552-1415 (fax)
Email: Ronnie.Slack@dvn.com

From: Jones, William V., EMNRD [mailto:William.V.Jones@state.nm.us]

Sent: Friday, June 22, 2012 12:53 PM

To: Slack, Ronnie

Cc: Ezeanyim, Richard, EMNRD; Wesley Ingram@blm.gov; Kautz, Paul, EMNRD

Subject: Disposal application from Devon: NE Salado Draw Deep Federal Unit #1 30-025-28967 Sec 6 T26S R34E Bell

and Brushy Canyon perfs from 6018 to 6640 feet

Hello Ronnie.

Reviewed and have a few questions and requests,

- a. I know this is a re-entry of a P&Aed well, but I didn't see any comments about potential productivity of the target disposal interval. Would you please ask your geologist or log analyst to comment on the water salinity and hydrocarbon productive capability of the target interval(s)?
- b. Fresh water may extend to 150 feet what is this stratigraphic unit called? Is it the Ogallala or Alluvium or Rustler or something else?
- c. Do you know how far this is from the newly planned Potash mine (intercontinental potash corporation BLM minerals)?
- d. The Kick Off Point in the newly planned Bone Spring wells to be located just west of this location in Section 1 of T26S R33E is below the top of the Bone Spring. Does Devon/Chesapeake plan to cover this Delaware interval (6000 feet to 6700 feet) with cement?

Otherwise, all looks good to me.

Thank You.

William V Jones, P.E.
Engineering, Oil Conservation Division
1220 South St. Francis Drive, Santa Fe, NM 87505
Tel 505.476.3448 ~ Fax 505.476.3462



Confidentiality Warning: This message and any attachments are intended only for the use of the intended recipient(s), are confidential, and may be privileged. If you are not the intended recipient, you are hereby notified that any review, retransmission, conversion to hard copy, copying, circulation or other use of all or any portion of this message and any

	· /						
Injection Permit Checklist (11/15/2010)	1 1/1						
WFX PMX SWD 348 Permit Date 8/9	12 olc Qtr						
# Wells Well Name(s): N.E. SALAN DOOR	e Faluer#1						
API Num: 30-0 25-28967 Spud Date: 1 3/27/84 New/Old: 1 (UIC primacy March 7, 1982)							
Footages 1980 FILL 660 FUL Unit Esec 6 To	sp26S Rge 34E County LEA						
General Location: SWedge of Lea-CTY/SW of JAL							
Operator: DEVON ENERGY PRODUCTION COMPANY LP CONTACT RONDIES LACK / ROND HOUSE							
OGRID: 6[37] BULE 5.9 Compliance (Wells) 5/653 (Finan Assur) OF 18-5.9 OK?							
Well File Reviewed Current Status: PFA							
Planned Work to Well:							
Diagrams: Before Conversion After Conversion Elogs in Imaging F	ile:						
Sizes Setting Well Details: HolePipe Depths	Stage Cement Determination Tool Sx or Cf Method						
New _Existing Surface 26 ZD /522	- 19305R CIRC						
New_Existing Interm 17/2 13/8 5,257	? 5380 SK C/RC						
New_Existing \(\sum_{\text{LongSt}} \) 12/4 95/8 13,000	7 3690 SX 2000 BT.						
New_Existing Liner 872 7 9850-1535	- 9005X 12,100 CB						
New_Existing OpenHole 5/8 5 15047-163	28 - 16058						
Depths/Formations: Depths, Ft. Formation	Tops? Cesum RA Source						
Formation(s) Above 5292 Chary C.	IN Dop Part of Hole						
Injection TOP: 6018 B.D.C.	Max. PSI CopenHole Perfs						
Injection BOTTOM: 6640 Chorry C.	Tubing Size 7 Packer Depth 5950						
7760 Brisly C							
Formation(s) Below 9436 Bon 57 Rig	Finder						
Gapitan Picer? (Rough) Noticed? [WIPP? Noticed?] Salado Top/Br. 176-5212 Chiff-House?							
Fresh Water: Depths: Formation Off Wells? Yes Analysis? Naffirmative Statement							
Disposal Fluid Analysis? Sources: AVALON Delawor.							
Disposal Interval: Analysis? Production Potential/Testing:							
Notice: Newspaper Date 2/17/12 Surface Owner BLW 29/12 MATER Mineral Owner(s) BLW							
RULE 26.7(A) Affected Persons: Conoco Devon/FOG/Chempelle, (5/29/12)							
AOR: Maps? Well List? Producing in Interval? No Wellbore Diagrams?							
Active Wells Repairs? WhichWells?							
P&A Wells Repairs? Which Wells?							
Issues:	Request SentReply:						

5/29/2012/2:13 PM

Page 1 of 1

SWD_Checklist.xls/ReviewersList