ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISIO

- Engineering Bureau -1220 South St. Francis Drive, Santa Fe, NM 87505



······································		ADMINISTRATIVE APPLICATION AND ATORY FOR ALL ADMINISTRATIVE APPLICATION		ND REGULATIONS
Annlie	cation Acronym	WHICH REQUIRE PROCESSING AT THE	DIVISION LEVEL IN SANTA FE	
Аррис	[NSL-Non-Star [DHC-Dow [PC-Po	ndard Location] [NSP-Non-Standard Pro nhole Commingling] [CTB-Lease Comn ol Commingling] [OLS - Off-Lease Stor	ningling] [PLC-Pool/Lease Comm	ingling]
	·	[SWD-Salt Water Disposal] [IPI-In	jection Pressure Increase]	N
	[EOR-Qua	lified Enhanced Oil Recovery Certification	n] [PPR-Positive Production Res	ponse]
[1]	TYPE OF AF	PLICATION - Check Those Which App. Location - Spacing Unit - Simultaneous NSL NSP SD		16/8/15 M
	Check [B]	One Only for [B] or [C] Commingling - Storage - Measurement DHC CTB PLC	PC OLS OLM	MIN SOLV
	[C]	Injection - Disposal - Pressure Increase - WFX ☐ PMX ☒ SWD ☐		ω ()
	[D]	Other: Specify		当,0
[2]	NOTIFICAT [A]	ION REQUIRED TO: - Check Those William Working, Royalty or Overriding Ro		M 10 14
	[B]	☐ Offset Operators, Leaseholders or S	Surface Owner	
	[C]	Application is One Which Requires	s Published Legal Notice	
	[D]	Notification and/or Concurrent App U.S. Bureau of Land Management - Commissioner of	proval by BLM or SLO Public Lands, State Land Office	
	[E]	For all of the above, Proof of Notifi	ication or Publication is Attached, ar	ıd/or,
	[F]	☐ Waivers are Attached		
[3]		CURATE AND COMPLETE INFORM ATION INDICATED ABOVE.	IATION REQUIRED TO PROCE	SS THE TYPE
[4] approapplic	val is accurate a	TION: I hereby certify that the information and complete to the best of my knowledge. quired information and notifications are su	I also understand that no action wi	administrative
	Note	Statement must be completed by an individual v	vith managerial and/or supervisory capacit	ty.
	Baswell or Type Name	Signature Samuel	Production Engineering Manage Title	6/2/05 Date
			bill.baswell@apachecorp.com	



June 2, 2005

State of New Mexico
Energy, Minerals & Natural Resources Dept.
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Re: Proposed – State E Tract 27 No.1 Unit N, Sec 18 - T 21S - R 37E Eunice, San Andres, North (Gas) Lea County, New Mexico

Apache Corporation is proposing to recomplete a well to saltwater disposal. To support this request we have enclosed the following:

- 1. OCD Form C-108 with attachments.
- 2. Map which includes all wells within one-half mile of the proposed disposal well. Map also includes everything two miles from the proposed well.
- 3. Injection Well Data Sheet for the proposed disposal well.
- 4. A Publishing Affidavit and copy of legal notice.
- 5. List of Surface Owners and Offset Operators with Certified Mail Receipt numbers indicated and copy of letter sent.
- 6. Tabulation of Data on wells located within the Area of Review.
- 7. Wellbore Diagrams of two P&A'd wells in the Area of Review.

ر االا 10 الله Please do not hesitate of contact me at 918.491.5362 if you need additional information or have any questions regarding this application.

Regards,

APACHE CORPORATION

Elaine Linton

Engineering Technician

Enclosures

cc: Mr. Chris Williams

Oil Conservation Division

District 1

1625 N. French Drive

Hobbs, New Mexico 88240

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 XDisposal Storage Application qualifies for administrative approval? Yes No					
II.	OPERATOR: _Apache Corporation					
	ADDRESS: 6120 South Yale, Suite 1500 Tulsa OK 74136-4224					
	CONTACT PARTY: Elaine Linton PHONE: (918)491-5362					
III.	WELL DATA: Complete the data required on the reverse side of this form for each well processed for injection. Additional sheets may be attached if necessary.					
IV.	Is this an expansion of an existing project?YesXNo 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 geological data on the injection zone including appropriate lithologic detail, geological 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 source 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: Elaine Linton TITLE: Engineering Technician					
	SIGNATURE:DATE: 06/02/2005					
	E-MAIL ADDRESS: elaine.linton@apachecorp.com					
*	If the information required under Sections VI, VHI, X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstance of the earlier submittal:					

III. WELL DATA

OPERATOR	Apache Corporation	LEASE	State 'E' T	ract 27				
WELL NO.	1	430' FSL & 1980' FWL	N	18		21S	37E RANGE	
		FOOTAGE LOCATION	UNIT	SECTION		TOWNSHIP	HANGE	
		Well Cor	nstruction E	<u>ata</u>				
Surface Casin Size	<u>9-5/8</u>	Cemented with		450) sx			
TOC	Surface	feet determined	by	Circu	lation			
Hole Size	12-1/4	-						
Intermediate (Size	Casing	Cemented with						
TOC		_ feet determined	by					
Hole Size		_						
Long String Size	7	_ Cemented with		152	25 sx			
TOC	1340	feet determined	by	Temp	Survey			
Hole Size	8-3/4	_						
Total Depth	6900	_						
Injection Inter		5100		feet	Perforate	d (Approximate To be		
(perforated	or open-hole; indicate wi	nich)			determine	ed at time of work)		
Tubing Size	4	-1/2"	_lined with		Fib	erliner	_set in a	
	7" Baker	Lok-Set			internal co	•	_feet	
Other type of tubing / casing seal if applicable								
Other Data 1.	Is this a new well drilled	for injection?		Yes ☑ No				
	If no, for what purpose	was the well originally drille	∋d?		Oil Produ	ction		
2.	Name of the Injection for		San Andı	es				
3.	Name of Field or Pool (if applicable)			Eunice, S	an Andres	, North (Gas)		
4.		perforated in any other zo I, i.e., sacks of cement or p CIBP - 5502' w/	olug(s) use 35' cemen	d. t	erforated int	ervals		
5.	Orinkard - 6682-6852 Give the names and de Next higher oil zone Next lower oil zone	CIBP - 6057' w/ pths of any over or underly Grayburg @ +/- 39 Blinebry @ +/- 57	ying oil or g 973'		pools) in this	s area.		

State 'E' Tract 27 No. 1

API - 30-025-26317

430' FSL & 1980' FWL

Sec. 18 T-21S R-37E

Lea County, New Mexico

Spud Date - 6/5/1979



San Andres 4400 - 5080 Open Hole

Current Wellbore

Surface Casing

9.625* 32 # H40 0' - 1225' 450 sxs cmt. TOC - Surf Circ

CIBP - 5502' w 35' cmt

Blinebry

(9/79) - 5774-78,5800-03, 48-51, 5938-42

(7/87) - 5596-5628,5663-5738

(7/00) - 5552-64, 72-88, 5604-22, 46-76, 5680-5712

CIBP - 6057' w/35' cmt

Drinkard - (7/79)

6682-86,6700-06, 12-16, 25-28, 34-38, 72-76, 6800-09,

6842-52

Production Casing

7" 26 # 0' - 6900' 1525 sxs cmt. TOC - 1340' TS

State 'E' Tract 27 No. 1

API - 30-025-26317

430' FSL & 1980' FWL

Sec. 18 T-21S R-37E

Lea County, New Mexico Spud Date - 6/5/1979



Proposed Wellbore

9.625" 32 # H40 0'-

Surface Casing

9.625" 32 # H40 0' - 1225' 450 sxs cmt. TOC - Surf Circ

San Andres ~ 4100' - 4990'

CIBP - 5502' w 35' cmt

Blinebry

(9/79) - 5774-78,5800-03, 48-51, 5938-42

(7/87) - 5596-5628,5663-5738

(7/00) - 5552-64, 72-88, 5604-22, 46-76, 5680-5712

CIBP - 6057' w/35' cmt

Drinkard - (7/79)

6682-86,6700-06, 12-16, 25-28, 34-38, 72-76, 6800-09,

6842-52

Production Casing

7" 26 # 0' - 6900' 1525 sxs cmt. TOC - 1340' TS

VIII. GEOLOGICAL DATA

The San Andres formation has been chosen for water disposal. The intervals chosen within the San Andres are as follows:

Proposed Injection Formation: San Andres, Top -4040' Base - 5205'

Proposed Injection Intervals: 4150 - 5100'

The San Andres formation is overall a thick, porous dolomite exhibiting excellent porosity. In the State 'E' Tract 27 No.1 logs, porosities are typically in the 10 - 20 % range. These porosity zones are more than adequate to allow for the disposal of produced water. Sufficient barriers exist in the upper and lower portions of the San Andres formations to prevent vertical migration either upwards or downwards into over/underlying productive formations.

Nearest overlying productive formation: Grayburg, Top - 3600 Base - 3973'

Distance to uppermost San Andres perforation: 177'

Next lowest productive zone: Blinebry, Top - 5732 ' Base - 6267' Distance from lowest San Andres perforation to top of Blinebry: 632'

The deepest known fresh water in this immediate area is the Ogallala formation at a depth of 100' - 300', ~4000' above the proposed disposal zone. This should present no hazard to the fresh water aquifers in the area.

The above information is accurate to the best of my knowledge. I have worked in the Permian Basin for the last 25 years. My credentials have been accepted by the NMOCD as an expert witness in this area.

Robert E. Curtis Sr. Staff Geologist Apache Corporation (918) 491-4924 bob.curtis@apachecorp.com

FORM C-108 MISCELLANEOUS DATA State 'E' Tract 27 No. 1

VII.	PROPOSED OPERATION

1. Average Injection Rate 8,000 BWPD Maximum Injection Rate 12,000 BWPD

2. Closed Injection System

3. Average Injection Pressure Maximum Injection Pressure

700 psi

800 psi (approximate)

(will not exceed 0.2 psi/ft to top perforation)

4. Source Water

Grayburg San Andres Analysis Attached Analysis Attached

VIII. Please see attached.

IX. STIMULATION PROGRAM

Acidize injection interval with +/- 12,000 gals 15% HCL

- X. Logs will be submitted upon completion of the well.
- XI. Fresh Water Chemical Analysis

Cardinal Laboratories reports for the McCasland & Sims FW wells follow.

MAN-17-2005 09:36AM From:



PHONE (325) 673-7001 . 2111 BEECHWOOD . ABILENE, TX 79603

PHONE (505) 393-2326 - 101 E. MARLAND - HOBBS, NM 88240

ANALYTICAL RESULTS FOR APACHE CORP. P.O. BOX 1849 EUNICE, NM 88231 FAX TO: (505) 394-2425

Receiving Date: 05/13/05 Reporting Date: 05/17/05 Project Number: NOT GIVEN Project Name: McCASLAND Project Location: NOT GIVEN Sampling Date: 05/13/05 Sample Type: WATER

Sample Condition: COOL & INTACT

Sample Received By: NF Analyzed By: AH

T-Alkalinity Conductivity (u S/cm) LAB NUMBER SAMPLE ID (mgCaCO₃L) (mg/L)(mg/L)(mg/L)(mg/L)

ANALYSIS D	ATE:		05/16/05	05/16/05	05/16/06	05/16/05	05/18/05	05/16/05
H9798-1	#1	MECASMAND	120	61	20	6.18	541	204
H9796-2	#2	SIMS	81	32	25	4.10	533	192
			AID	48	47	5.59	1322	NR
Quality Cont			NR NR	48	50		1413	NF.
True Value C	<u>1C</u>		NR.	50	-			
% Recovery			NR.	96.0	94.0	112	93.6	NR.
Relative Pen	pent Diffe	renos	NR	1.8	2.0	9.0	0.7	NR
METHODS:			SM	3500-Ca-D	3500-Mg E	8049	120.1	310.1

C	SO4	CO3	HCO ₃	рΗ	TD\$
(mg/L)	(mg/L)	(mg/L)	(mg/L)	(.u.a)	(mg/L)

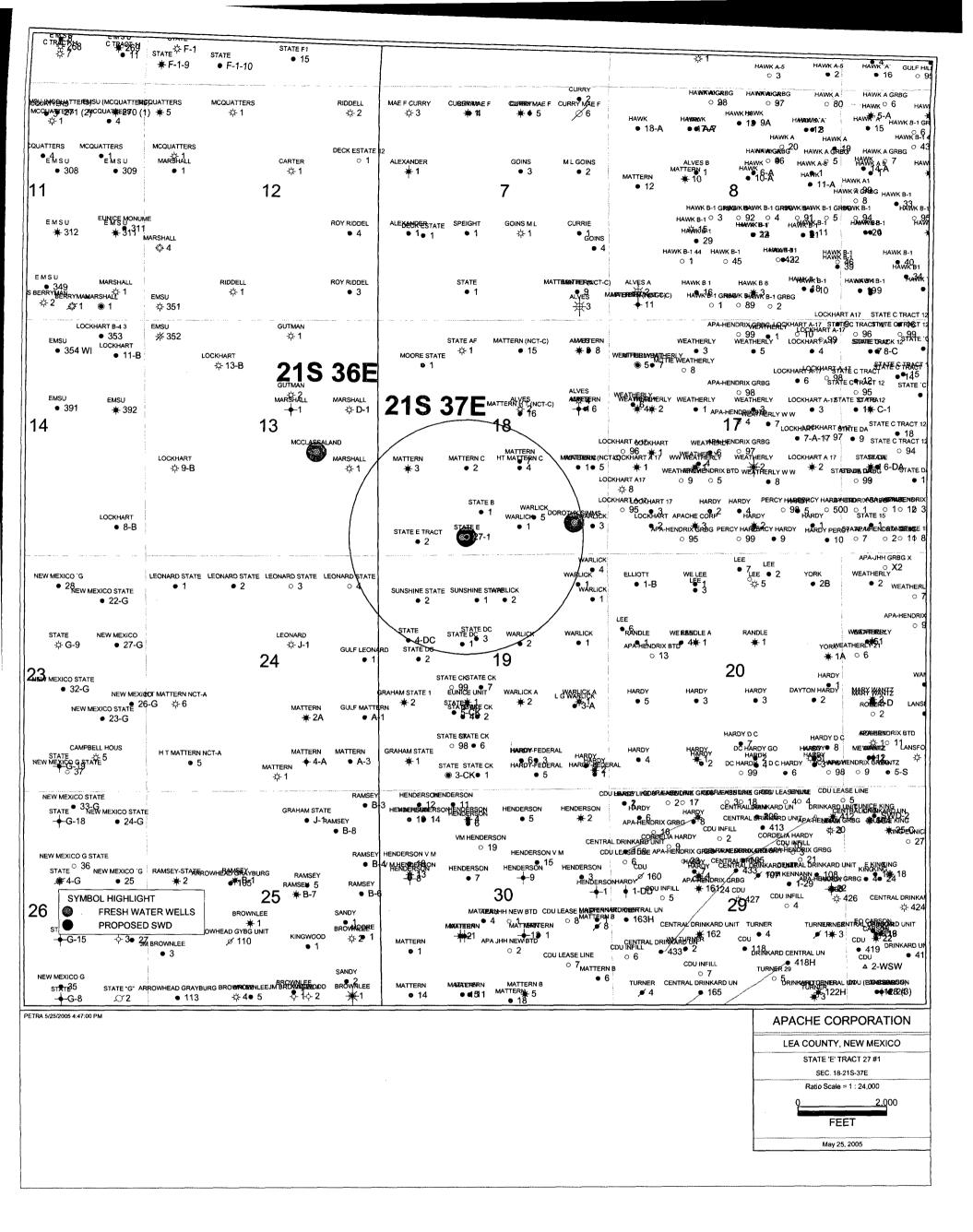
ANALYSIS DATE:	05/16/05	05/16/05	05/16/05	05/16/05	05/16/05	05/17/05
H9796-1 #1	160	72	0	249	6.81	686
H9798-2 #2	72	68	0	234	6.66	594
Quality Control	980	57.00	NR NR	927	88.6	NR NR
True Value QC	1000	50.00	NR	1000	7.00	NR
% Recovery	96.0	114	NR	92.7	98.3	NR
Relative Percent Difference	1.0	12.7	NR	3.4	0.7	1.1
METHODS:	SM4500-CI-B	375.4	310.1	310.1	150,1	160,1

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST **EARDINAL LABORATORIES, INC.** 2111 Beschwood, Abilene, TX 79805 101 East Mariand, Hobbs, NM 84240

Company Name:	424CHE	16) 073-7020 (605)		383-2326 Frx (605) 593-2476	78	A	ANALYSIS H	REOUEST	Page		ſ
Project Maniager:		•		37.1. S. T. C.			•				T
Address: 150%	60x 1847		Correpony			_					
CIN. EUNICE	•	08731	Attn:							~ " ~	
44	394-15E		Addres:					· 		-	
150	3H-WE		City:							~~	-
*	Project Owner:		State:	:diZ							
Project learner	McCasland	war	Phone #:		3						_
Project Locations	1 1		Fax #:	-	اص		_			_	
PANCE UREARY		MATRIX	PRES.	SAMPLING	W/						-(3-1)
(VB ID)	Sample J.D.	SHANG OR (C)CHIP. CONTAINERS WASTEWATER MA. LUDGE	: MERR : SICS :E1 COOL	FINAL PROPERTY OF THE PROPERTY	- V					···	
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•	f Cardinal cannot accept verbal changes. Please fax withen changes to 516-673-7020.	lease fax written chang	jes to 916-87;	3-70zd.							7

From:

MAY-17-2005 12:46 From: APACHE CORPORATION 12023345452



VI. AREA OF REVIEW / WELL DATA

																	l								
				WELL	WELL COMP		S	RFACE	SURFACE CASING		NTERN	INTERMEDIATE CASING	E CAS	នី		PRODUCTION CASING	ON C	ASING				LINER	ת מ		
WELL NAME	API NO.	S/T/R	LOCATION	TYPE	DATE	7	된	HOLE CSG	SET CMT HOLE CSG	CMT	P P		SET CMT HOLE	MT H	OLE	CSG	SET CMT	Ĭ	700	HOLE LINER		DEPTH	CN CN	7	რ —
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H T MATTERN C #002	30-025-06658	18/21S/37E	18/21S/37E 1980 FSL - 1980 FWL	0	07/07/44 391	3913 1	2-1/4	9-5/8	293	200				ō.	6-1/4 5	5-1/2	3674	8	930 -C		1		\dagger	1	
H T MATTERN C #007	30-025-25111	18/21S/37E	18/21S/37E 2130 FSL - 1980 FEL	0	09/23/75 6785 11	6785	11	8-5/8	1295	500				7-	7-7/8 5	5-1/2	6773	8	2350- T	1	4		+	1	
L G WARLICK #001	30-025-06654	18/21S/37E	18/21S/37E 660 FSL - 1980 FEL	P&A	12/11/44 381	3817	7 10	8-5/8	1246	50				8	5	5-1/2	6325	8	2550 - T	1	\downarrow		+	1	
PRE-ONGARD WELL #004 X	30-025-06660	18/21S/37E	18/21S/37E 1980 FSL - 1980 FEL	P&A	05/25/48 380	3800	0 12-1/4	9-5/8	311	200				7.	7-7/8 5	5-1/2	3649	I	2475 - T	1	\downarrow		+	1	
L G WARLICK #005	30-025-34419	18/21S/37E	18/21S/37E 860 FSL - 1650 FEL	0	05/27/98 6139 11	6139	1	8-5/8	1220	555				7-	7-5/8 5	5-1/2	6139 1	1325	1093 - C		4		+	1	\perp
PENROC STATE E TR 27 #002	30-025-26491	18/21S/37E	18/21S/37E 330 FSL - 880 FWL	0	11/12/79 690	6900	0 12-1/4 9-5/8	9-5/8	1230	450				8-	8-3/4 7		6900 2	2200	5-1	\downarrow	+		+	1	1
STATE B #001	30-025-06655	18/21S/37E	8/21S/37E 990 FSL - 2310 FWL	0	12/11/45 381	3810 11	11	8-5/8	1262	350				7-	7-7/8 5		3726	<u></u>	3345 - C	-	4		+	1	
H T MATTERN NCT C COM #003	30-025-06659	18/21S/37E	18/21S/37E 1980 FSL - 660 FWL	G	09/19/44 3846 12-1/4	3846	12-1/4	9-5/8	295	175			L	6-3/4		5-1/2	3700	<u>5</u>	2514 - C	_	4		+	1	\perp
SUNSHINE STATE #001	30-025-20776	19/21S/37E	19/21S/37E 990 FNL - 2209 FWL	0	06/29/64 671	6717	17-1/2	7 17-1/2 13-3/8	267	275 1	275 12-1/4 9-5/8		2553	950 8-3/4	3/4 7		6717	650	2650 - T	4	\downarrow		1		
SUNSHINE STATE #002	30-025-21035	19/21S/37E	19/21S/37E 990 FNL - 884 FWL	0	12/06/64 3903 11	3903	11	8-5/8	275	200				7-	7-7/8 4	4-1/2	3907	ĝ	2335- T		1		+	1	\perp
L G WARLICK #002	30-025-20777	19/21S/37E	19/21S/37E 990 FNL - 2310 FEL	0	03/21/64 6722 17-1/2	6722	17-1/2	13-3/8	292	300 12-1/4	2-1/4 9	9-5/8	2550	850 8-3/4	3/4 7		6722	810	1250 - T		-		+	1	
STATE DC #001	30-025-06663	19/21S/37E	19/21S/37E 1980 FNL - 1876 FWL	0	11/20/60 6700 20	6700	20	16	295	450	3-3/4 1	450 13-3/4 10-3/4 2565 1720 9-7/8	2565 1	720 9-		4×2-7/8	6694	1850	3120 - 1	4	4		+	1	$oldsymbol{\perp}$
STATE DC #003	30-025-34401	19/21S/37E	19/21S/37E 1866 FNL - 2195 FWL	0	06/08/98 7825 11	7825	֡֡֡֞֞֞֝֡֡	8-5/8	1220	555	_	_	L	7-7	7-7/8 5	5-1/2	7825 1	1783	2230- B		\dashv		1		

Top of Cement Legend:

B = Cement Bond Log

C = Calculated

Surface = Circulated

T = Temperature Survey

Pre-Ongard No. 4

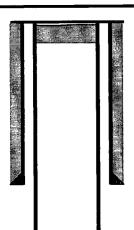
API - 30-025-06660

1980' FSL & 1980' FEL

Sec. 18 T-21S R-37E

Lea County, New Mexico Spud Date -1948





Dryhole Marker w/55' cmt

Completions

Date	Zone	Perfs
1948	Grayburg	3649 - 3800 Open Hole

Surface Casing (12-1/4" Hole) 9.625" 40# 0'-311' 200 sxs cmt. TOC-0 Circ.

Backside Cmt @ 2475' Surv.

CIBP @ 3609 Set 1966 w/ 10sks cmt

Production Casing (7-7/8" Hole) 5-1/2" 14# 0'-3649' 360 sxs cmt. TOC-2475' Surv.

TD 3800'

Created by CM 5/12/2005 LG Warlick No. 1

API - 30-025-06654

660' FSL & 1980' FEL

Sec. 18 T-21S R-37E

Lea County, New Mexico

Spud Date - 1944



Surface Casing (10" Hole) 8.625" 32# 0'-1246' 50 sxs cmt. TOC-1010 Calc.

Dryhole Marker w/60' cmt

Completions

		
Date	Zone	Perfs
1944	Grayburg	3625 - 3817 Open Hole

Sqzd 2002 w/ 80sks cmt TOC @ 297

Backside Cmt @ 1010' Calc.

Sqzd 2002 w/ 80sks cmt TOC @ 1111

Backside Cmt @ 2550' Calc.

Production Casing (8" Hole)

5-1/2" 15.5# 0'-3625' 350 sxs cmt. TOC-2550' Calc.

TD 3817'

Created by CM 5/12/2005

South Permian Basin Region 10520 West I-20 East Odessa, TX 79765 (915) 498-9191 Lab Team Leader - Shalla Hernandez (915) 495-7240

Water Analysis Report by Baker Petrolite

Company:	APACHE CORPORATION	Sales RDT:	33102
Region:	PERMIAN BASIN	Account Manager:	MIKE EDWARDS (505) 910-9517
Area:	EUNICE, NM	ID #:	22639
Lease/Platform:	GRIZZELL UNIT	Analysis Cost:	\$40.00
Entity (or well #):	12		
Formation:	Grayburg		
Sample Point:	WELLHEAD		

Summary	!	Analysis of Sample 209886 @ 75 °F								
Sampling Date:	11/15/01	Anions	mg/l	meq/l	Cations	mg/l	mea/l			
Analysis Date:	11/20/01	-Chloride:	4050.0	114.24	Sodium:	2894.3	125.9			
Analyst: JAME	S AHRLETT	Bicarbonate:		The second secon	Magnesium:		9.21			
TDC ////2\-		Carbonate:	0.0	0.	Calcium:	262.0	13.07			
TDS (mg/l or g/m3): 9975.3 Density (g/cm3, tonne/m3): 1.008		Sulfate:	20.0	0.42	Strontlum:	9.0	0.21			
Anion/Cation Ratio:	1.0000001	Phosphate:			Barium:	6.0	0.09			
Anionication Ratio.	1.0000001	Borate:			Iron:	4.0	0.14			
	•	Silicate:			Potassium:	213.0	5.45			
		·			Aluminum:					
Carbon Dioxide:		Hydrogen Sulfide:	٠		Chromium:					
Oxygen:	••	pH at time of sampling	i .		Copper:					
Comments:		1			Lead:					
		pH at time of analysis		7.47	Manganese:					
		pH used in Calculat	tion:	7.47	Nickel:		•			
		1			[•				

Condi	tions	Values Calculated at the Given Conditions - Amounts of Scale in lb/1000 bbl												
Temp	Gauge Press.	1	alcite aCO3	, .	sum 4*2H20	Anhydrite CaSO4				Celestite SrSO4		Barite BaSO4		CO2 Press
٩F	psi	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount	psi		
80	0	1.32	171.78	-2.42	0.00	-2.49	0.00	-2.11	0.00	0.82	2.78	0.94		
100	0 .	1.41	181.85	-2.44	0.00	-2.44	0.00	-2.09	0.00	0.67	2.78	1.28		
120	a	1.51	191.57	-2.45	0.00	-2.37	0.00	-2.07	0.00	0.55	2.43	1.7		
140	٥	1.60	199.89	-2.46	0.00	-2.29	0.00	-2.04	0.00	0.45	2.08	2.2		

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.

South Permian Basin Region 10520 West I-20 East Odessa, TX 79765 (915) 498-9191 Lab Team Leader -- Sheila Hernandez (915) 495-7240

Water Analysis Report by Baker Petrolite

Sales RDT:

Analysis Cost:

ID #:

33102

22638

\$40.00

Account Manager: MIKE EDWARDS (505) 910-9517

Company:	APACHE CORPORATION				
Region:	PERMIAN BASIN				
Area:	EUNICE, NM				
Lease/Platform:	GRIZZELL UNIT				
Entity (or well #):	10				
Formation:	San Andres				
Sample Point:	WELLHEAD				

Summary	Analysis of Sample 209885 @ 75 °F								
Sampling Date: 11/15/01	Anions	mg/l	meq/l	Cations	mg/l	meq/l			
Analysis Date: 11/20/01	Chloride:	4111.0	115.96	Sodium:	2877,7	125.17			
Analyst: JAMES AHRLETT	Blcarbonate:			Magnesium:		9.38			
TD0 / // 2017	Carbonate:	0.0	0.	Calcium:	281.0	14.02			
TDS (mg/l or g/m3): 9891.7 Density (g/cm3, tonne/m3): 1.007	Sulfate:	20.0	0.42	Strontium:	9.0	0.21			
	Phosphate:			Barlum:	8.0	0.12			
Anion/Cation Ratio: 1.0000000	Borate:			Iron:	4.0	0.14			
	Silicate:			Potassium:	185.0	4.73			
				Aluminum:					
Carbon Dioxide:	Hydrogen Sulfide:			Chromium:					
Oxygen:	pH at time of sampling;			Copper:					
Comments:	, ,			Lead:					
	pH at time of analysis:		7.44	Manganese:					
	pH used in Calculatio	n:	7.44	Nickel:					
	•								

Condi	tion <u>s</u>	Values Calculated at the Given Conditions - Amounts of Scale in lb/1000 bbl										
Temp	Gauge Press.		alcite aCO3	1 **		Anhydrite CaSO4		Celestite SrSO4		Barite BaSO4		CO2 Press
°F	psi	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount	psi
80	0	1.30	177.00	-2.39	0.00	-2.46	0.00	-2.11	0.00	0.94	4.16	0.95
100	0	1.39	188.80	-2.41	0.00	-2.41	0.00	-2.10	0.00	0.79	3.82	1.3
120	0	1.49	199.91	-2.42	0.00	-2.34	0.00	-2.07	0.00	0.67	3.47	1.71
140	0	1.59	209.97	-2.43	0.00	-2.26	0.00	-2.04	0.00	0.57	3.12	2.2

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 live scales,

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

AFFIDAVIT OF PUBLICATION

State of New Mexico, County of Lea.

I, KATHI BEARDEN

Publisher

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

of	1				
		weeks.			
Beginning	g with the is:	sue dated			
	May 3	2005			
and ending with the issue dated					
444	May 3	2005			
Kaus	i Ba	uda			
Sworn a	Publisher				

3rd day of

Notary Public.

me this_

My Commission expires February 07, 2009

Mav

(Seal)

OFFICIAL SEAL

Shannon L. Rice

NOTARY PUBLIC STATE OF NEW MEXI

Commission Expires:

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

LEGAL NOTICE MAY 3, 2005

Notice is hereby given of the application of Apache Corporation, 6120 South Yale, Suite 1500, Tulsa, Oklahoma 74136-4224 (918)491-5362, to the Oil Conservation Division, New Mexico Energy, Minerals and Natural Resources Department, for approval of the following injection well to be drilled for the purpose of water disposal.

Pool Name: Eunice; San Andres, North (Gas) This well is located in Lea County, New Mexico

Lease/Unit Name: State E Tract 27

Well No. 1 (API 30-025-26317)

Location: 430' FSL & 1980 FWL, Section 18, T 21S, R 37E Unit N

The injection formation is the San Andres located between the interval 4040' MD to 5205' MD below the surface of the ground. Expected maximum injection rate is 10,000 barrels per day and the expected maximum injection pressure is 800 psi. Interested parties must file objections or requests for hearing with the Oil Conservation Division, 1220 South Francis Drive, Santa Ee, NM 87805 within fifteen days. #21488

02102716000

02576172

Apache Corporation 6120 South Yale, Suite 1500 TULSA, OK 74136-4224

APPLICATION FOR DISPOSAL WELL STATE 'E' TRACT 27 LEASE OFFSET OPERATORS

Chevron USA Inc. P O Box 1150

Midland, Texas 79702

Certified Receipt No.

7002 2410 0004 2683 3255

XTO Energy, Inc.

3000 North Garfiled Suite 175

Midland, TX 79705

Certified Receipt No.

7002 2410 0004 2683 3248

FULFER OIL & CATTLE LLC

P. O Box 578 Jal, NM 88252

Certified Receipt No.

7002 2410 0004 2683 3231

LANEXCO INC

P. O . Box 2730 Midland, TX 79702

Certified Receipt No.

7002 2410 0004 2683 3224

MARATHON OIL CO 539 South Main Street

Finlay, OH 45840

Certified Receipt No.

7002 2410 0004 2683 3279

MIRAGE ENERGY INC

P. O. Box 760 Eunice, NM 88231

Certified Receipt No.

7002 2410 0004 2683 3262

PECOS PRODUCTION COMPANY

400 W. Illinois, Suite 1070

Midland TX, 79701

Certified Receipt No.

7002 2410 0004 2683 3293

PURE RESOURCES, LP

500 W. Illinois Ave.

Midland, TX 79707

Certified Receipt No. 7002 2410 0004 2683 3286

WESTBROOK OIL CORP

P.O. Box 2264

Hobbs, NM 88241

Certified Receipt No.

7002 2410 0004 2683 3316

ZACHARY OIL OPERATING CO

P. O. Box 1969

Eunice, NM 88231 Certified Receipt No.

7002 2410 0004 2683 3309

A copy of the application was mailed to the Offset Operators listed above on June 2, 2005.

Elaine Linton, Engineering Technician

June 2, 2005 Date



June 2, 2005

Chevron USA Inc. P.O. Box 1150 Midland, TX 79702

Certified Receipt No. 7002 2410 0004 2683 3255

Re: Proposed – State 'E' Tract 27 No.1 Unit N, Sec 18 - T 21S - R 37E Eunice, San Andres, North (Gas) Lea County, New Mexico

Enclosed please find a copy of completed from C-108 with attachments, which Apache Corporation has filed with the New Mexico Oil Conservation Division. The map shows the referenced well in relation to your offset operations.

Regards,

APACHE CORPORATION

Elaine Linton

Engineering Technician

Enclosures

cc: State of New Mexico

Energy, Minerals & Natural Resources Dept.



June 2, 2005

XTO Energy, Inc. 3000 North Garfield, Suite 175 Midland, TX 79705

Certified Receipt No. 7002 2410 0004 2683 3248

Re: Proposed – State 'E' Tract 27 No.1 Unit N, Sec 18 - T 21S - R 37E Eunice, San Andres, North (Gas) Lea County, New Mexico

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APACHE CORPORATION

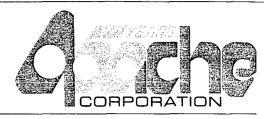
Elaine Linton

Engineering Technician

Enclosures

cc: State of New Mexico

Energy, Minerals & Natural Resources Dept.



June 2, 2005

FULFER OIL & CATTLE LLC P.O. Box 578 Jal, NM 88252

Certified Receipt No. 7002 2410 0004 2683 3231

Re: Proposed – State 'E' Tract 27 No.1 Unit N, Sec 18 - T 21S - R 37E Eunice, San Andres, North (Gas) Lea County, New Mexico

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Regards,

APACHE CORPORATION

Elaine Linton

Engineering Technician

Enclosures

cc: State of New Mexico

Energy, Minerals & Natural Resources Dept.



June 2, 2005

LANEXCO INC. P.O. Box 2730 Midland, TX 79702

Certified Receipt No. 7002 2410 0004 2683 3224

Re: Proposed – State 'E' Tract 27 No.1 Unit N, Sec 18 - T 21S - R 37E Eunice, San Andres, North (Gas) Lea County, New Mexico

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Regards,

APACHE CORPORATION

Elaine Linton

Engineering Technician

Enclosures

cc: State of New Mexico

Energy, Minerals & Natural Resources Dept.



June 2, 2005

Marathon Oil Co. 539 South Main Street Finlay, OH 45840

Certified Receipt No. 7002 2410 0004 2683 3279

Re: Proposed – State 'E' Tract 27 No.1 Unit N, Sec 18 - T 21S - R 37E Eunice, San Andres, North (Gas) Lea County, New Mexico

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Regards,

APACHE CORPORATION

Elaine Linton

Engineering Technician

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Enclosures

cc: State of New Mexico

Energy, Minerals & Natural Resources Dept.



June 2, 2005

Mirage Energy Inc. P.O. Box 760 Eunice, NM 88231

Certified Receipt No. 7002 2410 0004 2683 3262

Re: Proposed – State 'E' Tract 27 No.1 Unit N, Sec 18 - T 21S - R 37E Eunice, San Andres, North (Gas) Lea County, New Mexico

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Regards,

APACHE CORPORATION

Elaine Linton

Engineering Technician

Enclosures

cc: State of New Mexico

Energy, Minerals & Natural Resources Dept.



June 2, 2005

Pecos Production Company 400 W. Illinois Ave. Midland, TX 79701

Certified Receipt No. 7002 2410 0004 2683 3293

Re: Proposed – State 'E' Tract 27 No.1 Unit N, Sec 18 - T 21S - R 37E Eunice, San Andres, North (Gas) Lea County, New Mexico

Enclosed please find a copy of completed from C-108 with attachments, which Apache Corporation has filed with the New Mexico Oil Conservation Division. The map shows the referenced well in relation to your offset operations.

Regards,

APACHE CORPORATION

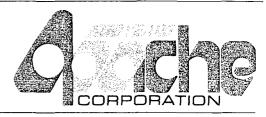
Elaine Linton

Engineering Technician

Enclosures

cc: State of New Mexico

Energy, Minerals & Natural Resources Dept.



June 2, 2005

Pure Resources, LP 500 W. Illinois Ave. Midland, TX 79707

Certified Receipt No. 7002 2410 0004 2683 3286

Re: Proposed – State 'E' Tract 27 No.1 Unit N, Sec 18 - T 21S - R 37E Eunice, San Andres, North (Gas) Lea County, New Mexico

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Regards,

APACHE CORPORATION

Elaine Linton

Engineering Technician

, :

Enclosures

cc: State of New Mexico

Energy, Minerals & Natural Resources Dept.



June 2, 2005

Westbrook Oil Corp P.O. Box 2264 Hobbs, NM 88241

Certified Receipt No. 7002 2410 0004 2683 3316

Re: Proposed – State 'E' Tract 27 No.1 Unit N, Sec 18 - T 21S - R 37E Eunice, San Andres, North (Gas) Lea County, New Mexico

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Regards,

APACHE CORPORATION

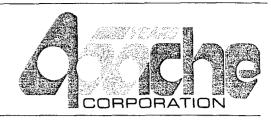
Elaine Linton

Engineering Technician

Enclosures

cc: State of New Mexico

Energy, Minerals & Natural Resources Dept.



June 2, 2005

Zachery Oil Operating Company P.O. Box 1969 Eunice, NM 88231

Certified Receipt No. 7002 2410 0004 2683 3309

Re: Proposed – State 'E' Tract 27 No.1 Unit N, Sec 18 - T 21S - R 37E Eunice, San Andres, North (Gas) Lea County, New Mexico

Enclosed please find a copy of completed from C-108 with attachments, which Apache Corporation has filed with the New Mexico Oil Conservation Division. The map shows the referenced well in relation to your offset operations.

Regards,

APACHE CORPORATION

Elaine Linton

Engineering Technician

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Enclosures

cc: State of New Mexico

Energy, Minerals & Natural Resources Dept.



June 2, 2005

Surface Owner

Commissioner of Public Lands State Land Office P.O. Box 1148 Santa Fe, NM 87504-1148

Certified Receipt No. 7002 2410 0004 2683 3330

Re: Proposed – State 'E' Tract 27 No.1 Unit N, Sec 18 - T 21S - R 37E Eunice, San Andres, North (Gas) Lea County, New Mexico

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Regards,

APACHE CORPORATION

Elaine Linton

Engineering Technician

Enclosures

cc:

State of New Mexico

Energy, Minerals & Natural Resources Dept.