

DATE IN <u>11.30.10</u>	SUSPENSE	ENGINEER <u>W.D.</u>	LOGGED IN <u>11.30.10</u>	TYPE <u>SWD</u>	APP NO. <u>1033431146</u>
-------------------------	----------	----------------------	---------------------------	-----------------	---------------------------

ABOVE THIS LINE FOR DIVISION USE ONLY

## NEW MEXICO OIL CONSERVATION DIVISION

- Engineering Bureau -

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



*Piper Energy*  
OCD 2734 79  
State Tract 27#2

## ADMINISTRATIVE APPLICATION CHECKLIST

30-025-26491

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]

*Property FD*  
*307944*

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

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

Check One Only for [B] or [C]

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

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

[D] Other: Specify \_\_\_\_\_

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

[A] ☐ Working, Royalty or Overriding Royalty Interest Owners  
[B] ☒ Offset Operators, Leaseholders or Surface Owner  
[C] ☒ Application is One Which Requires Published Legal Notice  
[D] ☒ Notification and/or Concurrent Approval by BLM or SLO  
U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office  
[E] ☒ For all of the above, Proof of Notification or Publication is Attached, and/or,  
[F] ☐ Waivers are Attached

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

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

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

Bruce Sharp  
Print or Type Name

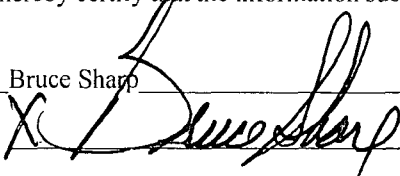
Signature

Partner  
Title

11-1-2010  
Date

b.sharp@leaco.net  
e-mail Address

**APPLICATION FOR AUTHORIZATION TO INJECT**

- I. PURPOSE: \_\_\_\_\_ Secondary Recovery \_\_\_\_\_ Pressure Maintenance SWD ☒ Disposal \_\_\_\_\_ Storage  
Application qualifies for administrative approval? ☒ Yes \_\_\_\_\_ No
- II. OPERATOR: \_\_\_\_\_ Piper Energy LLC \_\_\_\_\_  
ADDRESS: \_\_\_\_\_ 1102 Jicarilla \_\_\_\_\_  
CONTACT PARTY: \_\_\_\_\_ Bruce Sharp \_\_\_\_\_ PHONE: \_\_\_\_\_ (575) 390-2843 \_\_\_\_\_
- 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 ☒ No  
If yes, give the Division order number authorizing the project: \_\_\_\_\_
- V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.
- VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.
- VII. Attach data on the proposed operation, including:
1. Proposed average and maximum daily rate and volume of fluids to be injected;
  2. Whether the system is open or closed;
  3. Proposed average and maximum injection pressure;
  4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,
  5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).
- \*VIII. Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval.
- IX. Describe the proposed stimulation program, if any.
- \*X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted).
- \*XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.
- XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.
- XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.
- XIV. Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.
- NAME: \_\_\_\_\_ Bruce Sharp \_\_\_\_\_ TITLE: \_\_\_\_\_ Partner \_\_\_\_\_  
SIGNATURE:  \_\_\_\_\_ DATE: \_\_\_\_\_ 11/1/2010 \_\_\_\_\_  
E-MAIL ADDRESS: \_\_\_\_\_ b.sharp@leaco.net \_\_\_\_\_
- \* 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: \_\_\_\_\_

### XIII. 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: Piper Energy LLC.WELL NAME & NUMBER: State E Tract 27 #2WELL LOCATION: 330' FSL 880 FWL M 18 21S 37E

FOOTAGE LOCATION UNIT LETTER SECTION TOWNSHIP RANGE

WELLBORE SCHEMATICWELL CONSTRUCTION DATA  
Surface CasingHole Size: 12 1/4" Casing Size: 9 5/8" (32#)Cemented with: 300 sx. or ----- ft<sup>3</sup>Top of Cement: circ. (c) Method Determined: circ.Intermediate CasingHole Size: ----- Casing Size: -----Cemented with: ----- sx. or ----- ft<sup>3</sup>Top of Cement: ----- Method Determined: -----Production CasingHole Size: 8 3/4" Casing Size: 7"Cemented with: 1750 sx. or ----- ft<sup>3</sup>Top of Cement: 5' from surface thixset Method Determined: Temp SurveyTotal Depth: 6900'Injection Interval 54100' feet to 4680'

(Perforated or Open Hole; indicate which)

INJECTION WELL DATA SHEET

Tubing Size: 3 1/2" EUE Lining Material: Plastic

Type of Packer: Baker Model R DG

Packer Setting Depth: 4080'

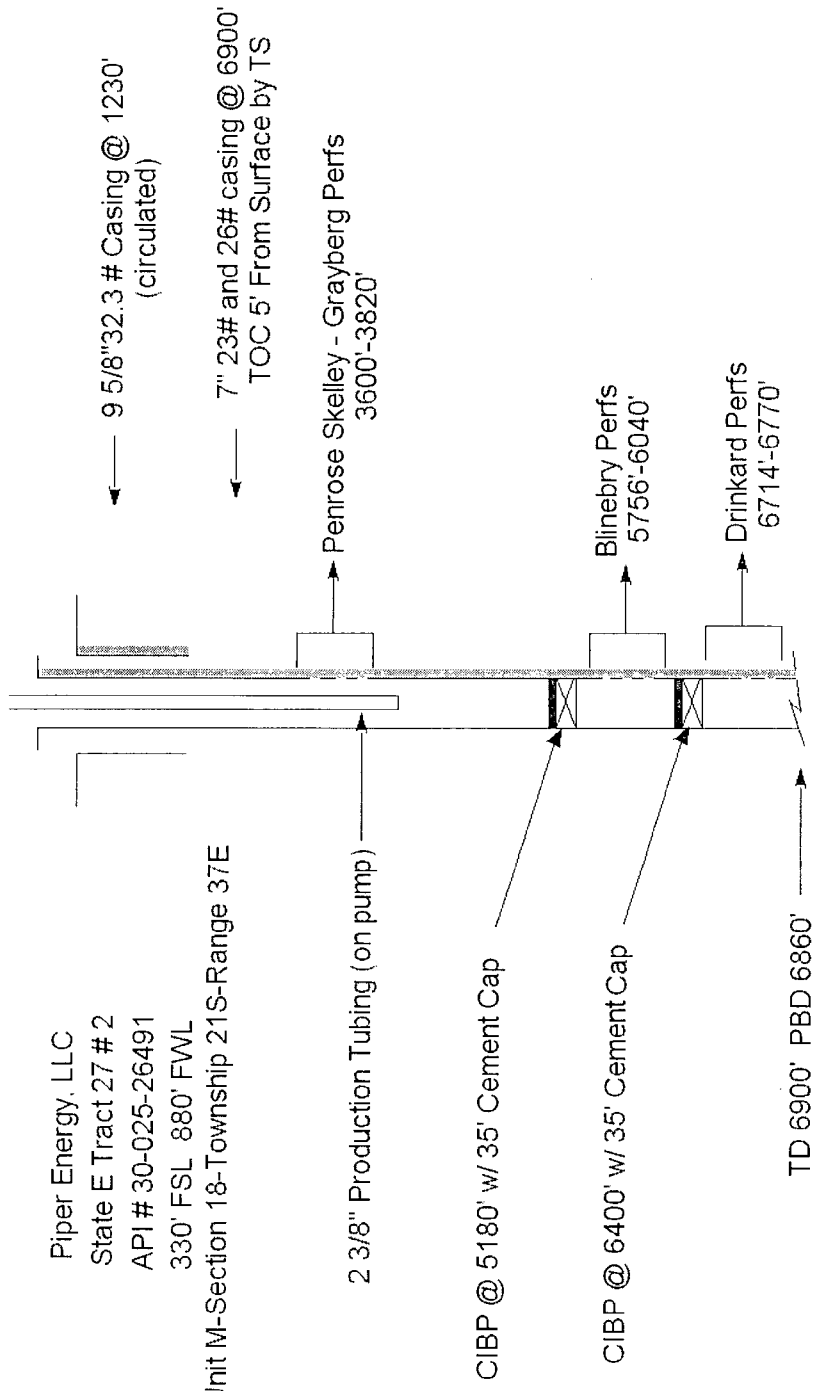
Other Type of Tubing/Casing Seal (if applicable): None

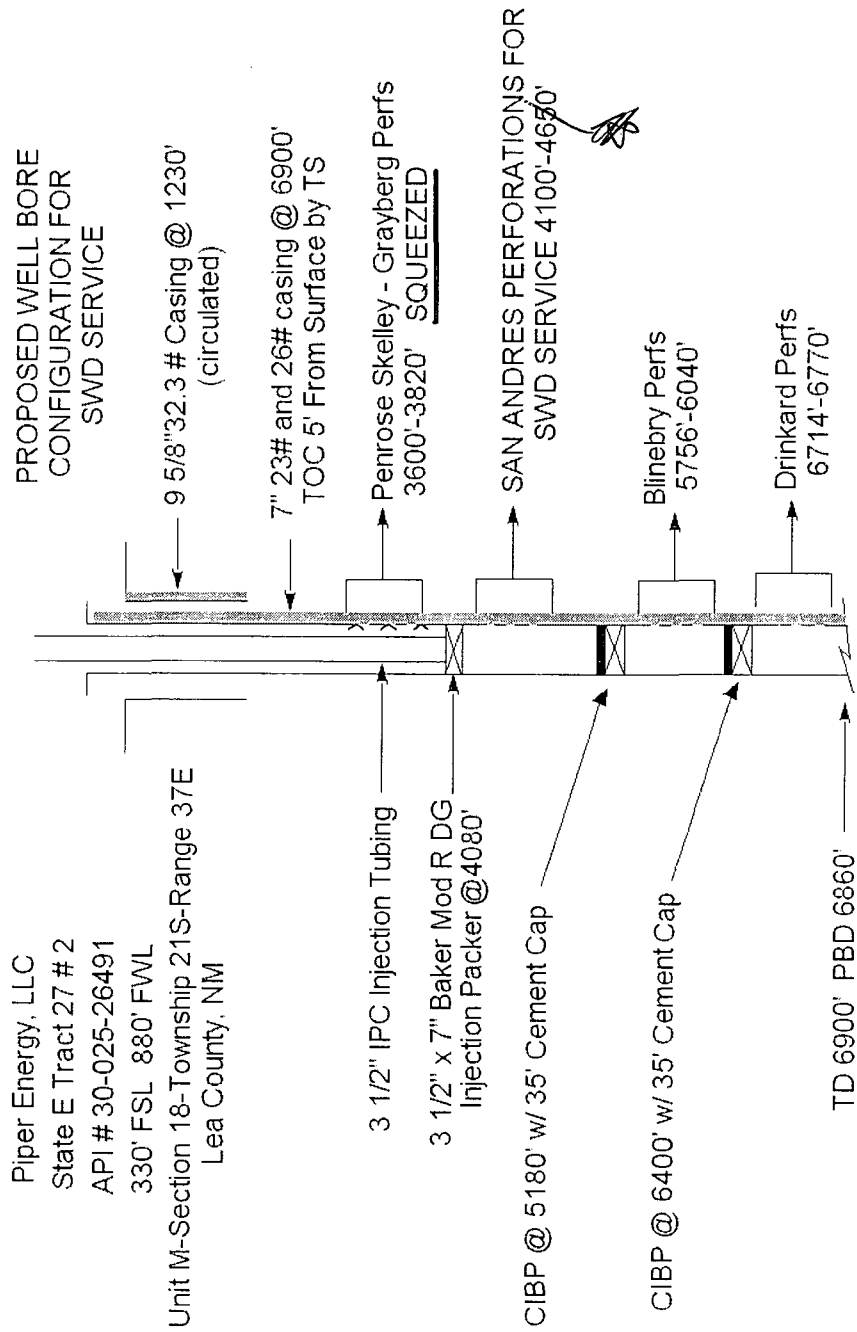
Additional Data

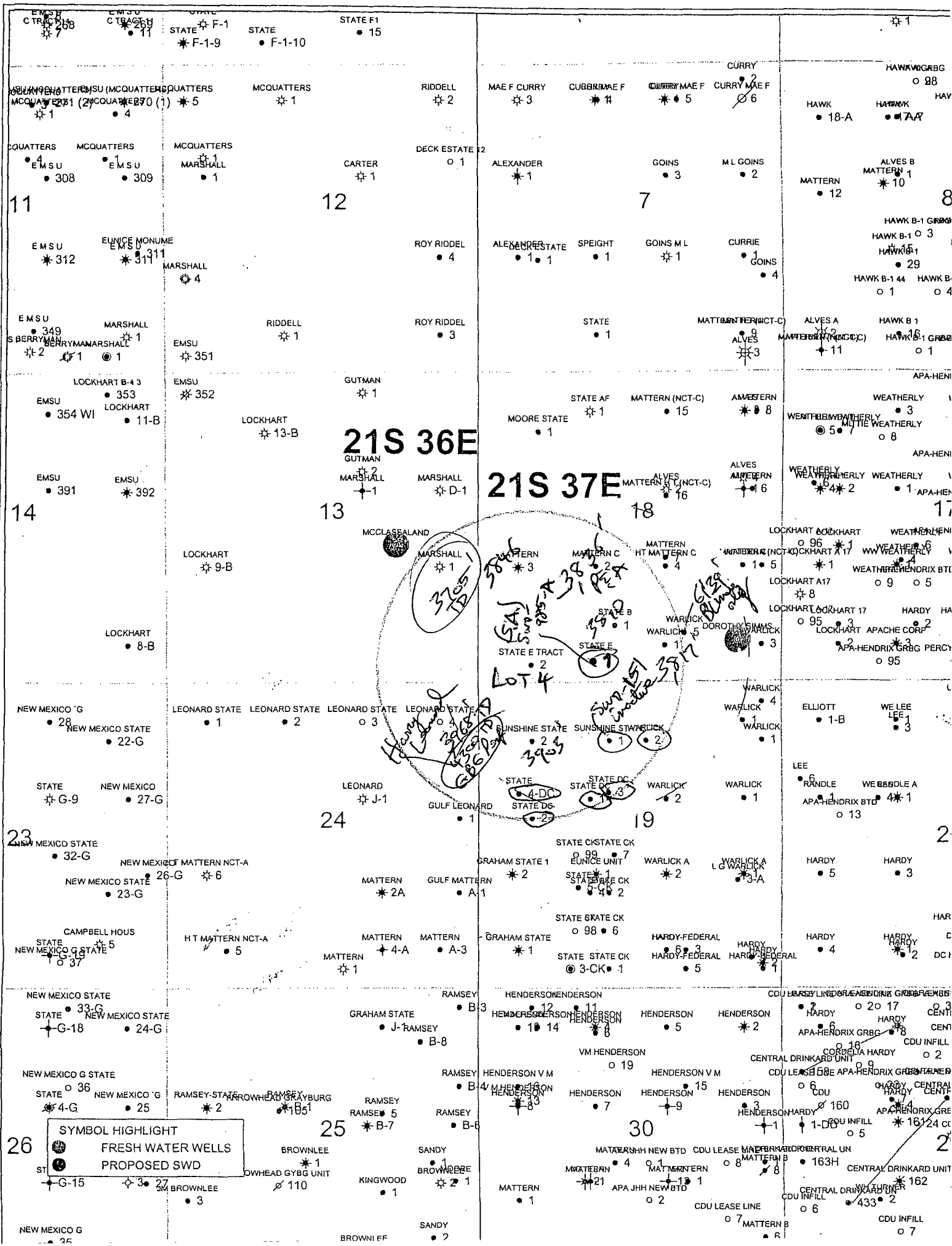
1. Is this a new well drilled for injection? Yes X No  
 If no, for what purpose was the well originally drilled? Production  
(Blinebry/ Tubb/ Drinkard)
2. Name of the Injection Formation: San Andres
3. Name of Field or Pool (if applicable):
4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail, i.e. sacks of cement or plug(s) used. yes  
Drinkard/Blinebry Tubb/ Glorieta/ Penrose Skelley/ Gray Burg.
5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area: Eumout/ Yates/7R/ Qn 3100' top  
Penrose Skelley/ Gray Burg 3600' top  
San Andres 4000' Top Tubb 6352' Top Drinkard 6400' Top  
Paddock 5000' Top Glorietta 5170' Top Blinebry 5730' Top  
(from Amoco Drilling Report)

# Current Well Bore Conditions

Piper Energy, LLC  
 State E Tract 27 # 2  
 API # 30-025-26491  
 330' FSL 880' FWL  
 Unit M-Section 18-Township 21S-Range 37E











# VI. AREA OF REVIEW/WELL DATA

WELL NAME	API #	WELL TYPE	LOCATION	SURFACE CASING			INTERMEDIATE CASING			PRODUCTION CASING		
				T D	HOLE	CSG	SET	CMT	HOLE	CSG	SET	CMT
STATE E TR. 27 #1 DRILLED 6-28-1979	26317	SWD	430FSL-1980FWL	6900	12 1/4	9 5/8	1225	450	<i>San Antonio</i> SWD-98558-8	7	6900	1525
SUNSHINE STATE #1 DRILLED 5-5-1964	20776	O	990FNL-2209FWL	6717	17 1/4	13 3/8	267	275	12 1/4	9 5/8	2553	650
LG WARLUCK #2 DRILLED 3-21-1964	20777	O	990FNL-2310FEL	6722	17 1/4	13 3/8	292	300	12 1/4	9 5/8	2550	810
STATE DC #1 DRILLED 11-14-1962	06663	<i>PSA</i>	1980FNL-1876FWL	6700	20	16	295	450	13 3/4	103/4	2565	1850
STATE DC #3 DRILLED 6-02-1999	34401	O	1866FNL-2195FWL	7825	11	8 5/8	1220	555		7 7/8	7825	1783
STATE DC #2 DRILLED 2-10-1964	20583	P&A	2310FNL-886FWL	6750	20	16	286	450		4-2 7/8	6747	2000
STATE DC #4 DRILLED 8-04-1999	34510	O	1880FNL-660FWL	7200	11	8 5/8	1208	490	13 3/4	103/4	2564	1410
										5 1/2	7200	S

B=CEMENT BOND LOG C=CALCULATED T=TEMP SURVEY S=SURFACE

Former Amerada Hess State D "C" # 2  
UL E S 19 T 21 S R 37 E  
API # 30 025 20583  
P & A 4/02/07

CEMENT TOPS OUTSIDE 2 7/8"  
STRINGS @ 1227'

TO P&A 2 7/8" STRINGS :  
# 1 : SPOT CEMENT FROM 1200'-400'  
PERF @ 400' CIRC TO SURFACE.  
# 2 : SPOT CEMENT 1200'-SURFACE.  
# 3 : SPOT CEMENT 1200'-SURFACE.  
# 4 : SPOT CEMENT 3750'-1200'.  
SPOT CEMENT 1200' - SURFACE.

2 7/8" TUBING STRING # 1 @ 5301'  
CEMENTED TOC 1227'

2 7/8" TUBING STRING # 2 @ 6747'  
CEMENTED TOC 1227'

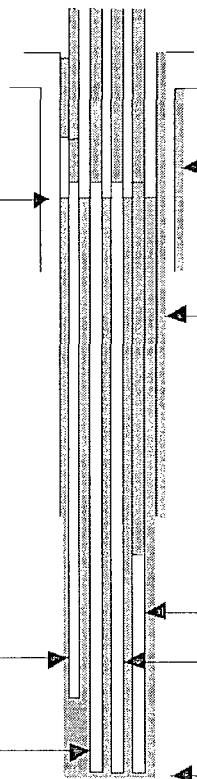
16" CASING @ 286'  
(CIRC.)

10 3/4" CASING @ 2564'  
(CIRC.)

2 7/8" TUBING STRING # 3 @ 6746'  
CEMENTED TOC 1227'

2 7/8" TUBING STRING # 4 @ 6744'  
CEMENTED TOC 1227'

TD 6750'



Submit 3 Copies To Appropriate District  
Office  
District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Ave., 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 and Natural Resources

Form C-103  
March 4, 2004

OIL CONSERVATION DIVISION  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

WELL API NO.

30-025-20583

5. Indicate Type of Lease

STATE ☒

FEE ☐

6. State Oil & Gas Lease No.

7. Lease Name or Unit Agreement Name

State D.C

8. Well Number

#2

9. OGRID Number

10. Pool name or Wildcat

Penrose/Blinberry/Drinkard/Paddock

SUNDRY NOTICES AND REPORTS ON WELLS  
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A  
DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH  
PROPOSALS.)

1. Type of Well:

Oil Well ☒ Gas Well ☐ Other

2. Name of Operator

Chevron Midcontinent L.P.

3. Address of Operator

P.O. Box 7139, Midland, Tx 79708

4. Well Location

Unit Letter E : 2310 feet from the North line and 886 feet from the West line

Section 19

Township 21-S

Range 37-E

NMPM Lea

County

11. Elevation (Show whether DR, RKB, RT, GR, etc.)

Pit or Below-grade Tank Application (For pit or below-grade tank closures, a form C-144 must be attached)

Pit Location: UL E Sect 19 Twp 21S Rng 37E Pit type Steel Depth to Groundwater 148' Distance from nearest fresh water well

Distance from nearest surface water Below-grade Tank Location UL Sect Twp Rng ;

2310 feet from the North line and 886 feet from the West line (Steel Tank)

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐

TEMPORARILY ABANDON ☐ CHANGE PLANS ☐

PULL OR ALTER CASING ☐ MULTIPLE COMPLETION ☐

☐

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐

COMMENCE DRILLING OPNS. ☐ PLUG AND ABANDONMENT ☒

CASING TEST AND CEMENT JOB ☐

OTHER: ☐

Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

1. Notified NM OCD 24 hrs prior to RU
2. RIH in string #2 set 2 7/8 CIBP 5800'
3. RIH in String #3 set 2 7/8 CIBP @ 5150
4. String # 1 unable to set CIBP RIH to 6600' spot 135 sx frm 6600' to 1200' Tag cmt @ 1320"
5. Tag 2 7/8 CIBP. Spot 115 sx cmt frm 5800' to 1200'. Tag cmt @ 1272'
6. Tag 2 7/8 CIBP @ 5150' spot 100 sx plug frm 5150' to 1200', tag cmt @ 1331'

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that any pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines ☐, a general permit ☐ or an (attached) alternative OCD-approved plan ☐.

SIGNATURE

TITLE

MANAGER

DATE

4-2-07

Type or print name

Jimmy Bagley

E-mail address:

Approved as to plugging of the Well Bore.

Liability under bond is retained until

surface restoration is completed.

(This space for State use)

APPROVED BY

TITLE

OCD FIELD REPRESENTATIVE II/STAFF MANAGER

DATE

APR 09 2007

Submit 3 Copies To Appropriate District Office

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Ave., 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 and Natural Resources

OIL CONSERVATION DIVISION  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-103  
March 4, 2004

<b>SUNDRY NOTICES AND REPORTS ON WELLS</b> (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.) 1. Type of Well: Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/>		WELL API NO. 30-025-20583
2. Name of Operator Chevron Midcontinent L.P.		5. Indicate Type of Lease STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>
3. Address of Operator P.O. Box 7139, Midland, Tx 79708		6. State Oil & Gas Lease No.
4. Well Location Unit Letter <u>E</u> : <u>2310</u> feet from the <u>North</u> line and <u>886</u> feet from the <u>West</u> line Section <u>19</u> Township <u>21-S</u> Range <u>37-E</u> NMPM Lea County		7. Lease Name or Unit Agreement Name State D.C.
11. Elevation (Show whether DR, RKB, RT, GR, etc.)		8. Well Number #2
		9. OGRID Number
		10. Pool name or Wildcat Penrose/Blinberry/Drinkard/Paddock

Pit or Below-grade Tank Application (For pit or below-grade tank closures, a form C-144 must be attached)

Pit Location: UL E Sect 19 Twp 21S Rng 37E Pit type Steel Depth to Groundwater 148 Distance from nearest fresh water well \_\_\_\_\_  
Distance from nearest surface water \_\_\_\_\_ Below-grade Tank Location UL \_\_\_\_\_ Sect \_\_\_\_\_ Twp \_\_\_\_\_ Rng \_\_\_\_\_ ;  
2310 feet from the North line and 886 feet from the West line (Steel Tank)

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data  
NOTICE OF INTENTION TO: SUBSEQUENT REPORT OF:

PERFORM REMEDIAL WORK <input type="checkbox"/>	PLUG AND ABANDON <input checked="" type="checkbox"/>	REMEDIAL WORK <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	COMMENCE DRILLING OPNS. <input type="checkbox"/>	PLUG AND ABANDONMENT <input checked="" type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/>	MULTIPLE COMPLETION <input type="checkbox"/>	CASING TEST AND CEMENT JOB <input type="checkbox"/>	
OTHER: <input type="checkbox"/>		OTHER: <input type="checkbox"/>	

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

7. String 4 unable to set CIBP spot 70 sx plug frm 3750' to 1200' tag cmt @ 1318
8. Cut 4 String @ 1150 unable to pull
9. Spot 30 sx on string 2-3-4 frm 1200' to surf
10. String #1 spot 20 sx frm 1200' to 400' tag @ 423
11. String #1 Perf @ 400' circ cmt frm 400' to surf w/ 140 sx 2 7/8 x 10 3/4 csg.
12. Install Dry Hole Marker 3/30/07

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that any pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines ☐, a general permit ☐ or an (attached) alternative OCD-approved plan ☐.

SIGNATURE Jimmy Bagley TITLE MANAGER DATE 4-2-07  
Type or print name Jimmy Bagley E-mail address: \_\_\_\_\_ Telephone No. 432-561-8600

(This space for State use)

APPROVED BY \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_  
Conditions of approval, if any: \_\_\_\_\_

STATE DC #1

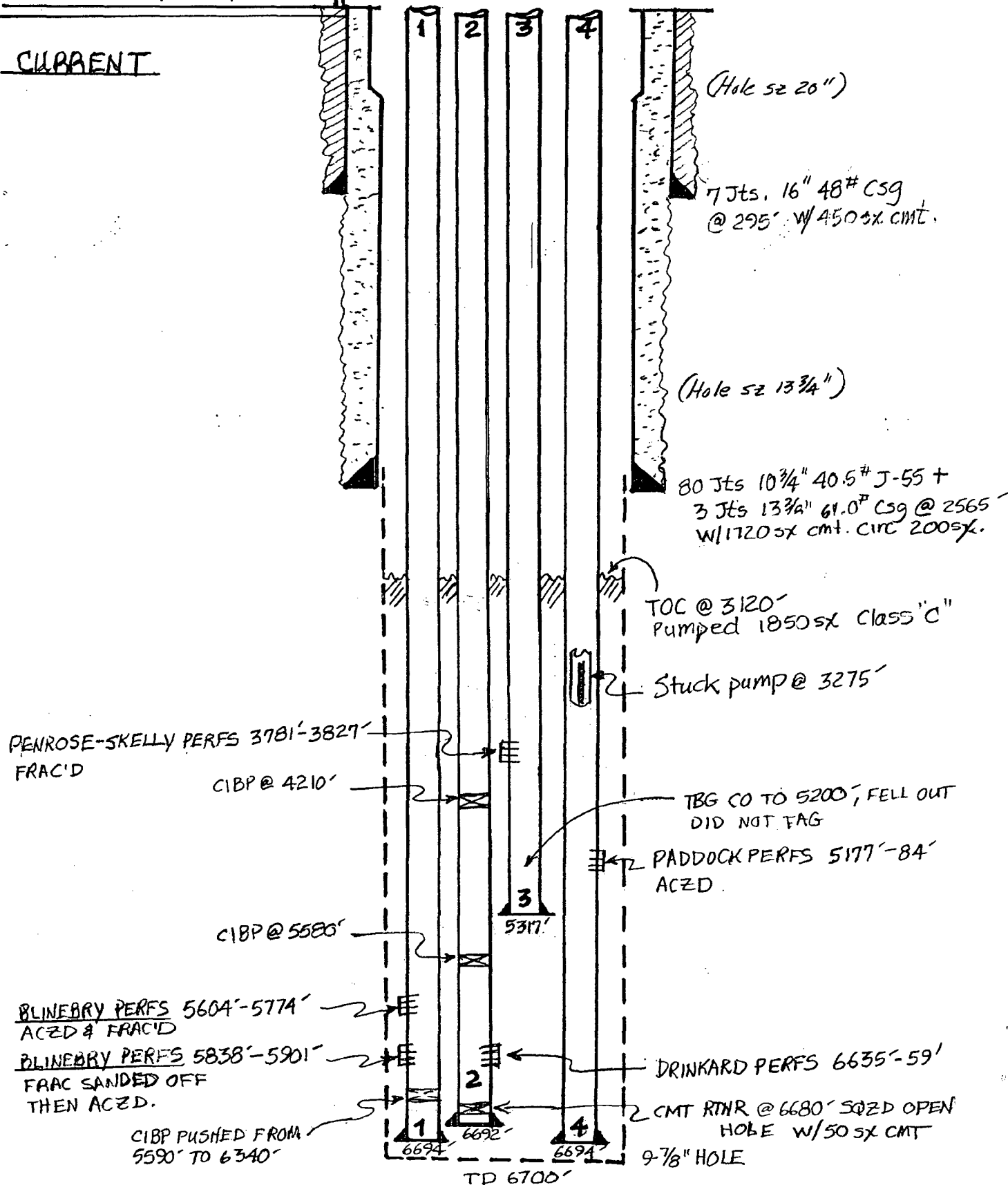
API No. 30-025-06663

1980 FNL & 1876 FWL

UL F, SEC. 19, T21S, R37E

3/2/05

CURRENT



FORM C-108 MISCELLANEOUS DATA

STATE 'E' TRACT 27 #2

VII. PROPOSED OPERATION:

1. AVERAGE INJECTION RATE 10,000 BWPD
2. MAXIMUM INJECTION RATE 20,000 BWPD
3. CLOSED SYSTEM
4. AVERAGE INJECTION PRESSURE VACUUM
5. MAXIMUM INJECTION PRESSURE 800 PSI
6. SOURCE WATER GRAYBURG ANALYSIS ATTACHED  
SAN ANDRES ANALYSIS ATTACHED

VIII. PLEASE SEE ATTACHED

IX. STIMULATION PROGRAM

ACIDIZE INJECTION INTERVAL WITH +/- 15,000 GALS OF 15% HCL

X. LOGS AND TESTS TO BE SUBMITTED UPON COMPLETION OF WELL.

XI. FRESH WATER CHEMICAL ANALYSIS

CARDINAL LAB REPORTS FOR THE McCASLAND AND SIMS FW WELLS ATTACHED

### 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 interval: 4100'-4650'



The San Andres formation is overall a thick, porous dolomite exhibiting excellent porosity. In the State E Tract 27 No.2 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'

Next lowest productive zone: Blinberry, Top-5732' Base-6267'

The deepest known fresh water in the immediate area is the Ogallala formation at a depth of 50'-300' approximately 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 20 years.

Bruce Sharp  
Piper Energy LLC.



South Permian Basin Region  
 10520 West I-20 East  
 Odessa, TX 79765  
 (915) 498-9191  
 Lab Team Leader: Gheila 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 #:	22538
Lease/Platform:	GRIZZELL UNIT	Analysis Cost:	\$40.00
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	Bicarbonate:	2282.0	37.4	Magnesium:	114.0	9.38
TDS (mg/l or g/m3):	9891.7	Carbonate:	0.0	0	Calcium:	281.0	14.02
Density (g/cm3, tonne/m3):	1.007	Sulfate:	20.0	0.42	Strontium:	9.0	0.21
Anion/Cation Ratio:	1.0000000	Phosphate:			Barium:	8.0	0.12
Carbon Dioxide:		Borate:			Iron:	4.0	0.14
Oxygen:		Silicate:			Potassium:	185.0	4.73
Comments:		Hydrogen Sulfide:			Aluminum:		
		pH at time of sampling:			Chromium:		
		pH at time of analysis:		7.44	Copper:		
		pH used in Calculation:		7.44	Lead:		
					Manganese:		
					Nickel:		

Conditions		Values Calculated at the Given Conditions - Amounts of Scale in lb/1000 bbl										
Temp	Gauge Press.	Calcite CaCO3		Gypsum CaSO4*2H2O		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 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 - Shella 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	meq/l
Analysis Date:	11/20/01	Chloride:	4050.0	114.24	Sodium:	2894.3	125.9
Analyst:	JAMES AHRLETT	Bicarbonate:	2405.0	39.42	Magnesium:	112.0	9.21
TDS (mg/l or g/m3):	9975.3	Carbonate:	0.0	0	Calcium:	262.0	13.07
Density (g/cm3, tonne/m3):	1.008	Sulfate:	20.0	0.42	Strontium:	9.0	0.21
Anion/Cation Ratio:	1.0000001	Phosphate:			Barium:	6.0	0.09
		Borate:			Iron:	4.0	0.14
		Silicate:			Potassium:	213.0	5.45
Carbon Dioxide:		Hydrogen Sulfide:			Aluminum:		
Oxygen:		pH at time of sampling:			Chromium:		
Comments:		pH at time of analysis:		7.47	Copper:		
		pH used in Calculation:		7.47	Lead:		
					Manganese:		
					Nickel:		

Conditions		Values Calculated at the Given Conditions - Amounts of Scale in lb/1000 bbl										
Temp	Gauge Press.	Calcite CaCO3		Gypsum CaSO4*2H2O		Anhydrite CaSO4		Celestite SrSO4		Barite BaSO4		CO2 Press
°F	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	0	1.51	191.57	-2.45	0.00	-2.37	0.00	-2.07	0.00	0.55	2.43	1.7
140	0	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.



# ARDINAL LABORATORIES

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

LAB NUMBER	SAMPLE ID	Na (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Conductivity (u S/cm)	T-Alkalinity (mgCaCO <sub>3</sub> /L)
------------	-----------	--------------	--------------	--------------	-------------	--------------------------	------------------------------------------

ANALYSIS DATE:	05/16/05	05/16/05	05/16/05	05/16/05	05/16/05	05/16/05
H9798-1 #1 <i>McCASLAND</i>	120	81	20	8.18	541	204
H9796-2 #2 <i>SIMS</i>	81	32	25	4.10	533	192
Quality Control	NR	48	47	8.69	1322	NR
True Value QC	NR	50	50	5.00	1413	NR
% Recovery	NR	96.0	94.0	112	93.8	NR
Relative Percent Difference	NR	1.8	2.0	9.0	0.7	NR
METHODS:	SM3500-Ca-D	3500-Mg E	8049	120.1	310.1	

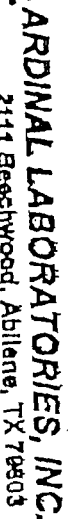
Cl <sup>-</sup> (mg/L)	SO <sub>4</sub> (mg/L)	CO <sub>3</sub> (mg/L)	HCO <sub>3</sub> (mg/L)	pH (s.u.)	TDS (mg/L)
---------------------------	---------------------------	---------------------------	----------------------------	--------------	---------------

ANALYSIS DATE:	05/16/05	05/16/05	05/16/05	05/16/05	05/16/05	05/17/05
H9796-1 #1	180	72	0	249	8.81	688
H9798-2 #2	72	68	0	234	6.68	584
Quality Control	980	57.00	NR	927	8.88	NR
True Value QC	1000	50.00	NR	1000	7.00	NR
% Recovery	98.0	114	NR	92.7	98.3	NR
Relative Percent Difference	1.0	12.7	NR	3.4	0.7	1.1
METHODS:	SM4500-Cl-B	375.4	310.1	310.1	150.1	160.1

*Gray Hill*  
Chemist

*5/17/05*  
Date

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analysis. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. H9796-1 shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated theories or otherwise.



2111 Beechwood, Abilene, TX 79603 101 East Maryland, Hobbs, NM 88240  
(815) 673-7001 Fax (815) 673-7020 (505) 383-2326 Fax (805) 383-2476

PAGE \_\_\_\_\_ of \_\_\_\_\_

# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]

\* Cardinal cannot accept verbal changes. Please fax W/flight changes to 610-326-1000

XII. AFFIRMATIVE STATE

As an applicant for a permit for disposal I 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.

A handwritten signature in black ink, appearing to read "Bruce Sharp". The signature is stylized with a large initial "B" and a long, sweeping underline that extends to the right.

Bruce Sharp

APPLICATION FOR SALT WATER DISPOSAL WELL  
STATE E TRACT 27 # 2  
OFFSET OPERATORS

Chevron Usa Inc.  
P O Box 1150  
Midland Tx 79792  
Cert. No.  
7008 1830 0003 0644 9153

Mirage Energy Inc.  
P O Box 760  
Eunice, NM 88231  
Cert. No.  
7009 1680 0001 6619 6019

XTO Energy, Inc.  
3000 N. Garfield Suite 175  
Midland, Tx 79705  
Cert. No.  
7009 1680 0001 6619 6040

Horseshoe Operating Inc.  
110 Louisiana  
Midland, Tx 79701  
Cert. No.  
7009 1680 0001 6619 6026

Fulfer Oil & Cattle LLC.  
P O Box 578  
Jal, NM 88252  
Cert. No.  
7008 1830 0003 0644 9139

Rice Operating Company  
122 W. Taylor  
Hobbs NM 88240  
Cert. No.  
7009 1680 0001 6619 6033

Westbrook Oil Corp  
PO Box 2264  
Hobbs, NM 88241  
Cert. No.  
7008 1830 0003 0644 9122

Apache Corp.  
6120 S. Yale  
Two Warren Place St. 1500  
Tulsa, OK 74136-4224  
7008 1830 0003 0644 9115

Zachary Oil Operating Co.  
PO Box 1969  
Eunice, NM 88231  
Cert. No.  
7008 1830 0003 0644 9108

# Affidavit of Publication

State of New Mexico,  
County of Lea.

I, JUDY HANNA  
PUBLISHER

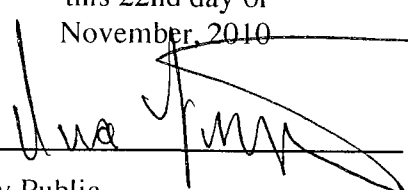
of the Hobbs News-Sun, a  
newspaper published at Hobbs, New  
Mexico, do solemnly swear that the  
clipping attached hereto was  
published in the regular and entire  
issue of said newspaper, and not a  
supplement thereof for a period

of 3 issue(s).

Beginning with the issue dated  
November 09, 2010  
and ending with the issue dated  
November 23, 2010

  
PUBLISHER

Sworn and subscribed to before me  
this 22nd day of  
November, 2010

  
Notary Public

My commission expires  
February 09, 2013  
(Seal)



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	LEGAL
<b>LEGAL NOTICE</b> <b>NOVEMBER 9, 16, 23, 2010</b>	
Notice is hereby given of the application of Piper Energy LLC, 1102 Jicarilla, Hobbs, NM 88240 (575) 390-2843, to the Oil Conservation Division, New Mexico Energy, Minerals and Natural Resources Department, for approval of the following well to be converted for the purpose of salt 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. 2 (API 30-025-26491)	
Location: 330' FSL 880' FWL, Section 18 Township 21 South Range 37 East Unit M	
The injection formation is the San Andres located between the interval 4100' to 4650' below the surface of the ground. Expected maximum injection rate is 20,000 barrels per day at a maximum injection pressure of 800 psi. Interested parties must file objections or requests for hearing with the Oil Conservation Division, 1220 Saint Francis Drive, Santa Fe, NM 87805 within fifteen days.	
#26206	

01102648

00062729

BRIDGETTE CURTIS  
122 W. TAYLOR  
HOBBS, NM 88240

## Jones, William V., EMNRD

---

**From:** Jones, William V., EMNRD  
**Sent:** Tuesday, December 21, 2010 12:53 PM  
**To:** 'Scott Curtis'; Bruce Sharp  
**Cc:** Ezeanyim, Richard, EMNRD; Hill, Larry, EMNRD; Kautz, Paul, EMNRD  
**Subject:** Disposal application from Piper Energy, LLC: Penroc State "E" TR 27 Well No. 2 30-025-26491 San Andres disposal 4100 to 4650

Hello Scott and Bruce:

After reviewing this, it appears similar to the nearby SWD-985-A operated by Rice. The application appears fine, only a few minor items to finish it up and keep our records straight:

- 11/23/10
- ✓ a. Please send proof of notice with date of notice to the State Land Office as the surface owner. I could not find it in the package.
  - ✓ b. We are asking applicants for disposal wells to look at the separately owned tracts of land inside the ½ mile Area of Review, and identify those tracts and list the owners of each tract. Please list these tracts by legal description and whomever controls the San Andres minerals.
  - ✓ c. Send a wellbore diagram of the 30-025-06663 well. Apparently it is plugged or inactive according to our records.
  - ✓ d. The fresh water analysis is several years old – would you please re-sample and send another analysis in?
  - e. The Grayburg and San Andres water analysis included with your application are both less than 10,000 TDS.
  - ✓ Would you comment on why these produced water analysis are so low in salinity? Is this normal for this area? If the San Andres is really less than 10,000 TDS, then this application may be moved to a hearing docket.
  - ? f. We only have an old Resistivity log on this well in the imaging system. This well was re-entered by Merch in about 1994, he may have run a porosity log. Did you inherit any logs in your company well file? If any porosity log is available, please send a copy to Paul Kautz in Hobbs.
  - ✓ g. The permit will require the CIBP at 5180 to be pressure tested prior to perfering the San Andres for disposal. We normally require the disposal interval to be bounded on the bottom with an internal plug less than 200 feet below that interval. If this 5180 plug tests OK, it could be used.

Take Care and hope you both have some fun these holidays,

Will Jones  
New Mexico  
Oil Conservation Division  
Images Contacts

---

**From:** Scott Curtis [<mailto:scurtis@riceswd.com>]  
**Sent:** Tuesday, December 21, 2010 8:10 AM  
**To:** Jones, William V., EMNRD  
**Cc:** Bruce Sharp  
**Subject:** SWD permit app Piper Energy

Mr. Jones,  
Hope all is well.

I compiled and submitted a SWD permit application for Mr. Bruce Sharp with Piper Energy on the State E Tract 27 # 2, several weeks ago.

When you get a minute could you let me know what the status of this permit is?

Thanks and Merry Christmas!



RECEIVED OCD  
2011 JAN 20 P 12:40

January 15, 2011

NMOCD  
1220 South St. Francis Dr.  
Santa Fe, NM 87505  
Atten: Will Jones

Mr. Jones,  
As per your email dated December 21, 2010, please find enclosed the information that you requested.

The San Andres minerals are controlled by the following:

Section 13 T21S R36E UL's I,J,O,P (Apache)  
Section 18 T21S R37E UL's M,N (Apache)  
Section 18 T21S R37E UL's J,K,L,O (Chevron)  
Section 19 T21S R37E UL's B,C,D,E,F (Chevron)  
Section 24 T21S R36E UL's A,B,H (Chevron)

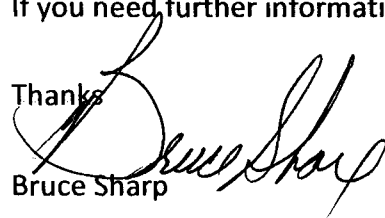
This information was gathered by an Oil and Gas Attorney at the Lea County Court House and Elliot Waldron Title and Abstract.

As you know the TDS of the San Andres can vary from below 10,000 to well above . The samples sent with the application where from wells approximately 6 miles south of the proposed SWD. The current sample is from a well approximately 2 miles East of the proposed SWD.

If you need further information please do not hesitate to contact us.

Thanks

Bruce Sharp





January 18, 2011

MARVIN BURROWS

PIPER ENERGY

1102 JICARILLA

HOBBS, NM 88240

RE: DASCO WATER WELL

Enclosed are the results of analyses for samples received by the laboratory on 01/07/11 9:50.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method SW-846 8260	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method TX 1005	Total Petroleum Hydrocarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene  
Lab Director/Quality Manager

**Analytical Results For:**

PIPER ENERGY  
 MARVIN BURROWS  
 1102 JICARILLA  
 HOBBS NM, 88240  
 Fax To: NONE GIVEN

Received: 01/07/2011  
 Reported: 01/18/2011  
 Project Name: DASCO WATER WELL  
 Project Number: NONE GIVEN  
 Project Location: NE OF EUNICE I-13-21-36

Sampling Date: 01/07/2011  
 Sampling Type: Water  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: DASCO RANCH WELL (H100043-01)**

Bicarbonate 310.1M		mg/L		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Alkalinity, Bicarbonate	244	5.00	01/07/2011	ND	964	96.4	1000	7.79	
Calcium SM3500Ca-D		mg/L		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Calcium	48.1	1.60	01/13/2011	ND	52.1	104	50.0	4.83	
Carbonate 310.1M		mg/L		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Alkalinity, Carbonate	<0.00	0.00	01/07/2011	ND	ND		0.00		
Chloride, SM4500Cl-B		mg/L		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	92.0	4.00	01/11/2011	ND	104	104	100	3.77	
Conductivity 120.1		uS/cm		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Conductivity	800	1.00	01/07/2011	ND	1410	100	1410	0.333	
Magnesium SM3500MgE		mg/L		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Magnesium	27.2	1.00	01/13/2011	ND	55.9	112	50.0	0.00	
pH		pH Units		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
pH	8.14	0.100	01/07/2011		7.03	100	7.00	0.253	
Potassium 8049		mg/L		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

PIPER ENERGY  
MARVIN BURROWS  
1102 JICARILLA  
HOBBS NM, 88240  
Fax To: NONE GIVEN

Received: 01/07/2011  
Reported: 01/18/2011  
Project Name: DASCO WATER WELL  
Project Number: NONE GIVEN  
Project Location: NE OF EUNICE I-13-21-36

Sampling Date: 01/07/2011  
Sampling Type: Water  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: DASCO RANCH WELL (H100043-01)**

Potassium 8049		mg/L		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Potassium	3.80	1.00	01/13/2011	ND	7.61	95.1	8.00	9.11	
Sodium Calculated		mg/L		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sodium	86.0	1.00	01/13/2011	ND					
Sulfate 375.4		mg/L		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate	90.4	10.0	01/11/2011	ND	40.4	101	40.0	7.90	
TDS 160.1		mg/L		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS	484	5.00	01/10/2011	ND				2.76	
Total Alkalinity 310.1M		mg/L		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Alkalinity, Total	200	4.00	01/07/2011	ND	790	96.3	820	7.59	

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages: Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

---

Cardinal Laboratories

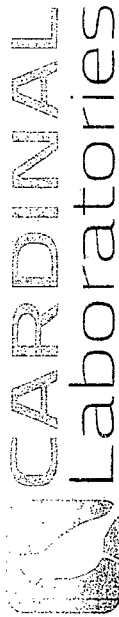
\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



---

Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240  
(575) 393-2326 FAX (575) 393-2476

Company Name: <u>Piper Energy, LLC</u>		<b>BILL TO</b>		<b>ANALYSIS REQUEST</b>											
Project Manager: <u>MARVIN BURROWS</u>		P.O. #:													
Address: <u>1102 JICARILLA</u>		Company:													
City: <u>Hobbs</u>		Attn: <u>SALE</u>													
Phone #: <u>631-0680</u>		Address:													
Fax #: <u>631-0680</u>		City:													
Project #: <u>DA500</u>		State:													
Project Name: <u>WAREN WELL</u>		Zip:													
Project Location: <u>NE of Eunice I-13-21-36</u>		Phone #:													
Sampler Name: <u>MARVIN BURROWS</u>		Fax #:													
FOR LAB USE ONLY		PRESERV		SAMPLING											
Lab I.D.		DATE		TIME											
Sample I.D.		DATE		TIME											
H10043-1		1/7/11		11:11											
A-F															

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's damages are limited to the amount paid by the client for the analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 20 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services rendered by Cardinal, regardless of whether such claim is based upon any of the above stated causes of damages.

Relinquished By: <u>[Signature]</u>	Date: <u>1/7/11</u>	Received By: <u>[Signature]</u>	Date: <u>1/7/11</u>	Time: <u>4:50a</u>	Time: <u>11:11</u>	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Acid/1 Phone #: <u>Call w/ Results</u>
Relinquished By: <u>[Signature]</u>	Date: <u>1/7/11</u>	Received By: <u>[Signature]</u>	Date: <u>1/7/11</u>	Time: <u>4:50a</u>	Time: <u>11:11</u>	Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Acid/1 Fax #: <u>Call w/ Results</u>
REMARKS: <u>Call w/ Results</u>							
Delivered By: (Circle One) <u>UPS</u>				CHECKED BY: <u>[Signature]</u>			
Sampler - UPS - Bus - Other: <u>#26 150</u>				Sample Condition: <u>Intact</u>			
				Cool: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
				Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			

# Chem Tech Services

## WATER ANALYSIS REPORT

### SAMPLE

Oil Co. : **Apache**  
 Lease : **Argo**  
 Well No.: **#10**  
 Location: **API# 30-025-06606, San Andres**  
 Attention:

Date Sampled : **03-January-2011**  
 Date Analyzed: **05-January-2011**  
 Lab ID Number: **Jan0511.003- 1**  
 Salesperson :  
 File Name : **jan0511.003**

### ANALYSIS

1. Ph 7.550
2. Specific Gravity 60/60 F. 1.018
3. CACO3 Saturation Index @ 80F
- @140F

0.842 Moderate  
1.632 Severe

#### Dissolved Gasses

4. Hydrogen Sulfide
5. Carbon Dioxide
6. Dissolved Oxygen

Not Present  
 Not Determined  
 Not Determined

MG/L. EQ. WT. \*MEQ/L

#### Cations

7. Calcium (Ca++)
8. Magnesium (Mg++)
9. Sodium (Na+)
10. Barium (Ba++)

(Calculated)

112 / 20.1 = 5.57  
 172 / 12.2 = 14.10  
 4,197 / 23.0 = 182.48  
 Below 10

#### Anions

11. Hydroxyl (OH-)
12. Carbonate (CO3=)
13. Bicarbonate (HCO3-)
14. Sulfate (SO4=)
15. Chloride (Cl-)

2 miles EAST  
 of  
 SUBJECT Well

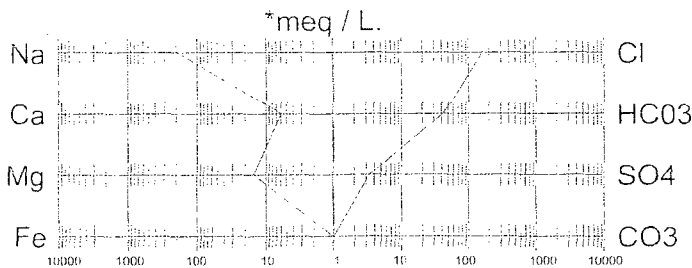
0 / 17.0 = 0.00  
 0 / 30.0 = 0.00  
 2,503 / 61.1 = 40.97  
 160 / 48.8 = 3.28  
 5,599 / 35.5 = 157.72

16. Total Dissolved Solids
17. Total Iron (Fe)
18. Manganese (Mn++)
19. Total Hardness as CaCO3
20. Resistivity @ 75 F. (Calculated)

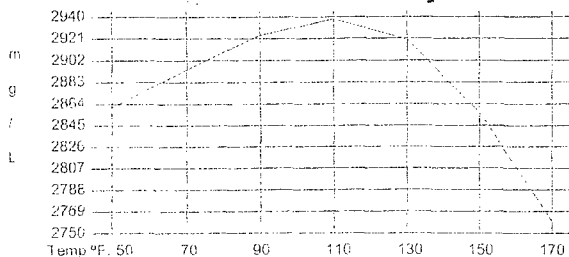
Not Determined  
 985

6.00 / 18.2 = 0.33  
 0.385 Ohm · meters

#### LOGARITHMIC WATER PATTERN



#### Calcium Sulfate Solubility Profile



#### PROBABLE MINERAL COMPOSITION

COMPOUND	*meq/L	X	EQ. WT.	=	mg/L.
Ca(HCO3)2	5.57		81.04		452
CaSO4	0.00		68.07		0
CaCl2	0.00		55.50		0
Mg(HCO3)2	14.10		73.17		1,032
MgSO4	0.00		60.19		0
MgCl2	0.00		47.62		0
NaHCO3	21.30		84.00		1,789
NaSO4	3.28		71.03		233
NaCl	157.72		58.46		9,220

\* milliequivalents per Liter

\_\_\_\_\_  
 Tony Abernathy, Analyst

## SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

State Land Office  
PO Box 1148  
Santa Fe, NM  
87504-1148

## COMPLETE THIS SECTION ON DELIVERY

A. Signature

X

☐ Agent  
☐ Addressee

B. Received by (Printed Name)

C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes  
 If YES, enter delivery address below: ☐ No

3. Service Type

☒ Certified Mail ☐ Express Mail  
☐ Registered ☒ Return Receipt for Merchandise  
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee)

☐ Yes

2. Article Number  
 (Transfer from service label)

7009 1680 0001 6619 6057

PS Form 3811, February 2004

Domestic Return Receipt

102595-02-M-1540

U.S. Postal Service™

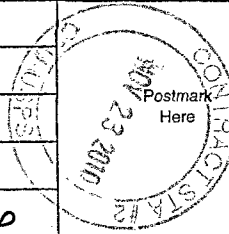
CERTIFIED MAIL™ RECEIPT

(Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at [www.usps.com](http://www.usps.com)

OFFICIAL USE

Postage	\$ 1.56
Certified Fee	2.80
Return Receipt Fee (Endorsement Required)	2.30
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$ 6.66



Sent To

State Land Office

Street, Apt. No.,  
or PO Box No.

PO Box 1148

City, State, ZIP+4

Santa Fe, NM 87504-1148

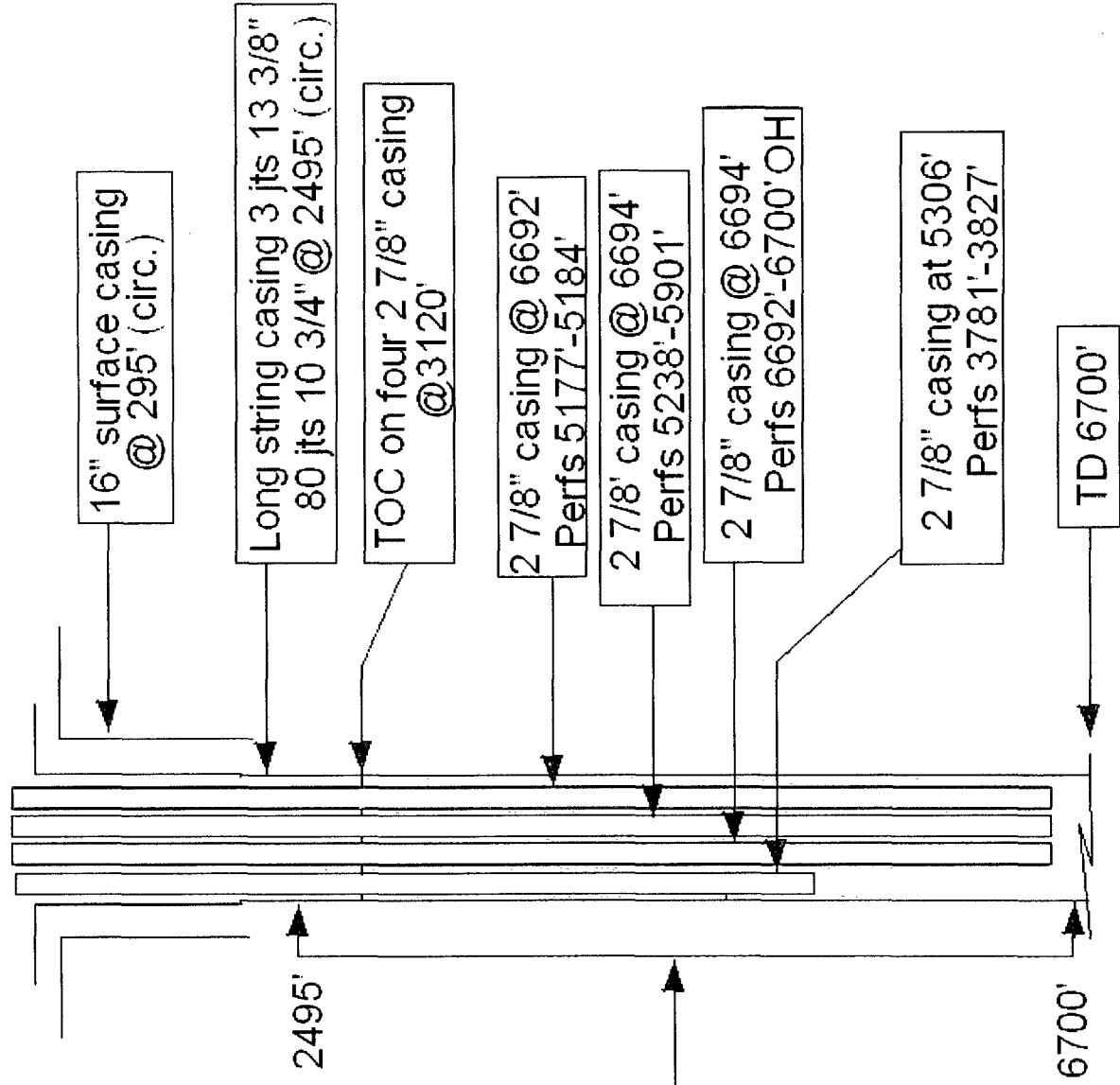
PS Form 3800, August 2006

See Reverse for Instructions

7009 1680 0001 6619 6057



Pure Resources State DC # 1  
 1980' FNL 1876 FWL  
 UL F S 19 T 21S R37E  
 API # 30-025006663  
 Well P&A 3-20-06



Procedure to P&A Well:  
 Set CIBP in the 3 long 2 7/8" strings @ 3152', 3565', and 3687' then filled to surface w/ cement. Short 2 7/8" casing string, set CIBP @ 2947', perfed @ 2665', circ backside full of cement and left string full of cement. Erected P&A marker.

Well drilled open hole from bottom of 10 3/4" casing 2495' - 6700'

R 36 E

R 37 E

Cont'l 1 ● E       Lockhart	Tidewater 13  1 ● E 2 ● E Marshall Penrose 1 ● E  Marshall	Tidewater 18 1 ● E  Gulf Penrose 2 ● E 1 ● PS  3 ● E 4 ● PS 1 ● PS O'Leary - Brant 1 ● PS Ohio 1 ● PS  Marshall	Texaco 5 ● PS 3 ● D  4 ● E-PS 1 ● D 2 ● B-T Weatherly Dixilyn Drilling 1 ● PS-BG 1 ● E-PS 2 ● D 1 ● T-D 4 ● D Weatherly Penrose 1 ● BG-D Lockhart 2 ● D 1 ● BG-D 2 ● T-D 1 ● D Hardy	Pech Oil 1 ● D  Sun 3 ● D  3 ● B-D  2 ● E-D Lockhart Tidewater Hardy	
Gulf 24  1 ● E  Leonard Gulf 2 ● PS  1 ● E Mattern	Penrose 19 1 ● E-BG  Amerada State DC Gulf 1 ● E 2 ● D-B PanAm "CA" 1 ● P-D Eunice Unit	Penrose 19 1 ● E-BG  Amerada Warlick Amerada Warlick "A" Perry 2 ● PS 1 ● PS 3 ● PS 1 ● PS 5 ● P-B 4 ● P 2 ● B-D 2 ● B-D	Rodman 1 ● PS 5 ● BG 3 ● D 2 ● D Sunray 1 ● D Randle Gulf 5 ● BG-D 3 ● PS-D 4 ● PS-P 1 ● PS 2 ● P-D Hardy	Sinc. 20 2 ● T-D  1 ● BG-D York Ohio 3 ● D 1 ● PS 2 ● D Hardy 2 ● PS 3 ● D 4 ● D 1 ● PS 5 ● BG	
Gulf 25  2 ● E 1 ● A Ramsey St. B Sinclair 3 ● A 1 ● E El Paso 1 ● E Moore 1 ● PS Brownlee 2 ● A 4 ● E Brownlee 1 ● PS Brownlee	Texaco 30 4 ● E 6 ● P-BG-D 5 ● PS-P 2 ● B  3 ● D Henderson Gulf 13 ● PS 1 ● PS 8 ● B  11 ● PS 5 ● E-PS 4 ● PS 6 ● D Mattern "B"	Texaco 30 4 ● E 6 ● P-BG-D 5 ● PS-P 2 ● B  3 ● D Henderson Gulf 13 ● PS 1 ● PS 8 ● B  11 ● PS 5 ● E-PS 4 ● PS 6 ● D Mattern "B"	Mobil 29 2 ● PS 3 ● B 6 ● P-D  1 ● PS 4 ● PS 5 ● D Hardy Sinclair 1 ● D 2 ● PS 3 ● T-D W. Turner Sinclair 2 ● PS 1 ● PS 4 ● D 3 ● BG-D H. Turner	29 2 ● PS-D 1 ● PS-BG 1 ● T-D Linn Sunray 2 ● PS-D 1 ● D Hardy Ohio 1 ● D 3 ● BG-T 2 ● D Turner Pen Am 2 ● D 1 ● E-D 3 ● BG-T Turner	

AMERADA PETROLEUM CORP

JAN. 11, 1966

E - Eumont  
 A - Arrowhead  
 PS - Penrose Skelly  
 P - Paddock  
 B - Blinbry Oil  
 BG - Blinbry Gas  
 T - Tubb  
 D - Drinkard

FIELD West Eunice Area  
 STATE New Mexico  
 COUNTY Lea

## Inactive Well Additional Financial Assurance Report

273479 PIPER ENERGY, LLC

Total Well Count: 1

Printed On: Tuesday, December 21 2010

Property	Well Name	Lease Type	ULSTR	OCD Unit Letter	API	Well Type	Last Prod/Inj	Inactive Additional Bond Due	Measured Depth	Required Bond Amount	Bond Required Now	Bond In Place	In Violation
307944	PENROC STATE E TR 27 #002	S	4-18-21S-37E	M	30-025-26491	O	07/2010	08/01/2012	6900	11900		15000	

WHERE Ogrid:273479

Injection Permit Checklist (11/15/2010)

WFX PMX SWD 1263 Permit Date 1/21/11 UIC Qtr (JFM)  
 # Wells 1 Well Name(s) "Pump Station" ETR 27 (well #2)

API Num: 30-0 25-26491 Spud Date: 10/18/79 New/Old: 0 (UIC primacy March 7, 1982)

Footages 330 FSL / 880 FWL Unit 4 Sec 18 Tsp 215 Rge 37E County LEA

General Location: EUNICE

Operator: PIPER ENERGY, LLC Contact: Bruce Sharp

OGRID: 273479 RULE 5.9 Compliance (Wells) 0/1 (Finan Assur) OK IS 5.9 OK? OK

Well File Reviewed Current Status: Active GBS Perfor open, Blindly capped w/ CIBP

Planned Work to Well: Different PLUG

Diagrams: Before Conversion After Conversion Elogs in Imaging File: One OLD LOG

Well Details:	Sizes Hole.....Pipe	Setting Depths	Stage Tool	Cement Sx or Cf	Determination Method
New Existing Surface	12 1/4 9 5/8	1230		300	CIRC
New Existing Intern					
New Existing LongSt	8 3/4 7"	6900 TD		(1400+350) 1750	CIRC TS.
New Existing Liner					
New Existing OpenHole					

Depths/Formations: Depths, Ft. Formation Tops? N. Eunice SA. (see) ?

Formation(s) Above	4000	SA	✓
Injection TOP:	4100	SA	Max. PSI 820 OpenHole Perfs ✓
Injection BOTTOM:	4650	SA	Tubing Size 3 1/2 Packer Depth 4080
Formation(s) Below	5000	Paddock	✓

Capitan Reef? (Rotash? Noticed?) (WIPP? Noticed?) Salado Top/Bot Cliff House?

Fresh Water: Depths 500-300' Formation 0 Gullhole Wells? 4 per Analysis? 2005 Affirmative Statement ✓

Disposal Fluid Analysis? Sources: GBS / SA Sand New

Disposal Interval: Analysis? Production Potential/Testing: Depleted GBS & Blinably SWD when ?

Notice: Newspaper Date 11/9/10 Surface Owner (STO) Mineral Owner(s) S.E. / APACHE ✓

RULE 26.7(A) Affected Persons: Charon / XTO / Fulford / Wilbur / APACHE / Ming / Hersh / Rice / Zeddy

AOR: Maps? Well List? Producing in Interval? NO Wellbore Diagrams? ✓

.....Active Wells 6 Repairs? 0 Which Wells? ✓

.....P&A Wells 7 Repairs? 0 Which Wells? ✓

Issues:

Test 5180 PLUG  
 List owner BY TRACT

Request Sent Reply: