

DATE IN <b>7/20/09</b>	SUSPENSE	ENGINEER <b>Wardell</b>	LOGGED IN <b>7/20/09</b>	TYPE <b>IPI</b>	PTW APP NO. <b>0920158056</b>
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ABOVE THIS LINE FOR DIVISION USE ONLY

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



**30-025-39193**  
**House SWD #1**  
**Apache (873)**

**ADMINISTRATIVE APPLICATION CHECKLIST**

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

**Application Acronyms:**

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

**FPI-351**

**SWD-1169**

**920PSL**

**[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

**TW.**

**[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.**

_____	_____	_____	_____
Print or Type Name	Signature	Title	Date

\_\_\_\_\_  
 e-mail Address

RECEIVED

2009 JUL 20 PM 1 14



6120 S. YALE / SUITE 1500 / TULSA, OKLAHOMA 74136-4224

WWW.APACHECORP.COM  
Telephone: (918) 491-4900

July 17, 2009

State of New Mexico  
Oil Conservation Division  
1220 South St. Francis Drive  
Santa Fe, New Mexico 87505

Attention: Mr. William V. Jones

RE: Request for Surface Injection Pressure Amendment  
House SWD #1 (30-025-39193)  
Lea County, New Mexico

Dear Mr. Jones:

Apache Corporation requests an amendment to the 0.2 psi/ft surface pressure limitation for the House SWD #1. A step-rate test was performed on July 16, 2006 and this test indicates that the parting pressure occurs at a surface pressure of 1585 psi (0.34 psi/ft). Therefore, Apache Corporation is requesting the allowable surface injection pressure limitation is increased from 920 psi to 1550 psi.

Your approval of said amendment would be greatly appreciated. Please call (918-491-4982) or email ([jeff.frederick@apachecorp.com](mailto:jeff.frederick@apachecorp.com)) with any questions or comments.

Sincerely,

Jeff Frederick, P.E.

Attachments

Cc: Sophie Mackay, Engineering Tech

jlf,bm

$4600' \times FG = 1535'$   
 $= 6 = 1,337'$

$1585$   
 $- 50$   
 $\hline 1535 \text{ PSI}$



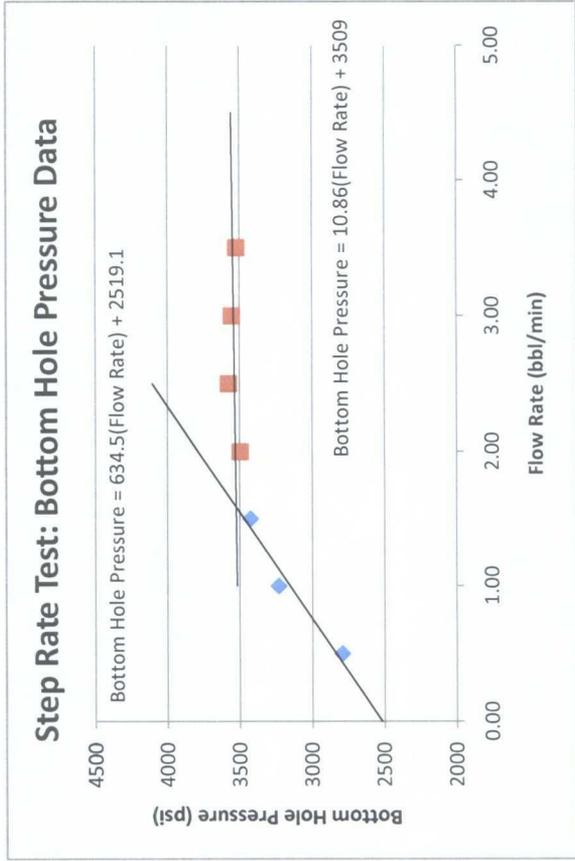
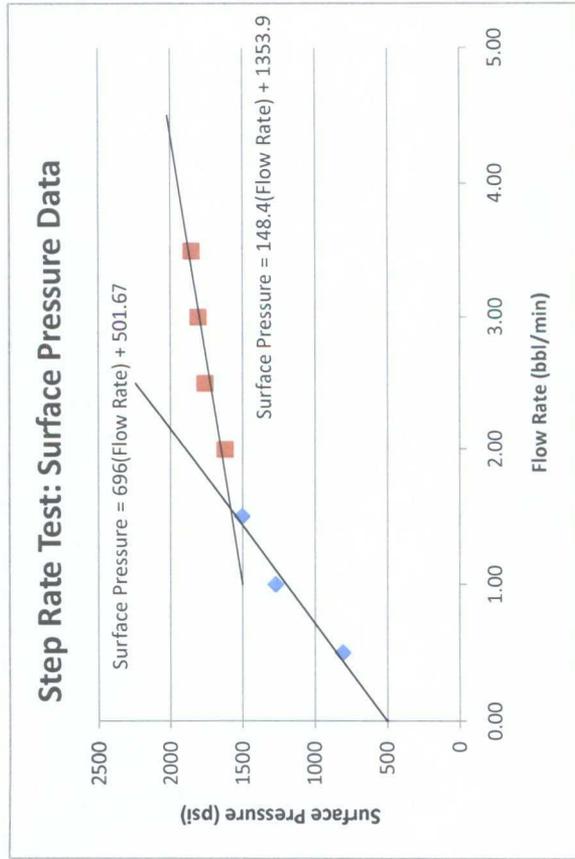
# House SWD #1 (30-025-39193): Step-Rate Test Analysis

Depth 4600 ft

Fluid Wt 8.34 ppg

Rate (bbl/min)	Surface Pressure (psi)	Friction Pressure (psi)	Hydrostatic Pressure (psi)	Bottom Hole Pressure (psi)
0.5	811	10	1995	2796
1	1275	35	1995	3235
1.5	1507	72	1995	3430
2	1623	120	1995	3498
2.5	1762	179	1995	3578
3	1808	247	1995	3556
3.5	1855	326	1995	3524
ISIP	1600	0	1995	3595

Location	Parting Pressure (psi)	Rate at Parting Pressure (bbl/min)
Surface	1585	1.6
Bottom hole	3526	1.6

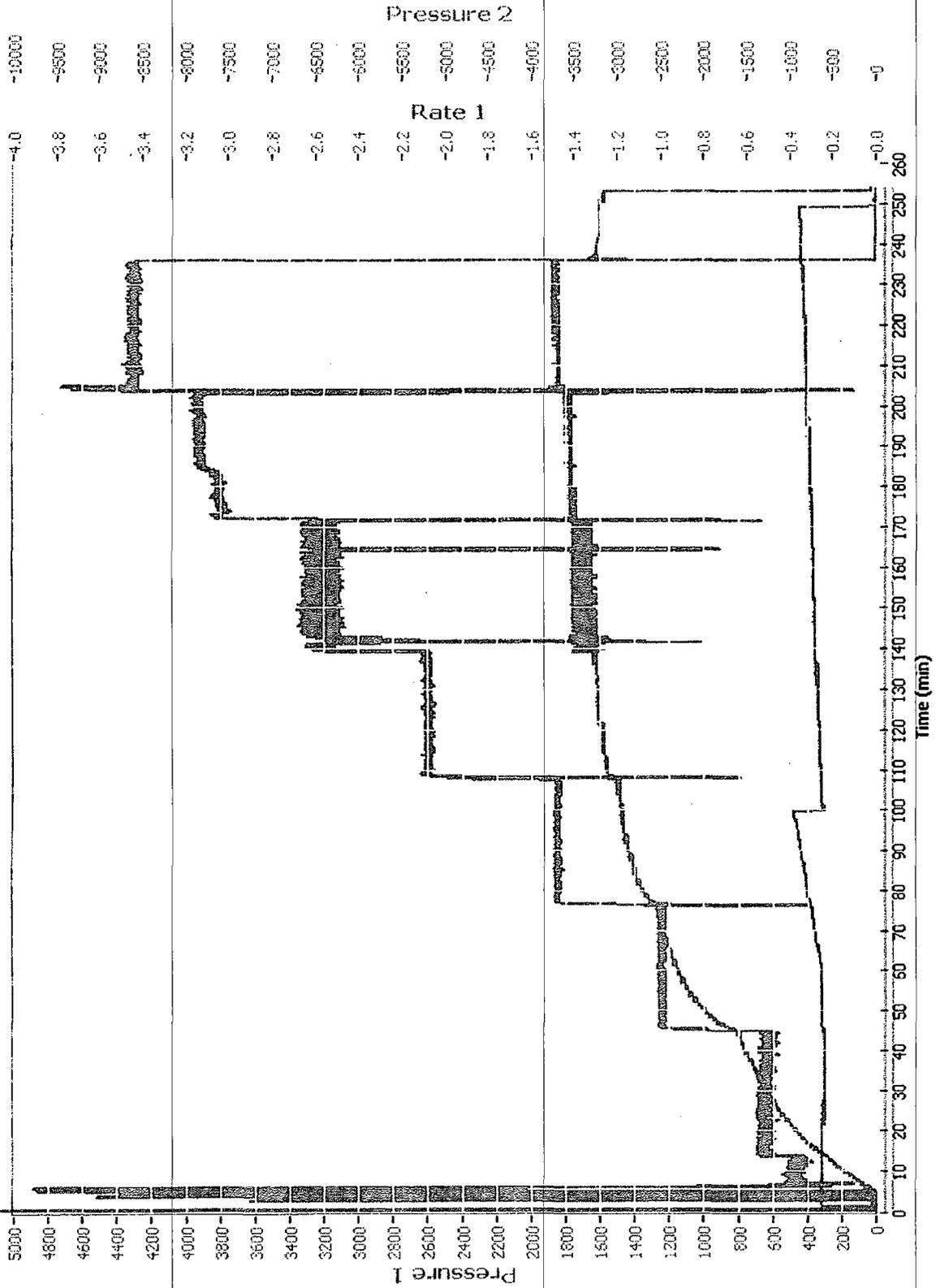


APACHE

HOUSE SWD #1

7-16-09

### Surface Conditions



# CPS Treatment Report

Customer: <b>APACHE</b> Well Name & No.: <b>HOUSE SWD #1</b> County: <b>LEA</b> State: <b>NM</b>	ESO#: <b>DJUZYTYTNJ</b> Formation: <b>SAN ANDERS</b> Date: <b>July 16, 2009</b> Well type: <b>Disposal, New / Stim.</b>
-----------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------

Customer Information	
Address:	<b>P.O. BOX DRAWER D</b>
City, State:	<b>MONUMENT NM</b>
Zip Code:	<b>88265</b>
Customer Representative:	<b>TRAVIS CARNES</b>



Remarks	
	Arrive on Location: <b>6:00 AM</b> Depart Location: <b>11:30 AM</b> Total Hours: <b>5.50</b>

	Depth	O.D	Weight	I.D	Volume	Bbls/linear ft.
Tubing 1 length ft.:	4,546		0	0.000	0.00 BBLs.	0.00000
Tubing 2 length ft.:					0.00 BBLs.	0.00000
Casing 1 length ft.:	4,600	5 1/2	0.00	0.000	0.00 BBLs.	0.00000
Casing 2 length ft.:					0.00 BBLs.	0.00000
Open Hole length ft.:		N/A	N/A		0.00 BBLs.	0.00000
Combined Depth ft.:	4,600				Annular Vol.: BBLs.	0.00000

	Depth	Vol.			
Top Perf/Open Hole:	4,600	0.00	Maximum Pressure:	1855	ISIP: 1600
Bottom Perf/Open Hole:	5,500	0.00	Average Pressure:	1306	5 min: 1600
Number of Perfs:	OPEN H		Maximum Rate:	3.5	10 min: 1600
Perf Size:	0.31 in.		Average Rate:	1.6	15 min: 1600
Packer Depth:	4,546 ft.		Fluid to Recover:	457.5	Proppant Total:

Time	STP	CAS	Rate	Stage	Total	Comments
6:04:06 AM	0	0	0.0	0.0	0.0	SAFETY MEETING
7:31:54 AM	4452	628.0	0.0		0.0	PRESSURE TESTED LINES
7:33:29 AM	0	628.0	3.8		2.0	START WATER
7:35:12 AM	93	628.0	0.5		5.0	LOADED START STEP RATE
7:42:06 AM	325	628.0	0.5		8.1	PSI & RATE CHECK
7:47:13 AM	464	628.0	0.5		11.0	PSI & RATE CHECK
8:02:17 AM	696	605.0	0.5		18.6	PSI & RATE CHECK
8:04:43 AM	719	605.0	0.5		19.9	PSI & RATE CHECK
8:12:01 AM	811	605.0	0.5		23.6	PSI & RATE CHECK
8:13:36 AM	858	628.0	1.0		24.0	INCREASED RATE
8:36:17 AM	1229	698.0	1.0		47.4	PSI & RATE CHECK
8:40:46 AM	1252	744.0	1.0		52.0	PSI & RATE CHECK
8:43:33 AM	1275	767.0	1.0		54.4	PSI & RATE CHECK
8:45:16 AM	1321	767.0	1.5		56.4	INCREASED RATE
8:57:12 AM	1437	884.0	1.5		74.0	PSI & RATE CHECK
9:01:06 AM	1461	907.0	1.5		79.7	PSI & RATE CHECK
9:05:39 AM	1461	953.0	1.5		86.6	PSI & RATE CHECK
9:10:40 AM	1484	628.0	1.5		93.9	PSI & RATE CHECK
9:14:53 AM	1507	628.0	1.5		99.9	PSI & RATE CHECK
9:16:35 AM	1553	628.0	2.1		102.7	INCREASED RATE
9:25:18 AM	1600	651.0	2.1		121.0	PSI & RATE CHECK
9:32:35 AM	1600	674.0	2.1		136.2	PSI & RATE CHECK
9:41:37 AM	1623	674.0	2.1		154.9	PSI & RATE CHECK
9:46:56 AM	1623	698.0	2.1		166.0	PSI & RATE CHECK
9:48:33 AM	1716	698.0	2.5		169.8	INCREASED RATE
10:00:42 AM	1716	721.0	2.6		200.0	PSI & RATE CHECK
10:08:10 AM	1739	721.0	2.6		219.5	PSI & RATE CHECK
10:12:55 AM	1762	721.0	2.5		229.6	PSI & RATE CHECK
10:16:51 AM	1739	744.0	2.6		240.7	PSI & RATE CHECK
10:19:07 AM	1762	744.0	2.6		247.0	PSI & RATE CHECK
10:20:30 AM	1762	744.0	3.1		250.5	INCREASED RATE



# 30-025-39193 HOUSE SWD #001 [37421]

**General Well Information**

**Status:**

**Well Type:** Salt Water Disposal  
**Work Type:** New  
**Surface Location:** M-12-20S-38E 990 FSL 500 FWL  
**Lat/Long:** 0 0  
**GL Elevation:** 3563

**Direction:**  
**Lease Type:** Private

**Sing/Mult Compl:** Single  
**Potash Waiver:**

**Proposed Formation and/or Notes**

SAN ANDRES SPUD 06/29/09

**Depths**

**Proposed:** 5500

**Measured:** 0  
**Plugback Measured:**

**Formation Tops**

Formation	Top	Method Obtained	Producing
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**Event Dates**

**Initial APD Approval:** 10/10/2008  
**Most Recent APD Approval:** 10/10/2008  
**APD Cancellation:**  
**APD Extension Approval:**  
**Spud:** 6/29/2009  
**Approved Temporary Abandonment:**  
**Shut In Waiting For Pipeline:**  
**Plug and Abandoned Intent Received:**  
**Well Plugged:**  
**Site Release:**  
**Last Inspection:** 6/29/2009

**Current APD Expiration:** 10/10/2011  
**Expiration:** Not retrieved  
**Plugged, Not Released**  
**Expiration:**  
**Intention To Plug:**  
**Last MIT:**

**History**

Effective Date	Property	Operator	C-101 Work Type	Well Type	Apd Cancelled	Plug Date
10/10/2008	[37421] HOUSE SWD	[873] APACHE CORP	N	Salt Water Disposal		

**Comments**

Date/Time	User Id	Comment
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**Operator**

**Company:** [873] APACHE CORP  
**Address:** 6120 S. YALE SUITE 1500  
 TULSA ,OK 74136  
**Country:**  
**Main Phone:**

**Central Contact Person**

**Name:** **Title:**  
**Phone:** **Fax:**  
**Cell:**  
**E-Mail Address:**

No district contact found.

**Pits****Pit On Site: Number 01**Pit Type: Closed Loop  
P1-00555

Status: Active

Registration Denied:

Closure Approved:  
Closure Denied:**Event Dates**

Registered: 10/10/2008

Approved: 10/10/2008

Open: 10/10/2008

Most Recent Rig

Release:

Closed:

**Casing**

			Boreholes, Strings and Equipment Specifications			Specifications for Strings and Tubing			Strings Cemented and Intervals			Cement and Plug Description		
String/Hole Type	Taper	Date Set	Diameter	Top	Bottom (Depth)	Grade	Length	Weight	Bot of Cem	Top of Cem	Meth	Class of Cement	Sacks	Pressure Test (Y/N)
Hole 1	1	6/29/2009	12.25	0	1552		0	0.0	0	0			0	No
Surface Casing	1		9.625	0	1552	K-55	1552	40.0	1552	0	Circ	Class C Cement	620	No
Hole 2	1		8.75	1552	5500		0	0.0	0	0			0	No
Intermediate 1 Casing	1		7	0	4600	J-55	4600	26.0	4600	0	Circ	Class C Cement	950	No
Tubing 1	1	7/7/2009	3.5	0	4600		0	0.0	0	0			0	No

**Well Completions**

No Completions Found

**Financial Assurance**

Bond Id	Bond Type	Amount	Issuer	Cash/Surety	Issuer Bond Number	Bond Cancellation Date
10042	Blanket	50000	[26205] CONTINENTAL CASUALTY CO	Surety	600803496	3/10/2003
249236	Blanket	50000	[26036] SAFECO INSURANCE CO OF AMERICA	Surety	6188993	

Requests to release bonds must be submitted in writing. You may send an e-mail to [Dorothy.Phillips@state.nm.us](mailto:Dorothy.Phillips@state.nm.us) or fax a letter to (505) 476-346**Compliance**Note that Financial Assurance and Inactive Well Compliance are documented in separate reports ([Inactive Well Report](#), [Financial Assurance Rep](#))

Also note that some compliance issues are addressed at the operator level so not listed under each well.

**Complaints, Incidents and Spills**

No Incidents Found

Please note that incidents that impact ground water are recorded along with "facilities" which may not be wells, so although the initial report may be related to the abatement plans, remediation plans and ground water impact information are not yet part of this application.

**Orders**

**Salt Water Disposal SWD-1169-0**

**Applicant:** [873] APACHE CORP  
**Reviewer:** WVJ  
**BLM Office:**

**Contact:** Sophie Mackay, Engineer  
**Approved By:**  
**Issuing Office:** Santa Fe

**Processing Dates**

**Received:** 3/2/2009  
**Suspended:**  
**Ordered:** 3/23/2009  
**Cancelled:**

**Expiration:**

**Comments**

**Notes**

**Order Pools**

Pool	Gas Percent	Oil Percent
[96121] SWD;SAN ANDRES	0	0

**Injection Orders**

Injection					Pressure			
Formation	Top	Bottom	Packer Depth	Tubing Size	Gradient	Injection Limit	CO2 Limit	Comments
Psa	4600	5500	0	4	0	920	0	

**Production / Injection**

[Show All](#)

Time Frame	Earliest Production in OCD Records:				Last				
	Oil(BBLS)	Gas (MCF)	Water (BBLS)	Days P/I	Water (BBLS)	Co2 (MCF)	Gas (MCF)	Other	Pressure
Grand Total:	0	0	0	0	0	0	0	0	0

**Transporters**

Transporter	Product	Most Recent for Property
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New Mexico Energy, Minerals and Natural Resources Department

**Bill Richardson**  
Governor

Joanna Prukop  
Cabinet Secretary  
Reese Fullerton  
Deputy Cabinet Secretary

Mark Fesmire  
Division Director  
Oil Conservation Division



**Administrative Order SWD-1169**  
**Corrected Order**

March 23, 2009

Sophie MacKay  
Apache Corp  
6120 S. Yale Ave  
Suite 1500  
Tulsa, OK 74136-4224

**ADMINISTRATIVE ORDER**  
**OF THE OIL CONSERVATION DIVISION**

Under the provisions of Division Rule 26.8B., Apache Corp seeks an administrative order to utilize its House SWD Well No. 1 (**API 30-025-39193**) located 990 feet from the South line and 500 feet from the West line, Unit M of Section 12, Township 20 South, Range 38 East, NMPM, Lea County, New Mexico, for produced water disposal purposes.

**THE DIVISION DIRECTOR FINDS THAT:**

The application has been duly filed under the provisions of Division Rule 26.8B. Satisfactory information has been provided that affected parties as defined in Rule 26.8B.(2) have been notified and no objections have been received within the prescribed waiting period. The applicant has presented satisfactory evidence that all requirements prescribed in Rule 26.8 will be met and the operator is in compliance with Division Rule 5.9.

**IT IS THEREFORE ORDERED THAT:**

The applicant, Apache Corp, is hereby authorized to utilize its House SWD Well No. 1 (**API 30-025-39193**) located 990 feet from the South line and 500 feet from the West line, Unit M of Section 12, Township 20 South, Range 38 East, NMPM, Lea County, New Mexico, for disposal of produced water into the lower San Andres formation Open Hole from 4600 feet to 5500 feet through **3-1/2 inch** or smaller diameter, plastic-lined tubing set within 100 feet of the disposal interval.

OH 4600-5500

Oil Conservation Division \* 1220 South St. Francis Drive  
\* Santa Fe, New Mexico 87505

\* Phone: (505) 476-3440 \* Fax (505) 476-3462\* <http://www.emnrd.state.nm.us>



IT IS FURTHER ORDERED THAT:

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

After installing tubing, the casing-tubing annulus shall be loaded with an inert fluid and equipped with a pressure gauge or an approved leak detection device in order to determine leakage in the casing, tubing, or packer. The casing shall be pressure tested from the surface to the packer setting depth to assure casing integrity.

The wellhead injection pressure on the well shall be limited to **no more than 920 psi**. In addition, the disposal well or system shall be equipped with a pressure limiting device in workable condition which shall, at all times, limit surface tubing pressure to the maximum allowable pressure for this well.

The Director of the Division may authorize an increase in tubing pressure upon a proper showing by the operator of said well that such higher pressure will not result in migration of the disposed fluid from the target formation. Such proper showing shall be demonstrated by an acceptable Step-Rate-Test.

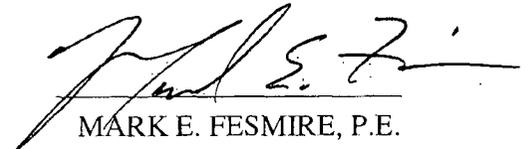
The operator shall notify the supervisor of the Division's District I office in Hobbs of the date and time of the installation of disposal equipment and of any mechanical integrity test so that the same may be inspected and witnessed. The operator shall provide written notice of the date of commencement of disposal to the Division's District I office. The operator shall submit monthly reports of the disposal operations on Division Form C-115, in accordance with Division Rules 26.13 and 7.24.

Without limitation on the duties of the operator as provided in Division Rules 30 and 29, or otherwise, the operator shall immediately notify the Division's district office of any failure of the tubing, casing or packer in the well, or of any leakage or release of water, oil or gas from around any produced or plugged and abandoned well in the area, and shall take such measures as may be timely and necessary to correct such failure or leakage.

In accordance with Division Rule No 26.12.C., the disposal authority granted herein shall terminate one year after the effective date of this order if the operator has not commenced injection operations into the subject well, provided however, the Division, upon written request, mailed by the operator prior to the termination date, may grant an extension thereof for good cause. One year after disposal into the well has ceased, the authority to dispose will terminate *ipso facto*.

Compliance with this order does not relieve the operator of the obligation to comply with other applicable federal, state or local laws or rules, or to exercise due care for the protection of fresh water, public health and safety and the environment.

Jurisdiction is retained by the Division for the entry of such further orders as may be necessary for the prevention of waste and/or protection of correlative rights or upon failure of the operator to conduct operations (1) to protect fresh or protectable waters or (2) consistent with the requirements in this order, whereupon the Division may, after notice and hearing, terminate the disposal authority granted herein.

  
MARK E. FESMIRE, P.E.  
Director

MEF/wvjj

cc: Oil Conservation Division – Hobbs