

District I  
1625 N French Dr., Hobbs, NM 88240

District II  
1301 W. Grand Avenue, Artesia, NM 88203

District III  
1000 Rio Brazos Road, 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-101  
June 16, 2008

**RECEIVED**  
**DEC 07 2009**  
**HOBBSOCD**

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

Submit to appropriate District Office

☐ AMENDED REPORT

**APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE**

<sup>1</sup> Operator Name and Address Apache Corporation 6120 S Yale Ave, Suite 1500 Tulsa, OK 74136		<sup>2</sup> OGRID Number 873
		<sup>3</sup> API Number 30 - 025-39193
<sup>4</sup> Property Code 37421	<sup>5</sup> Property Name House SWD	<sup>6</sup> Well No. 1
<sup>9</sup> Proposed Pool 1 SWD; San Andres - Glorieta (96127)		<sup>10</sup> Proposed Pool 2

**7 Surface Location**

UL or lot no	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	12	20S	38E		990	South	500	West	Lea

**8 Proposed Bottom Hole Location If Different From Surface**

UL or lot no	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

**Additional Well Information**

<sup>11</sup> Work Type Code D	<sup>12</sup> Well Type Code S	<sup>13</sup> Cable/Rotary	<sup>14</sup> Lease Type Code P	<sup>15</sup> Ground Level Elevation 3563'
<sup>16</sup> Multiple Yes	<sup>17</sup> Proposed Depth 5700' OH	<sup>18</sup> Formation San Andres/Glorieta	<sup>19</sup> Contractor Open	<sup>20</sup> Spud Date Open

**21 Proposed Casing and Cement Program**

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
12-1/4"	9-5/8"	40#	1552'	620 sx	Surface
8-3/4"	7"	26#	4600'	950 sx	Surface

<sup>22</sup> Describe the proposed program. If this application is to DEEPEN or PLUG BACK, give the data on the present productive zone and proposed new productive zone. Describe the blowout prevention program, if any. Use additional sheets if necessary

Apache proposes to deepen this SWD well to include the Glorieta via the following procedure:

1. Pull injection tubing and packer.
2. Pick up 6-1/8" bit and drill new hole from 5500' to 5700'
3. Stimulate open hole interval (4600'-5700') as necessary
4. Run step-rate test to determine fracture gradient
5. Run injection tubing and packer and set packer at 4550' +/-.
6. Place well on injection in the San Andres - Glorieta

**Permit Expires 2 Years From Approval  
Date Unless Drilling Underway  
Deepen**

Administrative Order #: SWD-1169-A

<sup>23</sup> I hereby certify that the information given above is true and complete to the best of my knowledge and belief

Signature.

*Amber Cooke*

Printed name. Amber Cooke

Title. Engineering Tech

E-mail Address amber.cooke@apachecorp.com

Date: 12/01/2009

Phone: 918.491.4968

**OIL CONSERVATION DIVISION**

Approved by:

*[Signature]*

Title.

**PETROLEUM ENGINEER**

Approval Date: **DEC 11 2009**

Expiration Date:

Conditions of Approval Attached ☐

PROPOSED COMPLETION

Last Updated: 12/1/2009 4:44:16 PM

Field Name			Lease Name		Well No.
House			House SWD		1
County		State	API	GL (ft)	KB (ft)
Lea		New Mexico	30-025-39193	3563	3575
Sec.	Twp/Blk		Rng/Svy	Footage	
M-12	20S		38E	990' FSL & 500' FWL from Section	
Spud Date		Comp. Date		Prepared By	Last Updated
6/29/2009				Jeff Frederick	12/1/2009

Current Status
Complete well as a San Andres and Glorieta disposal well.

Hole Summary				
Date	OD (in)	Top (KB ft)	Bottom (KB ft)	Comments
	6.1250	4,600	5,700	
6/29/2009	12.2500	0	1,552	
7/1/2009	8.7500	1,552	4,600	
7/6/2009	6.1250	4,600	5,500	

Tubular Summary						
Date	Description	OD (in)	Wt (lb/ft)	Grade	Top (KB ft)	Bottom (KB ft)
	Tubing	2.8750	6.50		0	4,550
7/1/2009	Surface Casing	9.6250	40.00	K55	0	1,552
7/5/2009	Production Casing	7.0000	26.00	L80	0	41
7/5/2009	Production Casing	7.0000	26.00	J55	41	3,631
7/5/2009	Production Casing	7.0000	26.00	L80	3,631	4,600

Casing Cement Summary						
Date	No Sx	OD (in)	ID (in)	Top (KB ft)	Bottom (KB ft)	
7/1/2009	620	12.2500	9.6250	0	1,552	
7/5/2009	950	8.7500	7.0000	1,830	4,600	

Tools/Problems Summary					
Date	Tool Type	OD (in)	ID (in)	Top (KB ft)	Bottom (KB ft)
	Pkr	7.0000	2.8750	4,550	

Cement Plug Summary

Perf Summary

Formation Tops Summary

Field Name			Lease Name		Well No.	County	State	API	GL (ft)	KB (ft)
House			House SWD		1	Lea	New Mexico	30-025-39193	3563	3575
Sec.	Twp/Blk	Rng/Svy	Footage			Spud Date		Comp. Date	Prepared By	Last Updated
M-12	20S	38E	990' FSL & 500' FWL from Section			6/29/2009			Jeff Frederick	12/1/2009
Current Status										
Complete well as a San Andres and Glorieta disposal well										

Detailed Summaries

Hole Summary

Date	OD (in)	Top (KB ft)	Bottom (KB ft)	Comments
	6 1250	4,600	5,700	
6/29/2009	12 2500	0	1,552	
7/1/2009	8.7500	1,552	4,600	
7/6/2009	6.1250	4,600	5,500	

Tubular Summary

Date	Description	OD (in)	Wt (lb/ft)	Grade	Coupling	Top (KB ft)	Bottom (KB ft)	Comments
	Tubing	2.8750	6.50			0	4,550	IPC tubing
7/1/2009	Surface Casing	9 6250	40.00	K55	LTC	0	1,552	
7/5/2009	Production Casing	7 0000	26 00	L80	LTC	0	41	
7/5/2009	Production Casing	7.0000	26 00	J55	LTC	41	3,631	
7/5/2009	Production Casing	7 0000	26 00	L80	LTC	3,631	4,600	

Casing Cement Summary

Date	No. Sx	OD (in)	ID (in)	Top (KB ft)	Bottom (KB ft)	Cement Description	Comments
7/1/2009	620	12 2500	9 6250	0	1,552		Circulate trace of cement
7/5/2009	950	8 7500	7 0000	1,830	4,600		Circulate 174 sx cement, Good bond from 4600-4290', poor bond from 4290-3290', very poor bond from 3290-2700', free pipe from 2700-2060', very poor bond from 2060-1830' (estimated TOC)

Tools/Problems Summary

Date	Tool Type	OD (in)	ID (in)	Top (KB ft)	Bottom (KB ft)	Description	Comments
	Pkr	7.0000	2 8750	4,550			

Cement Plug Summary

Perf Summary

Formation Top Summary

Completion History Summary

Date	Comments
6/29/2009	Spud well.
7/13/2009	Run CBL (4600'-surface) and CNL (5500-4540'). Found TOC at 1830' with good bond from 4600-4290', poor bond from 4290-3290', very poor bond from 3290-2700', free pipe from 2700-2060', very poor bond from 2060-1830' (estimated TOC)
7/14/2009	RU CUDD ENERGY SERVICES & MIX ACID & CHEMICALS IN FRAC TANK TITRATE ACID TO 15%. HOLD TAILGATE SAFETY MEETING TEST LINES TO 6080#. START ON WATER & LOAD TBG W/ 3 5 BBLS 1% KCL FW. BRK DOWN PERFS @ 2300#. START ACID STAGES & PUMP 2982 GALS 15% HCL NEFE-I ACID @ 8.0 BPM, 2972# DROP 2K LBS SALT IN 24 BBLS 10# BRINE @ 7 3 BPM, 2833#. 1ST BLOCK ON FORM W/ 100# INCREASE PUMP 2982 GALS 15% ACID @ 8.0 BPM, 2923#. DROP 4K LBS SALT IN 48 BBLS 10# BRINE @ 7.1 BPM, 2508#. 2ND BLOCK ON FORM W/ 200# INCREASE. PUMP 2982 GALS 15% ACID @ 8.6 BPM, 3300#. DROP 4K LBS SALT IN 48 BBLS 10# BRINE @ 8 2 BPM, 3019# 3RD BLOCK ON FORM W/ 300# INCREASE. PUMP 2982 GALS 15% ACID @ 8 6 BPM, 3297# DROP 4K LBS SALT IN 48 BBLS 10# BRINE @ 8 1 BPM, 2919# 4TH BLOCK ON FORM W/ 400# INCREASE PUMP 2982 GALS 15% ACID @ 8 7 BPM, 3250# DROP 5K LBS SALT IN 72 BBLS 10# BRINE @ 8 3 BPM, 3552# 5TH BLOCK ON FORM W/ 300# INCREASE PUMP 5082 GALS 15% ACID @ 8 7 BPM, 3520# PUMP 85 BBLS 1% KCL FW FLUSH @ 8 8 BPM, 3327# SD ISDP - 1770#. 5 MIN - 1718#. 10 MIN - 1672#. 15 MIN - 1649# BLWTR - 775 BBLS. RD CUDD ENERGY SERVICES. OPEN WELL & FLOWBACK 230 BBLS LOAD WATER & ACID GAS RELEASE PKR & POH W/ TBG LD PKR RIH W/ TBG & TAG SALT @ 5273'.
7/16/2009	RU CUDD ENERGY SERVICES PRESS BACKSIDE TO 628# TEST LINES TO 4500# OPEN VALVE & PUMP 18 BBLS 1% KCL FW FOR 37 MINS @ 5 BPM, 811# PUMP 30 BBLS 1% KCL FW FOR 30 MINS @ 1.0 BPM, 1275# PUMP 45 BBLS 1% KCL FW FOR 30 MINS @ 1 5 BPM, 1507# PUMP 63 BBLS 1% KCL FW FOR 30 MINS @ 2 1 BPM, 1623# PUMP 78 BBLS 1% KCL FW FOR 30 MINS @ 2 6 BPM, 1762#. PUMP 93 BBLS 1% KCL FW FOR 30 MINS @ 3 1 BPM, 1808# PUMP 105 BBLS 1% KCL FW FOR 30 MINS @ 3.5 BPM, 1855# SD ISDP - 1600# 5 MIN - 1600#. 10 MIN - 1600# 15 MIN - 1600#. RD CUDD SI WELL 2 HRS OPEN WELL PRESS @ 900# FLOWBACK 40 BBLS WATER
7/17/2009	RU GRAY WIRELINE RIH W/ TEMP SURVEY & RUN BASE TEMP SURVEY. WITH REVERSE UNIT PUMP 100 BBLS 1% KCL FW @ 2.0 BPM & RUN TEMP SURVEY WHILE PUMPING STOP PUMPING WAIT 1 HR & RUN SI TEMP SURVEY DETERMINED WATER TO GOING OUT IN TOP 400' OF OH POH & RD GRAY WL. RELEASE PKR & POH W/ TBG
7/20/2009	PU SONIC HAMMER TOOL & RIH W/ TBG TO 5500' RU CUDD ENERGY SERVICES. ROLL ACID IN FRAC TANK. TITRATE ACID TO 15%. TEST LINES TO 4050# LOAD TBG & BRK CIRC W/ 42 BBLS 1% KCL FW ACIDIZE SAN ANDRES OH W/ SONIC HAMMER. ACIDIZE 5500'-5427' W/ 1344 GALS 15% HCL ACID @ 3.8 BPM, TBG - 2025#, CSG - 1305#. ACIDIZE 5427'-5363' W/ 2,016 GALS 15% HCL ACID @ 3 7 BPM, TBG - 2276#, CSG - 1444#. ACIDIZE 5363'-5303' W/ 2,016 GALS 15% HCL ACID @ 3.7 BPM, TBG - 2320#, CSG - 1510#. ACIDIZE 5303'-5238' W/ 2,016 GALS 15% HCL ACID @ 3 7 BPM, TBG - 2276#, CSG - 1374#. ACIDIZE 5238'-5172' W/ 2,016 GALS 15% HCL ACID @ 3 7 BPM, TBG - 2160#, CSG - 1444#. SHUT BOP RAMS & ACIDIZE 5205' W/ 4,494 GALS 15% HCL ACID @ 6.0 BPM, TBG - 3920#. CSG - 1480# FLUSH TBG W/ 32 BBLS 1% KCL FW. FLUSH CSG W/ 70 BBLS 1% KCL FW. SD. RD CUDD

## District I

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## District IV

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

## State of New Mexico

Minerals &amp; Natural Resources Department

## OIL CONSERVATION DIVISION

1220 South St. Francis Dr.

Santa Fe, NM 87505

Form C-102

Revised October 12, 2005

Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

☐ AMENDED REPORT

## WELL LOCATION AND ACREAGE DEDICATION PLAT

<sup>1</sup> API Number 30-025-39193		<sup>2</sup> Pool Code 96127	<sup>3</sup> Pool Name SWD; San Andres - Glorieta
<sup>4</sup> Property Code 37421	<sup>5</sup> Property Name House SWD		<sup>6</sup> Well Number 1
<sup>7</sup> OGRID No. 873	<sup>8</sup> Operator Name Apache Corporation		<sup>9</sup> Elevation 3563'

<sup>10</sup> Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	12	20S	38E		990	South	500	West	Lea

<sup>11</sup> Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
<sup>12</sup> Dedicated Acres 40	<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code		<sup>15</sup> Order No. SWD-1169-A					

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

<sup>16</sup> 				<sup>17</sup> <b>OPERATOR CERTIFICATION</b> I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.  Signature _____ Date 12/01/2009 Printed Name Amber Cooke
				<sup>18</sup> <b>SURVEYOR CERTIFICATION</b> I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.  Date of Survey _____ Signature and Seal of Professional Surveyor _____  Certificate Number _____