

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
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

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

HOBBS OCD

DEC 27 2012

Submit to appropriate District Office

RECEIVED AMENDED REPORT

Form C-101
June 16, 2008

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

¹ Operator Name and Address Apache Corp., 303 Veterans Airpark Ste. 3000, Midland, TX 79705		² OGRID Number 873
		³ API Number 30 - 025-21926
⁴ Property Code 302374	⁵ Property Name V Laughlin	⁶ Well No. 004
⁹ Proposed Pool 1 Eunice Monument; Grayburg-San Andres		¹⁰ 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
A	09	20S	37E		660	North	660	East	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

¹¹ Work Type Code P	¹² Well Type Code G	¹³ Cable/Rotary R	¹⁴ Lease Type Code P	¹⁵ Ground Level Elevation 3553'
¹⁶ Multiple N	¹⁷ Proposed Depth 3846'	¹⁸ Formation Grayburg	¹⁹ Contractor	²⁰ Spud Date 11/14/1966

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" & 10-3/4"	25.6# & 40.5#	1208'	600 sacks	
8-3/4"	5-1/2"	15.5# & 17#	6807'	1100 sacks	

²² 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 would like to drill out all plugs, squeeze the Queen and Penrose, perforate, and acid stimulate the Grayburg as per the attached procedure.

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

²³ I hereby certify that the information given above is true and complete to the best of my knowledge and belief.

Signature: 

Printed name: Fatima Vasquez

Title: Regulatory Tech I

E-mail Address: Fatima.Vasquez@apachecorp.com

Date: 12/21/2012

Phone: (432) 818-1015

OIL CONSERVATION DIVISION

Approved by:

Title:

Petroleum Engineer

Approval Date:

01/03/12

Expiration Date:

Conditions of Approval Attached ☐

JAN 18 2013

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

Form C-102
Revised October 12, 2005
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-025-21926		² Pool Code 23000	³ Pool Name Eunice Monument; Grayburg-San Andres
⁴ Property Code 302374	⁵ Property Name V Laughlin		⁶ Well Number 004
⁷ OGRID No. 873	⁸ Operator Name Apache Corporation: 303 Veterans Airpark Lane, Suite 3000 Midland, TX 79705		⁹ Elevation 3553'

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	09	20S	37E		660	North	660	East	Lea

¹¹ 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
¹² Dedicated Acres 40	¹³ Joint or Infill	¹⁴ Consolidation Code		¹⁵ Order No.					

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

¹⁶ 	¹⁷ OPERATOR CERTIFICATION 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 12/21/2012 Fatima Vasquez Printed Name	
	¹⁸ SURVEYOR CERTIFICATION 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 _____	

V. Laughlin #4
API # 30-025-21926
Sec 9, T20S, R37E
Elevation: 3554' KB, 3542' GL
TD: 6,809'
PBSD: 3,156'
Casing Record: 9-5/8" 25# @ 1208' w/ 600 sxs
5-1/2" 15.5# & 17# @ 6807' w/ 1100 sxs

Perfs: Queen: 3,206'-3,446' (374 holes) (Temporary Abandoned w/ CIBP @ 3,156')
Penrose: 3,471'-3,497' (56 holes) (Temporary Abandoned w/ CIBP @ 3,465')
Tubb: 6,420'-6,491' (13 holes) (Abandoned w/ CIBP @ 3,700' & 6,380')
Tubb: 6,532'-6,678' (13 holes)

Objective: Drill out all plugs, squeeze the Queen and Penrose, perforate, and acid stimulate the Grayburg.

AFE: PA-13-3024

1. MIRU unit. Check pressure on well.
2. ND WH. NU BOP. PU and RIH w/ 3-7/8" bit, bit sub, and drill collars on 2-7/8" J-55 tubing to be used as work string to CIBP @ 3,156'. RU reverse unit and break circulation. Drill out CIBP or push to next plug at \pm 3,465'. POOH.
3. RIH w/ CICR on WS and set at \pm 3,150'. Sting into CICR.
4. MIRU cement Service Company. Establish injection rate into perforations. Pump cement as dictated by injection rate. Hesitate squeeze perforations per Monument office recommendations. Displace to bottom perf with 18 bbls of flush.
5. Sting out of CICR and POOH w/ WS.
6. PU and RIH w/ 3-7/8" bit, bit sub and drill collars on WS. Tag CICR. RU reverse unit and break circulation. Drill out CICR and cement to 3,465'. Test casing squeeze to 500 psi. *If squeeze does not test, repeat step 3-6.*
7. Continue to drill out CIBP at 3,465'. Continue in hole and clean well out to CIBP @ \pm 3,681'. POOH.
8. RIH w/ CICR on WS and set at \pm 3,465'. Sting into CICR.
9. MIRU cement Service Company. Establish injection rate into perforations. Pump cement as dictated by injection rate. Hesitate squeeze perforations per Monument office recommendations. Displace to bottom perf with 20 bbls of flush.
10. Sting out of CICR and POOH w/ WS.
11. PU and RIH w/ 3-7/8" bit, bit sub and drill collars on WS. Tag CICR. RU reverse unit and break circulation. Drill out CICR and cement to 3,681'. Test casing squeeze to 500 psi. *If squeeze does not test, repeat step 8-11.*
12. Continue to drill out CIBP and cement at 3,700'. Continue in hole and clean well out to cement @ \pm 6,350'. Circulate hole clean. Test casing to 500 psi. POOH.
13. MIRU WL. TIH w/ perforating guns and perforate the Grayburg from 3,708'-3,780' (72') and 3,796'-3,846' (50') w/ jspf using Connex 0.5" diameter BH charges (244 holes).

14. TOH w/ perforating guns. RDMO wire-line
15. RIH w/ SN and packer on 2-7/8" WS. Spot 200 gallons of 15% acid across new perforations. TOH and set PKR just above new perforations at \pm 3,658'. Test backside to 500 psi.
16. MIRU acid services. Acidize the Grayburg (3,708-3,846) with 6000 gallons 15% NEFE HCL w/ additives using 350 ball sealers to divert evenly spaced through the job at a max rate. Max treating pressure not to exceed 6000 psi at surface. *Maintain treating pressure between 2000-3000 psi as directed by Monument team to stay below frac pressure and most effectively treat the well.* Displace to bottom perf with 22 BBLS of flush. Surge balls.
17. Release PKR and TIH to knock balls off perforations. TOH and set PKR at 3,658'.
18. RU swab equipment and recover load and swab test for fluid entry and oil cut. Report results to Midland. RD swab equipment. *If unproductive, SI for future evaluation or plugging*
19. Kill well if necessary. Release PKR and TOH.
20. RIH w/ production tubing and rods as per the Monument office specifications.
21. RDMOPU. Set pumping unit, install electric and automation and return well to production and place into test for 10 days.

GL=3542'
KB=3554'
Spud: 11/14/66

Apache Corporation – V. Laughlin #4

Wellbore Diagram – Proposed Status

Date : 12/19/2012 R.
Taylor

API: 30-025-21926

Surface Location



660' FNL & 660' FEL, Unit
Sec 9, T20S, R37E, Lea County, NM

Surface Casing

9-5/8" 25# @ 1208' w/ 600 sx to surface

TOC @ 2421'

TAC @ TBD
SN @ TBD

1/06: CIBP @ 3156'. Well TA'D
TBD: Drilled out plug

12/97: Perf Queen @ 3206-34; 3323-48; 3384-3402; 3424-46 w/ 4 jspf (374 holes).
Frac'd w/ 83.8k gal CO2 linear foam gel w/ 200 tons CO2 & 250k# 12/20 brady.
TBD: SQZ'd w/ XX sxs cement.

12/97: CIBP @ 3465'
TBD: Drilled out plug

4/76: Perf Eumont @ 3471; 80; 82; 85; 88; 93; 97; 3501; 04; 20; 25; 27; 32; 34; 39;
50; 52; 58; 60; 66; 68; 70; 73; 75; 82; 93; 95; 97 w/ 2 jspf (56 holes). Acidized w/
4000 gals.
9/76: acidized w/ 3000 gal 15% HCL
3/77: Foam frac'd w/ 13,500 gal 70Q foam w/ 20k# 20/40 snd.
TBD: SQZ'd w/ XX sxs cement.

4/76: CIBP @ 3700' w/ 10' cmt on top. TOC 3681'
TBD: Drilled out plug.

TBD: Perf Grayburg @ 3708-3780; 3796-3846 w/ 2 jspf (244 holes).
Acidized w/ 6000 gallons 15% NEFE HCL

4/76: CIBP @ 6380' w/ 50' cmt on top

12/66: Perf Tubb @ 6420; 22; 30; 36; 39; 46; 50; 54; 70; 80; 84; 91 w/
1 jspf (12 holes). Acidized w/ 1500 gals 15% NEFE. Frac w/ 38k gal
water and 25k# snd.

12/66: Perf Tubb @ 6532; 55; 60; 66; 89; 6606; 22; 32; 40; 54; 62; 70;
78 w/ 1 jspf (13 holes). Acidized w/ 1500 gals 15% NEFE. Frac w/
16.8k gal water and 8.8k# snd.

Production Casing

5-1/2" 15.5# & 17# @ 6807' w/ 1100 sxs to surface

PBTD = 6743'
TD = 6809'

Hole Size
=12 1/4"

Hole Size
=8-3/4"