



PHOENIX
TECHNOLOGY SERVICES

October 27, 2014

Oil Conservation Division
State of New Mexico
811 S. First St.
Artesia, New Mexico 88210

NM OIL CONSERVATION
ARTESIA DISTRICT

OCT 31 2014

RECEIVED

Dear District 2 - Artesia

Attention: Regulatory Department

Re: Apache Corporation
Lee Federal #75
Eddy County, NM
API #30-015-41414
Job No. 1411871

Enclosed please find the Survey Data Certification, and the original Plat and one copy of the Survey Report performed on the above referenced Well by Phoenix Technology Services, Inc. (P-5 No. 664171). Other information required by your office is as follows:

Name & Title of Surveyor	Drain Hole Number	Surveyed Depths		Dates Performed		Type of Survey
		From	To	Start	End	
Jeff Broussard	75	517	6,370	10/07/14	10/15/14	MWD

A certified plat on which the bottom hole location is oriented both to the surface location and to the lease lines (or unit lines in case of pooling) is attached to the survey report. If any other information is required, please contact the undersigned at the letterhead address and phone number.

Best Regards,

Dana Robinson

Dana Robinson
Operations Administrator
Certified mail receipt number:

7011 1570 0001 4365 2544

Phoenix Technology Services SURVEY DATA CERTIFICATION



PHOENIX JOB NUMBER

1411871

OPERATOR

Apache

WELL NAME

Lee Federal #75

COUNTY & STATE

Eddy County, NM

API WELL NUMBER

30-015-41414

PROPOSED DIRECTION

165.27°

TIE-IN DATA						
MEASURED	VERTICAL			N-S	E-W	DATA
DEPTH	DEPTH	INCLIN	AZIMUTH	COORD	COORD	SOURCE
497. ft	496.99 ft	0.90	351.70	1.09 ft	21 ft	Gyro

FIRST	FIRST		
SURVEY	SURVEY		
DATE	DEPTH	INCLIN	AZIMUTH
7-Oct-14	517.00 ft	0.80	337.70

SURVEY INSTRUMENT

TYPE

Phoenix MWD

LAST	LAST		
SURVEY	SURVEY		
DATE	DEPTH	INCLIN	AZIMUTH
15-Oct-14	6,370.00 ft	2.10	72.30

TO THE BEST OF MY KNOWLEDGE I
CERTIFY THIS SURVEY DATA TO BE
TRUE AND CORRECT.

PROJECTED	PROJECTED		
TD SURVEY	TD SURVEY		
DATE	DEPTH	INCLIN	AZIMUTH
15-Oct-14	6,422.00 ft	2.10	72.30

Jeff Broussard

PRINT YOUR NAME ABOVE

Jeff Broussard

SIGN YOUR NAME ABOVE

MAGNETIC DECLINATION OR TOTAL GRID

TOTAL CORRECTION USED	
	7.32
DECLINATION OR GRID	GRID

10/15/2014

TODAY'S DATE

MWD SUPERVISOR 1

Jeff Broussard

DIRECTIONAL DRILLER 1

Jon Woodgate

MWD SUPERVISOR 2

DIRECTIONAL DRILLER 2

12329 Cutten Rd., Houston, Texas 777066

(713)337-0600 (Voice), (713)337-0599 (Fax)

DISTRICT I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
DISTRICT II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
DISTRICT III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

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

NM OIL CONSERVATION
ARTESIA DISTRICT

OCT 31 2014

Form C-102

Revised August 1, 2011
Submit one copy to appropriate
District Office

RECEIVED

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
Property Code	Property Name LEE FEDERAL	Well Number 75
OGRID No.	Operator Name APACHE CORPORATION	Elevation 3635'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	20	17-S	31-E		2215	NORTH	670	WEST	EDDY

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
E	20	17-S	31-E		2310	NORTH	990	WEST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	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

GEODETIC COORDINATES NAD 27 NME SURFACE LOCATION Y=662683.2 N X=633813.4 E LAT.=32.821046° N LONG.=103.897746° W LAT.=32° 49' 16" N LONG.=103° 53' 52" W BOTTOM HOLE LOCATION Y=662590.8 N X=634133.7 E GRID AZ.=106°06'03" HORIZ. DIST.=333.5' DETAIL 3630.7' 3635.5' 600' 3623.9' 3637.7' CORNER COORDINATES TABLE A) Y=663571.9 N, X=633138.8 E B) Y=663582.1 N, X=634459.0 E C) Y=662251.2 N, X=633145.7 E D) Y=662261.6 N, X=634466.5 E	OPERATOR CERTIFICATION I hereby certify that the information 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 mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. Signature _____ Date _____ Printed Name _____ E-mail Address _____ 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. SEPTEMBER 20, 2012 Date of Survey _____ Signature & Seal of Professional Surveyor _____ Certificate Number 12641 Ronald J. Eidson 3239 AF REL. W.O.: 12.11.1326 JWSC W.O.: 13.13.0008
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Apache Corporation

Eddy County, NM (NAD27 NME)

Lee Federal

#75

WB1 / Job #1411871

Survey: Phoenix MWD Survey

Standard Survey Report

16 October, 2014



Company:	Apache Corporation	Local Co-ordinate Reference:	Well #75
Project:	Eddy County, NM (NAD27 NME)	TVD Reference:	KB @ 3646.00usft (Capstar 114)
Site:	Lee Federal	MD Reference:	KB @ 3646.00usft (Capstar 114)
Well:	#75	North Reference:	Grid
Wellbore:	WB1 / Job #1411871	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Capstar 114)	Database:	Compass 5000 GCR DB

Project	Eddy County, NM (NAD27 NME)		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site	Lee Federal		
Site Position:		Northing:	664,811.60 usft
From:	Map	Easting:	634,967.00 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 49' 36.77792 N
		Longitude:	103° 53' 38.26184 W
		Grid Convergence:	0.24 °

Well	#75		
Well Position	+N/-S	0.00 usft	Latitude: 32° 49' 15.76435 N
	+E/-W	0.00 usft	Longitude: 103° 53' 51.88384 W
Position Uncertainty	0.00 usft	Wellhead Elevation:	0.00 usft
		Ground Level:	3,635.00 usft

Wellbore:	WB1 / Job #1411871				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
	BGGM2014	9/18/2014	(°)	(°)	(nT)
			7.55	60.60	48,569

Design	Surveys (Capstar 114)			
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth: 0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(usft)	(usft)	(usft)	(°)
	0.00	0.00	0.00	106.09

Survey Program	Date	10/16/2014		
From	To	Survey (Wellbore)	Tool Name	Description
(usft)	(usft)			
100.00	497.00	Gyro Survey (WB1 / Job #1411871)	NS-GYRO-MS	North sensing gyrocompassing m/s
497.00	6,422.00	Phoenix MWD Survey (WB1 / Job #14118)	PHX+MWD+BGGM	PHX+MWD+BGGM v3:standard declination

Survey										
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Vertical	Dogleg	Build	Turn	
Depth	(°)	(°)	Depth	(usft)	(usft)	Section	Rate	Rate	Rate	
(usft)			(usft)			(usft)	(°/100usft)	(°/100usft)	(°/100usft)	
497.00	0.90	351.70	496.99	1.09	0.21	-0.10	0.00	0.00	0.00	
Tie-on Gyro Survey										
517.00	0.80	337.70	516.99	1.37	0.13	-0.25	1.15	-0.50	-70.00	
First Phoenix MWD Survey										
644.00	0.80	347.90	643.98	3.06	-0.39	-1.22	0.11	0.00	8.03	
772.00	0.80	9.70	771.96	4.82	-0.42	-1.74	0.24	0.00	17.03	
900.00	0.80	17.50	899.95	6.55	-0.01	-1.82	0.09	0.00	6.09	
1,029.00	0.80	48.30	1,028.94	8.01	0.94	-1.32	0.33	0.00	23.88	
1,156.00	1.40	58.10	1,155.92	9.42	2.92	0.19	0.49	0.47	7.72	

Company:	Apache Corporation	Local Co-ordinate Reference:	Well #75
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Site:	Lee Federal	MD Reference:	KB @ 3646.00usft (Capstar 114)
Well:	#75	North Reference:	Grid
Wellbore:	WB1 / Job #1411871	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Capstar 114)	Database:	Compass 5000 GCR DB

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
1,284.00	1.60	79.40	1,283.87	10.57	6.00	2.84	0.46	0.16	16.64
1,415.00	3.30	96.90	1,414.75	10.46	11.54	8.19	1.40	1.30	13.36
1,544.00	3.90	104.30	1,543.49	8.93	19.48	16.24	0.59	0.47	5.74
1,672.00	4.00	109.40	1,671.19	6.37	27.91	25.05	0.29	0.08	3.98
1,800.00	3.90	111.90	1,798.89	3.26	36.16	33.84	0.16	-0.08	1.95
2,056.00	3.70	107.20	2,054.32	-2.43	52.13	50.76	0.14	-0.08	-1.84
2,184.00	3.50	104.60	2,182.07	-4.63	59.85	58.79	0.20	-0.16	-2.03
2,313.00	3.30	101.60	2,310.85	-6.37	67.30	66.43	0.21	-0.16	-2.33
2,441.00	3.20	110.90	2,438.64	-8.39	74.25	73.66	0.42	-0.08	7.27
2,569.00	3.00	108.90	2,566.45	-10.75	80.75	80.57	0.18	-0.16	-1.56
2,697.00	3.50	115.30	2,694.25	-13.50	87.45	87.77	0.48	0.39	5.00
2,826.00	3.70	118.10	2,822.99	-17.15	94.69	95.73	0.21	0.16	2.17
2,954.00	4.00	121.90	2,950.70	-21.45	102.12	104.06	0.31	0.23	2.97
3,082.00	4.40	125.80	3,078.36	-26.68	109.89	112.98	0.38	0.31	3.05
3,210.00	4.80	125.80	3,205.95	-32.69	118.22	122.65	0.31	0.31	0.00
3,339.00	4.80	115.80	3,334.50	-38.19	127.46	133.05	0.65	0.00	-7.75
3,448.00	4.30	105.20	3,443.16	-41.25	135.50	141.63	0.90	-0.46	-9.72
3,548.00	4.00	105.10	3,542.89	-43.14	142.49	148.86	0.30	-0.30	-0.10
3,676.00	3.60	104.90	3,670.61	-45.34	150.68	157.35	0.31	-0.31	-0.16
3,805.00	3.50	105.60	3,799.36	-47.44	158.39	165.33	0.08	-0.08	0.54
3,933.00	3.40	103.20	3,927.13	-49.36	165.85	173.03	0.14	-0.08	-1.88
4,061.00	3.40	102.80	4,054.91	-51.06	173.25	180.61	0.02	0.00	-0.31
4,192.00	3.30	101.10	4,185.68	-52.65	180.73	188.25	0.11	-0.08	-1.30
4,321.00	3.30	99.00	4,314.47	-53.95	188.04	195.63	0.09	0.00	-1.63
4,449.00	3.00	100.50	4,442.28	-55.13	194.98	202.62	0.24	-0.23	1.17
4,577.00	2.90	104.70	4,570.11	-56.56	201.40	209.19	0.19	-0.08	3.28
4,706.00	2.50	102.90	4,698.96	-58.02	207.30	215.26	0.32	-0.31	-1.40
4,834.00	3.00	108.10	4,826.81	-59.68	213.21	221.39	0.44	0.39	4.06
4,962.00	4.50	115.10	4,954.54	-62.86	220.94	229.70	1.22	1.17	5.47
5,091.00	4.70	116.70	5,083.12	-67.38	230.24	239.89	0.18	0.16	1.24
5,219.00	4.80	116.00	5,210.68	-72.08	239.74	250.32	0.09	0.08	-0.55
5,350.00	4.40	115.70	5,341.26	-76.66	249.19	260.68	0.31	-0.31	-0.23
5,482.00	4.40	111.00	5,472.87	-80.67	258.48	270.72	0.27	0.00	-3.56
5,610.00	3.80	102.20	5,600.55	-83.33	267.21	279.84	0.68	-0.47	-6.88
5,738.00	3.50	97.80	5,728.29	-84.76	275.23	287.94	0.32	-0.23	-3.44
5,870.00	4.10	105.60	5,860.00	-86.57	283.77	296.64	0.60	0.45	5.91
6,001.00	3.30	101.40	5,990.72	-88.58	291.97	305.08	0.64	-0.61	-3.21
6,132.00	3.00	99.00	6,121.52	-89.86	299.06	312.24	0.25	-0.23	-1.83
6,264.00	2.20	74.60	6,253.39	-89.72	304.91	317.83	1.02	-0.61	-18.48
6,370.00	2.10	72.30	6,359.32	-88.59	308.72	321.18	0.12	-0.09	-2.17
Last Phoenix MWD Survey									
6,422.00	2.10	72.30	6,411.28	-88.01	310.54	322.77	0.00	0.00	0.00
Projection to TD									



Phoenix Technology Services

Survey Report



Company:	Apache Corporation	Local Co-ordinate Reference:	Well #75
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Site:	Lee Federal	MD Reference:	KB @ 3646.00usft (Capstar 114)
Well:	#75	North Reference:	Grid
Wellbore:	WB1 / Job #1411871	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Capstar 114)	Database:	Compass 5000 GCR DB

Survey Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
497.00	496.99	1.09	0.21	Tie-on Gyro Survey
517.00	516.99	1.37	0.13	First Phoenix MWD Survey
6,370.00	6,359.32	-88.59	308.72	Last Phoenix MWD Survey
6,422.00	6,411.28	-88.01	310.54	Projection to TD

Checked By: _____ Approved By: _____ Date: _____