



PHOENIX
TECHNOLOGY SERVICES

October 30, 2015

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

NM OIL CONSERVATION
ARTESIA DISTRICT

JAN 19 2016

RECEIVED

Dear District 2 - Artesia

Attention: Regulatory Department

Re: Apache Corporation
Lee Federal #94H
Eddy County, NM
API #30-015-43365
Job No. 1514491

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	
Mike Miller	94H	3,557	6,387	10/23/15	10/25/15	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,

Claudia Carreon

Claudia Carreon
Operations Administrator

Certified mail receipt number: 7015 0640 0000 9907 5180

Phoenix Technology Services
SURVEY DATA CERTIFICATION



PHOENIX JOB NUMBER

1514491

OPERATOR

Apache

WELL NAME

Lee Federal #94H

COUNTY & STATE

Eddy County, NM

API WELL NUMBER

30-015-43365

PROPOSED DIRECTION

161.84

TIE-IN DATA						
MEASURED	VERTICAL			N-S	E-W	DATA
DEPTH	DEPTH	INCLIN	AZIMUTH	COORD	COORD	SOURCE
3,444.00 ft	3,443.65 ft	0.17	258.75	-22.83 ft	15.70 ft	Gyro

FIRST	FIRST		
SURVEY	SURVEY		
DATE	DEPTH	INCLIN	AZIMUTH
23-Oct-15	3,557.00 ft	0.40	281.50

SURVEY INSTRUMENT
TYPE

Phoenix MWD

LAST	LAST		
SURVEY	SURVEY		
DATE	DEPTH	INCLIN	AZIMUTH
25-Oct-15	6,387.00 ft	7.70	174.70

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
25-Oct-15	6,435.00 ft	7.70	174.70

Mike Miller

PRINT YOUR NAME ABOVE

Mike Miller

SIGN YOUR NAME ABOVE

MAGNETIC DECLINATION OR TOTAL GRID

TOTAL CORRECTION USED	
	7.4
DECLINATION OR GRID	GRID

25-Oct-15

TODAY'S DATE

MWD SUPERVISOR 1

Mike Miller

DIRECTIONAL DRILLER 1

Steven Hawkins

MWD SUPERVISOR 2

Lee Conoly

DIRECTIONAL DRILLER 2

Brant Duplechain

12329 Cutten Rd., Houston, Texas 777066

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

NM OIL CONSERVATION
ARTESIA DISTRICT

JAN 19 2016

RECEIVED

Apache Corporation

Eddy County, NM (NAD27 NME)

Lee Federal

#94H

OH / Job #1514491

Survey: Phoenix MWD Surveys

Standard Survey Report

26 October, 2015

Phoenix Technology Services LP

Survey Report

Company:	Apache Corporation	Local Co-ordinate Reference:	Well #94H
Project:	Eddy County, NM (NAD27 NME)	TVD Reference:	RKB @ 3683.00usft (Capstar 119)
Site:	Lee Federal	MD Reference:	RKB @ 3683.00usft (Capstar 119)
Well:	#94H	North Reference:	Grid
Wellbore:	OH / Job #1514491	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Capstar 119)	Database:	Compass 5000 GCR

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

Well	#94H					
Well Position	+N/-S	0.00 usft	Northing:	665,004.10 usft	Latitude:	32° 49' 38.72307 N
	+E/-W	0.00 usft	Easting:	633,981.10 usft	Longitude:	103° 53' 49.80644 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	3,672.00 usft

Wellbore	OH / Job #1514491				
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	10/16/2015	7.63	60.77	48,556

Design	Surveys (Capstar 119)				
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Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	161.84

Survey Program	Date	10/26/2015			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
57.00	3,444.00	Scientific Gyro Surveys (OH / Job #1514491)	CB-GYRO-MS	Camera based gyro multishot	
3,444.00	6,435.00	Phoenix MWD Surveys (OH / Job #1514491)	PHX+MWD+HDGM	PHX+OWSG MWD + HDGM	

Survey	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)
	3,444.00	0.17	258.75	3,443.65	-22.83	15.70	26.59	0.00	0.00	0.00
Tie In to Gyro Surveys	3,557.00	0.40	281.50	3,556.65	-22.78	15.15	26.37	0.22	0.20	20.13
First Phoenix MWD Survey	3,642.00	1.50	188.70	3,641.64	-23.82	14.69	27.22	1.85	1.29	-109.18
	3,727.00	4.00	182.00	3,726.53	-27.89	14.42	30.99	2.96	2.94	-7.88
	3,812.00	5.80	179.40	3,811.22	-35.15	14.36	37.87	2.13	2.12	-3.06
	3,897.00	6.10	179.20	3,895.76	-43.96	14.47	46.28	0.35	0.35	-0.24
	3,983.00	8.00	177.80	3,981.11	-54.51	14.76	56.39	2.22	2.21	-1.63

Phoenix Technology Services LP

Survey Report

Company:	Apache Corporation	Local Co-ordinate Reference:	Well #94H
Project:	Eddy County, NM (NAD27 NME)	TVD Reference:	RKB @ 3683.00usft (Capstar 119)
Site:	Lee Federal	MD Reference:	RKB @ 3683.00usft (Capstar 119)
Well:	#94H	North Reference:	Grid
Wellbore:	OH / Job #1514491	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Capstar 119)	Database:	Compass 5000 GCR

Survey										
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)	
4,068.00	9.40	171.10	4,065.13	-67.28	16.06	68.93	2.03	1.65	-7.88	
4,153.00	10.10	160.10	4,148.91	-81.14	19.67	83.23	2.34	0.82	-12.94	
4,281.00	10.60	159.40	4,274.83	-102.72	27.64	106.21	0.40	0.39	-0.55	
4,409.00	9.50	164.60	4,400.86	-123.92	34.58	128.53	1.11	-0.86	4.06	
4,537.00	9.80	165.00	4,527.05	-144.63	40.21	149.96	0.24	0.23	0.31	
4,664.00	9.10	158.60	4,652.33	-164.42	46.67	170.77	0.99	-0.55	-5.04	
4,792.00	9.60	159.40	4,778.63	-183.83	54.12	191.54	0.40	0.39	0.63	
4,920.00	10.00	159.50	4,904.76	-204.23	61.77	213.31	0.31	0.31	0.08	
5,048.00	10.40	161.50	5,030.74	-225.60	69.32	235.97	0.42	0.31	1.56	
5,176.00	9.80	154.20	5,156.76	-246.37	77.73	258.32	1.10	-0.47	-5.70	
5,304.00	10.00	155.30	5,282.85	-266.27	87.12	280.16	0.22	0.16	0.86	
5,432.00	8.80	158.60	5,409.13	-285.48	95.33	300.98	1.03	-0.94	2.58	
5,560.00	9.10	158.10	5,535.58	-303.99	102.68	320.85	0.24	0.23	-0.39	
5,688.00	9.30	160.30	5,661.93	-323.12	109.94	341.29	0.32	0.16	1.72	
5,815.00	9.80	161.50	5,787.17	-343.03	116.83	362.36	0.42	0.39	0.94	
5,943.00	10.20	163.50	5,913.22	-364.23	123.51	384.58	0.41	0.31	1.56	
6,070.00	8.90	163.40	6,038.46	-384.43	129.51	405.64	1.02	-1.02	-0.08	
6,198.00	8.80	165.80	6,164.94	-403.41	134.74	425.31	0.30	-0.08	1.88	
6,326.00	8.50	172.00	6,291.48	-422.27	138.46	444.39	0.76	-0.23	4.84	
6,387.00	7.70	174.70	6,351.88	-430.80	139.46	452.81	1.45	-1.31	4.43	
6,435.00	7.70	174.70	6,399.44	-437.20	140.06	459.08	0.00	0.00	0.00	

Projection to Bit

Survey Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
3,444.00	3,443.65	-22.83	15.70	Tie In to Gyro Surveys	
3,557.00	3,556.65	-22.78	15.15	First Phoenix MWD Survey	
6,435.00	6,399.44	-437.20	140.06	Projection to Bit	

NM OIL CONSERVATION

ARTESIA DISTRICT

JAN 19 2016

Form C-102

Revised August 1, 2011

Submit one copy to appropriate District Office

RECEIVED

AMENDED REPORT

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-015-43365	Pool Code 96831	Pool Name Cedar Lake; Glorieta-Yeso
Property Code 308720	Property Name LEE FEDERAL	Well Number 94
GRID No. 873	Operator Name APACHE CORPORATION	Elevation 3672'

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	17	17-S	31-E		105	SOUTH	850	WEST	EDDY

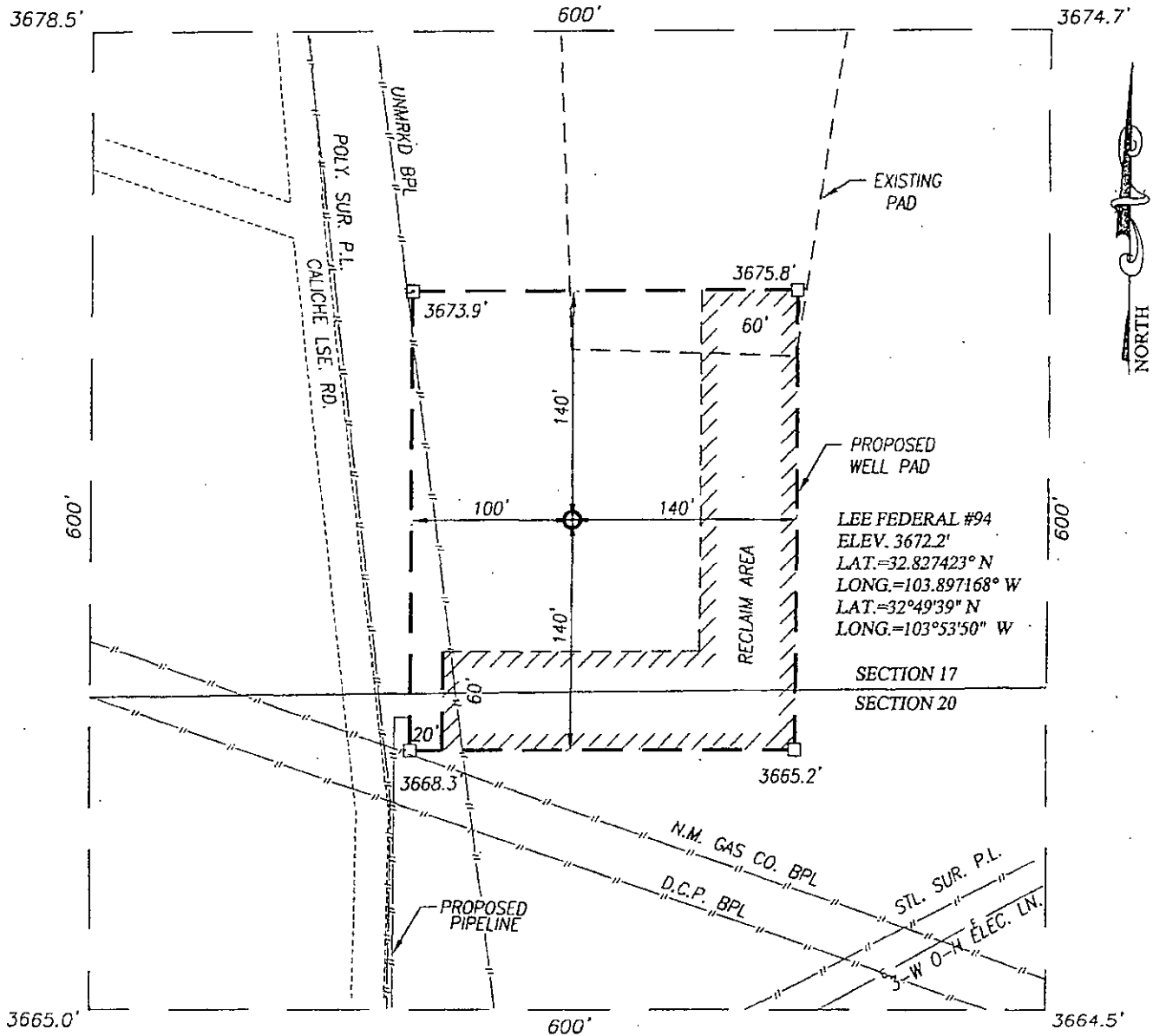
Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
Dedicated Acres 40	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		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. <i>Sorina L. Flores</i> 3/24/15 Signature Date <i>Sorina L. Flores</i> Printed Name <i>sorina.flores@apachecorp.com</i> E-mail Address
	SURFACE LOCATION Y = 665004.1 N X = 633981.1 E		
	LAT. = 32.827423° N LONG. = 103.897168° W		
	LAT. = 32°49'39" N LONG. = 103°53'50" W		
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. JULY 31, 2014 Date of Survey Signature of Professional Surveyor: <i>Ronald J. Eidson</i> Certificate Number: 3239 Name: Ronald J. Eidson LSL JWSC W.O.: 14.11.0725			

Exhibit 1C

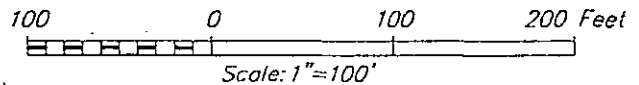


NOTE:

- 1) SEE "LOCATION VERIFICATION MAP" FOR PROPOSED ROAD LOCATION.
- 2) ELECTRIC LINE HAS NOT BEEN SURVEYED

DIRECTIONS TO LEE FEDERAL #94

FROM US. HWY. 82 AND CO. RD. 222 (SHUGART) GO WEST ON US. HWY. 82 APPROX. 1 MILE TURN RIGHT ON CALICHE LEASE ROAD AND GO NORTHEAST APPROX 0.2 MILES TURN LEFT AND GO NORTHWEST APPROX 327' THEN TURN RIGHT AND GO NORTH APPROX. 0.4 MILES THE WELL LOCATION STAKE IS 150' EAST.



APACHE CORPORATION

LEE FEDERAL #94 WELL
LOCATED 105 FEET FROM THE SOUTH LINE
AND 850 FEET FROM THE WEST LINE OF SECTION 17,
TOWNSHIP 17 SOUTH, RANGE 31 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO



PROVIDING SURVEYING SERVICES
SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO HOBBS, N.M. 88240
(575) 393-3117 www.jwsc.biz
TBPLS# 10021000

Survey Date: 7/31/14	CAD Date: 8/6/14	Drawn By: LSL
W.O. No.: 15110215	Rev: 3/5/15	Rel. W.O.: 14110725
Sheet 1 of 1		