



PHOENIX
TECHNOLOGY SERVICES

April 28, 2014

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

Dear District 2 - Artesia

Attention: Regulatory Department

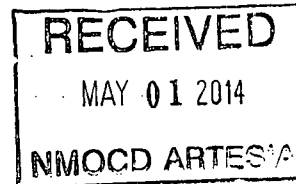
Re: Apache Corporation

MJ State #4

Eddy County, NM

API # ~~30-025-41961~~ 30-015-41961

Job No. 1410348



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	
Josh Goff	4	340	3,951	03/11/14	03/13/14	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 1813

1805 Brittmoore Rd. Houston, TX 77043 • Phone (713) 337-0600 • Fax (713) 337-0599

www.phxtech.com

APR 15 2015

Phoenix Technology Services SURVEY DATA CERTIFICATION



PHOENIX JOB NUMBER

1410348

OPERATOR

Apache Corporation

WELL NAME

MJ State #4

COUNTY & STATE

Eddy County, NM

API WELL NUMBER

30-025-41961

PROPOSED DIRECTION

322.93

TIE-IN DATA						
MEASURED	VERTICAL			N-S	E-W	DATA
DEPTH	DEPTH	INCLIN	AZIMUTH	COORD	COORD	SOURCE
300 ft	300.00 ft	0.34	128.1 ft	71 ft	1.18 ft	Gyro Data

FIRST	FIRST		
SURVEY	SURVEY		
DATE	DEPTH	INCLIN	AZIMUTH
11-Mar-14	340 ft	0.3	154.2

SURVEY INSTRUMENT
TYPE

Phoenix MWD

LAST	LAST		
SURVEY	SURVEY		
DATE	DEPTH	INCLIN	AZIMUTH
13-Mar-14	3,951 ft	0.4	6.3

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
13-Mar-14	4,001 ft	0.4	6.3

Josh Goff

PRINT YOUR NAME ABOVE

Josh Goff

SIGN YOUR NAME ABOVE

MAGNETIC DECLINATION OR TOTAL GRID

TOTAL CORRECTION USED	
	7.69
DECLINATION OR GRID	GRID

3/13/2014

TODAY'S DATE

MWD SUPERVISOR 1

Josh Goff

DIRECTIONAL DRILLER 1

Brinton Donaldson

MWD SUPERVISOR 2

0

DIRECTIONAL DRILLER 2

Brandon Jenkins

1805 Brittmore Road

Houston, Texas 77043

(713)3370609 (Voice), (713)337-0599 (Fax)

DISTRICT I
1625 N. French Dr., Hobbs, NM 88240
Phone: (505) 392-2161 Fax: (505) 393-0720

DISTRICT II
3113, First St., Artesia, NM 88210
Phone: (505) 748-1280 Fax: (505) 748-9220

DISTRICT III
1840 Rio Pecos 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

RECEIVED

MAY 01 2014

Form C-102

Revised August 1, 2011

Submit one copy to appropriate
District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-015-41961	Pool Code 96830	Pool Name Artesia; Glorieta - Yeso -
Property Code	Property Name MJ STATE	Well Number 4
GRID No. 873	Operator Name APACHE CORPORATION	Elevation 3584'

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
4	2	18-S	27-E		1200	NORTH	1140	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
4	2	18-S	27-E		990	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

	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>Michelle Cooper</i> 1-14-14 Signature Date <i>Michelle Cooper</i> Printed Name <i>michelle.cooper@apachecorp.com</i> E-mail Address
CORNER COORDINATES TABLE A - Y=648679.8 N, X=523336.4 E B - Y=648682.7 N, X=524651.1 E C - Y=647374.1 N, X=524673.2 E D - Y=647368.8 N, X=523356.7 E	GEODETTIC COORDINATES NAD 27 NME SURFACE LOCATION Y=647482.7 N X=524494.7 E BOTTOM HOLE LOCATION Y=647692.3 N X=524341.5 E

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.

DECEMBER 17, 2013

Date of Survey
Signature & Seal of Professional Surveyor

Gay G. Edson 12/17/13
Certificate Number 12641
Ronald J. Edson 3239
DKL WSC W.O. 13.11.1367

Apache Corporation

Eddy County, NM (NAD27 NME)

MJ State

#4

WB1/Job #1410348

Survey: Phoenix MWD Survey

Standard Survey Report

13 March, 2014

Survey Report

Company:	Apache Corporation	Local Co-ordinate Reference:	Well #4
Project:	Eddy County, NM (NAD27 NME)	TVD Reference:	KB @ 3595.00usft (Capstar 120)
Site:	MJ State	MD Reference:	KB @ 3595.00usft (Capstar 120)
Well:	#4	North Reference:	Grid
Wellbore:	WB1/Job #1410348	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Capstar 120)	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:	MJ State				
Site Position:		Northing:	647,482.70 usft	Latitude:	32° 46' 47.98527 N
From:	Map	Easting:	524,494.70 usft	Longitude:	104° 15' 13.08526 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.04 °

Well	#4					
Well Position	+N/-S	0.00 usft	Northing:	647,482.70 usft	Latitude:	32° 46' 47.98527 N
	+E/-W	0.00 usft	Easting:	524,494.70 usft	Longitude:	104° 15' 13.08526 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,584.00 usft

Wellbore	WB1/Job #1410348				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2013	02/24/14	7.73	60.50	48,577

Design:	Surveys (Capstar 120)				
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	322.93	

Survey Program		Date	03/13/14		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
100.00	300.00	Gyrodata Survey (WB1/Job #1410348)	NS-GYRO-MS	North sensing gyrocompassing m/s	
340.00	4,001.00	Phoenix MWD Survey (WB1/Job #141034	MWD	MWD - Standard	

Survey	Measured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Vertical Section	Dogleg Rate	Build Rate	Turn Rate
	(usft)	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(°/100usft)	(°/100usft)	(°/100usft)
	300.00	0.34	128.10	300.00	-0.71	1.18	-1.27	0.00	0.00	0.00
Tie In to Gyro Survey										
	340.00	0.30	154.20	340.00	-0.87	1.32	-1.49	0.37	-0.10	65.25
First Phoenix MWD Survey										
	400.00	0.50	315.60	399.99	-0.83	1.20	-1.39	1.32	0.33	269.00
	450.00	0.70	317.90	459.99	-0.37	0.78	-0.76	0.34	0.33	3.83
	519.00	2.10	323.20	518.97	0.77	-0.11	0.68	2.38	2.37	8.98
	635.00	3.60	334.60	634.83	5.76	-2.95	6.37	1.38	1.29	9.83
	720.00	4.00	332.30	719.64	10.79	-5.47	11.91	0.50	0.47	-2.71

Survey Report

Company	Apache Corporation	Local Co-ordinate Reference:	Well #4
Project	Eddy County, NM (NAD27 NME)	TVD Reference	KB @ 3595.00usft (Capstar 120)
Site	MJ State	MD Reference	KB @ 3595.00usft (Capstar 120)
Well	#4	North Reference	Grid
Wellbore	WB1/Job #1410348	Survey Calculation Method	Minimum Curvature
Design	Surveys (Capstar 120)	Database	Compass 5000 GCR DB

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)
806.00	5.00	325.40	805.37	16.53	-8.99	18.61	1.32	1.16	-8.02
891.00	6.50	327.80	889.94	23.65	-13.66	27.11	1.79	1.76	2.82
976.00	7.80	318.60	974.28	32.05	-20.04	37.65	2.03	1.53	-10.82
1,061.00	7.10	318.60	1,058.57	40.32	-27.33	48.64	0.82	-0.82	0.00
1,147.00	6.30	319.10	1,143.98	47.87	-33.93	58.65	0.93	-0.93	0.58
1,232.00	7.60	320.10	1,228.35	55.71	-40.59	68.92	1.54	1.53	1.18
1,318.00	6.70	320.80	1,313.68	63.96	-47.41	79.61	1.05	-1.05	0.81
1,403.00	8.00	321.80	1,397.98	72.45	-54.20	90.48	1.54	1.53	1.18
1,489.00	7.80	321.70	1,483.17	81.74	-61.52	102.30	0.23	-0.23	-0.12
1,574.00	7.40	321.50	1,567.42	90.55	-68.50	113.54	0.47	-0.47	-0.24
1,660.00	7.30	322.60	1,652.71	99.22	-75.27	124.54	0.20	-0.12	1.28
1,745.00	7.50	322.50	1,737.00	107.91	-81.93	135.49	0.24	0.24	-0.12
1,830.00	7.30	322.30	1,821.30	116.59	-88.61	146.43	0.24	-0.24	-0.24
1,916.00	7.10	322.80	1,906.62	125.14	-95.16	157.21	0.24	-0.23	0.58
2,001.00	6.90	323.90	1,990.98	133.45	-101.35	167.57	0.28	-0.24	1.29
2,086.00	6.70	324.00	2,075.39	141.59	-107.27	177.63	0.24	-0.24	0.12
2,171.00	8.30	324.20	2,159.66	150.58	-113.77	188.73	1.88	1.88	0.24
2,257.00	8.20	325.20	2,244.77	160.65	-120.90	201.06	0.20	-0.12	1.16
2,342.00	8.10	324.40	2,328.91	170.49	-127.85	213.10	0.18	-0.12	-0.94
2,427.00	8.00	324.80	2,413.07	180.20	-134.74	225.00	0.13	-0.12	0.47
2,513.00	7.10	321.70	2,498.32	189.26	-141.49	236.30	1.15	-1.05	-3.60
2,598.00	6.90	321.10	2,582.69	197.35	-147.95	246.65	0.25	-0.24	-0.71
2,684.00	6.60	320.50	2,668.09	205.19	-154.34	256.75	0.36	-0.35	-0.70
2,769.00	6.40	319.90	2,752.55	212.58	-160.50	266.36	0.25	-0.24	-0.71
2,854.00	6.20	319.70	2,837.03	219.70	-166.52	275.68	0.24	-0.24	-0.24
2,939.00	5.00	324.40	2,921.63	226.22	-171.64	283.96	1.51	-1.41	5.53
3,025.00	2.90	317.90	3,007.42	230.88	-175.28	289.88	2.49	-2.44	-7.56
3,110.00	2.60	314.30	3,092.32	233.82	-178.10	293.93	0.41	-0.35	-4.24
3,196.00	0.60	326.30	3,178.28	235.56	-179.75	296.30	2.35	-2.33	13.95
3,281.00	0.40	338.90	3,263.28	236.21	-180.10	297.03	0.27	-0.24	14.82
3,366.00	0.40	320.40	3,348.28	236.71	-180.40	297.61	0.15	0.00	-21.76
3,452.00	0.50	330.60	3,434.28	237.27	-180.77	298.29	0.15	0.12	11.86
3,537.00	0.40	306.70	3,519.27	237.77	-181.19	298.94	0.25	-0.12	-28.12
3,622.00	0.40	291.90	3,604.27	238.06	-181.71	299.48	0.12	0.00	-17.41
3,708.00	0.30	329.70	3,690.27	238.36	-182.10	299.96	0.29	-0.12	43.95
3,793.00	0.40	352.00	3,775.27	238.85	-182.25	300.44	0.20	0.12	26.24
3,879.00	0.40	359.60	3,861.27	239.45	-182.30	300.94	0.06	0.00	8.84
3,951.00	0.40	6.30	3,933.26	239.95	-182.27	301.33	0.06	0.00	9.31
Final Phoenix MWD Survey									
4,001.00	0.40	6.30	3,983.26	240.30	-182.23	301.58	0.00	0.00	0.00
Projection to TD									

Survey Report

Company:	Apache Corporation	Local Co-ordinate Reference:	Well #4
Project:	Eddy County, NM (NAD27-NME)	TVD Reference:	KB @ 3595.00usft (Capstar 120)
Site:	MJ State	MD Reference:	KB @ 3595.00usft (Capstar 120)
Well:	#4	North Reference:	Grid
Wellbore:	WB1/Job #1410348	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Capstar 120)	Database:	Compass 5000 GCR.DB

Survey Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
300.00	300.00	-0.71	1.18	Tie In to Gyro Survey	
340.00	340.00	-0.87	1.32	First Phoenix MWD Survey	
3,951.00	3,933.26	239.95	-182.27	Final Phoenix MWD Survey	
4,001.00	3,983.26	240.30	-182.23	Projection to TD	