



PHOENIX
TECHNOLOGY SERVICES

October 22, 2015

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
Hummingbird Federal Com #8H
Eddy County, NM
API #30-015-43051
Job No. 1514236

NM OIL CONSERVATION
ARTESIA DISTRICT

NOV 09 2015

RECEIVED

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	
Bernard Caldwell	8H	5,385	10,450	09/06/15	09/11/15	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 5173

Phoenix Technology Services
SURVEY DATA CERTIFICATION

RECEIVED



PHOENIX JOB NUMBER

1514236

OPERATOR

Apache Corp

WELL NAME

Hummingbird Federal Com #8H

COUNTY & STATE

Eddy County, NM

API WELL NUMBER

30-015-43051

PROPOSED DIRECTION

89.57

TIE-IN DATA						
MEASURED	VERTICAL			N-S	E-W	DATA
DEPTH	DEPTH	INCLIN	AZIMUTH	COORD	COORD	SOURCE
5,237. ft	5,236.32 ft	0.34	298.57	-21.61 ft	-29.55 ft	Phoenix Gyro

FIRST	FIRST		
SURVEY	SURVEY		
DATE	DEPTH	INCLIN	AZIMUTH
6-Sep-15	5,385.00 ft	2.90	88.10

SURVEY INSTRUMENT

TYPE

Phoenix MWD

LAST	LAST		
SURVEY	SURVEY		
DATE	DEPTH	INCLIN	AZIMUTH
11-Sep-15	10,450	90.50	88.20

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
11-Sep-15	10,520	90.50	88.20

Bernard Caldwell

PRINT YOUR NAME ABOVE

Bernard Caldwell

SIGN YOUR NAME ABOVE

11-Sep-15

TODAY'S DATE

MAGNETIC DECLINATION OR TOTAL GRID

TOTAL CORRECTION USED	7.23
DECLINATION OR GRID	GRID

MWD SUPERVISOR 1

Bernard Caldwell

DIRECTIONAL DRILLER 1

Richard Byars

MWD SUPERVISOR 2

Jeremiah Underwood

DIRECTIONAL DRILLER 2

Brad Jones



Apache Corporation

Eddy County, NM (NAD27 NME)
Hummingbird Federal Com
#8H

OH / Job# 1514236

Design: Surveys (Capstar 114)

Standard Survey Report

13 September, 2015

NM OIL CONSERVATION
ARTESIA DISTRICT
NOV 09 2015

RECEIVED





Phoenix Technology Services LP

Survey Report



Company:	Apache Corporation	Local Co-ordinate Reference:	Well #8H
Project:	Eddy County, NM (NAD27 NME)	TVD Reference:	KB @ 4030.00usft (Capstar 114)
Site:	Hummingbird Federal Com	MD Reference:	KB @ 4030.00usft (Capstar 114)
Well:	#8H	North Reference:	Grid
Wellbore:	OH / Job# 1514236	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Capstar 114)	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	Hummingbird Federal Com		
Site Position:		Northing:	877,262.80 usft
From:	Map	Easting:	655,481.80 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 51' 39.07462 N
		Longitude:	103° 49' 37.14798 W
		Grid Convergence:	0.27 °

Well	#8H		
Well Position	+N-S	0.00 usft	Northing: 878,672.30 usft
	+E-W	0.00 usft	Easting: 654,274.20 usft
Position Uncertainty	0.00 usft		Latitude: 32° 51' 53.07868 N
			Longitude: 103° 49' 51.22665 W
		Wellhead Elevation:	usft
		Ground Level:	4,019.00 usft

Wellbore	OH / Job# 1514236		
Magnetics	Model Name	Sample Date	Declination
	HDGM	8/27/2015	(°)
			7.50
			Dip Angle (°)
			60.85
			Field Strength (nT)
			48,615

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
	(usft)	(usft)	(usft)
	0.00	0.00	0.00
			Direction (°)
			89.57

Survey Program	Date 9/13/2015		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name
100.00	5,237.00	Phoenix Gyro Surveys (OH / Job# 151423)	PHX_SPT_GTD
5,385.00	10,520.00	Phoenix MWD Surveys (OH / Job# 151423)	PHX+MWD+HDGM
			Description
			PHX Continuous north-seeking gyro
			PHX+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)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.16	215.44	100.00	-0.11	-0.08	-0.08	0.16	0.16	0.00
200.00	0.59	238.73	200.00	-0.49	-0.60	-0.61	0.45	0.43	23.29
300.00	1.16	237.16	299.99	-1.31	-1.89	-1.90	0.57	0.57	-1.57
400.00	1.84	234.49	399.95	-2.79	-4.05	-4.07	0.68	0.68	-2.67
500.00	2.10	236.38	499.89	-4.74	-6.88	-6.92	0.27	0.26	1.89
600.00	2.24	229.29	599.82	-7.03	-9.89	-9.94	0.30	0.14	-7.09
700.00	2.31	233.07	699.74	-9.51	-12.98	-13.05	0.17	0.07	3.78
800.00	2.42	232.09	799.66	-12.02	-16.26	-16.35	0.12	0.11	-0.98
900.00	1.95	238.69	899.58	-14.20	-19.38	-19.48	0.53	-0.47	6.60



Phoenix Technology Services LP

Survey Report



Company:	Apache Corporation	Local Co-ordinate Reference:	Well #8H
Project:	Eddy County, NM (NAD27 NME)	TVD Reference:	KB @ 4030.00usft (Capstar 114)
Site:	Hummingbird Federal Com	MD Reference:	KB @ 4030.00usft (Capstar 114)
Well:	#8H	North Reference:	Grid
Wellbore:	OH / Job# 1514236	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Capstar 114)	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)
1,000.00	1.70	240.97	999.53	-15.81	-22.13	-22.25	0.26	-0.25	2.28
1,100.00	1.42	238.29	1,099.50	-17.18	-24.48	-24.61	0.29	-0.28	-2.68
1,200.00	1.17	257.59	1,199.47	-18.05	-26.53	-26.67	0.50	-0.25	19.30
1,300.00	1.26	248.29	1,299.45	-18.68	-28.55	-28.69	0.22	0.09	-9.30
1,400.00	0.84	221.38	1,399.43	-19.63	-30.06	-30.20	0.64	-0.42	-26.91
1,500.00	0.47	33.08	1,499.43	-19.84	-30.32	-30.46	1.31	-0.37	171.70
1,600.00	0.17	227.25	1,599.43	-19.60	-30.20	-30.35	0.64	-0.30	-165.83
1,700.00	0.37	179.71	1,699.43	-20.02	-30.31	-30.46	0.28	0.20	-47.54
1,800.00	0.96	50.57	1,799.42	-19.81	-29.66	-29.81	1.23	0.59	-129.14
1,900.00	1.02	47.64	1,899.41	-18.68	-28.35	-28.49	0.08	0.06	-2.93
2,000.00	0.88	56.13	1,999.39	-17.65	-27.06	-27.19	0.20	-0.14	8.49
2,100.00	0.91	68.39	2,099.38	-16.93	-25.68	-25.81	0.19	0.03	12.26
2,200.00	0.68	73.25	2,199.37	-16.47	-24.38	-24.50	0.24	-0.23	4.86
2,300.00	0.36	342.68	2,299.37	-16.00	-23.90	-24.02	0.77	-0.32	-90.57
2,400.00	0.40	156.10	2,399.37	-16.01	-23.85	-23.97	0.76	0.04	173.42
2,500.00	0.24	209.61	2,499.37	-16.52	-23.82	-23.94	0.32	-0.16	53.51
2,600.00	0.26	158.33	2,599.37	-16.91	-23.84	-23.96	0.22	0.02	-51.28
2,700.00	0.20	333.18	2,699.37	-16.96	-23.83	-23.96	0.46	-0.06	174.85
2,800.00	0.14	292.72	2,799.37	-16.76	-24.02	-24.15	0.13	-0.06	-40.46
2,900.00	0.15	262.62	2,899.36	-16.73	-24.27	-24.39	0.08	0.01	-30.10
3,000.00	0.25	325.29	2,999.36	-16.57	-24.52	-24.64	0.22	0.10	62.67
3,100.00	0.31	231.59	3,099.36	-16.56	-24.86	-24.98	0.41	0.06	-93.70
3,200.00	0.31	162.74	3,199.36	-16.98	-24.99	-25.11	0.35	0.00	-68.85
3,300.00	0.44	152.51	3,299.36	-17.58	-24.73	-24.86	0.15	0.13	-10.23
3,400.00	0.69	275.75	3,399.36	-17.86	-25.15	-25.29	1.00	0.25	123.24
3,500.00	0.46	107.07	3,499.36	-17.92	-25.37	-25.50	1.14	-0.23	-168.68
3,600.00	0.54	245.56	3,599.35	-18.23	-25.41	-25.55	0.94	0.08	138.49
3,700.00	0.53	255.88	3,699.35	-18.54	-26.29	-26.43	0.10	-0.01	10.32
3,800.00	0.57	169.92	3,799.35	-19.14	-26.65	-26.79	0.75	0.04	-85.96
3,900.00	0.45	176.92	3,899.34	-20.02	-26.54	-26.69	0.13	-0.12	7.00
4,000.00	0.58	313.15	3,999.34	-20.07	-26.89	-27.04	0.96	0.13	136.23
4,100.00	0.39	268.13	4,099.34	-19.74	-27.60	-27.75	0.41	-0.19	-45.02
4,200.00	0.34	204.71	4,199.34	-20.02	-28.06	-28.21	0.39	-0.05	-63.42
4,300.00	0.32	178.36	4,299.33	-20.57	-28.18	-28.33	0.15	-0.02	-26.35
4,400.00	0.38	216.56	4,399.33	-21.11	-28.37	-28.53	0.24	0.06	38.20
4,500.00	0.34	295.02	4,499.33	-21.25	-28.84	-29.00	0.46	-0.04	78.46
4,600.00	0.36	130.71	4,599.33	-21.33	-28.87	-29.03	0.69	0.02	-164.31
4,700.00	0.36	237.90	4,699.33	-21.70	-28.90	-29.06	0.58	0.00	107.19
4,800.00	0.37	119.87	4,799.33	-22.03	-28.88	-29.05	0.63	0.01	-118.03
4,900.00	0.33	47.57	4,899.33	-22.00	-28.39	-28.55	0.41	-0.04	-72.30
5,000.00	0.38	252.45	4,999.33	-21.90	-28.49	-28.66	0.69	0.05	-155.12
5,100.00	0.30	319.35	5,099.32	-21.80	-28.98	-29.14	0.38	-0.08	66.90
5,200.00	0.26	258.99	5,199.32	-21.65	-29.37	-29.53	0.28	-0.04	-60.36



Phoenix Technology Services LP Survey Report



Company:	Apache Corporation	Local Co-ordinate Reference:	Well #8H
Project:	Eddy County, NM (NAD27 NME)	TVD Reference:	KB @ 4030.00usft (Capstar 114)
Site:	Hummingbird Federal Com	MD Reference:	KB @ 4030.00usft (Capstar 114)
Well:	#8H	North Reference:	Grid
Wellbore:	OH / Job# 1514236	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Capstar 114)	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)
5,237.00	0.34	298.57	5,238.32	-21.61	-29.55	-29.71	0.59	0.22	106.97
5,385.00	2.90	88.10	5,384.27	-21.28	-26.19	-26.35	2.16	1.73	101.03
First Phoenix MWD Survey									
5,428.00	9.40	87.90	5,427.00	-21.11	-21.59	-21.75	15.12	15.12	-0.47
5,470.00	15.80	82.80	5,467.96	-20.27	-12.48	-12.64	15.45	15.24	-12.14
5,513.00	22.40	78.60	5,508.58	-17.91	1.37	1.24	15.67	15.35	-9.77
5,555.00	26.60	79.10	5,546.79	-14.55	18.46	18.35	10.01	10.00	1.19
5,598.00	30.00	81.70	5,584.64	-11.18	38.55	38.47	8.41	7.91	6.05
5,641.00	32.90	83.70	5,621.32	-8.35	60.81	60.74	7.17	6.74	4.65
5,683.00	36.70	85.00	5,655.81	-6.00	84.65	84.61	9.22	9.05	3.10
5,726.00	41.50	87.70	5,689.17	-4.31	111.71	111.67	11.84	11.16	6.28
5,769.00	46.30	89.10	5,720.14	-3.49	141.50	141.47	11.39	11.16	3.26
5,811.00	51.60	89.20	5,747.72	-3.02	173.16	173.13	12.62	12.62	0.24
5,854.00	55.90	88.70	5,773.14	-2.38	207.82	207.80	10.04	10.00	-1.16
5,897.00	60.00	88.40	5,795.95	-1.46	244.25	244.23	9.55	9.53	-0.70
5,940.00	64.20	89.20	5,816.07	-0.67	282.24	282.22	9.90	9.77	1.86
5,982.00	67.30	89.50	5,833.31	-0.23	320.52	320.51	7.41	7.38	0.71
6,025.00	71.30	90.40	5,848.51	-0.20	360.74	360.73	9.51	9.30	2.09
6,068.00	75.30	91.20	5,860.86	-0.78	401.91	401.89	9.47	9.30	1.86
6,110.00	79.40	91.60	5,870.06	-1.78	442.87	442.84	9.81	9.76	0.95
6,154.00	85.60	90.20	5,875.80	-2.46	486.47	486.43	14.44	14.09	-3.18
6,196.00	89.60	88.50	5,877.56	-1.99	528.42	528.39	10.35	9.52	-4.05
6,239.00	90.80	87.60	5,877.41	-0.52	571.39	571.37	3.49	2.79	-2.09
6,282.00	91.50	87.40	5,876.55	1.35	614.34	614.33	1.69	1.63	-0.47
6,409.00	92.30	88.40	5,872.34	6.00	741.18	741.21	1.01	0.63	0.79
6,537.00	88.80	91.30	5,871.11	6.34	869.14	869.17	3.55	-2.73	2.27
6,664.00	89.10	92.00	5,873.43	2.68	996.07	996.06	0.60	0.24	0.55
6,792.00	90.00	91.80	5,874.44	-1.56	1,123.99	1,123.95	0.72	0.70	-0.16
6,920.00	89.00	91.30	5,875.56	-5.03	1,251.94	1,251.87	0.87	-0.78	-0.39
7,048.00	89.60	91.10	5,877.12	-7.71	1,379.90	1,379.80	0.49	0.47	-0.16
7,176.00	88.40	90.00	5,879.35	-8.93	1,507.87	1,507.76	1.27	-0.94	-0.86
7,305.00	88.20	90.30	5,883.18	-9.27	1,636.81	1,636.70	0.28	-0.16	0.23
7,432.00	88.70	89.20	5,886.62	-8.72	1,763.76	1,763.65	0.95	0.39	-0.87
7,560.00	89.30	86.70	5,888.85	-6.37	1,891.72	1,891.62	0.61	0.47	-0.39
7,688.00	90.20	87.70	5,889.41	-2.35	2,019.65	2,019.58	1.05	-0.70	-0.78
7,817.00	90.70	86.60	5,888.40	4.06	2,146.48	2,146.46	0.94	0.39	-0.85
7,944.00	91.00	86.40	5,886.51	9.60	2,275.35	2,275.36	1.44	0.24	1.42
8,072.00	90.50	89.60	5,884.84	11.83	2,403.31	2,403.34	1.02	-0.39	0.94
8,200.00	88.70	91.00	5,885.73	11.16	2,531.30	2,531.31	1.78	-1.41	1.09
8,328.00	87.90	90.50	5,889.53	9.49	2,659.23	2,659.23	0.74	-0.63	-0.39
8,456.00	87.40	88.70	5,894.78	10.38	2,787.12	2,787.12	1.46	-0.39	-1.41
8,584.00	88.50	87.80	5,899.36	14.29	2,914.97	2,915.00	1.11	0.86	-0.70
8,712.00	90.10	87.30	5,900.92	19.76	3,042.84	3,042.90	1.31	1.25	-0.39



Phoenix Technology Services LP

Survey Report



Company:	Apache Corporation	Local Co-ordinate Reference:	Well #8H
Project:	Eddy County, NM (NAD27 NME)	TVD Reference:	KB @ 4030.00usft (Capstar 114)
Site:	Hummingbird Federal Com	MD Reference:	KB @ 4030.00usft (Capstar 114)
Well:	#8H	North Reference:	Grid
Wellbore:	OH / Job# 1514236	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Capstar 114)	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)
8,840.00	90.80	88.50	5,899.91	24.45	3,170.75	3,170.84	1.09	0.55	0.94
8,968.00	88.70	89.60	5,900.47	26.57	3,298.72	3,298.83	1.85	-1.64	0.86
9,096.00	90.20	89.70	5,901.70	27.35	3,426.71	3,426.82	1.17	1.17	0.08
9,224.00	89.10	90.20	5,902.48	27.46	3,554.70	3,554.81	0.94	-0.86	0.39
9,353.00	87.70	90.00	5,906.08	27.24	3,683.65	3,683.75	1.10	-1.09	-0.16
9,481.00	88.60	89.40	5,910.22	27.91	3,811.58	3,811.68	0.84	0.70	-0.47
9,609.00	90.20	89.10	5,911.56	29.59	3,939.56	3,939.67	1.27	1.25	-0.23
9,737.00	90.80	90.00	5,910.66	30.59	4,067.55	4,067.66	0.77	0.31	0.70
9,865.00	91.00	90.60	5,908.88	29.92	4,195.53	4,195.64	0.56	0.31	0.47
9,993.00	89.50	91.20	5,908.32	27.91	4,323.51	4,323.60	1.26	-1.17	0.47
10,121.00	86.90	90.20	5,912.34	26.35	4,451.43	4,451.50	2.18	-2.03	-0.78
10,249.00	88.60	89.70	5,917.36	26.46	4,579.32	4,579.39	1.38	1.33	-0.39
10,377.00	89.90	88.90	5,919.04	28.02	4,707.30	4,707.38	1.19	1.02	-0.63
10,450.00	90.50	88.20	5,918.78	29.87	4,780.27	4,780.36	1.26	0.82	-0.96
Final Phoenix MWD Survey									
10,520.00	90.50	88.20	5,918.17	32.07	4,850.24	4,850.34	0.00	0.00	0.00
Projection to TD									

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
5,385.00	5,384.27	-21.28	-26.19	First Phoenix MWD Survey
10,450.00	5,918.78	29.87	4,780.27	Final Phoenix MWD Survey
10,520.00	5,918.17	32.07	4,850.24	Projection to TD

Checked By: _____ Approved By: _____ Date: _____

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) 334-6173 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

Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-015-43051	Pool Code 26770	Pool Name Fren; Glorieta - Yeso
Property Code 313695	Property Name HUMMINGBIRD FEDERAL COM	Well Number 8H
OGRID No. 873	Operator Name APACHE CORPORATION	Elevation 4019'

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	1	17-S	31-E		2210	NORTH	100	WEST	EDDY

Bottom Hole Location If Different From Surface

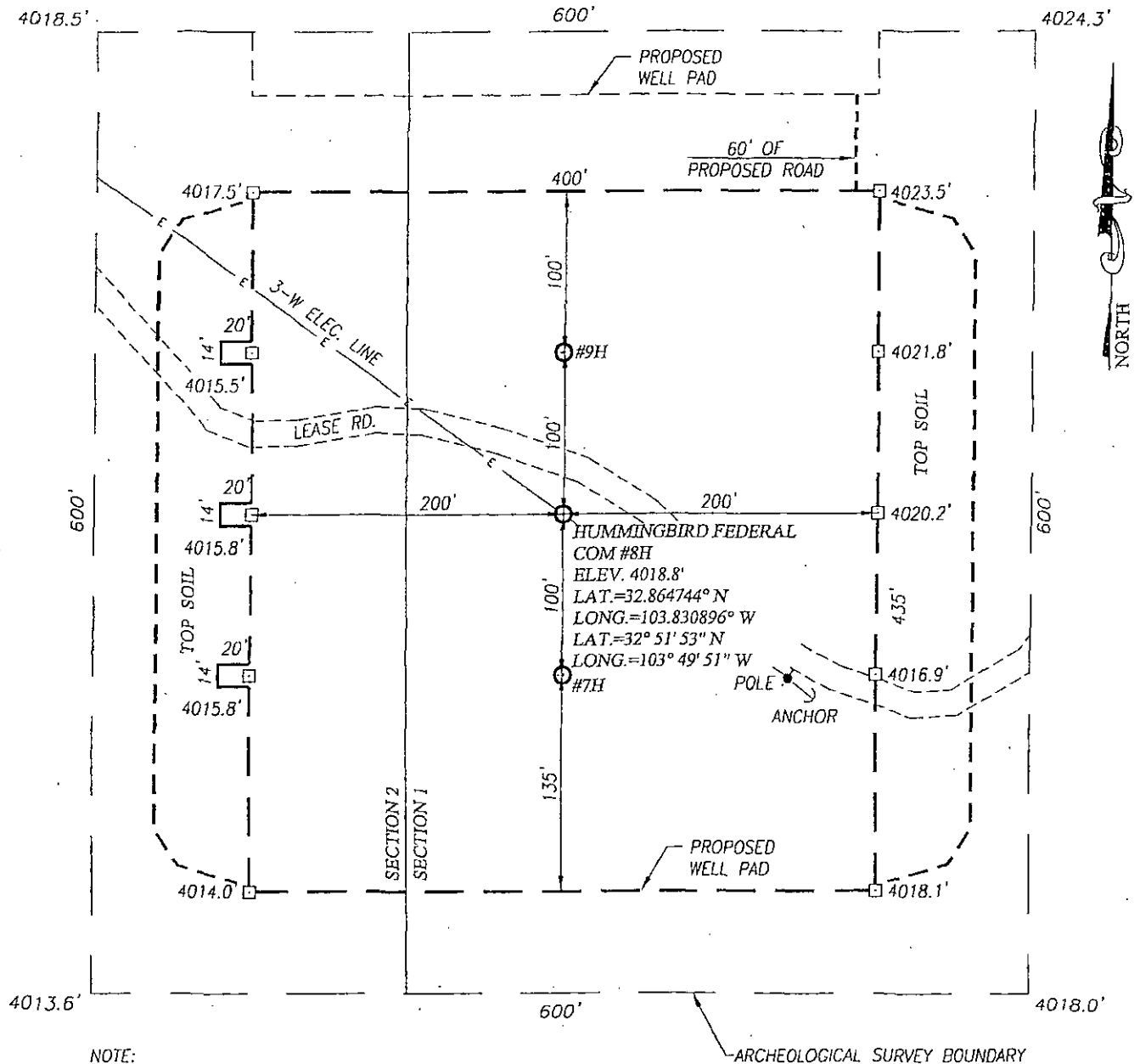
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	1	17-S	31-E		2210	NORTH	330	EAST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
160			

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

DETAIL		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> 4/19/14 Signature Date Sorina L. Flores Printed Name Sorina.Flores@apachecorp.com E-mail Address	
GRID AZ.=89°34'28" HORIZ. DIST.=4852.9'		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, 2013 Date of Survey Signature & Seal of Professional Surveyor: Certificate Number: Gary C. Eidson 12641 Ronald S. Eidson 3239	
GEODETIC COORDINATES NAD 27 NME SURFACE LOCATION Y=678672.3 N X=654274.2 E BOTTOM HOLE LOCATION Y=678708.3 N X=659125.9 E		CORNER COORDINATES TABLE A - Y=679562.2 N, X=654169.5 E B - Y=679600.1 N, X=659450.7 E C - Y=678280.1 N, X=659458.2 E D - Y=678243.3 N, X=654176.5 E	

SECTION 1, TOWNSHIP 17 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY **NEW MEXICO**

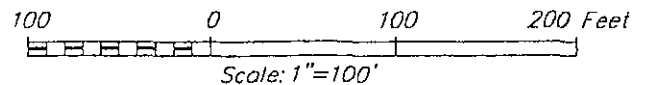


NOTE:
 SEE "LOCATION VERIFICATION MAP"
 FOR PROPOSED ROAD LOCATION.

DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF U.S. HIGHWAY 82 AND LEA CO. RD. L-124 (SUPEE) GO NORTH-NORTHWEST APPROX. 2.7 MILES; TURN LEFT AND GO SOUTH APPROX. 0.3 MILES TO PROPOSED ROAD SURVEY. TURN RIGHT AND GO WEST 152 FEET TURN LEFT AND GO SOUTH 680 FEET. THE WELL LOCATION IS 186 FEET WEST.

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



APACHE CORPORATION

HUMMINGBIRD FEDERAL COM #8H WELL
 LOCATED 2210 FEET FROM THE NORTH LINE
 AND 100 FEET FROM THE WEST LINE OF SECTION 1,
 TOWNSHIP 17 SOUTH, RANGE 31 EAST, N.M.P.M.,
 EDDY COUNTY, NEW MEXICO

Survey Date: 7/26/13	CAD Date: 8/20/13	Drawn By: BKL
W.O. No.: 13110803	Rev.:	Rel. W.O.:
		Sheet 1 of 1