



PHOENIX
TECHNOLOGY SERVICES

NM OIL CONSERVATION

ARTESIA DISTRICT

MAR 9 2015

RECEIVED

February 26, 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
AAO Federal SWD #1 - WB1
Eddy County, NM
API #30-015-42549
Job No. 1412259

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	
Joe Bass	1	4,945	7,932	11/08/14	11/12/15	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,

KH 3/13/15
Accepted for record
NMSCD

Kelsey Halsey

Kelsey Halsey

Operations Administrator

Certified mail receipt number: 7014 2120 0004 3423 7125

Phoenix Technology Services
SURVEY DATA CERTIFICATION



PHOENIX JOB NUMBER

1412259

OPERATOR

Apache

WELL NAME

AAO Federal SWD #1 WB1

COUNTY & STATE

Eddy County, New Mexico

API WELL NUMBER

30-015-42549

PROPOSED DIRECTION

118.03°

TIE-IN DATA						
MEASURED	VERTICAL			N-S	E-W	DATA
DEPTH	DEPTH	INCLIN	AZIMUTH	COORD	COORD	SOURCE
4,901.59 ft	4,899.62 ft	4.32	340.13	44.68 ft	60.78 ft	Gyro

FIRST	FIRST		
SURVEY	SURVEY		
DATE	DEPTH	INCLIN	AZIMUTH
8-Nov-14	4,945.00 ft	5.10	339.90

SURVEY INSTRUMENT

TYPE

Phoenix MWD

LAST	LAST		
SURVEY	SURVEY		
DATE	DEPTH	INCLIN	AZIMUTH
12-Nov-14	7,932.00 ft	4.00	51.40

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
12-Nov-14	8,024.00 ft	4.00	51.40

Joe Bass

PRINT YOUR NAME ABOVE

Joe Bass

SIGN YOUR NAME ABOVE

MAGNETIC DECLINATION OR TOTAL GRID

TOTAL CORRECTION USED	
	7.63
DECLINATION OR GRID	GRID

12-Nov-14

TODAY'S DATE

MWD SUPERVISOR 1

Joe Bass

DIRECTIONAL DRILLER 1

Brandon Coatney

MWD SUPERVISOR 2

N/A

DIRECTIONAL DRILLER 2

Steven Lewis

12329 Cutten Rd., Houston, Texas 777066

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



NM OIL CONSERVATION
ARTESIA DISTRICT

MAR 9 2015

RECEIVED

Apache Corporation

Eddy County, NM (NAD27 NME)

AAO Federal SWD

#1

WB1 / Job #1412259

Survey: Phoenix MWD Surveys

Standard Survey Report

15 December, 2014



Company:	Apache Corporation	Local Co-ordinate Reference:	Well #1
Project:	Eddy County, NM (NAD27 NME)	TVD Reference:	KB @ 3644.00usft (Capstar 133)
Site:	AAO Federal SWD	MD Reference:	KB @ 3644.00usft (Capstar 133)
Well:	#1	North Reference:	Grid
Wellbore:	WB1 / Job #1412259	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Capstar 133)	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		AAO Federal SWD			
Site Position:		Northing:	646,192.50 usft	Latitude:	32° 46' 35.15814 N
From:	Map	Easting:	531,531.10 usft	Longitude:	104° 13' 50.68027 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.06 °

Well	#1					
Well Position	+N/-S	0.00 usft	Northing:	646,192.50 usft	Latitude:	32° 46' 35.15814 N
	+E/-W	0.00 usft	Easting:	531,531.10 usft	Longitude:	104° 13' 50.68027 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	3,629.00 usft

Wellbore	WB1 / Job #1412259				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2014	11/7/2014	7.69	60.49	48,484

Design		Surveys (Capstar 133)			
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	118.03	

Survey Program	Date	12/15/2014			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
60.70	4,901.00	Gyrodata Surveys (WB1 / Job #1412259)	NS-GYRO-MS	North sensing gyrocompassing m/s	
4,945.00	8,024.00	Phoenix MWD Surveys (WB1 / Job #1412)	PHX+MWD+BGGM	PHX+MWD+BGGM v3:standard declination	

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)
4,901.59	4.32	340.13	4,899.62	-44.68	60.78	74.65	0.00	0.00	0.00
Tie-on to Gyrodata Gyro Survey									
4,945.00	5.10	339.90	4,942.88	-41.33	59.56	72.00	1.80	1.80	-0.53
First Phoenix MWD Survey									
4,987.00	4.30	346.80	4,984.74	-38.04	58.56	69.57	2.33	-1.90	16.43
5,030.00	4.00	351.20	5,027.63	-34.99	57.96	67.61	1.02	-0.70	10.23
5,115.00	4.60	338.10	5,112.39	-28.90	56.24	63.22	1.35	0.71	-15.41
5,201.00	4.90	325.20	5,198.10	-22.68	52.85	57.31	1.29	0.35	-15.00
5,288.00	6.30	328.40	5,284.68	-15.57	48.23	49.89	1.65	1.61	3.68

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Well:	#1	North Reference:	Grid
Wellbore:	WB1 / Job #1412259	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Capstar 133)	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)
5,373.00	5.00	333.60	5,369.27	-8.28	44.14	42.85	1.64	-1.53	6.12
5,458.00	2.70	334.90	5,454.07	-3.14	41.64	38.24	2.71	-2.71	1.53
5,544.00	3.50	313.60	5,539.94	0.50	38.88	34.09	1.62	0.93	-24.77
5,629.00	2.80	293.10	5,624.82	3.10	35.09	29.52	1.55	-0.82	-24.12
5,712.00	2.60	278.66	5,707.73	4.18	31.37	25.72	0.85	-0.24	-17.40
Top of Fish @ 5712' MD									
5,715.00	2.60	278.10	5,710.72	4.20	31.23	25.59	0.85	-0.13	-18.54
5,800.00	3.60	266.00	5,795.60	4.29	26.66	21.52	1.40	1.18	-14.24
5,885.00	2.60	277.90	5,880.48	4.37	22.09	17.44	1.39	-1.18	14.00
5,971.00	2.60	267.70	5,966.39	4.56	18.21	13.93	0.54	0.00	-11.86
6,056.00	2.90	255.10	6,051.29	3.93	14.20	10.69	0.79	0.35	-14.82
6,141.00	2.90	252.80	6,136.18	2.74	10.07	7.60	0.14	0.00	-2.71
6,227.00	3.00	255.50	6,222.07	1.53	5.81	4.41	0.20	0.12	3.14
6,312.00	1.70	282.10	6,307.00	1.24	2.43	1.56	1.96	-1.53	31.29
6,396.00	1.60	282.90	6,390.96	1.76	0.07	-0.77	0.12	-0.12	0.95
6,482.00	1.50	285.60	6,476.93	2.33	-2.19	-3.03	0.14	-0.12	3.14
6,567.00	1.60	287.10	6,561.90	2.98	-4.39	-5.28	0.13	0.12	1.76
6,652.00	0.70	64.30	6,646.89	3.55	-5.06	-6.14	2.55	-1.06	161.41
6,738.00	1.30	91.70	6,732.88	3.75	-3.61	-4.95	0.87	0.70	31.86
6,823.00	1.40	63.80	6,817.85	4.18	-1.72	-3.48	0.77	0.12	-32.82
6,908.00	1.50	40.30	6,902.83	5.49	-0.07	-2.64	0.70	0.12	-27.65
6,993.00	1.50	40.40	6,987.80	7.19	1.38	-2.16	0.00	0.00	0.12
7,079.00	1.90	33.00	7,073.76	9.24	2.88	-1.80	0.53	0.47	-8.60
7,164.00	1.00	76.90	7,158.73	10.59	4.37	-1.12	1.61	-1.06	51.65
7,249.00	0.80	109.10	7,243.72	10.56	5.65	0.03	0.63	-0.24	37.88
7,334.00	0.80	104.80	7,328.72	10.22	6.79	1.19	0.07	0.00	-5.06
7,419.00	1.00	117.10	7,413.71	9.73	8.02	2.51	0.33	0.24	14.47
7,505.00	0.90	135.60	7,499.69	8.90	9.16	3.90	0.37	-0.12	21.51
7,590.00	1.00	131.00	7,584.68	7.94	10.19	5.26	0.15	0.12	-5.41
7,676.00	0.90	143.00	7,670.67	6.91	11.16	6.61	0.26	-0.12	13.95
7,761.00	1.61	108.00	7,755.65	6.01	12.70	8.39	1.19	0.84	-41.18
7,846.00	2.70	69.50	7,840.59	6.34	15.71	10.89	2.06	1.28	-45.29
7,932.00	4.00	51.40	7,926.45	8.92	19.95	13.42	1.93	1.51	-21.05
Last Phoenix MWD Survey									
8,024.00	4.00	51.40	8,018.22	12.92	24.97	15.97	0.00	0.00	0.00
WB1 PTB and BOF @ 8024' MD									

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Well:	#1	North Reference:	Grid
Wellbore:	WB1 / Job #1412259	Survey Calculation Method:	Minimum Curvature
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Survey Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
4,901.59	4,899.62	-44.68	60.78	Tie-on to Gyrodata Gyro Survey
4,945.00	4,942.88	-41.33	59.56	First Phoenix MWD Survey
5,712.00	5,707.73	4.18	31.37	Top of Fish @ 5712' MD
7,932.00	7,926.45	8.92	19.95	Last Phoenix MWD Survey
8,024.00	8,018.22	12.92	24.97	WB1 PTB and BOF @ 8024' MD

Checked By: _____	Approved By: _____	Date: _____
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NM OIL CONSERVATION

ARTESIA DISTRICT

MAR 9 2015

DISTRICT I
1825 N. French Dr., Hobbs, NM 88240
Phone (505) 393-6101 Fax: (505) 393-0720

DISTRICT II
811 S. First St., Artesia, NM 88210
Phone (505) 740-1283 Fax: (505) 740-0720

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone (505) 334-6178 Fax: (505) 334-6170

DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone (505) 476-5480 Fax: (505) 476-5482

State of New Mexico
Energy, Minerals and Natural Resources Department

RECEIVED

Form C-102

Revised August 1, 2011

Submit one copy to appropriate
District Office

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number 30-015-		Pool Code 96188	Pool Name SWD; Strawn
Property Code 308703	Property Name AAO FEDERAL SWD		Well Number 1
GRID No. 873	Operator Name APACHE CORPORATION		Elevation 3629'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
G	1	18 S	27 E		2470	NORTH	2380	EAST	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	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

