

Apache Corporation
303 Veterans Airpark Lane, #3000
Midland, TX 79705

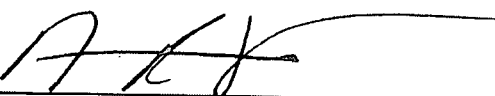
NM OIL CONSERVATION
ARTESIA DISTRICT

FEB 20 2015

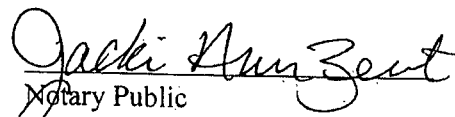
Coffee Federal #018 API# 30-015-42400
Eddy County, New Mexico 1990' FNL + 1010' FWL UL: E 18-17S-31E Lot: 2

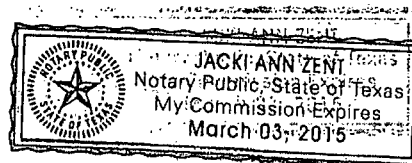
RECEIVED

375	3.75	0.50	0.88	3.28	3.28
556	1.81	0.90	1.58	2.85	6.13
743	1.87	0.70	1.23	2.29	8.42
838	0.95	0.70	1.23	1.16	9.59
1166	3.28	0.10	0.18	0.57	10.16
1313	1.47	0.40	0.70	1.03	11.19
1534	2.21	0.60	1.05	2.32	13.51
1724	1.90	2.80	4.90	9.31	22.82
1819	0.95	4.10	7.18	6.82	29.64
2053	2.34	4.80	8.40	19.66	49.29
2230	1.77	4.40	7.70	13.63	62.92
2419	1.89	4.00	7.00	13.23	76.15
2609	1.90	4.00	7.00	13.30	89.45
2703	0.94	3.90	6.83	6.42	95.87
2937	2.34	4.20	7.35	17.20	113.07
3177	2.40	4.70	8.23	19.74	132.81
3316	1.39	4.70	8.23	11.43	144.24
3572	2.56	5.00	8.75	22.40	166.64
3743	1.71	3.80	6.65	11.37	178.01
3933	1.90	3.30	5.78	10.97	188.98
4028	0.95	3.10	5.43	5.15	194.14
4595	5.67	3.60	6.30	35.72	229.86
4784	1.89	3.30	5.78	10.91	240.77
4974	1.90	3.10	5.43	10.31	251.08
5163	1.89	3.70	6.48	12.24	263.32
5353	1.90	4.10	7.18	13.63	276.95
5543	1.90	4.70	8.23	15.63	292.58
5733	1.90	3.90	6.83	12.97	305.54
5922	1.89	5.30	9.28	17.53	323.07
6112	1.90	5.00	8.75	16.63	339.70
6412	3.00	4.10	7.18	21.53	361.22


Archie Brown - General Manager

The attached instrument was acknowledged before me on the 6th day of September, 2014 by
Archie Brown - General Manager, CapStar Drilling, Inc.


Notary Public





NM OIL CONSERVATION

ARTESIA DISTRICT

FEB 20 2015

RECEIVED

Apache Corporation

Eddy County, New Mexico

Sec 18, T17S,31E

Coffee Federal #18 API # 30-015-42400

SL: UL: E 18-17S-31E Lot: 2 1990' FNL & 1010' FWL

Wellbore #1

Design: Wellbore #1

DDC Survey Report

04 September, 2014





Survey Report



Company:	Apache Corporation	Local Co-ordinate Reference:	Well Coffee Federal #18
Project:	Eddy County, New Mexico	TVD Reference:	WELL @ 3777.0usft (Capstar #118)
Site:	Sec 18, T17S,31E	MD Reference:	WELL @ 3777.0usft (Capstar #118)
Well:	Coffee Federal #18	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM Compass

Project	Eddy County, New Mexico		
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	Sec 18, T17S,31E		
Site Position:		Northing:	669,030.90 usft
From:	Map	Easting:	628,605.90 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 50' 18.784 N
		Longitude:	103° 54' 52.613 W
		Grid Convergence:	0.23 °

Well	Coffee Federal #18		
Well Position	+N-S	0.0 usft	Northing:
	+E-W	0.0 usft	Easting:
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft
		Latitude:	32° 50' 10.140 N
		Longitude:	103° 54' 46.820 W
		Ground Level:	3,766.0 usft

Wellbore	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF2010	1/24/2014	7.47
			Dip Angle (°)
			60.63
			Field Strength (nT)
			48,683

Design	Wellbore #1		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N-S (usft)	+E-W (usft)
	0.0	0.0	0.0
			Direction (°)
			352.68

Survey Program	Date 9/4/2014		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name
495.0	6,412.0	MWD Survey (Wellbore #1)	MWD default
			Description
			MWD - Standard

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)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
FIRST MWD SURVEY @ 495' MD / 495' TVD									
495.0	1.10	134.10	495.0	-3.3	3.4	-3.7	0.22	0.22	0.00
556.0	0.90	180.70	556.0	-4.2	3.8	-4.6	1.33	-0.33	76.39
649.0	1.10	243.40	648.9	-5.3	3.0	-5.7	1.13	0.22	67.42
743.0	0.70	277.40	742.9	-5.7	1.6	-5.8	0.69	-0.43	36.17
838.0	0.70	281.20	837.9	-5.5	0.5	-5.5	0.05	0.00	4.00
933.0	0.60	264.70	932.9	-5.4	-0.6	-5.3	0.22	-0.11	-17.37
1,028.0	0.30	264.30	1,027.9	-5.5	-1.3	-5.3	0.32	-0.32	-0.42
1,122.0	0.10	209.70	1,121.9	-5.6	-1.6	-5.3	0.27	-0.21	-58.09
1,217.0	0.40	90.50	1,216.9	-5.6	-1.3	-5.4	0.48	0.32	-125.47



Survey Report



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Well:	Coffee Federal #18	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM Compass

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)
1,313.0	0.40	108.40	1,312.9	-5.7	-0.7	-5.6	0.13	0.00	18.65
1,439.0	0.60	111.90	1,438.9	-6.1	0.4	-6.1	0.16	0.16	2.78
1,534.0	0.60	287.90	1,533.9	-6.2	0.4	-6.2	1.26	0.00	185.26
1,629.0	1.70	304.20	1,628.9	-5.2	-1.3	-5.0	1.20	1.16	17.16
1,724.0	2.80	303.20	1,723.8	-3.2	-4.4	-2.6	1.16	1.16	-1.05
1,819.0	4.10	309.30	1,818.6	0.3	-8.9	1.4	1.42	1.37	6.42
1,913.0	4.60	310.70	1,912.4	4.8	-14.4	6.6	0.54	0.53	1.49
2,008.0	4.80	309.70	2,007.1	9.9	-20.4	12.4	0.23	0.21	-1.05
CROSSED HARD LINE @ 2020' MD / 2019' TVD									
2,019.8	4.79	309.57	2,018.8	10.5	-21.1	13.1	0.12	-0.08	-1.08
2,135.0	4.70	308.30	2,133.6	16.5	-28.5	20.0	0.12	-0.08	-1.10
2,230.0	4.40	321.60	2,228.3	21.8	-33.8	25.9	1.15	-0.32	14.00
2,325.0	3.60	330.40	2,323.1	27.2	-37.6	31.8	1.06	-0.84	9.26
2,419.0	4.00	339.80	2,416.9	32.9	-40.2	37.7	0.79	0.43	10.00
2,514.0	4.50	354.90	2,511.6	39.7	-41.6	44.7	1.29	0.53	15.89
2,609.0	4.00	1.20	2,606.4	46.7	-41.9	51.7	0.72	-0.53	6.63
2,703.0	3.90	2.10	2,700.1	53.2	-41.7	58.1	0.13	-0.11	0.96
2,798.0	3.90	3.10	2,794.9	59.6	-41.4	64.4	0.07	0.00	1.05
2,893.0	4.20	0.10	2,889.7	66.3	-41.2	71.0	0.39	0.32	-3.16
2,988.0	4.70	359.40	2,984.4	73.7	-41.3	78.4	0.53	0.53	-0.74
3,082.0	5.10	359.40	3,078.1	81.7	-41.4	86.3	0.43	0.43	0.00
3,177.0	4.70	1.50	3,172.7	89.8	-41.3	94.4	0.46	-0.42	2.21
3,272.0	4.70	1.50	3,267.4	97.6	-41.1	102.1	0.00	0.00	0.00
3,366.0	4.50	1.50	3,361.1	105.2	-40.9	109.5	0.21	-0.21	0.00
3,474.0	4.80	3.50	3,468.7	113.9	-40.5	118.1	0.32	0.28	1.85
3,554.0	4.90	8.10	3,548.4	120.6	-39.8	124.7	0.50	0.13	5.75
3,649.0	4.20	348.40	3,643.1	128.1	-40.0	132.1	1.79	-0.74	-20.74
3,743.0	3.80	4.20	3,736.9	134.5	-40.4	138.6	1.24	-0.43	16.81
3,838.0	4.00	357.00	3,831.7	141.0	-40.4	145.0	0.56	0.21	-7.58
3,933.0	3.30	357.90	3,926.5	147.0	-40.6	151.0	0.74	-0.74	0.95
4,028.0	3.10	356.30	4,021.4	152.3	-40.9	156.3	0.23	-0.21	-1.68
4,122.0	4.00	3.50	4,115.2	158.1	-40.9	162.0	1.07	0.96	7.66
4,217.0	4.00	357.90	4,209.9	164.7	-40.8	168.6	0.41	0.00	-5.89
4,406.0	3.80	359.40	4,398.5	177.6	-41.1	181.4	0.12	-0.11	0.79
4,595.0	3.60	359.80	4,587.1	189.8	-41.2	193.5	0.11	-0.11	0.21
4,784.0	3.30	357.00	4,775.8	201.2	-41.5	204.8	0.18	-0.16	-1.48
4,974.0	3.10	356.50	4,965.5	211.7	-42.1	215.4	0.11	-0.11	-0.26
5,163.0	3.70	358.40	5,154.1	222.9	-42.6	226.6	0.32	0.32	1.01
5,353.0	4.10	14.00	5,343.7	235.7	-41.1	239.0	0.59	0.21	8.21
5,543.0	4.70	355.90	5,533.2	250.0	-40.0	253.1	0.79	0.32	-9.53
5,733.0	3.90	355.60	5,722.6	264.2	-41.1	267.3	0.42	-0.42	-0.16
5,922.0	5.30	354.90	5,911.0	279.3	-42.3	282.4	0.74	0.74	-0.37
6,112.0	5.00	356.10	6,100.2	296.3	-43.7	299.5	0.17	-0.16	0.63



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Design:	Wellbore #1	Database:	EDM Compass

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)
6,302.0	4.30	350.10	6,289.6	311.6	-45.5	314.9	0.45	-0.37	-3.16
6,362.0	4.10	348.70	6,349.5	315.9	-46.3	319.2	0.37	-0.33	-2.33
TD @ 6412' MD / 6399' TVD									
6,412.0	4.10	348.70	6,399.3	319.4	-47.0	322.8	0.00	0.00	0.00

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
495.0	495.0	-3.3	3.4	FIRST MWD SURVEY @ 495' MD / 495' TVD
2,019.8	2,018.8	10.5	-21.1	CROSSED HARD LINE @ 2020' MD / 2019' TVD
6,412.0	6,399.3	319.4	-47.0	TD @ 6412' MD / 6399' TVD

Checked By: _____ Approved By: _____ Date: _____