



Weatherford

Evaluation, Drilling & Intervention
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Tel. (432) 561-8892 Fax (432) 561-8895

Apache Corporation
303 Veterans Airpark Lane
Midland, TX, 79705

Date: April 26, 2018

Attention: John Vacek

**NM OIL CONSERVATION
ARTESIA DISTRICT**

Re: Apache Corporation
Well: Palmillo 14-15 State 207H
Eddy County, New Mexico

OCT 22 2018

RECEIVED

30-015-44668

Enclosed, please find the original survey performed on the referenced well by Precision Energy Services, Inc., a Weatherford company. Other information required by your office is as follows:

<u>Name & Title Of Surveyor</u>	<u>Well Number</u>	<u>Surveyed Depths</u>	<u>Dates Performed</u>	<u>Type of Survey</u>
Jeff Johnson MWD Ops Coordinator	207H	6,652' MD 12,528' MD	04/14/2018 04/23/2018	Measurement While Drilling

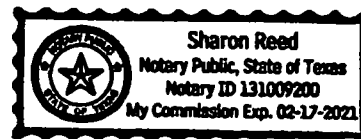
A notarized plan vs. actual is attached to the survey report. If any other information is required, please contact the undersigned at the letterhead address and phone number.

Jeff Johnson
MWD Ops Coordinator

On this, the 26th day of April, 2018, before me a notary public, the undersigned officer, personally appeared Jeffery Johnson, known to me (or satisfactorily proven) to be the person whose name is subscribed to the within instrument, and acknowledged that he executed the same for the purposes therein contained.

In witness hereof, I hereunto set my hand and official seal.

Notary Public





5D Survey Report

Apache Corporation

Field Name: *Apache NM (Nad 83 NMEZ)*

Site Name: *Palmillo 14-15 State 207H*

Well Name: *Palmillo 14-15 State 207H*

File number: *13134802*

Survey: *Definitive survey*

24 April 2018





Palmillo 14-15 State 207H

Field Name: Apache NH (Mad 83 NH-EZ)
Map Units: US ft
Company Name: Apache Corporation
Vertical Reference Datum (VRD): Mean Sea Level
Projected Coordinate System: NAD83 / New Mexico East (ftUS)
Comment:

Units: US ft
North Reference: Grid
Convergence Angle: 0.10
Site: Palmillo 14-15 State 207H
Elevation above MSL: 3438.00 US ft
Comment: Eddy Co., NM

Slot: Palmillo 14-15 State 207H
Slot TVD Reference: Ground Elevation
Elevation above MSL: 3438.00 US ft
Comment:

Well: Palmillo 14-15 State 207H
Type: Main well
UWI:
File Number: 13134802
Comment: H&P 482
Closure Distance: 5534.95 US ft
Closure Azimuth: 274.13°
Vertical Section: Position of Origin (Relative to Slot centre)
+N/-S: 0.00 US ft
+E/-W: 0.00 US ft
Az: 273.97°

Drill floor: Survey Name: Definitive Survey
Rig Height (Drill Floor): 26.00 US ft
Elevation above MSL: 3464.00 US ft
Inclination: 0.00°
Azimuth: 0.00°

Survey Name: Definitive Survey

Date: 15/Mar/2018
Survey Tool: See Survey
Comment:
Company:
Tool Ranges below.

Magnetic Model:
Model Name: HDGM
Date: 15/Apr/2018
Field Strength: 48096.0 nT
Declination: 7.33°
Dip: 60.52°
GeoDec:

Tie Point:
MD: 0.00 US ft
Inclination: 0.00°
Azimuth: 0.00°
TVD: -0.00 US ft
North Offset: 0.00 US ft
East Offset: 0.00 US ft

Survey Tool Ranges:

Name	Start MD(usft)	End MD(usft)	Source Survey
VES Gyro	0.00	6570.00	VES Gyro

5D Survey Report

Survey Tool Ranges:			
Name	Start MD(usft)	End MD(usft)	Source Survey
MWD 4	6570.00	7637.00	MWD 4
MWD 5	7637.00	12613.00	MWD 5

Wellpath created using minimum curvature.

Survey Points: (Relative to Slot centre)(1VD relative to Drill Floor)											
MD (usft)	Inch (in)	Age (sec)	True North (usft)	True East (usft)	Northward (usft)	Eastward (usft)	Vertical (usft)	Horizontal (usft)	Vertical (usft)	Horizontal (usft)	Comment
6570.00	0.81	255.00	6569.65	13.21	15.18	-12.19	0.24	19.47	321.23	Tieon to VES Gyro	
6652.00	0.85	244.41	6651.64	14.29	14.77	-13.30	0.19	19.87	317.99	First WFT MWD Svy	
6691.00	0.95	247.74	6690.64	14.83	14.52	-13.86	0.29	20.07	316.33		
6786.00	10.22	286.19	6785.09	23.80	16.58	-22.70	9.99	28.11	306.13		
6833.00	17.92	287.66	6830.65	34.91	19.94	-33.61	16.40	39.08	300.67		
6881.00	23.96	286.73	6875.46	51.61	24.99	-50.00	12.60	55.90	296.55		
6928.00	26.91	287.07	6917.90	71.28	30.86	-69.31	6.28	75.87	294.00		
6975.00	27.40	285.03	6959.72	92.25	36.78	-89.92	2.24	97.16	292.25		
7022.00	28.50	286.00	7001.24	113.84	42.68	-111.15	2.53	119.06	291.01		
7070.00	30.96	288.22	7042.92	137.01	49.70	-133.89	5.61	142.81	290.36		
7117.00	35.92	288.04	7082.12	162.11	57.75	-158.49	10.56	168.69	290.02		
7164.00	39.90	286.39	7119.20	190.22	66.28	-186.08	8.74	197.53	289.61		
7211.00	46.64	288.60	7153.40	221.51	75.99	-216.77	14.70	229.70	289.32		
7259.00	51.59	291.89	7184.82	256.31	88.58	-250.78	11.54	265.97	289.45		
7306.00	55.36	294.28	7212.79	291.98	103.40	-285.51	9.00	303.66	289.91		
7353.00	59.29	294.42	7238.16	329.06	119.71	-321.54	8.37	343.11	290.42		
7400.00	64.02	294.22	7260.47	367.83	136.74	-359.23	10.07	384.37	290.84		
7448.00	69.73	293.02	7279.31	409.39	154.41	-399.66	12.12	428.45	291.12		
7495.00	75.09	291.64	7293.51	451.90	171.42	-441.09	11.74	473.23	291.24		
7543.00	78.32	291.14	7304.55	496.46	188.45	-484.58	6.81	519.93	291.25		
7590.00	80.53	290.69	7313.17	540.66	204.95	-527.73	4.80	566.13	291.22		
7637.00	85.80	289.72	7318.76	585.45	221.05	-571.51	11.40	612.78	291.15		
7674.00	90.21	289.10	7320.05	621.08	233.34	-606.38	12.04	649.73	291.05		
7766.00	92.73	287.82	7317.69	710.12	262.46	-693.61	3.07	741.61	290.73		
7858.00	93.22	285.96	7312.92	799.66	289.15	-781.52	2.09	833.29	290.30		
7950.00	90.91	284.72	7309.60	889.79	313.47	-870.18	2.85	924.92	289.81		
8044.00	91.40	282.51	7307.71	982.44	335.59	-961.51	2.41	1018.39	289.24		
8139.00	92.17	281.17	7304.75	1076.49	355.07	-1054.44	1.63	1112.62	288.61		
8233.00	90.56	278.14	7302.51	1169.99	370.83	-1147.07	3.65	1205.52	287.92		
8328.00	90.56	276.61	7301.58	1264.82	383.03	-1241.28	1.61	1299.03	287.15		
8422.00	91.05	276.13	7300.26	1358.72	393.45	-1334.69	0.73	1391.47	286.43		
8517.00	91.61	275.93	7298.05	1453.64	403.43	-1429.13	0.63	1484.98	285.76		
8612.00	90.49	274.63	7296.31	1548.59	412.17	-1523.71	1.81	1578.47	285.14		
8706.00	89.51	272.90	7296.31	1642.59	418.34	-1617.50	2.12	1670.73	284.50		
8801.00	89.65	272.80	7297.01	1737.57	423.07	-1712.38	0.18	1763.87	283.88		
8895.00	88.67	272.24	7298.39	1831.52	427.20	-1806.28	1.20	1856.11	283.31		
8990.00	90.35	270.98	7299.20	1926.43	429.87	-1901.23	2.21	1949.23	282.74		
9085.00	91.47	268.36	7297.69	2021.15	429.32	-1996.21	3.00	2041.86	282.14		
9179.00	92.10	267.21	7294.76	2114.55	425.69	-2090.09	1.39	2133.00	281.51		
9274.00	93.57	266.80	7290.06	2208.73	420.73	-2184.84	1.61	2224.99	280.90		
9369.00	93.64	266.07	7284.09	2302.72	414.84	-2279.47	0.77	2316.91	280.31		
9463.00	92.52	266.99	7279.04	2395.80	409.16	-2373.16	1.54	2408.18	279.78		
9558.00	90.70	268.19	7276.37	2490.16	405.16	-2468.04	2.29	2501.07	279.32		
9652.00	89.86	268.38	7275.91	2583.70	402.35	-2561.99	0.92	2593.39	278.93		
9747.00	89.30	268.93	7276.61	2678.29	400.12	-2656.96	0.83	2686.92	278.56		
9842.00	90.56	270.82	7276.72	2773.04	399.91	-2751.96	2.39	2780.86	278.27		
9936.00	91.33	271.53	7275.17	2866.91	401.84	-2845.92	1.11	2874.15	278.04		
10031.00	93.01	269.90	7271.57	2961.69	403.03	-2940.84	2.46	2968.33	277.80		
10126.00	92.80	269.38	7266.76	3056.29	402.43	-3035.71	0.59	3062.27	277.55		
10220.00	92.80	269.19	7262.17	3149.87	401.26	-3129.60	0.20	3155.21	277.31		

SD Survey Report

PTS (US ft)	Inc. US	AP ft	Ref US ft	VS US ft	Ref US ft	Correct US ft	Plus US ft	Correct US ft	Obs. AP ft	Comment
10315.00	92.80	268.85	7257.53	3244.40	399.64	-3224.47	0.36	3249.14	277.07	
10410.00	92.80	268.34	7252.89	3338.87	397.31	-3319.33	0.54	3343.02	276.83	
10504.00	92.80	268.16	7248.29	3432.29	394.44	-3413.17	0.19	3435.89	276.59	
10599.00	92.94	268.59	7243.54	3526.72	391.75	-3508.01	0.48	3529.82	276.37	
10693.00	93.15	267.60	7238.54	3620.09	388.63	-3601.83	1.08	3622.73	276.16	
10788.00	92.38	268.12	7233.95	3714.44	385.09	-3696.65	0.98	3716.65	275.95	
10883.00	91.68	268.39	7230.60	3808.91	382.20	-3791.54	0.79	3810.76	275.76	
10978.00	91.40	268.76	7228.04	3903.45	379.84	-3886.48	0.49	3905.00	275.58	
11072.00	90.49	269.85	7226.49	3997.13	378.70	-3980.46	1.51	3998.43	275.43	
11167.00	90.98	270.73	7225.27	4091.92	379.18	-4075.45	1.06	4093.05	275.32	
11261.00	90.56	269.31	7224.01	4185.69	379.21	-4169.44	1.58	4186.65	275.20	
11356.00	91.54	269.69	7222.27	4280.38	378.38	-4264.42	1.11	4281.17	275.07	
11450.00	93.01	269.40	7218.54	4374.02	377.63	-4358.34	1.59	4374.67	274.95	
11545.00	92.94	269.95	7213.61	4468.63	377.10	-4453.21	0.58	4469.14	274.84	
11639.00	90.42	269.39	7210.85	4562.32	376.56	-4547.16	2.75	4562.72	274.73	
11734.00	92.03	269.70	7208.82	4657.01	375.80	-4642.13	1.73	4657.31	274.63	
11829.00	90.21	270.04	7206.97	4751.74	375.59	-4737.11	1.95	4751.97	274.53	
11923.00	91.96	270.61	7205.19	4845.53	376.12	-4831.08	1.96	4845.70	274.45	
12018.00	89.86	271.63	7203.68	4940.39	377.98	-4926.05	2.46	4940.53	274.39	
12113.00	90.42	271.44	7203.44	5035.31	380.52	-5021.01	0.62	5035.41	274.33	
12208.00	91.68	271.64	7201.70	5130.21	383.07	-5115.96	1.34	5130.28	274.28	
12302.00	89.79	272.53	7200.50	5224.14	386.49	-5209.88	2.22	5224.20	274.24	
12397.00	90.56	272.20	7200.21	5319.10	390.41	-5304.80	0.88	5319.15	274.21	
12491.00	91.40	272.32	7198.60	5413.05	394.12	-5398.71	0.90	5413.08	274.18	
12528.00	91.75	272.09	7197.58	5450.01	395.54	-5435.67	1.13	5450.05	274.16	Last WFT MWD Svy Proj to TD
12613.00	91.75	272.09	7194.99	5534.93	398.64	-5520.58	0.00	5534.95	274.13	