



Drilling Services
 10000 West County Rd. 116
 P.O. Box 61028
 Midland, TX USA 79711
 Tel. (432) 561-8892 Fax (432) 561-8895

Apache Corporation
 303 Veterans Airpark Lane
 Midland, TX, 79705

Date: September 23, 2018

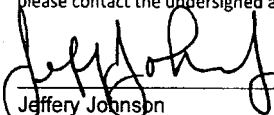
Attention: John Vacek

Re: Apache Corporation
 Well: Palmillo 26 State Com 315H
 Eddy County, New Mexico

Enclosed, please find the original survey performed on the referenced well by Precision Energy Services, Inc. (P-5 No. 676004), 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>
Jeffery Johnson MWD Supervisor	315H	8,053 MD 13,384 MD	9/18/2018 9/22/2018	Measurement While Drilling

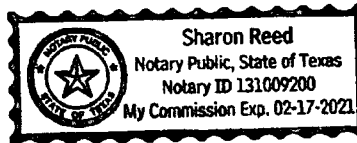
A notarized plan vs. actual is attached to the survey report. If any other information is required, please contact the undersigned at the letterhead address and phone number.


 Jeffery Johnson
 MWD Ops. Coordinator

On this, the 24th day of September, 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





APR 26 2019

DISTRICT II-ARTESIA O.C.D.

5D Survey Report

Apache Corporation

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

Site Name: *Palmillo 26 State COM (315H,316H,214H)*

Well Name: *Palmillo 26 State COM 315H*

File number: *13357736*

Survey: *Definitive survey*

23 September 2018



Weatherford®



Palmillo 26 State COM 315H

Field Name: Apache NM (Nad 83 NMEZ)	Map Units: US ft Vertical Reference Datum (VRD): Mean Sea Level Projected Coordinate System: NAD83 / New Mexico East (ftUS) Comment:	Company Name: Apache Corporation
Site: Palmillo 26 State COM (315H, 316H, 214 H)	Units: US ft North Reference: Grid Convergence Angle: 0.10 Elevation above MSL: 3360.00 US ft Comment: Eddy Co. New Mexico	
Slot: Palmillo 26 State COM 315H	Slot TVD Reference: Ground Elevation Elevation above MSL: 3360.00 US ft Comment:	
Well: Palmillo 26 State COM 315H	Type: Main well File Number: 13357736 Closure Distance: 4940.2 US ft Vertical Section: Position of Origin (Relative to Slot centre) +N/-S: 0.00 US ft	UWI: Closure Azimuth: 264.19° +E/-W: -0.00 US ft Az: 270.00°

Drill floor: Survey Name: Definitive Survey
Rig Height (Drill Floor): 26.00 US ft **Elevation above MSL:** 3386.00 US ft **Inclination:** 0.00° **Azimuth:** 0.00°

Survey Name: Definitive Survey			
Date: 05/Apr/2018	Survey Tool: See Survey Tool Ranges below.	Comment:	Company:
Magnetic Model:			
Model Name: Surcon IFRI	Date: 29/Aug/2018	Field Strength: 48010.0 nT	Declination: 7.48° Dip: 60.42°
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

SD Survey Report

Survey Tool Ranges:			
Name	Start MD(usft)	End MD(usft)	Source Survey
VES GyroFlex V3	0.00	7966.00	VES Gyro Svys
MWD + IFR + MS	7966.00	8951.00	MWD 6
MWD + IFR + Sag Corr + MS	8951.00	13446.00	MWD 7

Wellpath created using minimum curvature.

Survey Points: (Relative to Slot centre)(TVD: relative to Drill Floor)										
TD (US ft)	Inc (°)	AC (ft)	TVD (US ft)	VS (US ft)	HO Offset (US ft)	VO Offset (US ft)	DCS (%/100USft)	Tooling (US ft)	Facing (US ft)	Comment
7966.00	0.82	87.64	7932.56	-113.57	-501.48	113.57	0.67	594972.82	601066.77	Tie on VES Gyro
8053.00	1.24	87.16	8019.55	-115.13	-501.40	115.13	0.48	594972.90	601068.33	First WFT MWD Svys
8147.00	3.20	269.61	8113.51	-113.52	-501.37	113.52	4.72	594972.93	601066.72	
8242.00	15.51	267.30	8207.07	-98.12	-501.99	98.12	12.96	594972.31	601051.32	
8289.00	21.96	274.23	8251.56	-83.06	-501.64	83.06	14.49	594972.66	601036.26	
8336.00	27.00	276.63	8294.32	-63.69	-499.76	63.69	10.93	594974.54	601016.89	
8383.00	30.77	274.72	8335.47	-41.10	-497.54	41.10	8.26	594976.76	600994.30	
8431.00	34.63	272.77	8375.85	-15.23	-495.87	15.23	8.33	594978.43	600968.43	
8478.00	38.61	270.36	8413.57	12.79	-495.13	-12.79	9.00	594979.17	600940.41	
8526.00	42.22	269.16	8450.11	43.90	-495.27	-43.90	7.69	594979.03	600909.30	
8573.00	47.93	268.45	8483.29	77.15	-495.97	-77.15	12.20	594978.33	600876.05	
8620.00	55.09	268.23	8512.52	113.90	-497.04	-113.90	15.24	594977.26	600839.30	
8667.00	59.24	268.75	8538.00	153.37	-498.08	-153.37	8.88	594976.22	600799.83	
8715.00	62.76	269.29	8561.27	195.34	-498.79	-195.34	7.40	594975.51	600757.86	
8762.00	69.49	269.20	8580.28	238.29	-499.36	-238.29	14.32	594974.94	600714.91	
8809.00	75.00	268.89	8594.60	283.03	-500.11	-283.03	11.74	594974.19	600670.17	
8856.00	79.16	268.97	8605.11	328.82	-500.96	-328.82	8.85	594973.34	600624.38	
8904.00	82.42	269.78	8612.79	376.19	-501.48	-376.19	6.99	594972.82	600577.01	
8951.00	86.29	270.27	8617.41	422.95	-501.46	-422.95	8.30	594972.84	600530.25	
9032.00	91.78	269.71	8618.78	503.91	-501.47	-503.91	6.81	594972.83	600449.29	
9126.00	91.01	268.87	8616.49	597.88	-502.64	-597.88	1.21	594971.66	600355.32	
9221.00	92.62	269.32	8613.48	692.81	-504.14	-692.81	1.76	594970.16	600260.39	
9315.00	93.53	269.94	8608.44	786.67	-504.74	-786.67	1.17	594969.56	600166.53	
9410.00	94.09	269.75	8602.13	881.46	-505.00	-881.46	0.62	594969.30	600071.74	
9504.00	92.97	270.49	8596.34	975.28	-504.80	-975.28	1.43	594969.50	599977.92	
9599.00	92.55	270.41	8591.76	1070.17	-504.06	-1070.17	0.45	594970.24	599883.03	
9694.00	91.08	270.70	8588.76	1165.11	-503.14	-1165.11	1.58	594971.16	599788.09	
9788.00	91.36	270.34	8586.75	1259.09	-502.28	-1259.09	0.49	594972.02	599694.11	
9883.00	91.71	270.45	8584.21	1354.05	-501.63	-1354.05	0.39	594972.67	599599.15	
9978.00	92.13	270.67	8581.03	1448.99	-500.70	-1448.99	0.50	594973.60	599504.21	
10072.00	92.27	270.75	8577.42	1542.92	-499.54	-1542.92	0.17	594974.76	599410.28	
10167.00	92.62	270.84	8573.37	1637.82	-498.22	-1637.82	0.38	594976.08	599315.38	
10262.00	92.97	270.78	8568.73	1732.70	-496.88	-1732.70	0.37	594977.42	599220.50	
10356.00	93.11	271.14	8563.75	1826.55	-495.31	-1826.55	0.41	594978.99	599126.65	
10451.00	92.41	269.56	8559.17	1921.44	-494.73	-1921.44	1.82	594979.57	599031.76	
10545.00	92.55	268.94	8555.11	2015.34	-495.96	-2015.34	0.68	594978.34	598937.86	
10640.00	93.11	268.75	8550.41	2110.21	-497.87	-2110.21	0.62	594976.43	598842.99	
10734.00	92.34	269.08	8545.95	2204.08	-499.65	-2204.08	0.89	594974.65	598749.12	
10829.00	92.55	268.79	8541.89	2298.98	-501.41	-2298.98	0.38	594972.89	598654.22	
10923.00	93.32	268.80	8537.08	2392.83	-503.38	-2392.83	0.82	594970.92	598560.37	
11018.00	92.41	269.71	8532.33	2487.71	-504.62	-2487.71	1.35	594969.68	598465.49	
11113.00	90.87	270.21	8529.61	2582.66	-504.68	-2582.66	1.70	594969.62	598370.54	
11207.00	91.78	270.28	8527.44	2676.64	-504.28	-2676.64	0.97	594970.02	598276.56	
11301.00	92.54	269.95	8523.90	2770.57	-504.09	-2770.57	0.88	594970.21	598182.63	
11396.00	91.50	269.95	8520.55	2865.51	-504.18	-2865.51	1.09	594970.12	598087.69	
11491.00	90.31	270.74	8519.05	2960.49	-503.60	-2960.49	1.50	594970.70	597992.71	
11585.00	90.66	270.64	8518.25	3054.48	-502.47	-3054.48	0.39	594971.83	597898.72	
11680.00	90.59	270.23	8517.22	3149.47	-501.75	-3149.47	0.44	594972.55	597803.73	
11774.00	89.75	269.42	8516.94	3243.47	-502.04	-3243.47	1.24	594972.26	597709.73	

SD Survey Report

Survey Points: (Relative to Slot centre)(TVD relative to Drill Floor)										
BD (US ft)	Inc (°)	AP (°)	TVD (US ft)	VS (US ft)	H. Offset (US ft)	E. Offset (US ft)	SLS (± 100 US ft)	Heading (US ft)	Easing (US ft)	Comment
11869.00	91.92	269.53	8515.55	3338.45	-502.91	-3338.45	2.29	594971.39	597614.75	
11963.00	93.18	269.41	8511.37	3432.35	-503.78	-3432.35	1.35	594970.52	597520.85	
12058.00	92.62	269.58	8506.56	3527.23	-504.61	-3527.23	0.62	594969.69	597425.97	
12153.00	91.43	270.34	8503.21	3622.16	-504.68	-3622.16	1.49	594969.62	597331.04	
12247.00	89.82	270.16	8502.18	3716.15	-504.27	-3716.15	1.72	594970.03	597237.05	
12342.00	90.45	269.95	8501.96	3811.15	-504.18	-3811.15	0.70	594970.12	597142.05	
12436.00	91.15	269.35	8500.65	3905.14	-504.75	-3905.14	0.98	594969.55	597048.06	
12531.00	91.99	268.79	8498.04	4000.09	-506.29	-4000.09	1.06	594968.01	596953.11	
12626.00	91.15	269.18	8495.44	4095.04	-507.98	-4095.04	0.97	594966.32	596858.16	
12720.00	91.22	269.65	8493.50	4189.02	-508.94	-4189.02	0.51	594965.36	596764.18	
12815.00	89.40	270.15	8492.98	4284.01	-509.10	-4284.01	1.99	594965.20	596669.19	
12910.00	89.61	269.83	8493.80	4379.01	-509.12	-4379.01	0.40	594965.18	596574.19	
13004.00	90.59	269.71	8493.64	4473.00	-509.49	-4473.00	1.05	594964.81	596480.20	
13099.00	91.57	269.60	8491.85	4567.98	-510.07	-4567.98	1.04	594964.23	596385.22	
13193.00	91.50	271.83	8489.33	4661.94	-508.89	-4661.94	2.37	594965.41	596291.26	
13288.00	90.10	272.05	8488.00	4756.87	-505.68	-4756.87	1.49	594968.62	596196.33	
13384.00	90.45	271.82	8487.54	4852.81	-502.44	-4852.81	0.44	594971.86	596100.39	Last WFT MWD Svy
13446.00	90.45	271.82	8487.06	4914.78	-500.47	-4914.78	0.00	594973.83	596038.42	Proj to TD

dry
comp
C105
H2