



Weatherford

Evaluation, Drilling & Intervention
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: April 13, 2018

30-015-44669

Attention: John Vacek

**NM OIL CONSERVATION
ARTESIA DISTRICT**

Re: Apache Corporation
Well: Palmillo 14-15 State Com 208H
Eddy County, New Mexico

OCT 22 2018

RECEIVED

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	208H	6,855' MD 12,541' MD	03/27/2018 04/07/2018	Measurement White 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 13th day of April, 2018, before me a notary public, the undersigned officer, personally appeared Jeff 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.

Sharon Reed
Notary Public





5D Survey Report

Apache Corporation

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

Site Name: *Palmillo 14-15 State Com 208H*

Well Name: *Palmillo 14-15 State Com 208H*

File number: *13093573*

Survey: *Definitive survey*

9 April 2018



5D Survey Report

Survey Tool Ranges:			
Name	Start MD(usft)	End MD(usft)	Source Survey
MWD 4	6789.00	7234.00	MWD 4
MWD 5	7234.00	7642.00	MWD 5
MWD 6	7642.00	12615.00	MWD 6

Wellpath created using minimum curvature.

Survey Points: (Relative to Slot centre)(TVD relative to Drill Floor)											
Bit SR	SR	A	TVD USFT	W USFT	True Dip USFT	False Dip USFT	True Elevation	Surf USFT	Last USFT	Comment	
6789.00	8.94	258.06	6788.25	31.50	1.92	-31.52	7.64	606394.82	596427.68	Tie-on to VES Gyro	
6855.00	19.43	261.28	6852.15	47.44	-0.81	-47.43	15.93	606392.09	596411.77	First WFT MWD Svy	
6902.00	25.42	261.34	6895.58	65.18	-3.52	-65.15	12.74	606389.38	596394.05		
6950.00	29.26	261.50	6938.21	87.01	-6.80	-86.94	8.00	606386.10	596372.26		
6997.00	32.24	262.41	6978.60	110.84	-10.16	-110.74	6.42	606382.74	596348.46		
7044.00	35.39	264.03	7017.64	136.84	-13.23	-136.71	6.97	606379.67	596322.49		
7091.00	38.37	267.90	7055.24	164.99	-15.18	-164.83	8.04	606377.72	596294.37		
7141.00	41.23	272.06	7093.65	196.97	-15.16	-196.82	7.81	606377.74	596262.38		
7186.00	44.47	272.80	7126.64	227.53	-13.85	-227.39	7.29	606379.05	596231.81		
7234.00	47.98	271.05	7159.85	262.14	-12.70	-262.02	7.77	606380.20	596197.18		
7283.00	53.59	268.66	7190.82	300.09	-12.83	-299.96	12.06	606380.07	596159.24		
7330.00	56.58	269.36	7217.71	338.62	-13.49	-338.49	6.48	606379.41	596120.71		
7377.00	62.19	270.16	7241.64	379.05	-13.65	-378.92	12.03	606379.25	596080.28		
7425.00	68.73	270.10	7261.56	422.69	-13.56	-422.56	13.63	606379.34	596036.64		
7472.00	75.43	270.65	7276.02	467.38	-13.26	-467.26	14.30	606379.64	595991.94		
7519.00	79.58	272.24	7286.19	513.22	-12.10	-513.12	9.43	606380.80	595946.08		
7566.00	82.56	272.42	7293.48	559.58	-10.21	-559.50	6.35	606382.69	595899.70		
7614.00	84.46	272.75	7298.91	607.20	-8.06	-607.15	4.02	606384.84	595852.05		
7642.00	87.34	272.81	7300.91	635.07	-6.70	-635.04	10.29	606386.20	595824.16		
7689.00	91.47	272.68	7301.39	681.98	-4.45	-681.97	8.79	606388.45	595777.23		
7736.00	91.82	272.28	7300.05	728.89	-2.42	-728.91	1.13	606390.48	595730.29		
7831.00	91.33	271.05	7297.43	823.78	0.34	-823.83	1.39	606393.24	595635.37		
7926.00	91.75	269.54	7294.88	918.73	0.83	-918.79	1.65	606393.73	595540.41		
8020.00	90.77	268.56	7292.81	1012.70	-0.73	-1012.75	1.47	606392.17	595446.45		
8115.00	90.84	267.77	7291.48	1107.67	-3.77	-1107.70	0.83	606389.13	595351.50		
8210.00	90.49	268.26	7290.38	1202.64	-7.06	-1202.63	0.63	606385.84	595256.57		
8304.00	89.02	268.39	7290.78	1296.62	-9.81	-1296.59	1.57	606383.09	595162.61		
8399.00	89.44	268.05	7292.06	1391.59	-12.76	-1391.53	0.57	606380.14	595067.67		
8493.00	90.14	267.55	7292.40	1485.55	-16.37	-1485.46	0.92	606376.53	594973.74		
8588.00	90.63	268.21	7291.76	1580.52	-19.88	-1580.39	0.87	606373.02	594878.81		
8683.00	91.19	268.72	7290.25	1675.49	-22.43	-1675.35	0.80	606370.47	594783.85		
8777.00	90.56	269.39	7288.82	1769.48	-23.98	-1769.32	0.98	606368.92	594689.88		
8872.00	90.63	269.84	7287.83	1864.47	-24.62	-1864.32	0.48	606368.28	594594.88		
8966.00	91.12	269.34	7286.40	1958.46	-25.29	-1958.30	0.74	606367.61	594500.90		
9061.00	90.21	269.28	7285.29	2053.45	-26.43	-2053.29	0.96	606366.47	594405.91		
9156.00	90.00	269.25	7285.12	2148.45	-27.65	-2148.28	0.22	606365.25	594310.92		
9250.00	90.63	268.90	7284.60	2242.45	-29.17	-2242.26	0.77	606363.73	594216.94		
9345.00	91.05	268.45	7283.21	2337.43	-31.37	-2337.23	0.65	606361.53	594121.97		
9440.00	91.40	268.08	7281.18	2432.39	-34.24	-2432.16	0.54	606358.66	594027.04		
9534.00	92.17	267.71	7278.25	2526.32	-37.69	-2526.05	0.91	606355.21	593933.15		
9629.00	92.37	269.02	7274.49	2621.22	-40.40	-2620.94	1.39	606352.50	593838.26		
9724.00	91.26	270.46	7271.48	2716.17	-40.83	-2715.89	1.91	606352.07	593743.31		
9818.00	91.33	270.59	7269.35	2810.13	-39.97	-2809.86	0.16	606352.93	593649.34		
9913.00	91.89	269.84	7266.68	2905.08	-39.61	-2904.82	0.99	606353.29	593554.38		
10008.00	92.59	269.42	7262.97	3000.00	-40.23	-2999.74	0.86	606352.67	593459.46		
10102.00	91.96	269.05	7259.24	3093.93	-41.48	-3093.66	0.78	606351.42	593365.54		
10197.00	89.65	269.15	7257.91	3188.91	-42.97	-3188.63	2.43	606349.93	593270.57		
10291.00	87.48	269.73	7260.26	3282.88	-43.89	-3282.59	2.39	606349.01	593176.61		
10386.00	88.19	269.43	7263.85	3377.81	-44.59	-3377.52	0.81	606348.31	593081.68		

5D Survey Report

Survey Points: (Relative to Slot centre)(TVD relative to Drill Floor)										
True Easting	True Northing	Approx Easting	Approx Northing	True Easting	True Northing	Horizontal Dist. R	Horizontal Dist. N	True Vertical Dist. D	Approx Vertical Dist. D	Comment
10480.00	89.16	269.12	7266.02	3471.78	-45.78	-3471.49	1.08	606347.12	592987.71	
10575.00	90.21	269.20	7266.54	3566.78	-47.17	-3566.47	1.11	606345.73	592892.73	
10670.00	90.84	268.92	7265.67	3661.77	-48.73	-3661.46	0.73	606344.17	592797.74	
10764.00	91.47	268.44	7263.78	3755.74	-50.89	-3755.41	0.84	606342.01	592703.79	
10859.00	91.12	268.68	7261.63	3850.71	-53.28	-3850.36	0.45	606339.62	592608.84	
10954.00	89.72	268.31	7260.94	3945.69	-55.77	-3945.32	1.52	606337.13	592513.88	
11048.00	90.21	268.44	7260.99	4039.68	-58.44	-4039.28	0.54	606334.46	592419.92	
11143.00	91.05	269.34	7259.95	4134.67	-60.28	-4134.26	1.30	606332.62	592324.94	
11237.00	91.61	269.71	7257.77	4228.64	-61.06	-4228.23	0.71	606331.84	592230.97	
11332.00	92.31	268.97	7254.52	4323.59	-62.15	-4323.16	1.07	606330.75	592136.04	
11427.00	93.01	270.83	7250.11	4418.47	-62.32	-4418.06	2.09	606330.58	592041.14	
11521.00	91.96	271.68	7246.03	4512.33	-60.26	-4511.94	1.44	606332.64	591947.26	
11616.00	92.86	272.78	7242.04	4607.13	-56.57	-4606.79	1.50	606336.33	591852.41	
11711.00	92.67	272.21	7237.45	4701.88	-52.44	-4701.58	0.63	606340.46	591757.62	
11805.00	90.00	272.47	7235.26	4795.72	-48.60	-4795.47	2.85	606344.30	591663.73	
11900.00	90.07	271.36	7235.21	4890.62	-45.43	-4890.42	1.17	606347.47	591568.78	
11994.00	89.93	270.14	7235.21	4984.59	-44.20	-4984.41	1.31	606348.70	591474.79	
12089.00	88.74	268.79	7236.31	5079.58	-45.08	-5079.39	1.89	606347.82	591379.81	
12184.00	88.53	268.88	7238.57	5174.55	-47.01	-5174.35	0.24	606345.89	591284.85	
12278.00	89.51	268.51	7240.18	5268.53	-49.15	-5268.31	1.11	606343.75	591190.89	
12373.00	90.56	267.88	7240.12	5363.51	-52.15	-5363.26	1.29	606340.75	591095.94	
12467.00	91.75	267.98	7238.23	5457.46	-55.54	-5457.18	1.27	606337.36	591002.02	
12541.00	92.24	267.26	7235.65	5531.38	-58.61	-5531.07	1.18	606334.29	590928.13	Last WFT MWD Svy Projection to TD
12615.00	92.24	267.26	7232.76	5605.27	-62.15	-5604.93	0.00	606330.75	590854.27	