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DISTRICT II-ARTESIA O.C.D.



**5D Survey Report**

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**Apache Corporation**

**Field Name:** *Apache NM (Nad 83 NMEZ)*  
**Site Name:** *Palmillo 26 State COM (314H,213H)*  
**Well Name:** *Palmillo 26 State COM 314H*  
**File number:** *13357750*  
**Survey:** *Definitive survey*

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12 November 2018



5D Survey Report

# Apache



## Palmillo 26 State COM 314H

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

**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 26 State COM (314H, 213H) **Elevation above MSL:** 3350.00 US ft

**Comment:** Eddy Co. New Mexico

**Slot:**

Palmillo 26 State COM 314H **Slot TVD Reference:** Ground Elevation

**Elevation above MSL:** 3350.00 US ft

**Comment:**

**Well:**

Palmillo 26 State COM 314H **Type:** Main well      **UWI:**

**File Number:** 13357750      **Comment:** H&P 482

**Closure Distance:** 4946.92 US ft      **Closure Azimuth:** 263.06°

**Vertical Section: Position of Origin (Relative to Slot centre)**

+N/-S: 0.00 US ft      +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:** 3376.00 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 IFR      **Date:** 29/Oct/2018      **Field Strength:** 47992.0nT      **Declination:** 7.46°      **Dip:** 60.41°

### 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 GyroFlex V3	0.00	7876.00	VES Gyro

## 5D Survey Report

Survey Tool Ranges:			
Name	Start MD(usft)	End MD(usft)	Source Survey
MWD + IFR + MS	7876.00	8961.00	MWD 4
MWD + IFR + Sag Corr + MS	8961.00	13506.00	MWD 5

Wellpath created using minimum curvature.

Survey Points::(Relative to Slot centre)(TVD relative to Drill Floor)											
MD (US ft)	Incl (°)	Alt (ft)	TVD (US ft)	VS (US ft)	N. Offset (US ft)	E. Offset (US ft)	DLS (Degrees ft)	Northing (US ft)	Easting (US ft)	Comment	
7876.00	0.62	281.97	7837.89	-94.16	-615.19	94.16	0.51	594059.31	601049.76	Tie on VES Gyro Svy	
7968.00	1.03	202.35	7929.88	-93.36	-615.85	93.36	1.20	594058.65	601048.96	First WFT MWD Svy	
8063.00	1.19	165.21	8024.87	-93.29	-617.59	93.29	0.76	594056.91	601048.89		
8157.00	0.89	130.76	8118.85	-94.09	-619.01	94.09	0.72	594055.49	601049.69		
8204.00	1.62	284.20	8165.85	-93.72	-619.09	93.72	5.21	594055.41	601049.32		
8252.00	6.99	283.50	8213.69	-90.22	-618.24	90.22	11.19	594056.26	601045.82		
8299.00	12.17	293.10	8260.03	-82.88	-615.63	82.88	11.50	594058.87	601038.48		
8346.00	17.44	290.06	8305.45	-71.70	-611.27	71.70	11.33	594063.23	601027.30		
8393.00	24.14	283.27	8349.37	-55.71	-606.64	55.71	15.13	594067.86	601011.31		
8441.00	29.49	277.58	8392.20	-34.42	-602.82	34.42	12.35	594071.68	600990.02		
8488.00	32.41	273.36	8432.51	-10.37	-600.56	10.37	7.74	594073.94	600965.97		
8535.00	35.38	271.21	8471.52	15.81	-599.53	-15.81	6.81	594074.97	600939.79		
8582.00	40.44	270.96	8508.59	44.67	-598.99	-44.67	10.77	594075.51	600910.93		
8630.00	46.29	270.22	8543.47	77.62	-598.66	-77.62	12.23	594075.84	600877.98		
8677.00	51.30	271.09	8574.42	112.96	-598.25	-112.96	10.75	594076.25	600842.64		
8725.00	56.60	271.85	8602.66	151.74	-597.24	-151.74	11.12	594077.26	600803.86		
8772.00	61.35	271.69	8626.88	191.99	-596.00	-191.99	10.11	594078.50	600763.61		
8819.00	66.20	271.15	8647.64	234.13	-594.96	-234.13	10.37	594079.54	600721.47		
8866.00	73.67	271.83	8663.75	278.23	-593.81	-278.23	15.95	594080.69	600677.37		
8914.00	79.29	273.53	8674.97	324.82	-591.62	-324.82	12.20	594082.88	600630.78		
8961.00	87.83	273.02	8680.24	371.41	-588.95	-371.41	18.20	594085.55	600584.19		
9036.00	94.95	270.27	8678.42	446.30	-586.80	-446.30	10.18	594087.70	600509.30		
9130.00	93.55	268.45	8671.45	540.03	-587.85	-540.03	2.44	594086.65	600415.57		
9225.00	92.50	268.87	8666.44	634.87	-590.07	-634.87	1.19	594084.43	600320.73		
9320.00	92.01	268.66	8662.70	729.77	-592.11	-729.77	0.56	594082.39	600225.83		
9414.00	92.50	268.33	8659.00	823.67	-594.58	-823.67	0.63	594079.92	600131.93		
9509.00	93.13	267.55	8654.34	918.49	-597.99	-918.49	1.05	594076.51	600037.11		
9604.00	92.22	268.69	8649.91	1013.33	-601.10	-1013.33	1.53	594073.40	599942.27		
9698.00	93.20	268.74	8645.46	1107.20	-603.21	-1107.20	1.04	594071.29	599848.40		
9793.00	93.06	269.33	8640.27	1202.05	-604.81	-1202.05	0.64	594069.69	599753.55		
9887.00	93.34	268.81	8635.03	1295.89	-606.33	-1295.89	0.63	594068.17	599659.71		
9982.00	93.69	268.57	8629.20	1390.69	-608.50	-1390.69	0.45	594066.00	599564.91		
10076.00	93.20	269.91	8623.55	1484.50	-609.74	-1484.50	1.52	594064.76	599471.10		
10171.00	93.62	269.59	8617.90	1579.34	-610.16	-1579.34	0.56	594064.34	599376.26		
10266.00	94.32	269.14	8611.33	1674.10	-611.21	-1674.10	0.88	594063.29	599281.50		
10360.00	93.55	269.67	8604.87	1767.87	-612.18	-1767.87	0.99	594062.32	599187.73		
10455.00	93.83	269.46	8598.76	1862.67	-612.90	-1862.67	0.37	594061.60	599092.93		
10549.00	94.67	269.23	8591.79	1956.41	-613.97	-1956.41	0.93	594060.53	598999.19		
10644.00	92.99	270.19	8585.45	2051.19	-614.45	-2051.19	2.04	594060.05	598904.41		
10739.00	93.90	269.08	8579.74	2146.01	-615.05	-2146.01	1.51	594059.45	598809.59		
10833.00	92.85	268.56	8574.21	2239.83	-616.99	-2239.83	1.25	594057.51	598715.77		
10928.00	93.13	271.28	8569.25	2334.69	-617.12	-2334.69	2.87	594057.38	598620.91		
11022.00	94.04	271.52	8563.37	2428.48	-614.83	-2428.48	1.00	594059.67	598527.12		
11117.00	92.57	271.13	8557.90	2523.29	-612.63	-2523.29	1.60	594061.87	598432.31		
11211.00	92.22	270.35	8553.97	2617.20	-611.42	-2617.20	0.91	594063.08	598338.40		
11306.00	93.76	271.17	8549.01	2712.06	-610.16	-2712.06	1.84	594064.34	598243.54		
11401.00	94.32	270.98	8542.32	2806.81	-608.38	-2806.81	0.62	594066.12	598148.79		
11495.00	92.15	270.96	8537.01	2900.64	-606.80	-2900.64	2.31	594067.70	598054.96		
11590.00	90.12	270.58	8535.13	2995.61	-605.52	-2995.61	2.17	594068.98	597959.99		
11684.00	89.91	269.88	8535.11	3089.60	-605.14	-3089.60	0.78	594069.36	597866.00		

## 5D Survey Report

Survey Points: (Relative to Slot centre)(TVD relative to Drill Floor)										
RB (US ft)	Incl (°)	Az (°)	PVD (US ft)	VS (US ft)	H.Offset (US ft)	E.Offset (US ft)	DLS (% 100US ft)	Horthing (US ft)	Fasting (US ft)	Comment
11779.00	90.96	270.04	8534.39	3184.60	-605.21	-3184.60	1.12	594069.29	597771.00	
11873.00	90.54	269.12	8533.16	3278.59	-605.90	-3278.59	1.08	594068.60	597677.01	
11968.00	91.59	268.91	8531.39	3373.56	-607.53	-3373.56	1.13	594066.97	597582.04	
12063.00	92.22	268.50	8528.23	3468.48	-609.68	-3468.48	0.79	594064.82	597487.12	
12157.00	91.17	268.52	8525.45	3562.40	-612.12	-3562.40	1.12	594062.38	597393.20	
12252.00	90.61	269.90	8523.98	3657.38	-613.43	-3657.38	1.57	594061.07	597298.22	
12347.00	90.68	270.00	8522.91	3752.38	-613.51	-3752.38	0.13	594060.99	597203.22	
12441.00	91.24	269.65	8521.33	3846.36	-613.80	-3846.36	0.70	594060.70	597109.24	
12536.00	89.63	270.18	8520.61	3941.35	-613.94	-3941.35	1.78	594060.56	597014.25	
12631.00	89.00	270.40	8521.75	4036.35	-613.46	-4036.35	0.70	594061.04	596919.25	
12725.00	89.56	271.09	8522.93	4130.33	-612.24	-4130.33	0.95	594062.26	596825.27	
12820.00	90.12	270.72	8523.19	4225.32	-610.74	-4225.32	0.71	594063.76	596730.28	
12914.00	91.24	270.83	8522.08	4319.30	-609.47	-4319.30	1.20	594065.03	596636.30	
13009.00	91.17	271.40	8520.08	4414.26	-607.62	-4414.26	0.60	594066.88	596541.34	
13103.00	91.87	271.61	8517.59	4508.19	-605.15	-4508.19	0.78	594069.35	596447.41	
13198.00	93.20	271.58	8513.39	4603.06	-602.51	-4603.06	1.40	594071.99	596352.54	
13292.00	92.15	270.75	8509.00	4696.94	-600.60	-4696.94	1.42	594073.90	596258.66	
13387.00	92.99	270.69	8504.74	4791.83	-599.41	-4791.83	0.89	594075.09	596163.77	
13443.00	93.27	270.68	8501.68	4847.75	-598.74	-4847.75	0.50	594075.76	596107.85	Last WFT MWD Svy
13506.00	93.27	270.68	8498.09	4910.64	-597.99	-4910.64	0.00	594076.51	596044.96	TD @ 13,506.00' / PTB

Comp  
C105