

**NM OIL CONSERVATION
ARTESIA DISTRICT**

OCT 31 2018

RECEIVED

PERMIAN

**NW DISTRICT - NM EZ NAD 83
PALMILLO 14-15 STATE COM 306H
PALMILLO 14-15 STATE COM 306H**

PALMILLO 14-15 STATE COM 306H

30-015-45382

Plan: Design 1 with lateral targets

Standard Planning Report

12 October, 2018

apachecorp
Planning Report

Database: PEDM
Company: PERMIAN
Project: NW DISTRICT - NM EZ NAD 83
Site: PALMILLO 14-15 STATE COM 306H
Well: PALMILLO 14-15 STATE COM 306H
Wellbore: PALMILLO 14-15 STATE COM 306H
Design: Design 1 with lateral targets

Local Co-ordinate Reference: Well PALMILLO 14-15 STATE COM 306H
TVD Reference: WELL @ 3550.0ft (Original Well Elev)
MD Reference: WELL @ 3550.0ft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Project	NW DISTRICT - NM EZ NAD 83		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	PALMILLO 14-15 STATE COM 306H				
Site Position:		Northing:	605,940.60 ft	Latitude:	32° 39' 56.410 N
From:	Map	Easting:	591,013.30 ft	Longitude:	104° 10' 18.874 W
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	0.09 °

Well	PALMILLO 14-15 STATE COM 306H					
Well Position	+N/-S	0.0 ft	Northing:	605,940.60 ft	Latitude:	32° 39' 56.410 N
	+E/-W	0.0 ft	Easting:	591,013.30 ft	Longitude:	104° 10' 18.874 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	0.0 ft	Ground Level:	3,524.0 ft

Wellbore	PALMILLO 14-15 STATE COM 306H					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)	
	HDGM	10/11/2018	7.30	60.45	48,026	

Design	Design 1 with lateral targets				
Audit Notes:					
Version:	Phase:	PLAN	Tie On Depth:	0.0	
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.0	0.0	0.0	86.67	

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North Reference: Grid
Survey Calculation Method: Minimum Curvature

Plan Sections

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
3,333.8	3.34	319.83	3,333.6	7.4	-6.3	1.00	1.00	0.00	319.83	
7,209.7	3.34	319.83	7,202.9	179.9	-151.8	0.00	0.00	0.00	0.00	
7,543.5	0.00	0.00	7,536.5	187.3	-158.1	1.00	-1.00	0.00	180.00	
8,043.5	0.00	0.00	8,036.5	187.3	-158.1	0.00	0.00	0.00	0.00	kop PALMILLO 14-15
8,793.5	90.00	72.19	8,514.0	333.3	296.5	12.00	12.00	0.00	72.19	
8,893.5	90.00	72.19	8,514.0	363.9	391.7	0.00	0.00	0.00	0.00	
8,967.1	89.96	73.66	8,514.0	385.6	462.1	2.00	-0.05	2.00	91.46	
8,984.0	89.96	73.66	8,514.0	390.3	478.3	0.00	0.00	0.00	0.00	t1 PALMILLO 14-15 S
9,869.1	87.91	91.25	8,530.6	506.1	1,352.1	2.00	-0.23	1.99	96.77	
9,991.1	87.91	91.25	8,535.0	503.4	1,474.0	0.00	0.00	0.00	0.00	t2 PALMILLO 14-15 S
10,088.9	88.45	89.37	8,538.1	502.9	1,571.8	2.00	0.55	-1.92	-73.95	
11,492.7	88.45	89.37	8,576.0	518.3	2,974.9	0.00	0.00	0.00	0.00	t3 PALMILLO 14-15 S
11,564.1	89.88	89.43	8,577.0	519.0	3,046.4	2.00	2.00	0.08	2.37	
12,994.6	89.88	89.43	8,580.0	533.3	4,476.8	0.00	0.00	0.00	0.00	t4 PALMILLO 14-15 S
13,027.2	89.23	89.43	8,580.3	533.6	4,509.4	2.00	-2.00	0.01	179.79	
14,496.8	89.23	89.43	8,600.0	548.2	5,978.7	0.00	0.00	0.00	0.00	t5 PALMILLO 14-15 S
14,508.6	89.47	89.43	8,600.1	548.3	5,990.5	2.00	2.00	-0.03	-0.92	
15,998.9	89.47	89.43	8,614.0	563.2	7,480.7	0.00	0.00	0.00	0.00	t6 PALMILLO 14-15 S
16,014.2	89.77	89.43	8,614.1	563.4	7,496.0	2.00	2.00	0.02	0.64	
17,499.9	89.77	89.43	8,620.0	578.1	8,981.6	0.00	0.00	0.00	0.00	t7 PALMILLO 14-15 S
17,563.0	88.51	89.42	8,620.9	578.7	9,044.7	2.00	-2.00	-0.01	-179.61	
18,642.0	88.51	89.42	8,649.0	589.6	10,123.3	0.00	0.00	0.00	0.00	bhl PALMILLO 14-15

apachecorp
Planning Report

Database:	PEDM	Local Co-ordinate Reference:	Well PALMILLO 14-15 STATE COM 306H
Company:	PERMIAN	TVD Reference:	WELL @ 3550.0ft (Original Well Elev)
Project:	NW DISTRICT - NM EZ NAD 83	MD Reference:	WELL @ 3550.0ft (Original Well Elev)
Site:	PALMILLO 14-15 STATE COM 306H	North Reference:	Grid
Well:	PALMILLO 14-15 STATE COM 306H	Survey Calculation Method:	Minimum Curvature
Wellbore:	PALMILLO 14-15 STATE COM 306H		
Design:	Design 1 with lateral targets		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
3,100.0	1.00	319.83	3,100.0	0.7	-0.6	-0.5	1.00	1.00	0.00
3,200.0	2.00	319.83	3,200.0	2.7	-2.3	-2.1	1.00	1.00	0.00
3,300.0	3.00	319.83	3,299.9	6.0	-5.1	-4.7	1.00	1.00	0.00
3,333.8	3.34	319.83	3,333.6	7.4	-6.3	-5.8	1.00	1.00	0.00
3,400.0	3.34	319.83	3,399.7	10.4	-8.8	-8.1	0.00	0.00	0.00
3,500.0	3.34	319.83	3,499.5	14.8	-12.5	-11.6	0.00	0.00	0.00
3,600.0	3.34	319.83	3,599.4	19.3	-16.3	-15.1	0.00	0.00	0.00
3,700.0	3.34	319.83	3,699.2	23.7	-20.0	-18.6	0.00	0.00	0.00
3,800.0	3.34	319.83	3,799.0	28.2	-23.8	-22.1	0.00	0.00	0.00
3,900.0	3.34	319.83	3,898.9	32.6	-27.5	-25.6	0.00	0.00	0.00
4,000.0	3.34	319.83	3,998.7	37.1	-31.3	-29.1	0.00	0.00	0.00
4,100.0	3.34	319.83	4,098.5	41.5	-35.0	-32.6	0.00	0.00	0.00
4,200.0	3.34	319.83	4,198.3	46.0	-38.8	-36.1	0.00	0.00	0.00
4,300.0	3.34	319.83	4,298.2	50.4	-42.6	-39.6	0.00	0.00	0.00
4,400.0	3.34	319.83	4,398.0	54.9	-46.3	-43.0	0.00	0.00	0.00
4,500.0	3.34	319.83	4,497.8	59.3	-50.1	-46.5	0.00	0.00	0.00
4,600.0	3.34	319.83	4,597.7	63.8	-53.8	-50.0	0.00	0.00	0.00
4,700.0	3.34	319.83	4,697.5	68.2	-57.6	-53.5	0.00	0.00	0.00
4,800.0	3.34	319.83	4,797.3	72.7	-61.3	-57.0	0.00	0.00	0.00
4,900.0	3.34	319.83	4,897.2	77.1	-65.1	-60.5	0.00	0.00	0.00
5,000.0	3.34	319.83	4,997.0	81.6	-68.8	-64.0	0.00	0.00	0.00
5,100.0	3.34	319.83	5,096.8	86.0	-72.6	-67.5	0.00	0.00	0.00
5,200.0	3.34	319.83	5,196.6	90.5	-76.4	-71.0	0.00	0.00	0.00

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Company:	PERMIAN	TVD Reference:	WELL @ 3550.0ft (Original Well Elev)
Project:	NW DISTRICT - NM EZ NAD 83	MD Reference:	WELL @ 3550.0ft (Original Well Elev)
Site:	PALMILLO 14-15 STATE COM 306H	North Reference:	Grid
Well:	PALMILLO 14-15 STATE COM 306H	Survey Calculation Method:	Minimum Curvature
Wellbore:	PALMILLO 14-15 STATE COM 306H		
Design:	Design 1 with lateral targets		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,300.0	3.34	319.83	5,296.5	94.9	-80.1	-74.5	0.00	0.00	0.00
5,400.0	3.34	319.83	5,396.3	99.4	-83.9	-77.9	0.00	0.00	0.00
5,500.0	3.34	319.83	5,496.1	103.8	-87.6	-81.4	0.00	0.00	0.00
5,600.0	3.34	319.83	5,596.0	108.3	-91.4	-84.9	0.00	0.00	0.00
5,700.0	3.34	319.83	5,695.8	112.7	-95.1	-88.4	0.00	0.00	0.00
5,800.0	3.34	319.83	5,795.6	117.2	-98.9	-91.9	0.00	0.00	0.00
5,900.0	3.34	319.83	5,895.5	121.6	-102.6	-95.4	0.00	0.00	0.00
6,000.0	3.34	319.83	5,995.3	126.1	-106.4	-98.9	0.00	0.00	0.00
6,100.0	3.34	319.83	6,095.1	130.5	-110.2	-102.4	0.00	0.00	0.00
6,200.0	3.34	319.83	6,194.9	135.0	-113.9	-105.9	0.00	0.00	0.00
6,300.0	3.34	319.83	6,294.8	139.4	-117.7	-109.4	0.00	0.00	0.00
6,400.0	3.34	319.83	6,394.6	143.9	-121.4	-112.9	0.00	0.00	0.00
6,500.0	3.34	319.83	6,494.4	148.3	-125.2	-116.3	0.00	0.00	0.00
6,600.0	3.34	319.83	6,594.3	152.7	-128.9	-119.8	0.00	0.00	0.00
6,700.0	3.34	319.83	6,694.1	157.2	-132.7	-123.3	0.00	0.00	0.00
6,800.0	3.34	319.83	6,793.9	161.6	-136.4	-126.8	0.00	0.00	0.00
6,900.0	3.34	319.83	6,893.8	166.1	-140.2	-130.3	0.00	0.00	0.00
7,000.0	3.34	319.83	6,993.6	170.5	-144.0	-133.8	0.00	0.00	0.00
7,100.0	3.34	319.83	7,093.4	175.0	-147.7	-137.3	0.00	0.00	0.00
7,200.0	3.34	319.83	7,193.3	179.4	-151.5	-140.8	0.00	0.00	0.00
7,209.7	3.34	319.83	7,202.9	179.9	-151.8	-141.1	0.00	0.00	0.00
7,300.0	2.43	319.83	7,293.1	183.4	-154.8	-143.8	1.00	-1.00	0.00
7,400.0	1.43	319.83	7,393.1	185.9	-156.9	-145.9	1.00	-1.00	0.00
7,500.0	0.43	319.83	7,493.0	187.2	-158.0	-146.8	1.00	-1.00	0.00
7,543.5	0.00	0.00	7,536.5	187.3	-158.1	-146.9	1.00	-1.00	0.00
7,600.0	0.00	0.00	7,593.0	187.3	-158.1	-146.9	0.00	0.00	0.00
7,700.0	0.00	0.00	7,693.0	187.3	-158.1	-146.9	0.00	0.00	0.00
7,800.0	0.00	0.00	7,793.0	187.3	-158.1	-146.9	0.00	0.00	0.00
7,900.0	0.00	0.00	7,893.0	187.3	-158.1	-146.9	0.00	0.00	0.00
8,000.0	0.00	0.00	7,993.0	187.3	-158.1	-146.9	0.00	0.00	0.00
8,043.5	0.00	0.00	8,036.5	187.3	-158.1	-146.9	0.00	0.00	0.00
8,100.0	6.79	72.19	8,092.9	188.3	-154.9	-143.7	12.00	12.00	0.00
8,200.0	18.79	72.19	8,190.3	195.1	-133.9	-122.3	12.00	12.00	0.00
8,300.0	30.79	72.19	8,280.9	207.9	-94.0	-81.8	12.00	12.00	0.00
8,400.0	42.79	72.19	8,360.8	226.2	-37.1	-23.9	12.00	12.00	0.00
8,500.0	54.79	72.19	8,426.6	249.1	34.4	48.8	12.00	12.00	0.00
8,600.0	66.79	72.19	8,475.3	275.8	117.3	133.1	12.00	12.00	0.00
8,700.0	78.79	72.19	8,504.8	304.9	208.1	225.5	12.00	12.00	0.00
8,793.5	90.00	72.19	8,514.0	333.3	296.5	315.4	12.00	12.00	0.00
8,800.0	90.00	72.19	8,514.0	335.3	302.7	321.7	0.00	0.00	0.00
8,893.5	90.00	72.19	8,514.0	363.9	391.7	412.2	0.00	0.00	0.00
8,900.0	90.00	72.32	8,514.0	365.9	397.9	418.5	2.00	-0.05	2.00
8,967.1	89.96	73.66	8,514.0	385.6	462.1	483.7	2.00	-0.05	2.00
8,984.0	89.96	73.66	8,514.0	390.3	478.3	500.2	0.00	0.00	0.00
9,000.0	89.92	73.98	8,514.0	394.8	493.7	515.8	2.00	-0.24	1.99
9,100.0	89.69	75.97	8,514.4	420.7	590.3	613.7	2.00	-0.24	1.99
9,200.0	89.45	77.95	8,515.1	443.2	687.7	712.3	2.00	-0.24	1.99
9,300.0	89.22	79.94	8,516.3	462.4	785.8	811.4	2.00	-0.23	1.99
9,400.0	88.99	81.93	8,517.8	478.2	884.5	910.8	2.00	-0.23	1.99
9,500.0	88.75	83.91	8,519.8	490.5	983.7	1,010.6	2.00	-0.23	1.99
9,600.0	88.52	85.90	8,522.2	499.4	1,083.3	1,110.5	2.00	-0.23	1.99
9,700.0	88.29	87.89	8,525.0	504.8	1,183.1	1,210.5	2.00	-0.23	1.99
9,800.0	88.07	89.88	8,528.1	506.7	1,283.1	1,310.3	2.00	-0.23	1.99
9,869.1	87.91	91.25	8,530.6	506.1	1,352.1	1,379.3	2.00	-0.23	1.99

apache corp
Planning Report

Database: PEDM
Company: PERMIAN
Project: NW DISTRICT - NM EZ NAD 83
Site: PALMILLO 14-15 STATE COM 306H
Well: PALMILLO 14-15 STATE COM 306H
Wellbore: PALMILLO 14-15 STATE COM 306H
Design: Design 1 with lateral targets

Local Co-ordinate Reference: Well PALMILLO 14-15 STATE COM 306H
TVD Reference: WELL @ 3550.0ft (Original Well Elev)
MD Reference: WELL @ 3550.0ft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
9,900.0	87.91	91.25	8,531.7	505.4	1,383.0	1,410.0	0.00	0.00	0.00
9,991.1	87.91	91.25	8,535.0	503.4	1,474.0	1,500.8	0.00	0.00	0.00
10,000.0	87.96	91.08	8,535.3	503.2	1,482.9	1,509.6	2.00	0.55	-1.92
10,088.9	88.45	89.37	8,538.1	502.9	1,571.8	1,598.3	2.00	0.55	-1.92
10,100.0	88.45	89.37	8,538.4	503.0	1,582.8	1,609.4	0.00	0.00	0.00
10,200.0	88.45	89.37	8,541.1	504.1	1,682.8	1,709.3	0.00	0.00	0.00
10,300.0	88.45	89.37	8,543.8	505.2	1,782.7	1,809.1	0.00	0.00	0.00
10,400.0	88.45	89.37	8,546.5	506.3	1,882.7	1,909.0	0.00	0.00	0.00
10,500.0	88.45	89.37	8,549.2	507.4	1,982.7	2,008.8	0.00	0.00	0.00
10,600.0	88.45	89.37	8,551.9	508.5	2,082.6	2,108.7	0.00	0.00	0.00
10,700.0	88.45	89.37	8,554.6	509.6	2,182.6	2,208.5	0.00	0.00	0.00
10,800.0	88.45	89.37	8,557.3	510.7	2,282.5	2,308.4	0.00	0.00	0.00
10,900.0	88.45	89.37	8,560.0	511.8	2,382.5	2,408.2	0.00	0.00	0.00
11,000.0	88.45	89.37	8,562.7	512.9	2,482.5	2,508.1	0.00	0.00	0.00
11,100.0	88.45	89.37	8,565.4	514.0	2,582.4	2,607.9	0.00	0.00	0.00
11,200.0	88.45	89.37	8,568.1	515.1	2,682.4	2,707.8	0.00	0.00	0.00
11,300.0	88.45	89.37	8,570.8	516.2	2,782.3	2,807.6	0.00	0.00	0.00
11,400.0	88.45	89.37	8,573.5	517.3	2,882.3	2,907.5	0.00	0.00	0.00
11,492.7	88.45	89.37	8,576.0	518.3	2,974.9	3,000.0	0.00	0.00	0.00
11,500.0	88.60	89.38	8,576.2	518.4	2,982.2	3,007.3	2.00	2.00	0.08
11,564.1	89.88	89.43	8,577.0	519.0	3,046.4	3,071.4	2.00	2.00	0.08
11,600.0	89.88	89.43	8,577.1	519.4	3,082.2	3,107.2	0.00	0.00	0.00
11,700.0	89.88	89.43	8,577.3	520.4	3,182.2	3,207.1	0.00	0.00	0.00
11,800.0	89.88	89.43	8,577.5	521.4	3,282.2	3,307.0	0.00	0.00	0.00
11,900.0	89.88	89.43	8,577.7	522.4	3,382.2	3,406.9	0.00	0.00	0.00
12,000.0	89.88	89.43	8,577.9	523.4	3,482.2	3,506.7	0.00	0.00	0.00
12,100.0	89.88	89.43	8,578.1	524.4	3,582.2	3,606.6	0.00	0.00	0.00
12,200.0	89.88	89.43	8,578.4	525.4	3,682.2	3,706.5	0.00	0.00	0.00
12,300.0	89.88	89.43	8,578.6	526.4	3,782.2	3,806.4	0.00	0.00	0.00
12,400.0	89.88	89.43	8,578.8	527.4	3,882.2	3,906.3	0.00	0.00	0.00
12,500.0	89.88	89.43	8,579.0	528.4	3,982.2	4,006.2	0.00	0.00	0.00
12,600.0	89.88	89.43	8,579.2	529.4	4,082.2	4,106.0	0.00	0.00	0.00
12,700.0	89.88	89.43	8,579.4	530.4	4,182.2	4,205.9	0.00	0.00	0.00
12,800.0	89.88	89.43	8,579.6	531.4	4,282.2	4,305.8	0.00	0.00	0.00
12,900.0	89.88	89.43	8,579.8	532.4	4,382.2	4,405.7	0.00	0.00	0.00
12,994.6	89.88	89.43	8,580.0	533.3	4,476.8	4,500.2	0.00	0.00	0.00
13,000.0	89.77	89.43	8,580.0	533.4	4,482.2	4,505.6	2.00	-2.00	0.01
13,027.2	89.23	89.43	8,580.3	533.6	4,509.4	4,532.8	2.00	-2.00	0.01
13,100.0	89.23	89.43	8,581.2	534.3	4,582.1	4,605.5	0.00	0.00	0.00
13,200.0	89.23	89.43	8,582.6	535.3	4,682.1	4,705.3	0.00	0.00	0.00
13,300.0	89.23	89.43	8,583.9	536.3	4,782.1	4,805.2	0.00	0.00	0.00
13,400.0	89.23	89.43	8,585.3	537.3	4,882.1	4,905.1	0.00	0.00	0.00
13,500.0	89.23	89.43	8,586.6	538.3	4,982.1	5,005.0	0.00	0.00	0.00
13,600.0	89.23	89.43	8,587.9	539.3	5,082.1	5,104.8	0.00	0.00	0.00
13,700.0	89.23	89.43	8,589.3	540.3	5,182.1	5,204.7	0.00	0.00	0.00
13,800.0	89.23	89.43	8,590.6	541.3	5,282.0	5,304.6	0.00	0.00	0.00
13,900.0	89.23	89.43	8,592.0	542.3	5,382.0	5,404.5	0.00	0.00	0.00
14,000.0	89.23	89.43	8,593.3	543.3	5,482.0	5,504.3	0.00	0.00	0.00
14,100.0	89.23	89.43	8,594.7	544.3	5,582.0	5,604.2	0.00	0.00	0.00
14,200.0	89.23	89.43	8,596.0	545.3	5,682.0	5,704.1	0.00	0.00	0.00
14,300.0	89.23	89.43	8,597.4	546.2	5,782.0	5,804.0	0.00	0.00	0.00
14,400.0	89.23	89.43	8,598.7	547.2	5,882.0	5,903.8	0.00	0.00	0.00
14,496.8	89.23	89.43	8,600.0	548.2	5,978.7	6,000.5	0.00	0.00	0.00
14,500.0	89.29	89.43	8,600.0	548.2	5,981.9	6,003.7	2.00	2.00	-0.03

apachecorp
Planning Report

Database: PEDM
Company: PERMIAN
Project: NW DISTRICT - NM EZ NAD 83
Site: PALMILLO 14-15 STATE COM 306H
Well: PALMILLO 14-15 STATE COM 306H
Wellbore: PALMILLO 14-15 STATE COM 306H
Design: Design 1 with lateral targets

Local Co-ordinate Reference: Well PALMILLO 14-15 STATE COM 306H
TVD Reference: WELL @ 3550.0ft (Original Well Elev)
MD Reference: WELL @ 3550.0ft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
14,508.6	89.47	89.43	8,600.1	548.3	5,990.5	6,012.3	2.00	2.00	-0.03
14,600.0	89.47	89.43	8,601.0	549.2	6,081.9	6,103.6	0.00	0.00	0.00
14,700.0	89.47	89.43	8,601.9	550.2	6,181.9	6,203.5	0.00	0.00	0.00
14,800.0	89.47	89.43	8,602.8	551.2	6,281.9	6,303.3	0.00	0.00	0.00
14,900.0	89.47	89.43	8,603.8	552.2	6,381.9	6,403.2	0.00	0.00	0.00
15,000.0	89.47	89.43	8,604.7	553.2	6,481.9	6,503.1	0.00	0.00	0.00
15,100.0	89.47	89.43	8,605.6	554.2	6,581.9	6,603.0	0.00	0.00	0.00
15,200.0	89.47	89.43	8,606.6	555.2	6,681.9	6,702.9	0.00	0.00	0.00
15,300.0	89.47	89.43	8,607.5	556.2	6,781.9	6,802.7	0.00	0.00	0.00
15,400.0	89.47	89.43	8,608.4	557.2	6,881.9	6,902.6	0.00	0.00	0.00
15,500.0	89.47	89.43	8,609.4	558.2	6,981.9	7,002.5	0.00	0.00	0.00
15,600.0	89.47	89.43	8,610.3	559.2	7,081.8	7,102.4	0.00	0.00	0.00
15,700.0	89.47	89.43	8,611.2	560.2	7,181.8	7,202.3	0.00	0.00	0.00
15,800.0	89.47	89.43	8,612.1	561.2	7,281.8	7,302.1	0.00	0.00	0.00
15,900.0	89.47	89.43	8,613.1	562.2	7,381.8	7,402.0	0.00	0.00	0.00
15,998.9	89.47	89.43	8,614.0	563.2	7,480.7	7,500.8	0.00	0.00	0.00
16,000.0	89.49	89.43	8,614.0	563.2	7,481.8	7,501.9	2.00	2.00	0.02
16,014.2	89.77	89.43	8,614.1	563.4	7,496.0	7,516.1	2.00	2.00	0.02
16,100.0	89.77	89.43	8,614.4	564.2	7,581.8	7,601.8	0.00	0.00	0.00
16,200.0	89.77	89.43	8,614.8	565.2	7,681.8	7,701.7	0.00	0.00	0.00
16,300.0	89.77	89.43	8,615.2	566.2	7,781.8	7,801.5	0.00	0.00	0.00
16,400.0	89.77	89.43	8,615.6	567.2	7,881.8	7,901.4	0.00	0.00	0.00
16,500.0	89.77	89.43	8,616.0	568.2	7,981.8	8,001.3	0.00	0.00	0.00
16,600.0	89.77	89.43	8,616.4	569.2	8,081.8	8,101.2	0.00	0.00	0.00
16,700.0	89.77	89.43	8,616.8	570.2	8,181.8	8,201.1	0.00	0.00	0.00
16,800.0	89.77	89.43	8,617.2	571.2	8,281.8	8,301.0	0.00	0.00	0.00
16,900.0	89.77	89.43	8,617.6	572.1	8,381.8	8,400.8	0.00	0.00	0.00
17,000.0	89.77	89.43	8,618.0	573.1	8,481.7	8,500.7	0.00	0.00	0.00
17,100.0	89.77	89.43	8,618.4	574.1	8,581.7	8,600.6	0.00	0.00	0.00
17,200.0	89.77	89.43	8,618.8	575.1	8,681.7	8,700.5	0.00	0.00	0.00
17,300.0	89.77	89.43	8,619.2	576.1	8,781.7	8,800.4	0.00	0.00	0.00
17,400.0	89.77	89.43	8,619.6	577.1	8,881.7	8,900.3	0.00	0.00	0.00
17,499.9	89.77	89.43	8,620.0	578.1	8,981.6	9,000.0	0.00	0.00	0.00
17,500.0	89.77	89.43	8,620.0	578.1	8,981.7	9,000.1	0.00	0.00	0.00
17,563.0	88.51	89.42	8,620.9	578.7	9,044.7	9,063.1	2.00	-2.00	-0.01
17,600.0	88.51	89.42	8,621.9	579.1	9,081.7	9,100.0	0.00	0.00	0.00
17,700.0	88.51	89.42	8,624.5	580.1	9,181.7	9,199.9	0.00	0.00	0.00
17,800.0	88.51	89.42	8,627.1	581.1	9,281.6	9,299.7	0.00	0.00	0.00
17,900.0	88.51	89.42	8,629.7	582.1	9,381.6	9,399.6	0.00	0.00	0.00
18,000.0	88.51	89.42	8,632.3	583.1	9,481.5	9,499.4	0.00	0.00	0.00
18,100.0	88.51	89.42	8,634.9	584.1	9,581.5	9,599.3	0.00	0.00	0.00
18,200.0	88.51	89.42	8,637.5	585.1	9,681.5	9,699.1	0.00	0.00	0.00
18,300.0	88.51	89.42	8,640.1	586.2	9,781.4	9,799.0	0.00	0.00	0.00
18,400.0	88.51	89.42	8,642.7	587.2	9,881.4	9,898.8	0.00	0.00	0.00
18,500.0	88.51	89.42	8,645.3	588.2	9,981.3	9,998.7	0.00	0.00	0.00
18,600.0	88.51	89.42	8,647.9	589.2	10,081.3	10,098.5	0.00	0.00	0.00
18,642.0	88.51	89.42	8,649.0	589.6	10,123.3	10,140.5	0.00	0.00	0.00

apachecorp
Planning Report

Database: PEDM
Company: PERMIAN
Project: NW DISTRICT - NM EZ NAD 83
Site: PALMILLO 14-15 STATE COM 306H
Well: PALMILLO 14-15 STATE COM 306H
Wellbore: PALMILLO 14-15 STATE COM 306H
Design: Design 1 with lateral targets

Local Co-ordinate Reference: Well PALMILLO 14-15 STATE COM 306H
TVD Reference: WELL @ 3550.0ft (Original Well Elev)
MD Reference: WELL @ 3550.0ft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
kop PALMILLO 14-15 S1 - plan misses target center by 300.0ft at 8048.9ft MD (8041.9 TVD, 187.3 N, -158.1 E) - Point	0.00	0.00	8,036.5	487.3	-158.1	606,427.91	590,855.21	32° 40' 1.235 N	104° 10' 20.715 W
t1 PALMILLO 14-15 STA - plan hits target center - Point	0.00	0.00	8,514.0	390.3	478.3	606,330.90	591,491.60	32° 40' 0.265 N	104° 10' 13.271 W
t2 PALMILLO 14-15 STA - plan hits target center - Point	0.00	0.00	8,535.0	503.4	1,474.0	606,444.00	592,487.30	32° 40' 1.369 N	104° 10' 1.621 W
t3 PALMILLO 14-15 STA - plan hits target center - Point	0.00	0.00	8,576.0	518.3	2,974.9	606,458.90	593,988.20	32° 40' 1.493 N	104° 9' 44.062 W
t4 PALMILLO 14-15 STA - plan hits target center - Point	0.00	0.00	8,580.0	533.3	4,476.8	606,473.90	595,490.10	32° 40' 1.617 N	104° 9' 26.491 W
t5 PALMILLO 14-15 STA - plan hits target center - Point	0.00	0.00	8,600.0	548.2	5,978.7	606,488.80	596,992.00	32° 40' 1.740 N	104° 9' 8.921 W
t6 PALMILLO 14-15 STA - plan hits target center - Point	0.00	0.00	8,614.0	563.2	7,480.7	606,503.80	598,494.00	32° 40' 1.862 N	104° 8' 51.349 W
t7 PALMILLO 14-15 STA - plan hits target center - Point	0.00	0.00	8,620.0	578.1	8,981.6	606,518.70	599,994.90	32° 40' 1.983 N	104° 8' 33.790 W
bhl PALMILLO 14-15 ST - plan hits target center - Point	0.00	0.01	8,649.0	589.6	10,123.3	606,530.20	601,136.60	32° 40' 2.077 N	104° 8' 20.433 W