

NM OIL CONSERVATION
ARTESIA DISTRICT

OCT 16 2018

RECEIVED

PERMIAN

NW DISTRICT - NM EZ NAD 83

PALMILLO 14-15 STATE COM PAD (304H, 305H)

PALMILLO 14-15 STATE COM 304H

PALMILLO 14-15 STATE COM 304H

30-015 45342

Plan: Design 1 w/ 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 PAD (304H, 305H)
Well: PALMILLO 14-15 STATE COM 304H
Wellbore: PALMILLO 14-15 STATE COM 304H
Design: Design 1 w/ lateral targets

Local Co-ordinate Reference: Well PALMILLO 14-15 STATE COM 304H
TVD Reference: WELL @ 3538.0ft (Original Well Elev)
MD Reference: WELL @ 3538.0ft (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 PAD (304H, 305H)				
Site Position:		Northing:	605,009.70 ft	Latitude:	32° 39' 47.199 N
From:	Map	Easting:	590,999.90 ft	Longitude:	104° 10' 19.047 W
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	0.09 °

Well	PALMILLO 14-15 STATE COM 304H				
Well Position	+N/-S	0.0 ft	Northing:	605,009.70 ft	Latitude: 32° 39' 47.199 N
	+E/-W	0.0 ft	Easting:	590,999.90 ft	Longitude: 104° 10' 19.047 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	0.0 ft	Ground Level: 3,512.0 ft

Wellbore	PALMILLO 14-15 STATE COM 304H				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	10/11/2018	7.30	60.45	48,026

Design	Design 1 w/ 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	91.52

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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	
3,578.7	5.79	202.17	3,577.7	-27.0	-11.0	1.00	1.00	0.00	202.17	
6,979.1	5.79	202.17	6,960.8	-344.6	-140.4	0.00	0.00	0.00	0.00	
7,557.8	0.00	0.00	7,538.5	-371.6	-151.4	1.00	-1.00	0.00	180.00	
8,057.8	0.00	0.00	8,038.5	-371.6	-151.4	0.00	0.00	0.00	0.00	KOP PALMILLO 14-15
8,807.7	89.99	89.43	8,516.0	-366.8	325.9	12.00	12.00	11.93	89.43	
8,972.2	89.99	89.43	8,516.0	-365.2	490.5	0.00	0.00	0.00	0.00	t1 PALMILLO 14-15 S
9,061.5	88.20	89.43	8,517.4	-364.3	579.7	2.00	-2.00	0.00	-179.98	
9,973.4	88.20	89.43	8,546.0	-355.2	1,491.1	0.00	0.00	0.00	0.00	t2 PALMILLO 14-15 S
9,986.9	88.47	89.43	8,546.4	-355.1	1,504.7	2.00	2.00	0.00	0.13	
11,474.9	88.47	89.43	8,586.0	-340.3	2,992.0	0.00	0.00	0.00	0.00	t3 PALMILLO 14-15 S
11,503.7	89.05	89.43	8,586.6	-340.0	3,020.8	2.00	2.00	0.00	-0.04	
12,976.1	89.05	89.43	8,611.0	-325.3	4,492.9	0.00	0.00	0.00	0.00	t4 PALMILLO 14-15 S
13,016.4	89.86	89.43	8,611.4	-324.9	4,533.3	2.00	2.00	0.00	0.03	
14,477.1	89.86	89.43	8,615.0	-310.4	5,993.9	0.00	0.00	0.00	0.00	t5 PALMILLO 14-15 S
14,518.3	89.03	89.43	8,615.4	-310.0	6,035.0	2.00	-2.00	0.00	-180.00	
15,978.3	89.03	89.43	8,640.0	-295.5	7,494.8	0.00	0.00	0.00	0.00	t6 PALMILLO 14-15 S
16,019.5	89.86	89.43	8,640.4	-295.1	7,536.0	2.00	2.00	0.00	-0.03	
17,479.3	89.86	89.43	8,644.0	-280.5	8,995.7	0.00	0.00	0.00	0.00	0.00 t7 PALMILLO 14-15 S
17,577.2	87.90	89.43	8,645.9	-279.5	9,093.6	2.00	-2.00	0.00	179.99	
18,617.1	87.90	89.43	8,684.0	-269.2	10,132.7	0.00	0.00	0.00	0.00	BHL PALMILLO 14-15 S

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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	202.17	3,100.0	-0.8	-0.3	-0.3	1.00	1.00	0.00
3,200.0	2.00	202.17	3,200.0	-3.2	-1.3	-1.2	1.00	1.00	0.00
3,300.0	3.00	202.17	3,299.9	-7.3	-3.0	-2.8	1.00	1.00	0.00
3,400.0	4.00	202.17	3,399.7	-12.9	-5.3	-4.9	1.00	1.00	0.00
3,500.0	5.00	202.17	3,499.4	-20.2	-8.2	-7.7	1.00	1.00	0.00
3,578.7	5.79	202.17	3,577.7	-27.0	-11.0	-10.3	1.00	1.00	0.00
3,600.0	5.79	202.17	3,598.9	-29.0	-11.8	-11.1	0.00	0.00	0.00
3,700.0	5.79	202.17	3,698.4	-38.4	-15.6	-14.6	0.00	0.00	0.00
3,800.0	5.79	202.17	3,797.9	-47.7	-19.4	-18.2	0.00	0.00	0.00
3,900.0	5.79	202.17	3,897.4	-57.0	-23.2	-21.7	0.00	0.00	0.00
4,000.0	5.79	202.17	3,996.9	-66.4	-27.0	-25.3	0.00	0.00	0.00
4,100.0	5.79	202.17	4,096.4	-75.7	-30.8	-28.8	0.00	0.00	0.00
4,200.0	5.79	202.17	4,195.9	-85.1	-34.7	-32.4	0.00	0.00	0.00
4,300.0	5.79	202.17	4,295.3	-94.4	-38.5	-35.9	0.00	0.00	0.00
4,400.0	5.79	202.17	4,394.8	-103.7	-42.3	-39.5	0.00	0.00	0.00
4,500.0	5.79	202.17	4,494.3	-113.1	-46.1	-43.0	0.00	0.00	0.00
4,600.0	5.79	202.17	4,593.8	-122.4	-49.9	-46.6	0.00	0.00	0.00
4,700.0	5.79	202.17	4,693.3	-131.7	-53.7	-50.2	0.00	0.00	0.00
4,800.0	5.79	202.17	4,792.8	-141.1	-57.5	-53.7	0.00	0.00	0.00
4,900.0	5.79	202.17	4,892.3	-150.4	-61.3	-57.3	0.00	0.00	0.00
5,000.0	5.79	202.17	4,991.8	-159.8	-65.1	-60.8	0.00	0.00	0.00
5,100.0	5.79	202.17	5,091.3	-169.1	-68.9	-64.4	0.00	0.00	0.00

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Planning Report

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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)
5,200.0	5.79	202.17	5,190.8	-178.4	-72.7	-67.9	0.00	0.00	0.00
5,300.0	5.79	202.17	5,290.2	-187.8	-76.5	-71.5	0.00	0.00	0.00
5,400.0	5.79	202.17	5,389.7	-197.1	-80.3	-75.0	0.00	0.00	0.00
5,500.0	5.79	202.17	5,489.2	-206.4	-84.1	-78.6	0.00	0.00	0.00
5,600.0	5.79	202.17	5,588.7	-215.8	-87.9	-82.2	0.00	0.00	0.00
5,700.0	5.79	202.17	5,688.2	-225.1	-91.7	-85.7	0.00	0.00	0.00
5,800.0	5.79	202.17	5,787.7	-234.5	-95.5	-89.3	0.00	0.00	0.00
5,900.0	5.79	202.17	5,887.2	-243.8	-99.3	-92.8	0.00	0.00	0.00
6,000.0	5.79	202.17	5,986.7	-253.1	-103.1	-96.4	0.00	0.00	0.00
6,100.0	5.79	202.17	6,086.2	-262.5	-106.9	-99.9	0.00	0.00	0.00
6,200.0	5.79	202.17	6,185.7	-271.8	-110.7	-103.5	0.00	0.00	0.00
6,300.0	5.79	202.17	6,285.1	-281.1	-114.5	-107.0	0.00	0.00	0.00
6,400.0	5.79	202.17	6,384.6	-290.5	-118.3	-110.6	0.00	0.00	0.00
6,500.0	5.79	202.17	6,484.1	-299.8	-122.2	-114.1	0.00	0.00	0.00
6,600.0	5.79	202.17	6,583.6	-309.2	-126.0	-117.7	0.00	0.00	0.00
6,700.0	5.79	202.17	6,683.1	-318.5	-129.8	-121.3	0.00	0.00	0.00
6,800.0	5.79	202.17	6,782.6	-327.8	-133.6	-124.8	0.00	0.00	0.00
6,900.0	5.79	202.17	6,882.1	-337.2	-137.4	-128.4	0.00	0.00	0.00
6,979.1	5.79	202.17	6,960.8	-344.6	-140.4	-131.2	0.00	0.00	0.00
7,000.0	5.58	202.17	6,981.6	-346.5	-141.2	-131.9	1.00	-1.00	0.00
7,100.0	4.58	202.17	7,081.2	-354.7	-144.5	-135.0	1.00	-1.00	0.00
7,200.0	3.58	202.17	7,180.9	-361.3	-147.2	-137.5	1.00	-1.00	0.00
7,300.0	2.58	202.17	7,280.8	-366.2	-149.2	-139.4	1.00	-1.00	0.00
7,400.0	1.58	202.17	7,380.7	-369.6	-150.6	-140.7	1.00	-1.00	0.00
7,500.0	0.58	202.17	7,480.7	-371.3	-151.3	-141.4	1.00	-1.00	0.00
7,557.8	0.00	0.00	7,538.5	-371.6	-151.4	-141.5	1.00	-1.00	0.00
7,600.0	0.00	0.00	7,580.7	-371.6	-151.4	-141.5	0.00	0.00	0.00
7,700.0	0.00	0.00	7,680.7	-371.6	-151.4	-141.5	0.00	0.00	0.00
7,800.0	0.00	0.00	7,780.7	-371.6	-151.4	-141.5	0.00	0.00	0.00
7,900.0	0.00	0.00	7,880.7	-371.6	-151.4	-141.5	0.00	0.00	0.00
8,000.0	0.00	0.00	7,980.7	-371.6	-151.4	-141.5	0.00	0.00	0.00
8,057.8	0.00	0.00	8,038.5	-371.6	-151.4	-141.5	0.00	0.00	0.00
8,100.0	5.06	89.43	8,080.6	-371.6	-149.5	-139.6	12.00	12.00	0.00
8,200.0	17.06	89.43	8,178.6	-371.4	-130.4	-120.5	12.00	12.00	0.00
8,300.0	29.06	89.43	8,270.4	-371.0	-91.3	-81.4	12.00	12.00	0.00
8,400.0	41.06	89.43	8,352.2	-370.4	-33.9	-24.1	12.00	12.00	0.00
8,500.0	53.06	89.43	8,420.1	-369.7	39.1	48.9	12.00	12.00	0.00
8,600.0	65.06	89.43	8,471.5	-368.8	124.8	134.5	12.00	12.00	0.00
8,700.0	77.06	89.43	8,503.8	-367.9	219.2	228.9	12.00	12.00	0.00
8,800.0	89.06	89.43	8,515.9	-366.9	318.2	327.9	12.00	12.00	0.00
8,807.7	89.99	89.43	8,516.0	-366.8	325.9	335.6	12.00	12.00	0.00
8,900.0	89.99	89.43	8,516.0	-365.9	418.2	427.8	0.00	0.00	0.00
8,972.2	89.99	89.43	8,516.0	-365.2	490.5	500.0	0.00	0.00	0.00
9,000.0	89.43	89.43	8,516.1	-364.9	518.2	527.7	2.00	-2.00	0.00
9,061.5	88.20	89.43	8,517.4	-364.3	579.7	589.1	2.00	-2.00	0.00
9,100.0	88.20	89.43	8,518.6	-363.9	618.2	627.6	0.00	0.00	0.00
9,200.0	88.20	89.43	8,521.8	-362.9	718.1	727.5	0.00	0.00	0.00
9,300.0	88.20	89.43	8,524.9	-361.9	818.1	827.4	0.00	0.00	0.00
9,400.0	88.20	89.43	8,528.0	-361.0	918.0	927.3	0.00	0.00	0.00
9,500.0	88.20	89.43	8,531.2	-360.0	1,018.0	1,027.2	0.00	0.00	0.00
9,600.0	88.20	89.43	8,534.3	-359.0	1,117.9	1,127.1	0.00	0.00	0.00
9,700.0	88.20	89.43	8,537.4	-358.0	1,217.9	1,227.0	0.00	0.00	0.00
9,800.0	88.20	89.43	8,540.6	-357.0	1,317.8	1,326.8	0.00	0.00	0.00

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9,900.0	88.20	89.43	8,543.7	-356.0	1,417.8	1,426.7	0.00	0.00	0.00
9,973.4	88.20	89.43	8,546.0	-355.2	1,491.1	1,500.0	0.00	0.00	0.00
9,986.9	88.47	89.43	8,546.4	-355.1	1,504.7	1,513.6	2.00	2.00	0.00
10,000.0	88.47	89.43	8,546.7	-355.0	1,517.7	1,526.6	0.00	0.00	0.00
10,100.0	88.47	89.43	8,549.4	-354.0	1,617.7	1,626.5	0.00	0.00	0.00
10,200.0	88.47	89.43	8,552.1	-353.0	1,717.6	1,726.4	0.00	0.00	0.00
10,300.0	88.47	89.43	8,554.7	-352.0	1,817.6	1,826.3	0.00	0.00	0.00
10,400.0	88.47	89.43	8,557.4	-351.0	1,917.6	1,926.2	0.00	0.00	0.00
10,500.0	88.47	89.43	8,560.1	-350.0	2,017.5	2,026.1	0.00	0.00	0.00
10,600.0	88.47	89.43	8,562.7	-349.0	2,117.5	2,126.0	0.00	0.00	0.00
10,700.0	88.47	89.43	8,565.4	-348.0	2,217.4	2,225.9	0.00	0.00	0.00
10,800.0	88.47	89.43	8,568.0	-347.0	2,317.4	2,325.8	0.00	0.00	0.00
10,900.0	88.47	89.43	8,570.7	-346.0	2,417.4	2,425.7	0.00	0.00	0.00
11,000.0	88.47	89.43	8,573.4	-345.0	2,517.3	2,525.6	0.00	0.00	0.00
11,100.0	88.47	89.43	8,576.0	-344.0	2,617.3	2,625.5	0.00	0.00	0.00
11,200.0	88.47	89.43	8,578.7	-343.0	2,717.2	2,725.4	0.00	0.00	0.00
11,300.0	88.47	89.43	8,581.3	-342.0	2,817.2	2,825.3	0.00	0.00	0.00
11,400.0	88.47	89.43	8,584.0	-341.0	2,917.1	2,925.2	0.00	0.00	0.00
11,474.9	88.47	89.43	8,586.0	-340.3	2,992.0	3,000.0	0.00	0.00	0.00
11,500.0	88.98	89.43	8,586.6	-340.1	3,017.1	3,025.1	2.00	2.00	0.00
11,503.7	89.05	89.43	8,586.6	-340.0	3,020.8	3,028.8	2.00	2.00	0.00
11,600.0	89.05	89.43	8,588.2	-339.1	3,117.1	3,125.0	0.00	0.00	0.00
11,700.0	89.05	89.43	8,589.9	-338.1	3,217.1	3,224.9	0.00	0.00	0.00
11,800.0	89.05	89.43	8,591.5	-337.1	3,317.1	3,324.8	0.00	0.00	0.00
11,900.0	89.05	89.43	8,593.2	-336.1	3,417.0	3,424.8	0.00	0.00	0.00
12,000.0	89.05	89.43	8,594.8	-335.1	3,517.0	3,524.7	0.00	0.00	0.00
12,100.0	89.05	89.43	8,596.5	-334.1	3,617.0	3,624.6	0.00	0.00	0.00
12,200.0	89.05	89.43	8,598.2	-333.1	3,717.0	3,724.5	0.00	0.00	0.00
12,300.0	89.05	89.43	8,599.8	-332.1	3,817.0	3,824.4	0.00	0.00	0.00
12,400.0	89.05	89.43	8,601.5	-331.1	3,916.9	3,924.4	0.00	0.00	0.00
12,500.0	89.05	89.43	8,603.1	-330.1	4,016.9	4,024.3	0.00	0.00	0.00
12,600.0	89.05	89.43	8,604.8	-329.1	4,116.9	4,124.2	0.00	0.00	0.00
12,700.0	89.05	89.43	8,606.4	-328.1	4,216.9	4,224.1	0.00	0.00	0.00
12,800.0	89.05	89.43	8,608.1	-327.1	4,316.9	4,324.0	0.00	0.00	0.00
12,900.0	89.05	89.43	8,609.7	-326.1	4,416.9	4,424.0	0.00	0.00	0.00
12,976.1	89.05	89.43	8,611.0	-325.3	4,492.9	4,500.0	0.00	0.00	0.00
13,000.0	89.53	89.43	8,611.3	-325.1	4,516.8	4,523.9	2.00	2.00	0.00
13,016.4	89.86	89.43	8,611.4	-324.9	4,533.3	4,540.3	2.00	2.00	0.00
13,100.0	89.86	89.43	8,611.6	-324.1	4,616.8	4,623.8	0.00	0.00	0.00
13,200.0	89.86	89.43	8,611.8	-323.1	4,716.8	4,723.7	0.00	0.00	0.00
13,300.0	89.86	89.43	8,612.1	-322.1	4,816.8	4,823.7	0.00	0.00	0.00
13,400.0	89.86	89.43	8,612.3	-321.1	4,916.8	4,923.6	0.00	0.00	0.00
13,500.0	89.86	89.43	8,612.6	-320.1	5,016.8	5,023.5	0.00	0.00	0.00
13,600.0	89.86	89.43	8,612.8	-319.1	5,116.8	5,123.5	0.00	0.00	0.00
13,700.0	89.86	89.43	8,613.1	-318.1	5,216.8	5,223.4	0.00	0.00	0.00
13,800.0	89.86	89.43	8,613.3	-317.1	5,316.8	5,323.3	0.00	0.00	0.00
13,900.0	89.86	89.43	8,613.6	-316.2	5,416.8	5,423.3	0.00	0.00	0.00
14,000.0	89.86	89.43	8,613.8	-315.2	5,516.8	5,523.2	0.00	0.00	0.00
14,100.0	89.86	89.43	8,614.1	-314.2	5,616.8	5,623.1	0.00	0.00	0.00
14,200.0	89.86	89.43	8,614.3	-313.2	5,716.8	5,723.1	0.00	0.00	0.00
14,300.0	89.86	89.43	8,614.6	-312.2	5,816.8	5,823.0	0.00	0.00	0.00
14,400.0	89.86	89.43	8,614.8	-311.2	5,916.8	5,922.9	0.00	0.00	0.00
14,477.1	89.86	89.43	8,615.0	-310.4	5,993.9	6,000.0	0.00	0.00	0.00

apachecorp
Planning Report

Database:	PEDM	Local Co-ordinate Reference:	Well PALMILLO 14-15 STATE COM 304H
Company:	PERMIAN	TVD Reference:	WELL @ 3538.0ft (Original Well Elev)
Project:	NW DISTRICT - NM EZ NAD 83	MD Reference:	WELL @ 3538.0ft (Original Well Elev)
Site:	PALMILLO 14-15 STATE COM PAD (304H, 305H)	North Reference:	Grid
Well:	PALMILLO 14-15 STATE COM 304H	Survey Calculation Method:	Minimum Curvature
Wellbore:	PALMILLO 14-15 STATE COM 304H		
Design:	Design 1 w/ 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)
14,500.0	89.40	89.43	8,615.1	-310.2	6,016.8	6,022.9	2.00	-2.00	0.00
14,518.3	89.03	89.43	8,615.4	-310.0	6,035.0	6,041.2	2.00	-2.00	0.00
14,600.0	89.03	89.43	8,616.8	-309.2	6,116.7	6,122.8	0.00	0.00	0.00
14,700.0	89.03	89.43	8,618.5	-308.2	6,216.7	6,222.7	0.00	0.00	0.00
14,800.0	89.03	89.43	8,620.1	-307.2	6,316.7	6,322.6	0.00	0.00	0.00
14,900.0	89.03	89.43	8,621.8	-306.2	6,416.7	6,422.5	0.00	0.00	0.00
15,000.0	89.03	89.43	8,623.5	-305.2	6,516.7	6,522.5	0.00	0.00	0.00
15,100.0	89.03	89.43	8,625.2	-304.2	6,616.6	6,622.4	0.00	0.00	0.00
15,200.0	89.03	89.43	8,626.9	-303.2	6,716.6	6,722.3	0.00	0.00	0.00
15,300.0	89.03	89.43	8,628.6	-302.2	6,816.6	6,822.2	0.00	0.00	0.00
15,400.0	89.03	89.43	8,630.3	-301.2	6,916.6	6,922.1	0.00	0.00	0.00
15,500.0	89.03	89.43	8,631.9	-300.2	7,016.6	7,022.1	0.00	0.00	0.00
15,600.0	89.03	89.43	8,633.6	-299.2	7,116.5	7,122.0	0.00	0.00	0.00
15,700.0	89.03	89.43	8,635.3	-298.2	7,216.5	7,221.9	0.00	0.00	0.00
15,800.0	89.03	89.43	8,637.0	-297.2	7,316.5	7,321.8	0.00	0.00	0.00
15,900.0	89.03	89.43	8,638.7	-296.2	7,416.5	7,421.7	0.00	0.00	0.00
15,978.3	89.03	89.43	8,640.0	-295.5	7,494.8	7,500.0	0.00	0.00	0.00
16,000.0	89.47	89.43	8,640.3	-295.3	7,516.5	7,521.7	2.00	2.00	0.00
16,019.5	89.86	89.43	8,640.4	-295.1	7,536.0	7,541.2	2.00	2.00	0.00
16,100.0	89.86	89.43	8,640.6	-294.3	7,616.5	7,621.6	0.00	0.00	0.00
16,200.0	89.86	89.43	8,640.8	-293.3	7,716.5	7,721.5	0.00	0.00	0.00
16,300.0	89.86	89.43	8,641.1	-292.3	7,816.5	7,821.5	0.00	0.00	0.00
16,400.0	89.86	89.43	8,641.3	-291.3	7,916.4	7,921.4	0.00	0.00	0.00
16,500.0	89.86	89.43	8,641.6	-290.3	8,016.4	8,021.3	0.00	0.00	0.00
16,600.0	89.86	89.43	8,641.8	-289.3	8,116.4	8,121.3	0.00	0.00	0.00
16,700.0	89.86	89.43	8,642.1	-288.3	8,216.4	8,221.2	0.00	0.00	0.00
16,800.0	89.86	89.43	8,642.3	-287.3	8,316.4	8,321.1	0.00	0.00	0.00
16,900.0	89.86	89.43	8,642.6	-286.3	8,416.4	8,421.1	0.00	0.00	0.00
17,000.0	89.86	89.43	8,642.8	-285.3	8,516.4	8,521.0	0.00	0.00	0.00
17,100.0	89.86	89.43	8,643.1	-284.3	8,616.4	8,620.9	0.00	0.00	0.00
17,200.0	89.86	89.43	8,643.3	-283.3	8,716.4	8,720.9	0.00	0.00	0.00
17,300.0	89.86	89.43	8,643.6	-282.3	8,816.4	8,820.8	0.00	0.00	0.00
17,400.0	89.86	89.43	8,643.8	-281.3	8,916.4	8,920.7	0.00	0.00	0.00
17,479.3	89.86	89.43	8,644.0	-280.5	8,995.7	9,000.0	0.00	0.00	0.00
17,500.0	89.45	89.43	8,644.1	-280.3	9,016.4	9,020.7	2.00	-2.00	0.00
17,577.2	87.90	89.43	8,645.9	-279.5	9,093.6	9,097.8	2.00	-2.00	0.00
17,600.0	87.90	89.43	8,646.7	-279.3	9,116.3	9,120.5	0.00	0.00	0.00
17,700.0	87.90	89.43	8,650.4	-278.3	9,216.3	9,220.4	0.00	0.00	0.00
17,800.0	87.90	89.43	8,654.1	-277.3	9,316.2	9,320.3	0.00	0.00	0.00
17,900.0	87.90	89.43	8,657.7	-276.3	9,416.1	9,420.1	0.00	0.00	0.00
18,000.0	87.90	89.43	8,661.4	-275.3	9,516.1	9,520.0	0.00	0.00	0.00
18,100.0	87.90	89.43	8,665.1	-274.3	9,616.0	9,619.9	0.00	0.00	0.00
18,200.0	87.90	89.43	8,668.7	-273.3	9,715.9	9,719.7	0.00	0.00	0.00
18,300.0	87.90	89.43	8,672.4	-272.4	9,815.8	9,819.6	0.00	0.00	0.00
18,400.0	87.90	89.43	8,676.0	-271.4	9,915.8	9,919.5	0.00	0.00	0.00
18,500.0	87.90	89.43	8,679.7	-270.4	10,015.7	10,019.3	0.00	0.00	0.00
18,600.0	87.90	89.43	8,683.4	-269.4	10,115.6	10,119.2	0.00	0.00	0.00
18,617.1	87.90	89.43	8,684.0	-269.2	10,132.7	10,136.3	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 PAD (304H, 305H)
Well: PALMILLO 14-15 STATE COM 304H
Wellbore: PALMILLO 14-15 STATE COM 304H
Design: Design 1 w/ lateral targets

Local Co-ordinate Reference: Well PALMILLO 14-15 STATE COM 304H
TVD Reference: WELL @ 3538.0ft (Original Well Elev)
MD Reference: WELL @ 3538.0ft (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 S - plan hits target center - Point	0.00	0.00	8,038.5	-371.6	-151.4	604,638.11	590,848.51	32° 39' 43.524 N	104° 10' 20.825 W
11 PALMILLO 14-15 STA - plan hits target center - Point	0.00	0.00	8,516.0	-365.2	490.5	604,644.49	591,490.37	32° 39' 43.578 N	104° 10' 13.316 W
12 PALMILLO 14-15 STA - plan hits target center - Point	0.00	0.00	8,546.0	-355.2	1,491.1	604,654.46	592,490.99	32° 39' 43.661 N	104° 10' 1.611 W
13 PALMILLO 14-15 STA - plan hits target center - Point	0.00	0.00	8,586.0	-340.3	2,992.0	604,669.40	593,991.92	32° 39' 43.785 N	104° 9' 44.052 W
14 PALMILLO 14-15 STA - plan hits target center - Point	0.00	0.00	8,611.0	-325.3	4,492.9	604,684.35	595,492.84	32° 39' 43.909 N	104° 9' 26.494 W
15 PALMILLO 14-15 STA - plan hits target center - Point	0.00	0.00	8,615.0	-310.4	5,993.9	604,699.29	596,993.77	32° 39' 44.032 N	104° 9' 8.936 W
16 PALMILLO 14-15 STA - plan hits target center - Point	0.00	0.00	8,640.0	-295.5	7,494.8	604,714.23	598,494.70	32° 39' 44.154 N	104° 8' 51.377 W
17 PALMILLO 14-15 STA - plan hits target center - Point	0.00	0.00	8,644.0	-280.5	8,995.7	604,729.18	599,995.62	32° 39' 44.276 N	104° 8' 33.819 W
BHL PALMILLO 14-15 S - plan hits target center - Point	0.00	0.00	8,684.0	-269.2	10,132.7	604,740.50	601,132.60	32° 39' 44.367 N	104° 8' 20.518 W