

**NM OIL CONSERVATION
ARTESIA DISTRICT**

OCT 16 2018

PERMIAN

RECEIVED

NW DISTRICT - NM EZ NAD 83

PALMILLO 14-15 STATE COM PAD (302H, 303H)

PALMILLO 14-15 STATE COM 302H

30-015-45341

PALMILLO 14-15 STATE COM 302H

Plan: Design #1 w/ lateral targets

Standard Planning Report

12 October, 2018

apachecorp
Planning Report

Database:	PEDM	Local Co-ordinate Reference:	Well PALMILLO 14-15 STATE COM 302H
Company:	PERMIAN	TVD Reference:	WELL @ 3500.0ft (Original Well Elev)
Project:	NW DISTRICT - NM EZ NAD 83	MD Reference:	WELL @ 3500.0ft (Original Well Elev)
Site:	PALMILLO 14-15 STATE COM PAD (302H, 303H)	North Reference:	Grid
Well:	PALMILLO 14-15 STATE COM 302H	Survey Calculation Method:	Minimum Curvature
Wellbore:	PALMILLO 14-15 STATE COM 302H		
Design:	Design #1 w/ lateral targets		

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 (302H, 303H)			
Site Position:		Northing:	603,265.20 ft	Latitude: 32° 39' 29.935 N
From:	Map	Easting:	591,093.60 ft	Longitude: 104° 10' 17.982 W
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence: 0.09 °

Well	PALMILLO 14-15 STATE COM 302H			
Well Position	+N/-S	0.0 ft	Northing:	603,265.20 ft
	+E/-W	0.0 ft	Easting:	591,093.60 ft
Position Uncertainty		0.0 ft	Wellhead Elevation:	0.0 ft
			Ground Level:	3,474.0 ft

Wellbore	PALMILLO 14-15 STATE COM 302H				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	10/11/2018	7.30	60.45	48,027

Design	Design #1 w/ lateral targets			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.0	0.0	0.0	91.82

apachecorp
Planning Report

Database: PEDM
Company: PERMIAN
Project: NW DISTRICT - NM EZ NAD 83
Site: PALMILLO 14-15 STATE COM PAD (302H, 303H)
Well: PALMILLO 14-15 STATE COM 302H
Wellbore: PALMILLO 14-15 STATE COM 302H
Design: Design #1 w/ lateral targets

Local Co-ordinate Reference: Well PALMILLO 14-15 STATE COM 302H
TVD Reference: WELL @ 3500.0ft (Original Well Elev)
MD Reference: WELL @ 3500.0ft (Original Well Elev)
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	
3,726.5	7.27	211.67	3,724.6	-39.1	-24.1	1.00	1.00	0.00	211.67	
6,784.4	7.27	211.67	6,757.9	-368.3	-227.2	0.00	0.00	0.00	0.00	
7,510.9	0.00	0.00	7,482.5	-407.4	-251.3	1.00	-1.00	0.00	180.00	
8,010.9	0.00	0.00	7,982.5	-407.4	-251.3	0.00	0.00	0.00	0.00	kop "PALMILLO 14-15"
8,760.9	89.99	89.50	8,460.0	-403.3	226.1	12.00	12.00	11.93	89.50	
9,022.3	89.99	89.50	8,460.0	-401.0	487.5	0.00	0.00	0.00	0.00	T1 PALMILLO 14-15
9,193.9	86.56	89.50	8,465.2	-399.5	659.0	2.00	-2.00	0.00	180.00	
10,024.7	86.56	89.50	8,515.0	-392.4	1,488.3	0.00	0.00	0.00	0.00	T2 PALMILLO 14-15
10,142.1	88.91	89.50	8,519.6	-391.3	1,605.6	2.00	2.00	0.00	-0.01	
11,526.3	88.91	89.50	8,546.0	-379.3	2,989.5	0.00	0.00	0.00	0.00	T3 PALMILLO 14-15
11,540.5	88.62	89.50	8,546.3	-379.2	3,003.7	2.00	-2.00	0.00	180.00	
13,028.0	88.62	89.50	8,582.0	-366.3	4,490.6	0.00	0.00	0.00	0.00	T4 PALMILLO 14-15
13,033.6	88.51	89.50	8,582.1	-366.3	4,496.3	2.00	-2.00	0.00	180.00	
14,529.7	88.51	89.50	8,621.0	-353.3	5,991.8	0.00	0.00	0.00	0.00	T5 PALMILLO 14-15
14,584.1	89.60	89.50	8,621.9	-352.9	6,046.2	2.00	2.00	0.00	0.02	
16,031.0	89.60	89.50	8,632.0	-340.3	7,493.0	0.00	0.00	0.00	0.00	T6 PALMILLO 14-15
16,066.7	88.88	89.50	8,632.5	-340.0	7,528.7	2.00	-2.00	0.00	-179.97	
17,532.5	88.88	89.50	8,661.0	-327.3	8,994.1	0.00	0.00	0.00	0.00	T7 PALMILLO 14-15
17,547.1	89.18	89.50	8,661.2	-327.2	9,008.7	2.00	2.00	0.00	0.00	
18,573.4	89.18	89.50	8,676.0	-318.3	10,034.9	0.00	0.00	0.00	0.00	bhl "PALMILLO 14-15"

apachecorp
Planning Report

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Company: PERMIAN
Project: NW DISTRICT - NM EZ NAD 83
Site: PALMILLO 14-15 STATE COM PAD (302H, 303H)
Well: PALMILLO 14-15 STATE COM 302H
Wellbore: PALMILLO 14-15 STATE COM 302H
Design: Design #1 w/ lateral targets

Local Co-ordinate Reference: Well PALMILLO 14-15 STATE COM 302H
TVD Reference: WELL @ 3500.0ft (Original Well Elev)
MD Reference: WELL @ 3500.0ft (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)
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	211.67	3,100.0	-0.7	-0.5	-0.4	1.00	1.00	0.00
3,200.0	2.00	211.67	3,200.0	-3.0	-1.8	-1.7	1.00	1.00	0.00
3,300.0	3.00	211.67	3,299.9	-6.7	-4.1	-3.9	1.00	1.00	0.00
3,400.0	4.00	211.67	3,399.7	-11.9	-7.3	-6.9	1.00	1.00	0.00
3,500.0	5.00	211.67	3,499.4	-18.6	-11.4	-10.9	1.00	1.00	0.00
3,600.0	6.00	211.67	3,598.9	-26.7	-16.5	-15.6	1.00	1.00	0.00
3,700.0	7.00	211.67	3,698.3	-36.3	-22.4	-21.3	1.00	1.00	0.00
3,726.5	7.27	211.67	3,724.6	-39.1	-24.1	-22.9	1.00	1.00	0.00
3,800.0	7.27	211.67	3,797.5	-47.1	-29.0	-27.5	0.00	0.00	0.00
3,900.0	7.27	211.67	3,896.7	-57.8	-35.7	-33.8	0.00	0.00	0.00
4,000.0	7.27	211.67	3,995.9	-68.6	-42.3	-40.1	0.00	0.00	0.00
4,100.0	7.27	211.67	4,095.1	-79.4	-48.9	-46.4	0.00	0.00	0.00
4,200.0	7.27	211.67	4,194.3	-90.1	-55.6	-52.7	0.00	0.00	0.00
4,300.0	7.27	211.67	4,293.5	-100.9	-62.2	-59.0	0.00	0.00	0.00
4,400.0	7.27	211.67	4,392.6	-111.6	-68.9	-65.3	0.00	0.00	0.00
4,500.0	7.27	211.67	4,491.8	-122.4	-75.5	-71.6	0.00	0.00	0.00
4,600.0	7.27	211.67	4,591.0	-133.2	-82.1	-77.9	0.00	0.00	0.00
4,700.0	7.27	211.67	4,690.2	-143.9	-88.8	-84.2	0.00	0.00	0.00
4,800.0	7.27	211.67	4,789.4	-154.7	-95.4	-90.5	0.00	0.00	0.00
4,900.0	7.27	211.67	4,888.6	-165.5	-102.1	-96.8	0.00	0.00	0.00
5,000.0	7.27	211.67	4,987.8	-176.2	-108.7	-103.0	0.00	0.00	0.00
5,100.0	7.27	211.67	5,087.0	-187.0	-115.3	-109.3	0.00	0.00	0.00

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Planning Report

Database: PEDM
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Project: NW DISTRICT - NM EZ NAD 83
Site: PALMILLO 14-15 STATE COM PAD (302H, 303H)
Well: PALMILLO 14-15 STATE COM 302H
Wellbore: PALMILLO 14-15 STATE COM 302H
Design: Design #1 w/ lateral targets

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TVD Reference: WELL @ 3500.0ft (Original Well Elev)
MD Reference: WELL @ 3500.0ft (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)
5,200.0	7.27	211.67	5,186.2	-197.7	-122.0	-115.6	0.00	0.00	0.00
5,300.0	7.27	211.67	5,285.4	-208.5	-128.6	-121.9	0.00	0.00	0.00
5,400.0	7.27	211.67	5,384.6	-219.3	-135.2	-128.2	0.00	0.00	0.00
5,500.0	7.27	211.67	5,483.8	-230.0	-141.9	-134.5	0.00	0.00	0.00
5,600.0	7.27	211.67	5,583.0	-240.8	-148.5	-140.8	0.00	0.00	0.00
5,700.0	7.27	211.67	5,682.2	-251.6	-155.2	-147.1	0.00	0.00	0.00
5,800.0	7.27	211.67	5,781.4	-262.3	-161.8	-153.4	0.00	0.00	0.00
5,900.0	7.27	211.67	5,880.6	-273.1	-168.4	-159.7	0.00	0.00	0.00
6,000.0	7.27	211.67	5,979.8	-283.9	-175.1	-166.0	0.00	0.00	0.00
6,100.0	7.27	211.67	6,079.0	-294.6	-181.7	-172.3	0.00	0.00	0.00
6,200.0	7.27	211.67	6,178.2	-305.4	-188.4	-178.6	0.00	0.00	0.00
6,300.0	7.27	211.67	6,277.4	-316.1	-195.0	-184.9	0.00	0.00	0.00
6,400.0	7.27	211.67	6,376.6	-326.9	-201.6	-191.2	0.00	0.00	0.00
6,500.0	7.27	211.67	6,475.8	-337.7	-208.3	-197.5	0.00	0.00	0.00
6,600.0	7.27	211.67	6,575.0	-348.4	-214.9	-203.8	0.00	0.00	0.00
6,700.0	7.27	211.67	6,674.2	-359.2	-221.5	-210.0	0.00	0.00	0.00
6,784.4	7.27	211.67	6,757.9	-368.3	-227.2	-215.4	0.00	0.00	0.00
6,800.0	7.11	211.67	6,773.4	-369.9	-228.2	-216.3	1.00	-1.00	0.00
6,900.0	6.11	211.67	6,872.7	-379.7	-234.2	-222.1	1.00	-1.00	0.00
7,000.0	5.11	211.67	6,972.2	-388.1	-239.3	-226.9	1.00	-1.00	0.00
7,100.0	4.11	211.67	7,071.9	-394.9	-243.6	-230.9	1.00	-1.00	0.00
7,200.0	3.11	211.67	7,171.7	-400.3	-246.9	-234.1	1.00	-1.00	0.00
7,300.0	2.11	211.67	7,271.6	-404.1	-249.3	-236.3	1.00	-1.00	0.00
7,400.0	1.11	211.67	7,371.6	-406.5	-250.7	-237.7	1.00	-1.00	0.00
7,500.0	0.11	211.67	7,471.6	-407.4	-251.3	-238.2	1.00	-1.00	0.00
7,510.9	0.00	0.00	7,482.5	-407.4	-251.3	-238.3	1.00	-1.00	0.00
7,600.0	0.00	0.00	7,571.6	-407.4	-251.3	-238.3	0.00	0.00	0.00
7,700.0	0.00	0.00	7,671.6	-407.4	-251.3	-238.3	0.00	0.00	0.00
7,800.0	0.00	0.00	7,771.6	-407.4	-251.3	-238.3	0.00	0.00	0.00
7,900.0	0.00	0.00	7,871.6	-407.4	-251.3	-238.3	0.00	0.00	0.00
8,000.0	0.00	0.00	7,971.6	-407.4	-251.3	-238.3	0.00	0.00	0.00
8,010.9	0.00	0.00	7,982.5	-407.4	-251.3	-238.3	0.00	0.00	0.00
8,100.0	10.69	89.50	8,071.0	-407.4	-243.0	-230.0	12.00	12.00	0.00
8,200.0	22.69	89.50	8,166.7	-407.1	-214.4	-201.3	12.00	12.00	0.00
8,300.0	34.69	89.50	8,254.2	-406.7	-166.4	-153.5	12.00	12.00	0.00
8,400.0	46.69	89.50	8,329.9	-406.1	-101.4	-88.4	12.00	12.00	0.00
8,500.0	58.69	89.50	8,390.4	-405.4	-22.0	-9.1	12.00	12.00	0.00
8,600.0	70.69	89.50	8,433.1	-404.7	68.2	81.0	12.00	12.00	0.00
8,700.0	82.69	89.50	8,456.1	-403.8	165.4	178.1	12.00	12.00	0.00
8,760.9	89.99	89.50	8,460.0	-403.3	226.1	238.8	12.00	12.00	0.00
8,800.0	89.99	89.50	8,460.0	-403.0	265.2	277.8	0.00	0.00	0.00
8,900.0	89.99	89.50	8,460.0	-402.1	365.2	377.8	0.00	0.00	0.00
9,000.0	89.99	89.50	8,460.0	-401.2	465.2	477.7	0.00	0.00	0.00
9,022.3	89.99	89.50	8,460.0	-401.0	487.5	500.0	0.00	0.00	0.00
9,100.0	88.44	89.50	8,461.1	-400.4	565.2	577.6	2.00	-2.00	0.00
9,193.9	86.56	89.50	8,465.2	-399.5	659.0	671.3	2.00	-2.00	0.00
9,200.0	86.56	89.50	8,465.5	-399.5	665.1	677.4	0.00	0.00	0.00
9,300.0	86.56	89.50	8,471.5	-398.8	764.9	777.1	0.00	0.00	0.00
9,400.0	86.56	89.50	8,477.5	-397.8	864.7	876.9	0.00	0.00	0.00
9,500.0	86.56	89.50	8,483.5	-396.9	964.5	976.6	0.00	0.00	0.00
9,600.0	86.56	89.50	8,489.5	-396.0	1,064.3	1,076.4	0.00	0.00	0.00
9,700.0	86.56	89.50	8,495.5	-395.2	1,164.2	1,176.1	0.00	0.00	0.00
9,800.0	86.56	89.50	8,501.5	-394.3	1,264.0	1,275.8	0.00	0.00	0.00

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Planning Report

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Project: NW DISTRICT - NM EZ NAD 83
Site: PALMILLO 14-15 STATE COM PAD (302H, 303H)
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Wellbore: PALMILLO 14-15 STATE COM 302H
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MD Reference: WELL @ 3500.0ft (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)	Buird Rate (°/100ft)	Turn Rate (°/100ft)
9,900.0	86.56	89.50	8,507.5	-393.4	1,363.8	1,375.6	0.00	0.00	0.00
10,000.0	86.56	89.50	8,513.5	-392.6	1,463.6	1,475.3	0.00	0.00	0.00
10,024.7	86.56	89.50	8,515.0	-392.4	1,488.3	1,500.0	0.00	0.00	0.00
10,100.0	88.07	89.50	8,518.5	-391.7	1,563.5	1,575.1	2.00	2.00	0.00
10,142.1	88.91	89.50	8,519.6	-391.3	1,605.6	1,617.2	2.00	2.00	0.00
10,200.0	88.91	89.50	8,520.7	-390.8	1,663.4	1,675.0	0.00	0.00	0.00
10,300.0	88.91	89.50	8,522.6	-390.0	1,763.4	1,774.9	0.00	0.00	0.00
10,400.0	88.91	89.50	8,524.6	-389.1	1,863.4	1,874.8	0.00	0.00	0.00
10,500.0	88.91	89.50	8,526.5	-388.2	1,963.4	1,974.7	0.00	0.00	0.00
10,600.0	88.91	89.50	8,528.4	-387.4	2,063.4	2,074.6	0.00	0.00	0.00
10,700.0	88.91	89.50	8,530.3	-386.5	2,163.3	2,174.5	0.00	0.00	0.00
10,800.0	88.91	89.50	8,532.2	-385.6	2,263.3	2,274.4	0.00	0.00	0.00
10,900.0	88.91	89.50	8,534.1	-384.8	2,363.3	2,374.3	0.00	0.00	0.00
11,000.0	88.91	89.50	8,536.0	-383.9	2,463.3	2,474.2	0.00	0.00	0.00
11,100.0	88.91	89.50	8,537.9	-383.0	2,563.2	2,574.1	0.00	0.00	0.00
11,200.0	88.91	89.50	8,539.8	-382.2	2,663.2	2,674.0	0.00	0.00	0.00
11,300.0	88.91	89.50	8,541.7	-381.3	2,763.2	2,773.9	0.00	0.00	0.00
11,400.0	88.91	89.50	8,543.6	-380.4	2,863.2	2,873.8	0.00	0.00	0.00
11,500.0	88.91	89.50	8,545.5	-379.6	2,963.2	2,973.7	0.00	0.00	0.00
11,526.3	88.91	89.50	8,546.0	-379.3	2,989.5	3,000.0	0.00	0.00	0.00
11,540.5	88.62	89.50	8,546.3	-379.2	3,003.7	3,014.2	2.00	-2.00	0.00
11,600.0	88.62	89.50	8,547.7	-378.7	3,063.1	3,073.6	0.00	0.00	0.00
11,700.0	88.62	89.50	8,550.1	-377.8	3,163.1	3,173.5	0.00	0.00	0.00
11,800.0	88.62	89.50	8,552.5	-377.0	3,263.1	3,273.4	0.00	0.00	0.00
11,900.0	88.62	89.50	8,554.9	-376.1	3,363.0	3,373.3	0.00	0.00	0.00
12,000.0	88.62	89.50	8,557.3	-375.2	3,463.0	3,473.2	0.00	0.00	0.00
12,100.0	88.62	89.50	8,559.7	-374.4	3,563.0	3,573.0	0.00	0.00	0.00
12,200.0	88.62	89.50	8,562.1	-373.5	3,662.9	3,672.9	0.00	0.00	0.00
12,300.0	88.62	89.50	8,564.5	-372.6	3,762.9	3,772.8	0.00	0.00	0.00
12,400.0	88.62	89.50	8,566.9	-371.8	3,862.9	3,872.7	0.00	0.00	0.00
12,500.0	88.62	89.50	8,569.3	-370.9	3,962.8	3,972.6	0.00	0.00	0.00
12,600.0	88.62	89.50	8,571.7	-370.0	4,062.8	4,072.5	0.00	0.00	0.00
12,700.0	88.62	89.50	8,574.1	-369.2	4,162.8	4,172.4	0.00	0.00	0.00
12,800.0	88.62	89.50	8,576.5	-368.3	4,262.7	4,272.3	0.00	0.00	0.00
12,900.0	88.62	89.50	8,578.9	-367.4	4,362.7	4,372.2	0.00	0.00	0.00
13,000.0	88.62	89.50	8,581.3	-366.6	4,462.7	4,472.1	0.00	0.00	0.00
13,028.0	88.62	89.50	8,582.0	-366.3	4,490.6	4,500.0	0.00	0.00	0.00
13,033.6	88.51	89.50	8,582.1	-366.3	4,496.3	4,505.7	2.00	-2.00	0.00
13,100.0	88.51	89.50	8,583.9	-365.7	4,562.6	4,571.9	0.00	0.00	0.00
13,200.0	88.51	89.50	8,586.5	-364.8	4,662.6	4,671.8	0.00	0.00	0.00
13,300.0	88.51	89.50	8,589.1	-364.0	4,762.6	4,771.7	0.00	0.00	0.00
13,400.0	88.51	89.50	8,591.7	-363.1	4,862.5	4,871.6	0.00	0.00	0.00
13,500.0	88.51	89.50	8,594.3	-362.3	4,962.5	4,971.5	0.00	0.00	0.00
13,600.0	88.51	89.50	8,596.9	-361.4	5,062.5	5,071.4	0.00	0.00	0.00
13,700.0	88.51	89.50	8,599.4	-360.5	5,162.4	5,171.2	0.00	0.00	0.00
13,800.0	88.51	89.50	8,602.0	-359.7	5,262.4	5,271.1	0.00	0.00	0.00
13,900.0	88.51	89.50	8,604.6	-358.8	5,362.3	5,371.0	0.00	0.00	0.00
14,000.0	88.51	89.50	8,607.2	-357.9	5,462.3	5,470.9	0.00	0.00	0.00
14,100.0	88.51	89.50	8,609.8	-357.1	5,562.3	5,570.8	0.00	0.00	0.00
14,200.0	88.51	89.50	8,612.4	-356.2	5,662.2	5,670.7	0.00	0.00	0.00
14,300.0	88.51	89.50	8,615.0	-355.3	5,762.2	5,770.6	0.00	0.00	0.00
14,400.0	88.51	89.50	8,617.6	-354.5	5,862.2	5,870.4	0.00	0.00	0.00
14,500.0	88.51	89.50	8,620.2	-353.6	5,962.1	5,970.3	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 (302H, 303H)
Well: PALMILLO 14-15 STATE COM 302H
Wellbore: PALMILLO 14-15 STATE COM 302H
Design: Design #1 w/ lateral targets

Local Co-ordinate Reference: Well PALMILLO 14-15 STATE COM 302H
TVD Reference: WELL @ 3500.0ft (Original Well Elev)
MD Reference: WELL @ 3500.0ft (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)
14,529.7	88.51	89.50	8,621.0	-353.3	5,991.8	6,000.0	0.00	0.00	0.00
14,584.1	89.60	89.50	8,621.9	-352.9	6,046.2	6,054.4	2.00	2.00	0.00
14,600.0	89.60	89.50	8,622.0	-352.7	6,062.1	6,070.2	0.00	0.00	0.00
14,700.0	89.60	89.50	8,622.7	-351.9	6,162.1	6,170.1	0.00	0.00	0.00
14,800.0	89.60	89.50	8,623.4	-351.0	6,262.1	6,270.1	0.00	0.00	0.00
14,900.0	89.60	89.50	8,624.1	-350.1	6,362.1	6,370.0	0.00	0.00	0.00
15,000.0	89.60	89.50	8,624.8	-349.3	6,462.1	6,469.9	0.00	0.00	0.00
15,100.0	89.60	89.50	8,625.5	-348.4	6,562.1	6,569.8	0.00	0.00	0.00
15,200.0	89.60	89.50	8,626.2	-347.5	6,662.1	6,669.7	0.00	0.00	0.00
15,300.0	89.60	89.50	8,626.9	-346.7	6,762.0	6,769.6	0.00	0.00	0.00
15,400.0	89.60	89.50	8,627.6	-345.8	6,862.0	6,869.6	0.00	0.00	0.00
15,500.0	89.60	89.50	8,628.3	-344.9	6,962.0	6,969.5	0.00	0.00	0.00
15,600.0	89.60	89.50	8,629.0	-344.1	7,062.0	7,069.4	0.00	0.00	0.00
15,700.0	89.60	89.50	8,629.7	-343.2	7,162.0	7,169.3	0.00	0.00	0.00
15,800.0	89.60	89.50	8,630.4	-342.3	7,262.0	7,269.2	0.00	0.00	0.00
15,900.0	89.60	89.50	8,631.1	-341.5	7,362.0	7,369.1	0.00	0.00	0.00
16,000.0	89.60	89.50	8,631.8	-340.6	7,462.0	7,469.1	0.00	0.00	0.00
16,031.0	89.60	89.50	8,632.0	-340.3	7,493.0	7,500.0	0.00	0.00	0.00
16,066.7	88.88	89.50	8,632.5	-340.0	7,528.7	7,535.7	2.00	-2.00	0.00
16,100.0	88.88	89.50	8,633.1	-339.7	7,562.0	7,569.0	0.00	0.00	0.00
16,200.0	88.88	89.50	8,635.1	-338.9	7,662.0	7,668.9	0.00	0.00	0.00
16,300.0	88.88	89.50	8,637.0	-338.0	7,761.9	7,768.8	0.00	0.00	0.00
16,400.0	88.88	89.50	8,639.0	-337.1	7,861.9	7,868.7	0.00	0.00	0.00
16,500.0	88.88	89.50	8,640.9	-336.3	7,961.9	7,968.6	0.00	0.00	0.00
16,600.0	88.88	89.50	8,642.9	-335.4	8,061.9	8,068.5	0.00	0.00	0.00
16,700.0	88.88	89.50	8,644.8	-334.5	8,161.9	8,168.4	0.00	0.00	0.00
16,800.0	88.88	89.50	8,646.7	-333.7	8,261.8	8,268.3	0.00	0.00	0.00
16,900.0	88.88	89.50	8,648.7	-332.8	8,361.8	8,368.2	0.00	0.00	0.00
17,000.0	88.88	89.50	8,650.6	-331.9	8,461.8	8,468.1	0.00	0.00	0.00
17,100.0	88.88	89.50	8,652.6	-331.1	8,561.8	8,568.0	0.00	0.00	0.00
17,200.0	88.88	89.50	8,654.5	-330.2	8,661.7	8,667.9	0.00	0.00	0.00
17,300.0	88.88	89.50	8,656.5	-329.3	8,761.7	8,767.8	0.00	0.00	0.00
17,400.0	88.88	89.50	8,658.4	-328.5	8,861.7	8,867.7	0.00	0.00	0.00
17,500.0	88.88	89.50	8,660.4	-327.6	8,961.7	8,967.6	0.00	0.00	0.00
17,532.5	88.88	89.50	8,661.0	-327.3	8,994.1	9,000.0	0.00	0.00	0.00
17,547.1	89.18	89.50	8,661.2	-327.2	9,008.7	9,014.6	2.00	2.00	0.00
17,600.0	89.18	89.50	8,662.0	-326.7	9,061.7	9,067.5	0.00	0.00	0.00
17,700.0	89.18	89.50	8,663.4	-325.9	9,161.6	9,167.4	0.00	0.00	0.00
17,800.0	89.18	89.50	8,664.9	-325.0	9,261.6	9,267.3	0.00	0.00	0.00
17,900.0	89.18	89.50	8,666.3	-324.1	9,361.6	9,367.2	0.00	0.00	0.00
18,000.0	89.18	89.50	8,667.8	-323.3	9,461.6	9,467.1	0.00	0.00	0.00
18,100.0	89.18	89.50	8,669.2	-322.4	9,561.6	9,567.0	0.00	0.00	0.00
18,200.0	89.18	89.50	8,670.6	-321.5	9,661.6	9,666.9	0.00	0.00	0.00
18,300.0	89.18	89.50	8,672.1	-320.7	9,761.6	9,766.8	0.00	0.00	0.00
18,400.0	89.18	89.50	8,673.5	-319.8	9,861.5	9,866.7	0.00	0.00	0.00
18,500.0	89.18	89.50	8,674.9	-318.9	9,961.5	9,966.6	0.00	0.00	0.00
18,573.4	89.18	89.50	8,676.0	-318.3	10,034.9	10,039.9	0.00	0.00	0.00

apachecorp
Planning Report

Database:	PEDM	Local Co-ordinate Reference:	Well PALMILLO 14-15 STATE COM 302H
Company:	PERMIAN	TVD Reference:	WELL @ 3500.0ft (Original Well Elev)
Project:	NW DISTRICT - NM EZ NAD 83	MD Reference:	WELL @ 3500.0ft (Original Well Elev)
Site:	PALMILLO 14-15 STATE COM PAD (302H, 303H)	North Reference:	Grid
Well:	PALMILLO 14-15 STATE COM 302H	Survey Calculation Method:	Minimum Curvature
Wellbore:	PALMILLO 14-15 STATE COM 302H		
Design:	Design #1 w/ lateral targets		

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
kop "PALMILLO 14-15 S - plan hits target center - Point	0.00	0.00	7,982.5	-407.4	-251.3	602,857.77	590,842.31	32° 39' 25.907 N	104° 10' 20.929 W
T1 PALMILLO 14-15 ST, - plan hits target center - Point	0.00	0.00	8,460.0	-401.0	487.5	602,864.17	591,581.13	32° 39' 25.959 N	104° 10' 12.286 W
T2 PALMILLO 14-15 ST, - plan hits target center - Point	0.00	0.00	8,515.0	-392.4	1,488.3	602,872.84	592,581.91	32° 39' 26.030 N	104° 10' 0.580 W
T3 PALMILLO 14-15 ST, - plan hits target center - Point	0.00	0.00	8,546.0	-379.3	2,989.5	602,885.85	594,083.08	32° 39' 26.135 N	104° 9' 43.020 W
T4 PALMILLO 14-15 ST, - plan hits target center - Point	0.00	0.00	8,582.0	-366.3	4,490.6	602,898.86	595,584.24	32° 39' 26.239 N	104° 9' 25.459 W
T5 PALMILLO 14-15 ST, - plan hits target center - Point	0.00	0.00	8,621.0	-353.3	5,991.8	602,911.87	597,085.41	32° 39' 26.343 N	104° 9' 7.899 W
T6 PALMILLO 14-15 ST, - plan hits target center - Point	0.00	0.00	8,632.0	-340.3	7,493.0	602,924.87	598,586.58	32° 39' 26.446 N	104° 8' 50.339 W
T7 PALMILLO 14-15 ST, - plan hits target center - Point	0.00	0.00	8,661.0	-327.3	8,994.1	602,937.88	600,087.74	32° 39' 26.548 N	104° 8' 32.779 W
bhl "PALMILLO 14-15 S" - plan hits target center - Point	0.00	0.00	8,676.0	-318.3	10,034.9	602,946.90	601,128.50	32° 39' 26.619 N	104° 8' 20.605 W