

NM OIL CONSERVATION
ARTESIA DISTRICT

MAR 12 2019

RECEIVED

PERMIAN

NW DISTRICT - NM EZ NAD 83

PALMILLO 10 STATE COM PAD (234,335,336)

PALMILLO 10 STATE COM 234H

PALMILLO 10 STATE COM 234H

30-015-45792

Plan: Design #1

Standard Planning Report

26 February, 2019

Planning Report

Database:	PEDM	Local Co-ordinate Reference:	Well PALMILLO 10 STATE COM 234H
Company:	PERMIAN	TVD Reference:	WELL @ 3518.0ft (Original Well Elev)
Project:	NW DISTRICT - NM EZ NAD 83	MD Reference:	WELL @ 3518.0ft (Original Well Elev)
Site:	PALMILLO 10 STATE COM PAD (234,335,336)	North Reference:	Grid
Well:	PALMILLO 10 STATE COM 234H	Survey Calculation Method:	Minimum Curvature
Wellbore:	PALMILLO 10 STATE COM 234H		
Design:	Design #1		

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 10 STATE COM PAD (234,335,336)			
Site Position:		Northing:	611,241.00 ft	Latitude: 32° 40' 48.784 N
From:	Map	Easting:	595,797.60 ft	Longitude: 104° 9' 22.801 W
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence: 0.10 °

Well	PALMILLO 10 STATE COM 234H			
Well Position	+N/-S	0.0 ft	Northing: 611,241.00 ft	Latitude: 32° 40' 48.784 N
	+E/-W	0.0 ft	Easting: 595,797.60 ft	Longitude: 104° 9' 22.801 W
Position Uncertainty	0.0 ft	Wellhead Elevation:		Ground Level: 3,492.0 ft

Wellbore	PALMILLO 10 STATE COM 234H				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM_FILE	12/21/2018	7.30	60.45	48,003.80000000

Design	Design #1			
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	271.50

Plan Survey Tool Program	Date	2/25/2019		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	12,304.4	Design #1 (PALMILLO 10 STATE	MWD+HDGM (MWD) OWSG MWD + HDGM

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Wellbore:	PALMILLO 10 STATE COM 234H		
Design:	Design #1		

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	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,400.0	6.00	33.99	1,399.3	17.3	11.7	1.50	1.50	0.00	33.99	
3,210.4	6.00	33.99	3,199.8	174.3	117.5	0.00	0.00	0.00	0.00	
3,610.4	0.00	0.00	3,599.1	191.6	129.2	1.50	-1.50	0.00	180.00	
6,952.9	0.00	0.00	6,941.5	191.6	129.2	0.00	0.00	0.00	0.00	
7,721.3	92.21	269.30	7,418.6	185.5	-366.6	12.00	12.00	-11.80	269.30	
8,851.6	92.21	269.30	7,375.0	171.6	-1,496.0	0.00	0.00	0.00	0.00	T2 PALMILLO 10 STA
8,888.3	92.95	269.30	7,373.3	171.2	-1,532.7	2.00	2.00	0.00	-0.02	
10,354.7	92.95	269.30	7,298.0	153.2	-2,997.0	0.00	0.00	0.00	0.00	T3 PALMILLO 10 STA
10,433.4	91.37	269.30	7,295.0	152.2	-3,075.7	2.00	-2.00	0.00	179.99	
11,856.3	91.37	269.30	7,261.0	134.7	-4,498.0	0.00	0.00	0.00	0.00	T4 PALMILLO 10 STA
11,931.0	89.88	269.30	7,260.2	133.8	-4,572.8	2.00	-2.00	0.00	-179.99	
12,304.4	89.88	269.30	7,261.0	129.2	-4,946.1	0.00	0.00	0.00	0.00	BHL PALMILLO 10 S

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Wellbore:	PALMILLO 10 STATE COM 234H		
Design:	Design #1		

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	1.50	33.99	1,100.0	1.1	0.7	-0.7	1.50	1.50	0.00
1,200.0	3.00	33.99	1,199.9	4.3	2.9	-2.8	1.50	1.50	0.00
1,300.0	4.50	33.99	1,299.7	9.8	6.6	-6.3	1.50	1.50	0.00
1,400.0	6.00	33.99	1,399.3	17.3	11.7	-11.2	1.50	1.50	0.00
1,500.0	6.00	33.99	1,498.7	26.0	17.5	-16.9	0.00	0.00	0.00
1,600.0	6.00	33.99	1,598.2	34.7	23.4	-22.5	0.00	0.00	0.00
1,700.0	6.00	33.99	1,697.6	43.3	29.2	-28.1	0.00	0.00	0.00
1,800.0	6.00	33.99	1,797.1	52.0	35.1	-33.7	0.00	0.00	0.00
1,900.0	6.00	33.99	1,896.5	60.7	40.9	-39.3	0.00	0.00	0.00
2,000.0	6.00	33.99	1,996.0	69.3	46.8	-44.9	0.00	0.00	0.00
2,100.0	6.00	33.99	2,095.4	78.0	52.6	-50.6	0.00	0.00	0.00
2,200.0	6.00	33.99	2,194.9	86.7	58.5	-56.2	0.00	0.00	0.00
2,300.0	6.00	33.99	2,294.3	95.3	64.3	-61.8	0.00	0.00	0.00
2,400.0	6.00	33.99	2,393.8	104.0	70.1	-67.4	0.00	0.00	0.00
2,500.0	6.00	33.99	2,493.2	112.7	76.0	-73.0	0.00	0.00	0.00
2,600.0	6.00	33.99	2,592.7	121.3	81.8	-78.6	0.00	0.00	0.00
2,700.0	6.00	33.99	2,692.1	130.0	87.7	-84.2	0.00	0.00	0.00
2,800.0	6.00	33.99	2,791.6	138.7	93.5	-89.9	0.00	0.00	0.00
2,900.0	6.00	33.99	2,891.1	147.3	99.4	-95.5	0.00	0.00	0.00
3,000.0	6.00	33.99	2,990.5	156.0	105.2	-101.1	0.00	0.00	0.00
3,100.0	6.00	33.99	3,090.0	164.7	111.0	-106.7	0.00	0.00	0.00
3,200.0	6.00	33.99	3,189.4	173.3	116.9	-112.3	0.00	0.00	0.00
3,210.4	6.00	33.99	3,199.8	174.3	117.5	-112.9	0.00	0.00	0.00
3,300.0	4.66	33.99	3,289.0	181.1	122.2	-117.4	1.50	-1.50	0.00
3,400.0	3.16	33.99	3,388.7	186.8	126.0	-121.0	1.50	-1.50	0.00
3,500.0	1.66	33.99	3,488.6	190.3	128.3	-123.3	1.50	-1.50	0.00
3,600.0	0.16	33.99	3,588.6	191.6	129.2	-124.1	1.50	-1.50	0.00
3,610.4	0.00	0.00	3,599.1	191.6	129.2	-124.2	1.50	-1.50	0.00
3,700.0	0.00	0.00	3,688.6	191.6	129.2	-124.2	0.00	0.00	0.00
3,800.0	0.00	0.00	3,788.6	191.6	129.2	-124.2	0.00	0.00	0.00
3,900.0	0.00	0.00	3,888.6	191.6	129.2	-124.2	0.00	0.00	0.00
4,000.0	0.00	0.00	3,988.6	191.6	129.2	-124.2	0.00	0.00	0.00
4,100.0	0.00	0.00	4,088.6	191.6	129.2	-124.2	0.00	0.00	0.00
4,200.0	0.00	0.00	4,188.6	191.6	129.2	-124.2	0.00	0.00	0.00
4,300.0	0.00	0.00	4,288.6	191.6	129.2	-124.2	0.00	0.00	0.00
4,400.0	0.00	0.00	4,388.6	191.6	129.2	-124.2	0.00	0.00	0.00
4,500.0	0.00	0.00	4,488.6	191.6	129.2	-124.2	0.00	0.00	0.00
4,600.0	0.00	0.00	4,588.6	191.6	129.2	-124.2	0.00	0.00	0.00
4,700.0	0.00	0.00	4,688.6	191.6	129.2	-124.2	0.00	0.00	0.00
4,800.0	0.00	0.00	4,788.6	191.6	129.2	-124.2	0.00	0.00	0.00
4,900.0	0.00	0.00	4,888.6	191.6	129.2	-124.2	0.00	0.00	0.00
5,000.0	0.00	0.00	4,988.6	191.6	129.2	-124.2	0.00	0.00	0.00

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Wellbore:	PALMILLO 10 STATE COM 234H		
Design:	Design #1		

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)	
5,100.0	0.00	0.00	5,088.6	191.6	129.2	-124.2	0.00	0.00	0.00	
5,200.0	0.00	0.00	5,188.6	191.6	129.2	-124.2	0.00	0.00	0.00	
5,300.0	0.00	0.00	5,288.6	191.6	129.2	-124.2	0.00	0.00	0.00	
5,400.0	0.00	0.00	5,388.6	191.6	129.2	-124.2	0.00	0.00	0.00	
5,500.0	0.00	0.00	5,488.6	191.6	129.2	-124.2	0.00	0.00	0.00	
5,600.0	0.00	0.00	5,588.6	191.6	129.2	-124.2	0.00	0.00	0.00	
5,700.0	0.00	0.00	5,688.6	191.6	129.2	-124.2	0.00	0.00	0.00	
5,800.0	0.00	0.00	5,788.6	191.6	129.2	-124.2	0.00	0.00	0.00	
5,900.0	0.00	0.00	5,888.6	191.6	129.2	-124.2	0.00	0.00	0.00	
6,000.0	0.00	0.00	5,988.6	191.6	129.2	-124.2	0.00	0.00	0.00	
6,100.0	0.00	0.00	6,088.6	191.6	129.2	-124.2	0.00	0.00	0.00	
6,200.0	0.00	0.00	6,188.6	191.6	129.2	-124.2	0.00	0.00	0.00	
6,300.0	0.00	0.00	6,288.6	191.6	129.2	-124.2	0.00	0.00	0.00	
6,400.0	0.00	0.00	6,388.6	191.6	129.2	-124.2	0.00	0.00	0.00	
6,500.0	0.00	0.00	6,488.6	191.6	129.2	-124.2	0.00	0.00	0.00	
6,600.0	0.00	0.00	6,588.6	191.6	129.2	-124.2	0.00	0.00	0.00	
6,700.0	0.00	0.00	6,688.6	191.6	129.2	-124.2	0.00	0.00	0.00	
6,800.0	0.00	0.00	6,788.6	191.6	129.2	-124.2	0.00	0.00	0.00	
6,900.0	0.00	0.00	6,888.6	191.6	129.2	-124.2	0.00	0.00	0.00	
6,952.9	0.00	0.00	6,941.5	191.6	129.2	-124.2	0.00	0.00	0.00	
7,000.0	5.65	269.30	6,988.5	191.6	126.9	-121.8	12.00	12.00	0.00	
7,100.0	17.65	269.30	7,086.3	191.3	106.7	-101.7	12.00	12.00	0.00	
7,200.0	29.65	269.30	7,177.7	190.8	66.7	-61.7	12.00	12.00	0.00	
7,300.0	41.65	269.30	7,258.8	190.1	8.5	-3.5	12.00	12.00	0.00	
7,400.0	53.65	269.30	7,326.1	189.2	-65.3	70.2	12.00	12.00	0.00	
7,500.0	65.65	269.30	7,376.5	188.2	-151.4	156.3	12.00	12.00	0.00	
7,600.0	77.65	269.30	7,407.9	187.0	-246.2	251.0	12.00	12.00	0.00	
7,700.0	89.65	269.30	7,419.0	185.8	-345.3	350.1	12.00	12.00	0.00	
7,721.3	92.21	269.30	7,418.6	185.5	-366.6	371.4	12.00	12.00	0.00	
7,800.0	92.21	269.30	7,415.6	184.5	-445.3	449.9	0.00	0.00	0.00	
7,900.0	92.21	269.30	7,411.7	183.3	-545.2	549.8	0.00	0.00	0.00	
8,000.0	92.21	269.30	7,407.9	182.1	-645.1	649.6	0.00	0.00	0.00	
8,100.0	92.21	269.30	7,404.0	180.9	-745.0	749.5	0.00	0.00	0.00	
8,200.0	92.21	269.30	7,400.1	179.6	-845.0	849.4	0.00	0.00	0.00	
8,300.0	92.21	269.30	7,396.3	178.4	-944.9	949.2	0.00	0.00	0.00	
8,400.0	92.21	269.30	7,392.4	177.2	-1,044.8	1,049.1	0.00	0.00	0.00	
8,500.0	92.21	269.30	7,388.6	175.9	-1,144.7	1,148.9	0.00	0.00	0.00	
8,600.0	92.21	269.30	7,384.7	174.7	-1,244.6	1,248.8	0.00	0.00	0.00	
8,700.0	92.21	269.30	7,380.8	173.5	-1,344.5	1,348.6	0.00	0.00	0.00	
8,800.0	92.21	269.30	7,377.0	172.3	-1,444.5	1,448.5	0.00	0.00	0.00	
8,851.6	92.21	269.30	7,375.0	171.6	-1,496.0	1,500.0	0.00	0.00	0.00	
8,888.3	92.95	269.30	7,373.3	171.2	-1,532.7	1,536.7	2.00	2.00	0.00	
8,900.0	92.95	269.30	7,372.7	171.0	-1,544.4	1,548.3	0.00	0.00	0.00	
9,000.0	92.95	269.30	7,367.6	169.8	-1,644.2	1,648.1	0.00	0.00	0.00	
9,100.0	92.95	269.30	7,362.5	168.6	-1,744.1	1,747.9	0.00	0.00	0.00	
9,200.0	92.95	269.30	7,357.3	167.3	-1,843.9	1,847.7	0.00	0.00	0.00	
9,300.0	92.95	269.30	7,352.2	166.1	-1,943.8	1,947.5	0.00	0.00	0.00	
9,400.0	92.95	269.30	7,347.1	164.9	-2,043.7	2,047.3	0.00	0.00	0.00	
9,500.0	92.95	269.30	7,341.9	163.7	-2,143.5	2,147.1	0.00	0.00	0.00	
9,600.0	92.95	269.30	7,336.8	162.4	-2,243.4	2,246.9	0.00	0.00	0.00	
9,700.0	92.95	269.30	7,331.6	161.2	-2,343.2	2,346.7	0.00	0.00	0.00	
9,800.0	92.95	269.30	7,326.5	160.0	-2,443.1	2,446.4	0.00	0.00	0.00	
9,900.0	92.95	269.30	7,321.4	158.7	-2,543.0	2,546.2	0.00	0.00	0.00	

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Wellbore:	PALMILLO 10 STATE COM 234H		
Design:	Design #1		

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)
10,000.0	92.95	269.30	7,316.2	157.5	-2,642.8	2,646.0	0.00	0.00	0.00
10,100.0	92.95	269.30	7,311.1	156.3	-2,742.7	2,745.8	0.00	0.00	0.00
10,200.0	92.95	269.30	7,305.9	155.1	-2,842.5	2,845.6	0.00	0.00	0.00
10,300.0	92.95	269.30	7,300.8	153.8	-2,942.4	2,945.4	0.00	0.00	0.00
10,354.7	92.95	269.30	7,298.0	153.2	-2,997.0	3,000.0	0.00	0.00	0.00
10,400.0	92.04	269.30	7,296.0	152.6	-3,042.3	3,045.2	2.00	-2.00	0.00
10,433.4	91.37	269.30	7,295.0	152.2	-3,075.7	3,078.6	2.00	-2.00	0.00
10,500.0	91.37	269.30	7,293.4	151.4	-3,142.2	3,145.1	0.00	0.00	0.00
10,600.0	91.37	269.30	7,291.1	150.1	-3,242.2	3,245.0	0.00	0.00	0.00
10,700.0	91.37	269.30	7,288.7	148.9	-3,342.2	3,344.9	0.00	0.00	0.00
10,800.0	91.37	269.30	7,286.3	147.7	-3,442.1	3,444.8	0.00	0.00	0.00
10,900.0	91.37	269.30	7,283.9	146.5	-3,542.1	3,544.7	0.00	0.00	0.00
11,000.0	91.37	269.30	7,281.5	145.2	-3,642.1	3,644.6	0.00	0.00	0.00
11,100.0	91.37	269.30	7,279.1	144.0	-3,742.0	3,744.5	0.00	0.00	0.00
11,200.0	91.37	269.30	7,276.7	142.8	-3,842.0	3,844.4	0.00	0.00	0.00
11,300.0	91.37	269.30	7,274.3	141.5	-3,942.0	3,944.3	0.00	0.00	0.00
11,400.0	91.37	269.30	7,271.9	140.3	-4,041.9	4,044.2	0.00	0.00	0.00
11,500.0	91.37	269.30	7,269.5	139.1	-4,141.9	4,144.1	0.00	0.00	0.00
11,600.0	91.37	269.30	7,267.1	137.9	-4,241.8	4,244.0	0.00	0.00	0.00
11,700.0	91.37	269.30	7,264.7	136.6	-4,341.8	4,343.9	0.00	0.00	0.00
11,800.0	91.37	269.30	7,262.3	135.4	-4,441.8	4,443.8	0.00	0.00	0.00
11,856.3	91.37	269.30	7,261.0	134.7	-4,498.0	4,500.0	0.00	0.00	0.00
11,900.0	90.50	269.30	7,260.3	134.2	-4,541.7	4,543.7	2.00	-2.00	0.00
11,931.0	89.88	269.30	7,260.2	133.8	-4,572.8	4,574.7	2.00	-2.00	0.00
12,000.0	89.88	269.30	7,260.3	132.9	-4,641.7	4,643.6	0.00	0.00	0.00
12,100.0	89.88	269.30	7,260.6	131.7	-4,741.7	4,743.5	0.00	0.00	0.00
12,200.0	89.88	269.30	7,260.8	130.5	-4,841.7	4,843.5	0.00	0.00	0.00
12,300.0	89.88	269.30	7,261.0	129.3	-4,941.7	4,943.4	0.00	0.00	0.00
12,304.4	89.88	269.30	7,261.0	129.2	-4,946.1	4,947.8	0.00	0.00	0.00

Design Targets

Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
- Shape									
BHL PALMILLO 10 STA1 - plan hits target center - Point	0.00	0.00	7,261.0	129.2	-4,946.1	611,370.20	590,851.50	32° 40' 50.140 N	104° 10' 20.670 W
T4 PALMILLO 10 STATE - plan hits target center - Point	0.00	0.00	7,261.0	134.7	-4,498.0	611,375.71	591,299.58	32° 40' 50.188 N	104° 10' 15.428 W
T3 PALMILLO 10 STATE - plan hits target center - Point	0.00	0.00	7,298.0	153.2	-2,997.0	611,394.16	592,800.58	32° 40' 50.348 N	104° 9' 57.865 W
T2 PALMILLO 10 STATE - plan hits target center - Point	0.00	0.00	7,375.0	171.6	-1,496.0	611,412.62	594,301.57	32° 40' 50.506 N	104° 9' 40.302 W