

**NM OIL CONSERVATION
ARTESIA DISTRICT**

MAR 12 2019

RECEIVED

PERMIAN

NW DISTRICT - NM EZ NAD 83

PALMILLO 10 STATE COM PAD (233,334)

PALMILLO 10 STATE 233H

PALMILLO 10 STATE 233H

Plan: Design #1

Standard Planning Report

26 February, 2019

Planning Report

Database:	PEDM	Local Co-ordinate Reference:	Well PALMILLO 10 STATE 233H
Company:	PERMIAN	TVD Reference:	WELL @ 3519.0ft (Original Well Elev)
Project:	NW DISTRICT - NM EZ NAD 83	MD Reference:	WELL @ 3519.0ft (Original Well Elev)
Site:	PALMILLO 10 STATE COM PAD (233,334)	North Reference:	Grid
Well:	PALMILLO 10 STATE 233H	Survey Calculation Method:	Minimum Curvature
Wellbore:	PALMILLO 10 STATE 233H		
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 (233,334)		
Site Position:		Northing:	610,131.30 ft
From:	Map	Easting:	595,801.90 ft
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in
		Grid Convergence:	0.10 °

Well	PALMILLO 10 STATE 233H		
Well Position	+N/-S	0.0 ft	Northing: 610,131.30 ft
	+E/-W	0.0 ft	Easting: 595,801.90 ft
Position Uncertainty	0.0 ft	Wellhead Elevation:	Ground Level: 3,493.0 ft

Wellbore	PALMILLO 10 STATE 233H		
Magnetics	Model Name	Sample Date	Declination (°)
	HDGM_FILE	12/20/2018	7.30
			Dip Angle (°)
			60.45
			Field Strength (nT)
			48,004.40000000

Design	Design #1		
Audit Notes:			
Version:	Phase:	PLAN	Tie On Depth: 0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(ft)	(ft)	(ft)
	0.0	0.0	0.0
			Direction (°)
			269.06

Plan Survey Tool Program	Date 2/25/2019		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name
1	0.0	12,293.6	Design #1 (PALMILLO 10 STATE
			MWD+HDGM (MWD)
			OWSG MWD + HDGM
			Remarks

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Well:	PALMILLO 10 STATE 233H	Survey Calculation Method:	Minimum Curvature
Wellbore:	PALMILLO 10 STATE 233H		
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	
1,213.3	3.20	98.05	1,213.2	-0.8	5.9	1.50	1.50	0.00	98.05	
3,353.8	3.20	98.05	3,350.3	-17.6	124.2	0.00	0.00	0.00	0.00	
3,567.1	0.00	0.00	3,563.6	-18.4	130.1	1.50	-1.50	0.00	180.00	
6,939.1	0.00	0.00	6,935.5	-18.4	130.1	0.00	0.00	0.00	0.00	
7,717.1	93.37	269.30	7,412.1	-24.6	-375.4	12.00	12.00	-11.66	269.30	
8,843.3	93.37	269.30	7,346.0	-38.4	-1,499.6	0.00	0.00	0.00	0.00	T2 PALMILLO 10 STA
8,965.1	90.93	269.30	7,341.4	-39.9	-1,621.2	2.00	-2.00	0.00	-180.00	
10,343.6	90.93	269.30	7,319.0	-56.8	-2,999.5	0.00	0.00	0.00	0.00	T3 PALMILLO 10 STA
10,369.8	91.46	269.30	7,318.5	-57.2	-3,025.6	2.00	2.00	0.00	0.00	
11,844.1	91.46	269.30	7,281.0	-75.3	-4,499.4	0.00	0.00	0.00	0.00	T4 PALMILLO 10 STA
11,924.0	89.86	269.30	7,280.1	-76.3	-4,579.2	2.00	-2.00	0.00	179.98	
12,293.8	89.86	269.30	7,281.0	-80.8	-4,949.0	0.00	0.00	0.00	0.00	BHL PALMILLO 10 S

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Site:	PALMILLO 10 STATE COM PAD (233,334)	North Reference:	Grid
Well:	PALMILLO 10 STATE 233H	Survey Calculation Method:	Minimum Curvature
Wellbore:	PALMILLO 10 STATE 233H		
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	98.05	1,100.0	-0.2	1.3	-1.3	1.50	1.50	0.00
1,200.0	3.00	98.05	1,199.9	-0.7	5.2	-5.2	1.50	1.50	0.00
1,213.3	3.20	98.05	1,213.2	-0.8	5.9	-5.9	1.50	1.50	0.00
1,300.0	3.20	98.05	1,299.8	-1.5	10.7	-10.7	0.00	0.00	0.00
1,400.0	3.20	98.05	1,399.6	-2.3	16.2	-16.2	0.00	0.00	0.00
1,500.0	3.20	98.05	1,499.4	-3.1	21.7	-21.7	0.00	0.00	0.00
1,600.0	3.20	98.05	1,599.3	-3.9	27.3	-27.2	0.00	0.00	0.00
1,700.0	3.20	98.05	1,699.1	-4.6	32.8	-32.7	0.00	0.00	0.00
1,800.0	3.20	98.05	1,799.0	-5.4	38.3	-38.2	0.00	0.00	0.00
1,900.0	3.20	98.05	1,898.8	-6.2	43.9	-43.7	0.00	0.00	0.00
2,000.0	3.20	98.05	1,998.7	-7.0	49.4	-49.3	0.00	0.00	0.00
2,100.0	3.20	98.05	2,098.5	-7.8	54.9	-54.8	0.00	0.00	0.00
2,200.0	3.20	98.05	2,198.4	-8.5	60.4	-60.3	0.00	0.00	0.00
2,300.0	3.20	98.05	2,298.2	-9.3	66.0	-65.8	0.00	0.00	0.00
2,400.0	3.20	98.05	2,398.0	-10.1	71.5	-71.3	0.00	0.00	0.00
2,500.0	3.20	98.05	2,497.9	-10.9	77.0	-76.8	0.00	0.00	0.00
2,600.0	3.20	98.05	2,597.7	-11.7	82.5	-82.3	0.00	0.00	0.00
2,700.0	3.20	98.05	2,697.6	-12.5	88.1	-87.9	0.00	0.00	0.00
2,800.0	3.20	98.05	2,797.4	-13.2	93.6	-93.4	0.00	0.00	0.00
2,900.0	3.20	98.05	2,897.3	-14.0	99.1	-98.9	0.00	0.00	0.00
3,000.0	3.20	98.05	2,997.1	-14.8	104.6	-104.4	0.00	0.00	0.00
3,100.0	3.20	98.05	3,096.9	-15.6	110.2	-109.9	0.00	0.00	0.00
3,200.0	3.20	98.05	3,196.8	-16.4	115.7	-115.4	0.00	0.00	0.00
3,300.0	3.20	98.05	3,296.6	-17.1	121.2	-120.9	0.00	0.00	0.00
3,353.8	3.20	98.05	3,350.3	-17.6	124.2	-123.9	0.00	0.00	0.00
3,400.0	2.51	98.05	3,396.5	-17.9	126.5	-126.2	1.50	-1.50	0.00
3,500.0	1.01	98.05	3,496.4	-18.3	129.5	-129.2	1.50	-1.50	0.00
3,567.1	0.00	0.00	3,563.6	-18.4	130.1	-129.8	1.50	-1.50	0.00
3,600.0	0.00	0.00	3,596.4	-18.4	130.1	-129.8	0.00	0.00	0.00
3,700.0	0.00	0.00	3,696.4	-18.4	130.1	-129.8	0.00	0.00	0.00
3,800.0	0.00	0.00	3,796.4	-18.4	130.1	-129.8	0.00	0.00	0.00
3,900.0	0.00	0.00	3,896.4	-18.4	130.1	-129.8	0.00	0.00	0.00
4,000.0	0.00	0.00	3,996.4	-18.4	130.1	-129.8	0.00	0.00	0.00
4,100.0	0.00	0.00	4,096.4	-18.4	130.1	-129.8	0.00	0.00	0.00
4,200.0	0.00	0.00	4,196.4	-18.4	130.1	-129.8	0.00	0.00	0.00
4,300.0	0.00	0.00	4,296.4	-18.4	130.1	-129.8	0.00	0.00	0.00
4,400.0	0.00	0.00	4,396.4	-18.4	130.1	-129.8	0.00	0.00	0.00
4,500.0	0.00	0.00	4,496.4	-18.4	130.1	-129.8	0.00	0.00	0.00
4,600.0	0.00	0.00	4,596.4	-18.4	130.1	-129.8	0.00	0.00	0.00
4,700.0	0.00	0.00	4,696.4	-18.4	130.1	-129.8	0.00	0.00	0.00
4,800.0	0.00	0.00	4,796.4	-18.4	130.1	-129.8	0.00	0.00	0.00
4,900.0	0.00	0.00	4,896.4	-18.4	130.1	-129.8	0.00	0.00	0.00
5,000.0	0.00	0.00	4,996.4	-18.4	130.1	-129.8	0.00	0.00	0.00

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Wellbore:	PALMILLO 10 STATE 233H		
Design:	Design #1		

Planned Survey

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5,100.0	0.00	0.00	5,096.4	-18.4	130.1	-129.8	0.00	0.00	0.00
5,200.0	0.00	0.00	5,196.4	-18.4	130.1	-129.8	0.00	0.00	0.00
5,300.0	0.00	0.00	5,296.4	-18.4	130.1	-129.8	0.00	0.00	0.00
5,400.0	0.00	0.00	5,396.4	-18.4	130.1	-129.8	0.00	0.00	0.00
5,500.0	0.00	0.00	5,496.4	-18.4	130.1	-129.8	0.00	0.00	0.00
5,600.0	0.00	0.00	5,596.4	-18.4	130.1	-129.8	0.00	0.00	0.00
5,700.0	0.00	0.00	5,696.4	-18.4	130.1	-129.8	0.00	0.00	0.00
5,800.0	0.00	0.00	5,796.4	-18.4	130.1	-129.8	0.00	0.00	0.00
5,900.0	0.00	0.00	5,896.4	-18.4	130.1	-129.8	0.00	0.00	0.00
6,000.0	0.00	0.00	5,996.4	-18.4	130.1	-129.8	0.00	0.00	0.00
6,100.0	0.00	0.00	6,096.4	-18.4	130.1	-129.8	0.00	0.00	0.00
6,200.0	0.00	0.00	6,196.4	-18.4	130.1	-129.8	0.00	0.00	0.00
6,300.0	0.00	0.00	6,296.4	-18.4	130.1	-129.8	0.00	0.00	0.00
6,400.0	0.00	0.00	6,396.4	-18.4	130.1	-129.8	0.00	0.00	0.00
6,500.0	0.00	0.00	6,496.4	-18.4	130.1	-129.8	0.00	0.00	0.00
6,600.0	0.00	0.00	6,596.4	-18.4	130.1	-129.8	0.00	0.00	0.00
6,700.0	0.00	0.00	6,696.4	-18.4	130.1	-129.8	0.00	0.00	0.00
6,800.0	0.00	0.00	6,796.4	-18.4	130.1	-129.8	0.00	0.00	0.00
6,900.0	0.00	0.00	6,896.4	-18.4	130.1	-129.8	0.00	0.00	0.00
6,939.1	0.00	0.00	6,935.5	-18.4	130.1	-129.8	0.00	0.00	0.00
7,000.0	7.31	269.30	6,996.3	-18.4	126.2	-125.9	12.00	12.00	0.00
7,100.0	19.31	269.30	7,093.4	-18.7	103.2	-102.9	12.00	12.00	0.00
7,200.0	31.31	269.30	7,183.6	-19.3	60.6	-60.2	12.00	12.00	0.00
7,300.0	43.31	269.30	7,263.0	-20.0	0.1	0.3	12.00	12.00	0.00
7,400.0	55.31	269.30	7,328.1	-20.9	-75.6	76.0	12.00	12.00	0.00
7,500.0	67.31	269.30	7,376.0	-22.0	-163.2	163.5	12.00	12.00	0.00
7,600.0	79.31	269.30	7,404.7	-23.2	-258.8	259.1	12.00	12.00	0.00
7,700.0	91.31	269.30	7,412.8	-24.4	-358.3	358.6	12.00	12.00	0.00
7,717.1	93.37	269.30	7,412.1	-24.6	-375.4	375.7	12.00	12.00	0.00
7,800.0	93.37	269.30	7,407.3	-25.6	-458.1	458.5	0.00	0.00	0.00
7,900.0	93.37	269.30	7,401.4	-26.9	-557.9	558.3	0.00	0.00	0.00
8,000.0	93.37	269.30	7,395.5	-28.1	-657.7	658.1	0.00	0.00	0.00
8,100.0	93.37	269.30	7,389.7	-29.3	-757.6	757.9	0.00	0.00	0.00
8,200.0	93.37	269.30	7,383.8	-30.5	-857.4	857.8	0.00	0.00	0.00
8,300.0	93.37	269.30	7,377.9	-31.8	-957.2	957.6	0.00	0.00	0.00
8,400.0	93.37	269.30	7,372.0	-33.0	-1,057.0	1,057.4	0.00	0.00	0.00
8,500.0	93.37	269.30	7,366.2	-34.2	-1,156.8	1,157.2	0.00	0.00	0.00
8,600.0	93.37	269.30	7,360.3	-35.4	-1,256.7	1,257.1	0.00	0.00	0.00
8,700.0	93.37	269.30	7,354.4	-36.7	-1,356.5	1,356.9	0.00	0.00	0.00
8,800.0	93.37	269.30	7,348.5	-37.9	-1,456.3	1,456.7	0.00	0.00	0.00
8,843.3	93.37	269.30	7,346.0	-38.4	-1,499.6	1,500.0	0.00	0.00	0.00
8,900.0	92.23	269.30	7,343.2	-39.1	-1,556.1	1,556.6	2.00	-2.00	0.00
8,965.1	90.93	269.30	7,341.4	-39.9	-1,621.2	1,621.6	2.00	-2.00	0.00
9,000.0	90.93	269.30	7,340.9	-40.3	-1,656.1	1,656.5	0.00	0.00	0.00
9,100.0	90.93	269.30	7,339.2	-41.6	-1,756.1	1,756.5	0.00	0.00	0.00
9,200.0	90.93	269.30	7,337.6	-42.8	-1,856.1	1,856.5	0.00	0.00	0.00
9,300.0	90.93	269.30	7,336.0	-44.0	-1,956.0	1,956.5	0.00	0.00	0.00
9,400.0	90.93	269.30	7,334.4	-45.3	-2,056.0	2,056.5	0.00	0.00	0.00
9,500.0	90.93	269.30	7,332.7	-46.5	-2,156.0	2,156.5	0.00	0.00	0.00
9,600.0	90.93	269.30	7,331.1	-47.7	-2,256.0	2,256.5	0.00	0.00	0.00
9,700.0	90.93	269.30	7,329.5	-48.9	-2,356.0	2,356.5	0.00	0.00	0.00
9,800.0	90.93	269.30	7,327.8	-50.2	-2,455.9	2,456.4	0.00	0.00	0.00
9,900.0	90.93	269.30	7,326.2	-51.4	-2,555.9	2,556.4	0.00	0.00	0.00
10,000.0	90.93	269.30	7,324.6	-52.6	-2,655.9	2,656.4	0.00	0.00	0.00

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Wellbore:	PALMILLO 10 STATE 233H		
Design:	Design #1		

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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)
10,100.0	90.93	269.30	7,323.0	-53.9	-2,755.9	2,756.4	0.00	0.00	0.00
10,200.0	90.93	269.30	7,321.3	-55.1	-2,855.9	2,856.4	0.00	0.00	0.00
10,300.0	90.93	269.30	7,319.7	-56.3	-2,955.8	2,956.4	0.00	0.00	0.00
10,343.6	90.93	269.30	7,319.0	-56.8	-2,999.5	3,000.0	0.00	0.00	0.00
10,369.8	91.46	269.30	7,318.5	-57.2	-3,025.6	3,026.2	2.00	2.00	0.00
10,400.0	91.46	269.30	7,317.7	-57.5	-3,055.8	3,056.3	0.00	0.00	0.00
10,500.0	91.46	269.30	7,315.1	-58.8	-3,155.8	3,156.3	0.00	0.00	0.00
10,600.0	91.46	269.30	7,312.6	-60.0	-3,255.7	3,256.3	0.00	0.00	0.00
10,700.0	91.46	269.30	7,310.1	-61.2	-3,355.7	3,356.2	0.00	0.00	0.00
10,800.0	91.46	269.30	7,307.5	-62.5	-3,455.7	3,456.2	0.00	0.00	0.00
10,900.0	91.46	269.30	7,305.0	-63.7	-3,555.6	3,556.2	0.00	0.00	0.00
11,000.0	91.46	269.30	7,302.4	-64.9	-3,655.6	3,656.1	0.00	0.00	0.00
11,100.0	91.46	269.30	7,299.9	-66.1	-3,755.5	3,756.1	0.00	0.00	0.00
11,200.0	91.46	269.30	7,297.4	-67.4	-3,855.5	3,856.1	0.00	0.00	0.00
11,300.0	91.46	269.30	7,294.8	-68.6	-3,955.5	3,956.0	0.00	0.00	0.00
11,400.0	91.46	269.30	7,292.3	-69.8	-4,055.4	4,056.0	0.00	0.00	0.00
11,500.0	91.46	269.30	7,289.7	-71.1	-4,155.4	4,156.0	0.00	0.00	0.00
11,600.0	91.46	269.30	7,287.2	-72.3	-4,255.3	4,255.9	0.00	0.00	0.00
11,700.0	91.46	269.30	7,284.7	-73.5	-4,355.3	4,355.9	0.00	0.00	0.00
11,800.0	91.46	269.30	7,282.1	-74.7	-4,455.3	4,455.9	0.00	0.00	0.00
11,844.1	91.46	269.30	7,281.0	-75.3	-4,499.4	4,500.0	0.00	0.00	0.00
11,900.0	90.34	269.30	7,280.1	-76.0	-4,555.2	4,555.9	2.00	-2.00	0.00
11,924.0	89.86	269.30	7,280.1	-76.3	-4,579.2	4,579.9	2.00	-2.00	0.00
12,000.0	89.86	269.30	7,280.3	-77.2	-4,655.2	4,655.9	0.00	0.00	0.00
12,100.0	89.86	269.30	7,280.5	-78.4	-4,755.2	4,755.9	0.00	0.00	0.00
12,200.0	89.86	269.30	7,280.8	-79.6	-4,855.2	4,855.9	0.00	0.00	0.00
12,293.8	89.86	269.30	7,281.0	-80.8	-4,949.0	4,949.7	0.00	0.00	0.00

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
BHL PALMILLO 10 STA1 - plan hits target center - Point	0.00	0.00	7,281.0	-80.8	-4,949.0	610,050.50	590,852.90	32° 40' 37.081 N	104° 10' 20.677 W
T4 PALMILLO 10 STATE - plan hits target center - Point	0.00	0.00	7,281.0	-75.3	-4,499.4	610,056.02	591,302.53	32° 40' 37.129 N	104° 10' 15.417 W
T3 PALMILLO 10 STATE - plan hits target center - Point	0.00	0.00	7,319.0	-56.8	-2,999.5	610,074.45	592,802.43	32° 40' 37.289 N	104° 9' 57.867 W
T2 PALMILLO 10 STATE - plan hits target center - Point	0.00	0.00	7,346.0	-38.4	-1,499.6	610,092.88	594,302.33	32° 40' 37.447 N	104° 9' 40.318 W