



Marathon Oil Permian LLC

Eddy County, New Mexico (NAD 27)

Sec 18, T23S, R28E

Nemesis 7 WXY Fee #3H

Wellbore #1

Plan: Design #1

QES Well Planning Report

06 February, 2020



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Nemesis 7 WXY Fee #3H
Company:	Marathon Oil Permian LLC	TVD Reference:	WELL @ 3081.0usft (PD #101)
Project:	Eddy County, New Mexico (NAD 27)	MD Reference:	WELL @ 3081.0usft (PD #101)
Site:	Sec 18, T23S, R28E	North Reference:	Grid
Well:	Nemesis 7 WXY Fee #3H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Project	Eddy County, New Mexico (NAD 27)		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site		Sec 18, T23S, R28E			
Site Position:		Northing:	473,257.71 usft	Latitude:	32° 18' 3.317 N
From:	Map	Easting:	565,950.25 usft	Longitude:	104° 7' 11.594 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.11

Well	Nemesis 7 WXY Fee #3H					
Well Position	+N/-S	0.0 usft	Northing:	473,257.71 usft	Latitude:	32° 18' 3.317 N
	+E/-W	0.0 usft	Easting:	565,950.25 usft	Longitude:	104° 7' 11.594 W
Position Uncertainty		0.0 usft	Wellhead Elevation:		Ground Level:	3,056.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM2020	2/6/2020	7.08	60.02	47,827.70000000

Design	Design #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	354.28

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,667.3	13.35	223.43	2,661.3	-56.2	-53.2	2.00	2.00	0.00	223.43	
7,988.4	13.35	223.43	7,838.7	-948.2	-897.6	0.00	0.00	0.00	0.00	
8,655.8	0.00	0.00	8,500.0	-1,004.4	-950.8	2.00	-2.00	0.00	180.00	KOP Nemesis 7 W)
8,982.8	0.00	0.00	8,827.0	-1,004.4	-950.8	0.00	0.00	0.00	0.00	
9,882.7	90.00	359.52	9,400.0	-431.5	-955.6	10.00	10.00	-0.05	359.52	
14,504.9	90.00	359.52	9,400.0	4,190.5	-994.4	0.00	0.00	0.00	0.00	PI Nemesis 7 WXY
14,555.8	90.00	0.54	9,400.0	4,241.4	-994.4	2.00	0.00	2.00	89.97	
19,752.5	90.00	0.54	9,400.0	9,437.9	-945.6	0.00	0.00	0.00	0.00	PBHL Nemesis 7 W

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Site:	Sec 18, T23S, R28E	North Reference:	Grid
Well:	Nemesis 7 WXY Fee #3H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
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
Build 2°/100'									
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	2.00	223.43	2,100.0	-1.3	-1.2	-1.1	2.00	2.00	0.00
2,200.0	4.00	223.43	2,199.8	-5.1	-4.8	-4.6	2.00	2.00	0.00
2,300.0	6.00	223.43	2,299.5	-11.4	-10.8	-10.3	2.00	2.00	0.00
2,400.0	8.00	223.43	2,398.7	-20.2	-19.2	-18.2	2.00	2.00	0.00
2,500.0	10.00	223.43	2,497.5	-31.6	-29.9	-28.5	2.00	2.00	0.00
2,600.0	12.00	223.43	2,595.6	-45.5	-43.0	-40.9	2.00	2.00	0.00
EOB @ 13.35° Inc / 223.43° Azm									
2,667.3	13.35	223.43	2,661.3	-56.2	-53.2	-50.6	2.00	2.00	0.00
2,700.0	13.35	223.43	2,693.1	-61.7	-58.4	-55.5	0.00	0.00	0.00
2,800.0	13.35	223.43	2,790.4	-78.4	-74.2	-70.6	0.00	0.00	0.00
2,900.0	13.35	223.43	2,887.7	-95.2	-90.1	-85.7	0.00	0.00	0.00
3,000.0	13.35	223.43	2,985.0	-112.0	-106.0	-100.8	0.00	0.00	0.00
3,100.0	13.35	223.43	3,082.3	-128.7	-121.9	-115.9	0.00	0.00	0.00
3,200.0	13.35	223.43	3,179.6	-145.5	-137.7	-131.0	0.00	0.00	0.00
3,300.0	13.35	223.43	3,276.9	-162.2	-153.6	-146.1	0.00	0.00	0.00
3,400.0	13.35	223.43	3,374.2	-179.0	-169.5	-161.2	0.00	0.00	0.00
3,500.0	13.35	223.43	3,471.5	-195.8	-185.3	-176.3	0.00	0.00	0.00
3,600.0	13.35	223.43	3,568.8	-212.5	-201.2	-191.4	0.00	0.00	0.00
3,700.0	13.35	223.43	3,666.1	-229.3	-217.1	-206.5	0.00	0.00	0.00
3,800.0	13.35	223.43	3,763.4	-246.1	-232.9	-221.6	0.00	0.00	0.00
3,900.0	13.35	223.43	3,860.7	-262.8	-248.8	-236.7	0.00	0.00	0.00
4,000.0	13.35	223.43	3,958.0	-279.6	-264.7	-251.8	0.00	0.00	0.00
4,100.0	13.35	223.43	4,055.3	-296.4	-280.6	-266.9	0.00	0.00	0.00
4,200.0	13.35	223.43	4,152.6	-313.1	-296.4	-282.0	0.00	0.00	0.00
4,300.0	13.35	223.43	4,249.9	-329.9	-312.3	-297.1	0.00	0.00	0.00
4,400.0	13.35	223.43	4,347.2	-346.6	-328.2	-312.2	0.00	0.00	0.00
4,500.0	13.35	223.43	4,444.5	-363.4	-344.0	-327.3	0.00	0.00	0.00
4,600.0	13.35	223.43	4,541.8	-380.2	-359.9	-342.4	0.00	0.00	0.00
4,700.0	13.35	223.43	4,639.1	-396.9	-375.8	-357.5	0.00	0.00	0.00
4,800.0	13.35	223.43	4,736.4	-413.7	-391.6	-372.6	0.00	0.00	0.00
4,900.0	13.35	223.43	4,833.7	-430.5	-407.5	-387.7	0.00	0.00	0.00
5,000.0	13.35	223.43	4,931.0	-447.2	-423.4	-402.8	0.00	0.00	0.00

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Wellbore:	Wellbore #1		
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Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
5,100.0	13.35	223.43	5,028.3	-464.0	-439.3	-417.9	0.00	0.00	0.00	
5,200.0	13.35	223.43	5,125.6	-480.8	-455.1	-433.0	0.00	0.00	0.00	
5,300.0	13.35	223.43	5,222.9	-497.5	-471.0	-448.1	0.00	0.00	0.00	
5,400.0	13.35	223.43	5,320.2	-514.3	-486.9	-463.2	0.00	0.00	0.00	
5,500.0	13.35	223.43	5,417.5	-531.0	-502.7	-478.3	0.00	0.00	0.00	
5,600.0	13.35	223.43	5,514.8	-547.8	-518.6	-493.4	0.00	0.00	0.00	
5,700.0	13.35	223.43	5,612.1	-564.6	-534.5	-508.5	0.00	0.00	0.00	
5,800.0	13.35	223.43	5,709.4	-581.3	-550.3	-523.6	0.00	0.00	0.00	
5,900.0	13.35	223.43	5,806.7	-598.1	-566.2	-538.7	0.00	0.00	0.00	
6,000.0	13.35	223.43	5,904.0	-614.9	-582.1	-553.8	0.00	0.00	0.00	
6,100.0	13.35	223.43	6,001.3	-631.6	-597.9	-568.9	0.00	0.00	0.00	
6,200.0	13.35	223.43	6,098.6	-648.4	-613.8	-584.0	0.00	0.00	0.00	
6,300.0	13.35	223.43	6,195.9	-665.2	-629.7	-599.1	0.00	0.00	0.00	
6,400.0	13.35	223.43	6,293.2	-681.9	-645.6	-614.2	0.00	0.00	0.00	
6,500.0	13.35	223.43	6,390.5	-698.7	-661.4	-629.3	0.00	0.00	0.00	
6,600.0	13.35	223.43	6,487.8	-715.5	-677.3	-644.4	0.00	0.00	0.00	
6,700.0	13.35	223.43	6,585.1	-732.2	-693.2	-659.5	0.00	0.00	0.00	
6,800.0	13.35	223.43	6,682.4	-749.0	-709.0	-674.6	0.00	0.00	0.00	
6,900.0	13.35	223.43	6,779.7	-765.7	-724.9	-689.7	0.00	0.00	0.00	
7,000.0	13.35	223.43	6,877.0	-782.5	-740.8	-704.8	0.00	0.00	0.00	
7,100.0	13.35	223.43	6,974.3	-799.3	-756.6	-719.9	0.00	0.00	0.00	
7,200.0	13.35	223.43	7,071.6	-816.0	-772.5	-735.0	0.00	0.00	0.00	
7,300.0	13.35	223.43	7,168.9	-832.8	-788.4	-750.1	0.00	0.00	0.00	
7,400.0	13.35	223.43	7,266.2	-849.6	-804.3	-765.1	0.00	0.00	0.00	
7,500.0	13.35	223.43	7,363.5	-866.3	-820.1	-780.2	0.00	0.00	0.00	
7,600.0	13.35	223.43	7,460.8	-883.1	-836.0	-795.3	0.00	0.00	0.00	
7,700.0	13.35	223.43	7,558.1	-899.9	-851.9	-810.4	0.00	0.00	0.00	
7,800.0	13.35	223.43	7,655.4	-916.6	-867.7	-825.5	0.00	0.00	0.00	
7,900.0	13.35	223.43	7,752.7	-933.4	-883.6	-840.6	0.00	0.00	0.00	
Drop 2°/100'										
7,988.4	13.35	223.43	7,838.7	-948.2	-897.6	-854.0	0.00	0.00	0.00	
8,000.0	13.12	223.43	7,850.0	-950.1	-899.5	-855.7	2.00	-2.00	0.00	
8,100.0	11.12	223.43	7,947.7	-965.4	-913.9	-869.4	2.00	-2.00	0.00	
8,200.0	9.12	223.43	8,046.2	-978.1	-926.0	-880.9	2.00	-2.00	0.00	
8,300.0	7.12	223.43	8,145.2	-988.4	-935.7	-890.2	2.00	-2.00	0.00	
8,400.0	5.12	223.43	8,244.6	-996.1	-943.0	-897.1	2.00	-2.00	0.00	
8,500.0	3.12	223.43	8,344.3	-1,001.3	-947.9	-901.8	2.00	-2.00	0.00	
8,600.0	1.12	223.43	8,444.3	-1,004.0	-950.5	-904.2	2.00	-2.00	0.00	
EOD @ Vert										
8,655.8	0.00	0.00	8,500.0	-1,004.4	-950.8	-904.6	2.00	-2.00	0.00	
8,700.0	0.00	0.00	8,544.2	-1,004.4	-950.8	-904.6	0.00	0.00	0.00	
8,800.0	0.00	0.00	8,644.2	-1,004.4	-950.8	-904.6	0.00	0.00	0.00	
8,900.0	0.00	0.00	8,744.2	-1,004.4	-950.8	-904.6	0.00	0.00	0.00	
Build 10°/100'										
8,982.8	0.00	0.00	8,827.0	-1,004.4	-950.8	-904.6	0.00	0.00	0.00	
9,000.0	1.72	359.52	8,844.2	-1,004.1	-950.8	-904.3	10.00	10.00	0.00	
9,050.0	6.72	359.52	8,894.1	-1,000.4	-950.9	-900.7	10.00	10.00	0.00	
9,100.0	11.72	359.52	8,943.4	-992.4	-950.9	-892.7	10.00	10.00	0.00	
9,150.0	16.72	359.52	8,991.9	-980.2	-951.0	-880.5	10.00	10.00	0.00	
9,200.0	21.72	359.52	9,039.1	-963.7	-951.2	-864.1	10.00	10.00	0.00	
9,250.0	26.72	359.52	9,084.7	-943.2	-951.3	-843.6	10.00	10.00	0.00	
9,300.0	31.72	359.52	9,128.3	-918.8	-951.5	-819.3	10.00	10.00	0.00	
9,350.0	36.72	359.52	9,169.6	-890.7	-951.8	-791.3	10.00	10.00	0.00	

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Well:	Nemesis 7 WXY Fee #3H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,400.0	41.72	359.52	9,208.3	-859.1	-952.0	-759.9	10.00	10.00	0.00
9,450.0	46.72	359.52	9,244.2	-824.2	-952.3	-725.2	10.00	10.00	0.00
9,500.0	51.72	359.52	9,276.8	-786.4	-952.7	-687.5	10.00	10.00	0.00
9,550.0	56.72	359.52	9,306.0	-745.8	-953.0	-647.1	10.00	10.00	0.00
9,600.0	61.72	359.52	9,331.6	-702.9	-953.4	-604.3	10.00	10.00	0.00
9,650.0	66.72	359.52	9,353.3	-657.8	-953.7	-559.5	10.00	10.00	0.00
9,700.0	71.72	359.52	9,371.1	-611.1	-954.1	-513.0	10.00	10.00	0.00
9,750.0	76.72	359.52	9,384.6	-563.0	-954.5	-465.1	10.00	10.00	0.00
9,800.0	81.72	359.52	9,394.0	-513.9	-954.9	-416.2	10.00	10.00	0.00
9,850.0	86.72	359.52	9,399.0	-464.2	-955.4	-366.6	10.00	10.00	0.00
EOB @ 90° Inc / 359.52° Azm									
9,882.7	90.00	359.52	9,400.0	-431.5	-955.6	-334.0	10.00	10.00	0.00
9,900.0	90.00	359.52	9,400.0	-414.2	-955.8	-316.9	0.00	0.00	0.00
10,000.0	90.00	359.52	9,400.0	-314.2	-956.6	-217.3	0.00	0.00	0.00
10,100.0	90.00	359.52	9,400.0	-214.2	-957.5	-117.7	0.00	0.00	0.00
10,200.0	90.00	359.52	9,400.0	-114.2	-958.3	-18.1	0.00	0.00	0.00
10,300.0	90.00	359.52	9,400.0	-14.2	-959.1	81.5	0.00	0.00	0.00
10,400.0	90.00	359.52	9,400.0	85.8	-960.0	181.1	0.00	0.00	0.00
10,500.0	90.00	359.52	9,400.0	185.8	-960.8	280.6	0.00	0.00	0.00
10,600.0	90.00	359.52	9,400.0	285.8	-961.7	380.2	0.00	0.00	0.00
10,700.0	90.00	359.52	9,400.0	385.8	-962.5	479.8	0.00	0.00	0.00
10,800.0	90.00	359.52	9,400.0	485.8	-963.3	579.4	0.00	0.00	0.00
10,900.0	90.00	359.52	9,400.0	585.8	-964.2	679.0	0.00	0.00	0.00
11,000.0	90.00	359.52	9,400.0	685.8	-965.0	778.5	0.00	0.00	0.00
11,100.0	90.00	359.52	9,400.0	785.8	-965.8	878.1	0.00	0.00	0.00
11,200.0	90.00	359.52	9,400.0	885.8	-966.7	977.7	0.00	0.00	0.00
11,300.0	90.00	359.52	9,400.0	985.7	-967.5	1,077.3	0.00	0.00	0.00
11,400.0	90.00	359.52	9,400.0	1,085.7	-968.4	1,176.9	0.00	0.00	0.00
11,500.0	90.00	359.52	9,400.0	1,185.7	-969.2	1,276.5	0.00	0.00	0.00
11,600.0	90.00	359.52	9,400.0	1,285.7	-970.0	1,376.0	0.00	0.00	0.00
11,700.0	90.00	359.52	9,400.0	1,385.7	-970.9	1,475.6	0.00	0.00	0.00
11,800.0	90.00	359.52	9,400.0	1,485.7	-971.7	1,575.2	0.00	0.00	0.00
11,900.0	90.00	359.52	9,400.0	1,585.7	-972.6	1,674.8	0.00	0.00	0.00
12,000.0	90.00	359.52	9,400.0	1,685.7	-973.4	1,774.4	0.00	0.00	0.00
12,100.0	90.00	359.52	9,400.0	1,785.7	-974.2	1,873.9	0.00	0.00	0.00
12,200.0	90.00	359.52	9,400.0	1,885.7	-975.1	1,973.5	0.00	0.00	0.00
12,300.0	90.00	359.52	9,400.0	1,985.7	-975.9	2,073.1	0.00	0.00	0.00
12,400.0	90.00	359.52	9,400.0	2,085.7	-976.7	2,172.7	0.00	0.00	0.00
12,500.0	90.00	359.52	9,400.0	2,185.7	-977.6	2,272.3	0.00	0.00	0.00
12,600.0	90.00	359.52	9,400.0	2,285.7	-978.4	2,371.9	0.00	0.00	0.00
12,700.0	90.00	359.52	9,400.0	2,385.7	-979.3	2,471.4	0.00	0.00	0.00
12,800.0	90.00	359.52	9,400.0	2,485.7	-980.1	2,571.0	0.00	0.00	0.00
12,900.0	90.00	359.52	9,400.0	2,585.7	-980.9	2,670.6	0.00	0.00	0.00
13,000.0	90.00	359.52	9,400.0	2,685.7	-981.8	2,770.2	0.00	0.00	0.00
13,100.0	90.00	359.52	9,400.0	2,785.7	-982.6	2,869.8	0.00	0.00	0.00
13,200.0	90.00	359.52	9,400.0	2,885.7	-983.5	2,969.3	0.00	0.00	0.00
13,300.0	90.00	359.52	9,400.0	2,985.7	-984.3	3,068.9	0.00	0.00	0.00
13,400.0	90.00	359.52	9,400.0	3,085.7	-985.1	3,168.5	0.00	0.00	0.00
13,500.0	90.00	359.52	9,400.0	3,185.7	-986.0	3,268.1	0.00	0.00	0.00
13,600.0	90.00	359.52	9,400.0	3,285.7	-986.8	3,367.7	0.00	0.00	0.00
13,700.0	90.00	359.52	9,400.0	3,385.7	-987.7	3,467.3	0.00	0.00	0.00
13,800.0	90.00	359.52	9,400.0	3,485.7	-988.5	3,566.8	0.00	0.00	0.00
13,900.0	90.00	359.52	9,400.0	3,585.7	-989.3	3,666.4	0.00	0.00	0.00
14,000.0	90.00	359.52	9,400.0	3,685.7	-990.2	3,766.0	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Nemesis 7 WXY Fee #3H
Company:	Marathon Oil Permian LLC	TVD Reference:	WELL @ 3081.0usft (PD #101)
Project:	Eddy County, New Mexico (NAD 27)	MD Reference:	WELL @ 3081.0usft (PD #101)
Site:	Sec 18, T23S, R28E	North Reference:	Grid
Well:	Nemesis 7 WXY Fee #3H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
14,100.0	90.00	359.52	9,400.0	3,785.6	-991.0	3,865.6	0.00	0.00	0.00
14,200.0	90.00	359.52	9,400.0	3,885.6	-991.8	3,965.2	0.00	0.00	0.00
14,300.0	90.00	359.52	9,400.0	3,985.6	-992.7	4,064.7	0.00	0.00	0.00
14,400.0	90.00	359.52	9,400.0	4,085.6	-993.5	4,164.3	0.00	0.00	0.00
Turn 2°/100'									
14,504.9	90.00	359.52	9,400.0	4,190.5	-994.4	4,268.8	0.00	0.00	0.00
EOT @ .54° Azm									
14,555.8	90.00	0.54	9,400.0	4,241.4	-994.4	4,319.4	2.00	0.00	2.00
14,600.0	90.00	0.54	9,400.0	4,285.6	-994.0	4,363.4	0.00	0.00	0.00
14,700.0	90.00	0.54	9,400.0	4,385.6	-993.0	4,462.8	0.00	0.00	0.00
14,800.0	90.00	0.54	9,400.0	4,485.6	-992.1	4,562.2	0.00	0.00	0.00
14,900.0	90.00	0.54	9,400.0	4,585.6	-991.1	4,661.6	0.00	0.00	0.00
15,000.0	90.00	0.54	9,400.0	4,685.6	-990.2	4,761.0	0.00	0.00	0.00
15,100.0	90.00	0.54	9,400.0	4,785.6	-989.3	4,860.4	0.00	0.00	0.00
15,200.0	90.00	0.54	9,400.0	4,885.6	-988.3	4,959.8	0.00	0.00	0.00
15,300.0	90.00	0.54	9,400.0	4,985.6	-987.4	5,059.2	0.00	0.00	0.00
15,400.0	90.00	0.54	9,400.0	5,085.6	-986.5	5,158.6	0.00	0.00	0.00
15,500.0	90.00	0.54	9,400.0	5,185.6	-985.5	5,258.0	0.00	0.00	0.00
15,600.0	90.00	0.54	9,400.0	5,285.6	-984.6	5,357.4	0.00	0.00	0.00
15,700.0	90.00	0.54	9,400.0	5,385.6	-983.6	5,456.8	0.00	0.00	0.00
15,800.0	90.00	0.54	9,400.0	5,485.6	-982.7	5,556.2	0.00	0.00	0.00
15,900.0	90.00	0.54	9,400.0	5,585.6	-981.8	5,655.6	0.00	0.00	0.00
16,000.0	90.00	0.54	9,400.0	5,685.6	-980.8	5,755.0	0.00	0.00	0.00
16,100.0	90.00	0.54	9,400.0	5,785.6	-979.9	5,854.4	0.00	0.00	0.00
16,200.0	90.00	0.54	9,400.0	5,885.6	-978.9	5,953.8	0.00	0.00	0.00
16,300.0	90.00	0.54	9,400.0	5,985.6	-978.0	6,053.2	0.00	0.00	0.00
16,400.0	90.00	0.54	9,400.0	6,085.6	-977.1	6,152.6	0.00	0.00	0.00
16,500.0	90.00	0.54	9,400.0	6,185.5	-976.1	6,252.0	0.00	0.00	0.00
16,600.0	90.00	0.54	9,400.0	6,285.5	-975.2	6,351.4	0.00	0.00	0.00
16,700.0	90.00	0.54	9,400.0	6,385.5	-974.2	6,450.9	0.00	0.00	0.00
16,800.0	90.00	0.54	9,400.0	6,485.5	-973.3	6,550.3	0.00	0.00	0.00
16,900.0	90.00	0.54	9,400.0	6,585.5	-972.4	6,649.7	0.00	0.00	0.00
17,000.0	90.00	0.54	9,400.0	6,685.5	-971.4	6,749.1	0.00	0.00	0.00
17,100.0	90.00	0.54	9,400.0	6,785.5	-970.5	6,848.5	0.00	0.00	0.00
17,200.0	90.00	0.54	9,400.0	6,885.5	-969.6	6,947.9	0.00	0.00	0.00
17,300.0	90.00	0.54	9,400.0	6,985.5	-968.6	7,047.3	0.00	0.00	0.00
17,400.0	90.00	0.54	9,400.0	7,085.5	-967.7	7,146.7	0.00	0.00	0.00
17,500.0	90.00	0.54	9,400.0	7,185.5	-966.7	7,246.1	0.00	0.00	0.00
17,600.0	90.00	0.54	9,400.0	7,285.5	-965.8	7,345.5	0.00	0.00	0.00
17,700.0	90.00	0.54	9,400.0	7,385.5	-964.9	7,444.9	0.00	0.00	0.00
17,800.0	90.00	0.54	9,400.0	7,485.5	-963.9	7,544.3	0.00	0.00	0.00
17,900.0	90.00	0.54	9,400.0	7,585.5	-963.0	7,643.7	0.00	0.00	0.00
18,000.0	90.00	0.54	9,400.0	7,685.5	-962.0	7,743.1	0.00	0.00	0.00
18,100.0	90.00	0.54	9,400.0	7,785.5	-961.1	7,842.5	0.00	0.00	0.00
18,200.0	90.00	0.54	9,400.0	7,885.5	-960.2	7,941.9	0.00	0.00	0.00
18,300.0	90.00	0.54	9,400.0	7,985.5	-959.2	8,041.3	0.00	0.00	0.00
18,400.0	90.00	0.54	9,400.0	8,085.5	-958.3	8,140.7	0.00	0.00	0.00
18,500.0	90.00	0.54	9,400.0	8,185.5	-957.3	8,240.1	0.00	0.00	0.00
18,600.0	90.00	0.54	9,400.0	8,285.5	-956.4	8,339.5	0.00	0.00	0.00
18,700.0	90.00	0.54	9,400.0	8,385.5	-955.5	8,438.9	0.00	0.00	0.00
18,800.0	90.00	0.54	9,400.0	8,485.4	-954.5	8,538.3	0.00	0.00	0.00
18,900.0	90.00	0.54	9,400.0	8,585.4	-953.6	8,637.7	0.00	0.00	0.00
19,000.0	90.00	0.54	9,400.0	8,685.4	-952.7	8,737.1	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Nemesis 7 WXY Fee #3H
Company:	Marathon Oil Permian LLC	TVD Reference:	WELL @ 3081.0usft (PD #101)
Project:	Eddy County, New Mexico (NAD 27)	MD Reference:	WELL @ 3081.0usft (PD #101)
Site:	Sec 18, T23S, R28E	North Reference:	Grid
Well:	Nemesis 7 WXY Fee #3H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
19,100.0	90.00	0.54	9,400.0	8,785.4	-951.7	8,836.5	0.00	0.00	0.00	
19,200.0	90.00	0.54	9,400.0	8,885.4	-950.8	8,935.9	0.00	0.00	0.00	
19,300.0	90.00	0.54	9,400.0	8,985.4	-949.8	9,035.4	0.00	0.00	0.00	
19,400.0	90.00	0.54	9,400.0	9,085.4	-948.9	9,134.8	0.00	0.00	0.00	
19,500.0	90.00	0.54	9,400.0	9,185.4	-948.0	9,234.2	0.00	0.00	0.00	
19,600.0	90.00	0.54	9,400.0	9,285.4	-947.0	9,333.6	0.00	0.00	0.00	
19,700.0	90.00	0.54	9,400.0	9,385.4	-946.1	9,433.0	0.00	0.00	0.00	
TD @ 19753' MD / 9400' TVD										
19,752.5	90.00	0.54	9,400.0	9,437.9	-945.6	9,485.2	0.00	0.00	0.00	

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
KOP Nemesis 7 WXY - hit/miss target - Shape - Point	0.00	0.00	8,500.0	-1,004.4	-950.8	472,253.32	564,999.42	32° 17' 53.396 N	104° 7' 22.695 W	
PI Nemesis 7 WXY Fe - plan hits target center - Point	0.00	0.00	9,400.0	4,190.5	-994.4	477,448.21	564,955.85	32° 18' 44.807 N	104° 7' 23.084 W	
PBHL Nemesis 7 WX' - plan hits target center - Point	0.00	0.00	9,400.0	9,437.9	-945.6	482,695.61	565,004.66	32° 19' 36.735 N	104° 7' 22.395 W	

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
2,000.0	2,000.0	0.0	0.0	Build 2°/100'	
2,667.3	2,661.3	-56.2	-53.2	EOB @ 13.35° Inc / 223.43° Azm	
7,988.4	7,838.7	-948.2	-897.6	Drop 2°/100'	
8,655.8	8,500.0	-1,004.4	-950.8	EOD @ Vert	
8,982.8	8,827.0	-1,004.4	-950.8	Build 10°/100'	
9,882.7	9,400.0	-431.5	-955.6	EOB @ 90° Inc / 359.52° Azm	
14,504.9	9,400.0	4,190.5	-994.4	Turn 2°/100'	
14,555.8	9,400.0	4,241.4	-994.4	EOT @ .54° Azm	
19,752.5	9,400.0	9,437.9	-945.6	TD @ 19753' MD / 9400' TVD	