

Marathon Oil Permian, LLC

Eddy County, NM (NAD27)

Squirrel Master Fee 23-28-5

WD #2H

30-015 44872

OH

**NM OIL CONSERVATION
ARTESIA DISTRICT**

Plan: Plan #1

APR 10 2018

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Standard Planning Report

05 April, 2018



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Planning Report

Database:	Midland District	Local Co-ordinate Reference:	Well WD #2H
Company:	Marathon Oil Permian, LLC	TVD Reference:	KB = 28.5' @ 3056.50usft
Project:	Eddy County, NM (NAD27)	MD Reference:	KB = 28.5' @ 3056.50usft
Site:	Squirrel Master Fee 23-28-5	North Reference:	Grid
Well:	WD #2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Project	Eddy County, NM (NAD27)		
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		Using geodetic scale factor

Site	Squirrel Master Fee 23-28-5				
Site Position:		Northing:	486,529.83 usft	Latitude:	32° 20' 14.665 N
From:	Map	Easting:	565,703.16 usft	Longitude:	104° 7' 14.166 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.11 °

Well	WD #2H					
Well Position	+N/-S	0.00 usft	Northing:	486,529.83 usft	Latitude:	32° 20' 14.665 N
	+E/-W	0.00 usft	Easting:	565,703.16 usft	Longitude:	104° 7' 14.166 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	3,030.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	HDGM	4/5/2018	7.28	60.12	48,033

Design	Plan #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(usft)	(usft)	(usft)	(bearing)
	0.00	0.00	0.00	90.00

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,150.00	1.50	285.00	1,149.98	0.51	-1.90	1.00	1.00	0.00	285.00	
1,200.00	1.50	285.00	1,199.97	0.85	-3.16	0.00	0.00	0.00	0.00	
1,868.71	12.00	130.00	1,864.28	-41.77	41.84	2.00	1.57	-23.18	-157.67	
6,468.71	12.00	130.00	6,363.75	-656.52	774.48	0.00	0.00	0.00	0.00	
7,068.71	0.00	0.00	6,959.38	-696.76	822.44	2.00	-2.00	0.00	180.00	
9,617.83	0.00	0.00	9,508.50	-696.76	822.44	0.00	0.00	0.00	0.00	
10,506.83	88.90	94.00	10,081.35	-735.96	1,383.03	10.00	10.00	0.00	94.00	
10,608.83	88.90	94.00	10,083.31	-743.08	1,484.76	0.00	0.00	0.00	0.00	
10,809.30	88.90	89.99	10,087.16	-750.05	1,685.02	2.00	0.00	-2.00	-90.04	
15,083.85	89.90	89.99	10,132.00	-749.30	5,959.29	0.02	0.02	0.00	0.00	BHL[SMIWD#2H]
15,128.85	89.90	89.99	10,132.08	-749.30	6,004.29	0.00	0.00	0.00	0.00	

Planning Report

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 Company: Marathon Oil Permian, LLC
 Project: Eddy County, NM (NAD27)
 Site: Squirrel Master Fee 23-28-5
 Well: WD #2H
 Wellbore: OH
 Design: Plan #1

Local Co-ordinate Reference: Well WD #2H
 TVD Reference: KB = 26.5' @ 3056.50usft
 MD Reference: KB = 26.5' @ 3056.50usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
461.00	0.00	0.00	461.00	0.00	0.00	0.00	0.00	0.00	0.00
Salado/Castile									
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
KOP - NUDGE									
1,100.00	1.00	285.00	1,099.99	0.23	-0.84	-0.84	1.00	1.00	0.00
1,150.00	1.50	285.00	1,149.98	0.51	-1.90	-1.90	1.00	1.00	0.00
HOLD									
1,200.00	1.50	285.00	1,199.97	0.85	-3.16	-3.16	0.00	0.00	0.00
Build 2.0° / 100									
1,300.00	0.84	170.25	1,299.95	0.47	-4.30	-4.30	2.00	-0.66	-114.75
1,400.00	2.67	139.61	1,399.90	-2.03	-2.67	-2.67	2.00	1.84	-30.64
1,500.00	4.65	134.35	1,499.70	-6.64	1.74	1.74	2.00	1.97	-5.27
1,600.00	6.64	132.22	1,599.21	-13.35	8.92	8.92	2.00	1.99	-2.12
1,700.00	8.63	131.07	1,698.31	-22.17	18.86	18.86	2.00	1.99	-1.15
1,800.00	10.63	130.36	1,796.90	-33.07	31.54	31.54	2.00	2.00	-0.72
1,868.71	12.00	130.00	1,864.28	-41.77	41.84	41.84	2.00	2.00	-0.52
EOB - HOLD									
1,900.00	12.00	130.00	1,894.88	-45.95	46.83	46.83	0.00	0.00	0.00
2,000.00	12.00	130.00	1,992.69	-59.31	62.75	62.75	0.00	0.00	0.00
2,100.00	12.00	130.00	2,090.51	-72.68	78.68	78.68	0.00	0.00	0.00
2,200.00	12.00	130.00	2,188.32	-86.04	94.61	94.61	0.00	0.00	0.00
2,300.00	12.00	130.00	2,286.14	-99.40	110.53	110.53	0.00	0.00	0.00
2,400.00	12.00	130.00	2,383.95	-112.77	126.46	126.46	0.00	0.00	0.00
2,427.65	12.00	130.00	2,411.00	-116.46	130.86	130.86	0.00	0.00	0.00
Lamar									
2,490.01	12.00	130.00	2,472.00	-124.80	140.80	140.80	0.00	0.00	0.00
Bell Canyon									
2,500.00	12.00	130.00	2,481.77	-126.13	142.39	142.39	0.00	0.00	0.00
2,600.00	12.00	130.00	2,579.58	-139.50	158.31	158.31	0.00	0.00	0.00
2,700.00	12.00	130.00	2,677.40	-152.86	174.24	174.24	0.00	0.00	0.00
2,800.00	12.00	130.00	2,775.21	-166.23	190.17	190.17	0.00	0.00	0.00
2,900.00	12.00	130.00	2,873.03	-179.59	206.10	206.10	0.00	0.00	0.00
3,000.00	12.00	130.00	2,970.84	-192.95	222.02	222.02	0.00	0.00	0.00
3,100.00	12.00	130.00	3,068.66	-206.32	237.95	237.95	0.00	0.00	0.00
3,200.00	12.00	130.00	3,166.47	-219.68	253.88	253.88	0.00	0.00	0.00
3,300.00	12.00	130.00	3,264.29	-233.05	269.80	269.80	0.00	0.00	0.00
3,302.77	12.00	130.00	3,267.00	-233.42	270.24	270.24	0.00	0.00	0.00
Cherry Canyon									
3,400.00	12.00	130.00	3,362.10	-246.41	285.73	285.73	0.00	0.00	0.00
3,500.00	12.00	130.00	3,459.92	-259.78	301.66	301.66	0.00	0.00	0.00
3,600.00	12.00	130.00	3,557.73	-273.14	317.58	317.58	0.00	0.00	0.00
3,700.00	12.00	130.00	3,655.55	-286.50	333.51	333.51	0.00	0.00	0.00
3,800.00	12.00	130.00	3,753.36	-299.87	349.44	349.44	0.00	0.00	0.00

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 Site: Squirrel Master Fee 23-28-5
 Well: WD #2H
 Wellbore: OH
 Design: Plan #1

Local Co-ordinate Reference: Well WD #2H
 TVD Reference: KB = 26.5' @ 3056.50usft
 MD Reference: KB = 26.5' @ 3056.50usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
3,900.00	12.00	130.00	3,851.18	-313.23	365.36	365.36	0.00	0.00	0.00
4,000.00	12.00	130.00	3,948.99	-326.60	381.29	381.29	0.00	0.00	0.00
4,100.00	12.00	130.00	4,046.80	-339.96	397.22	397.22	0.00	0.00	0.00
4,200.00	12.00	130.00	4,144.62	-353.33	413.15	413.15	0.00	0.00	0.00
4,300.00	12.00	130.00	4,242.43	-366.69	429.07	429.07	0.00	0.00	0.00
4,400.00	12.00	130.00	4,340.25	-380.05	445.00	445.00	0.00	0.00	0.00
4,500.00	12.00	130.00	4,438.06	-393.42	460.93	460.93	0.00	0.00	0.00
4,550.03	12.00	130.00	4,487.00	-400.11	468.89	468.89	0.00	0.00	0.00
Brushy Canyon									
4,600.00	12.00	130.00	4,535.88	-406.78	476.85	476.85	0.00	0.00	0.00
4,700.00	12.00	130.00	4,633.69	-420.15	492.78	492.78	0.00	0.00	0.00
4,800.00	12.00	130.00	4,731.51	-433.51	508.71	508.71	0.00	0.00	0.00
4,900.00	12.00	130.00	4,829.32	-446.88	524.63	524.63	0.00	0.00	0.00
5,000.00	12.00	130.00	4,927.14	-460.24	540.56	540.56	0.00	0.00	0.00
5,100.00	12.00	130.00	5,024.95	-473.60	556.49	556.49	0.00	0.00	0.00
5,200.00	12.00	130.00	5,122.77	-486.97	572.42	572.42	0.00	0.00	0.00
5,300.00	12.00	130.00	5,220.58	-500.33	588.34	588.34	0.00	0.00	0.00
5,400.00	12.00	130.00	5,318.40	-513.70	604.27	604.27	0.00	0.00	0.00
5,500.00	12.00	130.00	5,416.21	-527.06	620.20	620.20	0.00	0.00	0.00
5,600.00	12.00	130.00	5,514.03	-540.43	636.12	636.12	0.00	0.00	0.00
5,700.00	12.00	130.00	5,611.84	-553.79	652.05	652.05	0.00	0.00	0.00
5,800.00	12.00	130.00	5,709.66	-567.16	667.98	667.98	0.00	0.00	0.00
5,900.00	12.00	130.00	5,807.47	-580.52	683.90	683.90	0.00	0.00	0.00
6,000.00	12.00	130.00	5,905.29	-593.88	699.83	699.83	0.00	0.00	0.00
6,009.93	12.00	130.00	5,915.00	-595.21	701.41	701.41	0.00	0.00	0.00
Bone Spring									
6,100.00	12.00	130.00	6,003.10	-607.25	715.76	715.76	0.00	0.00	0.00
6,200.00	12.00	130.00	6,100.91	-620.61	731.68	731.68	0.00	0.00	0.00
6,300.00	12.00	130.00	6,198.73	-633.98	747.61	747.61	0.00	0.00	0.00
6,400.00	12.00	130.00	6,296.54	-647.34	763.54	763.54	0.00	0.00	0.00
6,468.71	12.00	130.00	6,363.75	-656.52	774.48	774.48	0.00	0.00	0.00
DROP 2.0° / 100									
6,500.00	11.37	130.00	6,394.39	-660.60	779.34	779.34	2.00	-2.00	0.00
6,600.00	9.37	130.00	6,492.75	-672.17	793.13	793.13	2.00	-2.00	0.00
6,700.00	7.37	130.00	6,591.68	-681.53	804.29	804.29	2.00	-2.00	0.00
6,800.00	5.37	130.00	6,691.06	-688.67	812.79	812.79	2.00	-2.00	0.00
6,900.00	3.37	130.00	6,790.76	-693.57	818.63	818.63	2.00	-2.00	0.00
7,000.00	1.37	130.00	6,890.67	-696.23	821.81	821.81	2.00	-2.00	0.00
7,008.33	1.21	130.00	6,899.00	-696.35	821.95	821.95	2.00	-2.00	0.00
1st Bone Spring Sand									
7,068.71	0.00	0.00	6,959.38	-696.76	822.44	822.44	2.00	-2.00	0.00
EOD - HOLD									
7,100.00	0.00	0.00	6,990.67	-696.76	822.44	822.44	0.00	0.00	0.00
7,200.00	0.00	0.00	7,090.67	-696.76	822.44	822.44	0.00	0.00	0.00
7,300.00	0.00	0.00	7,190.67	-696.76	822.44	822.44	0.00	0.00	0.00
7,400.00	0.00	0.00	7,290.67	-696.76	822.44	822.44	0.00	0.00	0.00
7,500.00	0.00	0.00	7,390.67	-696.76	822.44	822.44	0.00	0.00	0.00
7,600.00	0.00	0.00	7,490.67	-696.76	822.44	822.44	0.00	0.00	0.00
7,700.00	0.00	0.00	7,590.67	-696.76	822.44	822.44	0.00	0.00	0.00
7,800.00	0.00	0.00	7,690.67	-696.76	822.44	822.44	0.00	0.00	0.00
7,808.33	0.00	0.00	7,699.00	-696.76	822.44	822.44	0.00	0.00	0.00
2nd Bone Spring Sand									
7,900.00	0.00	0.00	7,790.67	-696.76	822.44	822.44	0.00	0.00	0.00

Planning Report

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 Project: Eddy County, NM (NAD27)
 Site: Squirrel Master Fee 23-28-5
 Well: WD #2H
 Wellbore: OH
 Design: Plan #1

Local Co-ordinate Reference: Well WD #2H
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8,000.00	0.00	0.00	7,890.67	-696.76	822.44	822.44	0.00	0.00	0.00
8,100.00	0.00	0.00	7,990.67	-696.76	822.44	822.44	0.00	0.00	0.00
8,200.00	0.00	0.00	8,090.67	-696.76	822.44	822.44	0.00	0.00	0.00
8,300.00	0.00	0.00	8,190.67	-696.76	822.44	822.44	0.00	0.00	0.00
8,400.00	0.00	0.00	8,290.67	-696.76	822.44	822.44	0.00	0.00	0.00
8,500.00	0.00	0.00	8,390.67	-696.76	822.44	822.44	0.00	0.00	0.00
8,600.00	0.00	0.00	8,490.67	-696.76	822.44	822.44	0.00	0.00	0.00
8,700.00	0.00	0.00	8,590.67	-696.76	822.44	822.44	0.00	0.00	0.00
8,800.00	0.00	0.00	8,690.67	-696.76	822.44	822.44	0.00	0.00	0.00
8,900.00	0.00	0.00	8,790.67	-696.76	822.44	822.44	0.00	0.00	0.00
9,000.00	0.00	0.00	8,890.67	-696.76	822.44	822.44	0.00	0.00	0.00
9,063.33	0.00	0.00	8,954.00	-696.76	822.44	822.44	0.00	0.00	0.00
3rd Bone Spring Sand									
9,100.00	0.00	0.00	8,990.67	-696.76	822.44	822.44	0.00	0.00	0.00
9,200.00	0.00	0.00	9,090.67	-696.76	822.44	822.44	0.00	0.00	0.00
9,300.00	0.00	0.00	9,190.67	-696.76	822.44	822.44	0.00	0.00	0.00
9,400.00	0.00	0.00	9,290.67	-696.76	822.44	822.44	0.00	0.00	0.00
9,402.33	0.00	0.00	9,293.00	-696.76	822.44	822.44	0.00	0.00	0.00
Wolfcamp									
9,500.00	0.00	0.00	9,390.67	-696.76	822.44	822.44	0.00	0.00	0.00
9,538.33	0.00	0.00	9,429.00	-696.76	822.44	822.44	0.00	0.00	0.00
Wolfcamp A									
9,600.00	0.00	0.00	9,490.67	-696.76	822.44	822.44	0.00	0.00	0.00
9,617.83	0.00	0.00	9,508.50	-696.76	822.44	822.44	0.00	0.00	0.00
Curve KOP - Build 10.0° / 100									
9,650.00	3.22	94.00	9,540.65	-696.83	823.34	823.34	10.00	10.00	0.00
9,700.00	8.22	94.00	9,590.38	-697.17	828.31	828.31	10.00	10.00	0.00
9,701.63	8.38	94.00	9,592.00	-697.19	828.54	828.54	10.00	10.00	0.00
Wolfcamp B									
9,750.00	13.22	94.00	9,639.50	-697.82	837.58	837.58	10.00	10.00	0.00
9,800.00	18.22	94.00	9,687.61	-698.77	851.08	851.08	10.00	10.00	0.00
9,845.26	22.74	94.00	9,730.00	-699.87	866.88	866.88	10.00	10.00	0.00
Wolfcamp C									
9,850.00	23.22	94.00	9,734.38	-700.00	868.72	868.72	10.00	10.00	0.00
9,900.00	28.22	94.00	9,779.40	-701.51	890.36	890.36	10.00	10.00	0.00
9,950.00	33.22	94.00	9,822.37	-703.29	915.83	915.83	10.00	10.00	0.00
10,000.00	38.22	94.00	9,862.95	-705.33	944.94	944.94	10.00	10.00	0.00
10,050.00	43.22	94.00	9,900.84	-707.60	977.46	977.46	10.00	10.00	0.00
10,057.13	43.93	94.00	9,908.00	-707.95	982.36	982.36	10.00	10.00	0.00
Wolfcamp C2									
10,100.00	48.22	94.00	9,935.74	-710.10	1,013.16	1,013.16	10.00	10.00	0.00
10,150.00	53.22	94.00	9,987.38	-712.80	1,051.75	1,051.75	10.00	10.00	0.00
10,200.00	58.22	94.00	9,995.54	-715.68	1,092.95	1,092.95	10.00	10.00	0.00
10,250.00	63.22	94.00	10,019.99	-718.72	1,136.44	1,136.44	10.00	10.00	0.00
10,300.00	68.22	94.00	10,040.55	-721.90	1,181.89	1,181.89	10.00	10.00	0.00
10,350.00	73.22	94.00	10,057.05	-725.19	1,228.96	1,228.96	10.00	10.00	0.00
10,400.00	78.22	94.00	10,089.38	-728.57	1,277.28	1,277.28	10.00	10.00	0.00
10,439.98	82.21	94.00	10,076.18	-731.32	1,316.57	1,316.57	10.00	10.00	0.00
FTP[SMWD#2H]									
10,450.00	83.22	94.00	10,077.45	-732.01	1,326.49	1,326.49	10.00	10.00	0.00
10,500.00	88.22	94.00	10,081.18	-735.49	1,376.21	1,376.21	10.00	10.00	0.00
10,506.83	88.90	94.00	10,081.35	-735.96	1,383.03	1,383.03	10.00	10.00	0.00
EOC - HOLD									

Planning Report

Database: Midland District
 Company: Marathon Oil Permian, LLC
 Project: Eddy County, NM (NAD27)
 Site: Squirrel Master Fee 23-28-5
 Well: WD #2H
 Wellbore: OH
 Design: Plan #1

Local Co-ordinate Reference: Well WD #2H
 TVD Reference: KB = 26.5' @ 3056.50usft
 MD Reference: KB = 26.5' @ 3056.50usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,608.83	88.90	94.00	10,083.31	-743.08	1,484.76	1,484.76	0.00	0.00	0.00
TURN									
10,700.00	88.90	92.18	10,085.06	-747.99	1,575.77	1,575.77	2.00	0.00	-2.00
10,809.30	88.90	89.99	10,087.16	-750.05	1,685.02	1,685.02	2.00	0.00	-2.00
HOLD									
10,900.00	88.92	89.99	10,088.89	-750.04	1,775.71	1,775.71	0.02	0.02	0.00
11,000.00	88.94	89.99	10,090.75	-750.02	1,875.69	1,875.69	0.02	0.02	0.00
11,100.00	88.97	89.99	10,092.57	-750.00	1,975.68	1,975.68	0.02	0.02	0.00
11,200.00	88.99	89.99	10,094.35	-749.99	2,075.66	2,075.66	0.02	0.02	0.00
11,300.00	89.01	89.99	10,096.09	-749.97	2,175.65	2,175.65	0.02	0.02	0.00
11,400.00	89.04	89.99	10,097.79	-749.95	2,275.63	2,275.63	0.02	0.02	0.00
11,500.00	89.06	89.99	10,099.45	-749.93	2,375.62	2,375.62	0.02	0.02	0.00
11,600.00	89.08	89.99	10,101.07	-749.92	2,475.60	2,475.60	0.02	0.02	0.00
11,700.00	89.11	89.99	10,102.64	-749.90	2,575.59	2,575.59	0.02	0.02	0.00
11,800.00	89.13	89.99	10,104.18	-749.88	2,675.58	2,675.58	0.02	0.02	0.00
11,900.00	89.15	89.99	10,105.68	-749.86	2,775.57	2,775.57	0.02	0.02	0.00
12,000.00	89.18	89.99	10,107.13	-749.85	2,875.56	2,875.56	0.02	0.02	0.00
12,100.00	89.20	89.99	10,108.55	-749.83	2,975.55	2,975.55	0.02	0.02	0.00
12,200.00	89.22	89.99	10,109.92	-749.81	3,075.54	3,075.54	0.02	0.02	0.00
12,300.00	89.25	89.99	10,111.25	-749.79	3,175.53	3,175.53	0.02	0.02	0.00
12,400.00	89.27	89.99	10,112.54	-749.78	3,275.52	3,275.52	0.02	0.02	0.00
12,500.00	89.29	89.99	10,113.80	-749.76	3,375.51	3,375.51	0.02	0.02	0.00
12,600.00	89.32	89.99	10,115.01	-749.74	3,475.51	3,475.51	0.02	0.02	0.00
12,700.00	89.34	89.99	10,116.18	-749.72	3,575.50	3,575.50	0.02	0.02	0.00
12,800.00	89.36	89.99	10,117.30	-749.71	3,675.49	3,675.49	0.02	0.02	0.00
12,900.00	89.39	89.99	10,118.39	-749.69	3,775.49	3,775.49	0.02	0.02	0.00
13,000.00	89.41	89.99	10,119.44	-749.67	3,875.48	3,875.48	0.02	0.02	0.00
13,100.00	89.43	89.99	10,120.45	-749.65	3,975.48	3,975.48	0.02	0.02	0.00
13,200.00	89.46	89.99	10,121.41	-749.64	4,075.47	4,075.47	0.02	0.02	0.00
13,300.00	89.48	89.99	10,122.34	-749.62	4,175.47	4,175.47	0.02	0.02	0.00
13,400.00	89.50	89.99	10,123.22	-749.60	4,275.46	4,275.46	0.02	0.02	0.00
13,500.00	89.53	89.99	10,124.07	-749.58	4,375.46	4,375.46	0.02	0.02	0.00
13,600.00	89.55	89.99	10,124.87	-749.57	4,475.46	4,475.46	0.02	0.02	0.00
13,700.00	89.57	89.99	10,125.63	-749.55	4,575.45	4,575.45	0.02	0.02	0.00
13,800.00	89.60	89.99	10,126.35	-749.53	4,675.45	4,675.45	0.02	0.02	0.00
13,900.00	89.62	89.99	10,127.04	-749.51	4,775.45	4,775.45	0.02	0.02	0.00
14,000.00	89.64	89.99	10,127.68	-749.49	4,875.45	4,875.45	0.02	0.02	0.00
14,100.00	89.67	89.99	10,128.28	-749.48	4,975.45	4,975.45	0.02	0.02	0.00
14,200.00	89.69	89.99	10,128.83	-749.46	5,075.44	5,075.44	0.02	0.02	0.00
14,300.00	89.71	89.99	10,129.35	-749.44	5,175.44	5,175.44	0.02	0.02	0.00
14,400.00	89.74	89.99	10,129.83	-749.42	5,275.44	5,275.44	0.02	0.02	0.00
14,500.00	89.76	89.99	10,130.27	-749.41	5,375.44	5,375.44	0.02	0.02	0.00
14,600.00	89.78	89.99	10,130.66	-749.39	5,475.44	5,475.44	0.02	0.02	0.00
14,700.00	89.81	89.99	10,131.02	-749.37	5,575.44	5,575.44	0.02	0.02	0.00
14,800.00	89.83	89.99	10,131.33	-749.35	5,675.44	5,675.44	0.02	0.02	0.00
14,900.00	89.85	89.99	10,131.60	-749.34	5,775.44	5,775.44	0.02	0.02	0.00
15,000.00	89.88	89.99	10,131.84	-749.32	5,875.44	5,875.44	0.02	0.02	0.00
15,083.85	89.90	89.99	10,132.00	-749.30	5,959.29	5,959.29	0.02	0.02	0.00
TD at 15083.85 - BHL[SM/WD#2H]									
15,100.00	89.90	89.99	10,132.03	-749.30	5,975.44	5,975.44	0.00	0.00	0.00
15,128.85	89.90	89.99	10,132.08	-749.30	6,004.29	6,004.29	0.00	0.00	0.00
TD + 45' VS									

Planning Report

Database: Midland District
Company: Marathon Oil Permian, LLC
Project: Eddy County, NM (NAD27)
Site: Squirrel Master Fee 23-28-5
Well: WD #2H
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well WD #2H
TVD Reference: KB = 26.5' @ 3056.50usft
MD Reference: KB = 26.5' @ 3056.50usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Design Targets

Target Name

- hit/miss target - Shape	Dip Angle (°)	Dip Dir. (bearing)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
FTP[SMWD#2H] - plan misses target center by 91.01usft at 10443.09usft MD (10076.59 TVD, -731.53 N, 1319.65 E) - Point	0.00	0.00	9,988.00	-749.79	1,329.72	485,780.10	567,032.77	32° 20' 7.219 N	104° 6' 58.685 W
BHL[SMWD#2H] - plan hits target center - Point	0.00	0.00	10,132.00	-749.30	5,959.29	485,780.59	571,661.94	32° 20' 7.128 N	104° 6' 4.730 W

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (bearing)
481.00	481.00	Salado/Castile			
2,427.65	2,411.00	Lamar			
2,490.01	2,472.00	Bell Canyon			
3,302.77	3,267.00	Cherry Canyon			
4,550.03	4,487.00	Brushy Canyon			
6,009.93	5,915.00	Bone Spring			
7,008.33	6,899.00	1st Bone Spring Sand			
7,808.33	7,699.00	2nd Bone Spring Sand			
9,063.33	8,954.00	3rd Bone Spring Sand			
9,402.33	9,293.00	Wolfcamp			
9,538.33	9,429.00	Wolfcamp A			
9,701.63	9,592.00	Wolfcamp B			
9,845.26	9,730.00	Wolfcamp C			
10,057.13	9,906.00	Wolfcamp C2			

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,000.00	1,000.00	0.00	0.00	KOP - NUDGE
1,150.00	1,149.98	0.51	-1.90	HOLD
1,200.00	1,199.97	0.85	-3.16	Build 2.0° / 100
1,868.71	1,864.28	-41.77	41.84	EOB - HOLD
6,468.71	6,363.75	-656.52	774.48	DROP 2.0° / 100
7,068.71	6,959.38	-696.76	822.44	EOD - HOLD
9,617.83	9,508.50	-696.76	822.44	Curve KOP - Build 10.0° / 100
10,506.83	10,081.35	-735.96	1,383.03	EOC - HOLD
10,608.83	10,083.31	-743.08	1,484.76	TURN
10,809.30	10,087.16	-750.05	1,685.02	HOLD
15,083.85	10,132.00	-749.30	5,959.29	TD at 15083.85
15,128.85	10,132.08	-749.30	6,004.29	TD + 45' VS

Marathon Oil Corporation

EDDY COUNTY, NM (NAD27)
SQUIRREL MASTER FEE 23-28-5
WD #2H

PLAN #1

WELL DETAILS:

Ground Level: 3030.00
+N/-S 0.00 +E/-W 0.00
Northing 486529.83 Easting 565703.16
Latitude 32° 20' 14.665 N Longitude 104° 7' 14.168 W

SECTION DETAILS

MD	INC	AZ	TVD	+N/-S	+E/-W	DLEG	TFACE	VSECT	TARGET
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1000.00	0.00	0.00	1000.00	0.00	0.00	0.00	0.00	0.00	
1150.00	1.50	285.00	1140.98	0.51	-1.90	1.00	285.00	-1.90	
1200.00	1.50	285.00	1199.97	0.85	-3.10	0.00	0.00	-3.10	
1868.71	12.00	130.00	1864.28	-11.77	41.84	2.00	-157.67	41.84	
6468.71	12.00	130.00	6363.75	-656.52	774.48	0.00	0.00	774.48	
7068.71	0.00	0.00	6950.38	-696.76	822.44	2.00	180.00	822.44	
9617.83	0.00	0.00	9508.50	-696.76	822.44	0.00	0.00	822.44	
10506.83	88.90	94.00	10081.35	-735.96	1383.03	10.00	94.00	1383.03	
10608.83	88.90	94.00	10083.31	-743.08	1484.76	0.00	0.00	1484.76	
10809.30	88.90	89.90	10087.16	-750.05	1685.02	2.00	-90.00	1685.02	
15083.85	89.90	89.90	10132.00	-749.30	5959.29	0.02	0.00	5959.29	BHL(SMWD#2H)
15128.85	89.90	89.90	10132.08	-749.30	6004.29	0.00	0.00	6004.29	

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting
FTP(SMWD#2H)	10081.00	-749.79	1329.72	485780.10	567032.77
BHL(SMWD#2H)	10132.00	-749.30	5959.29	485780.59	571681.94

DRILLING TARGET: 10016 'TVD @ OVS // 88.9° INC.

WINDOW: 10' U // 10' D // 30' L // 30' R



To convert Magnetic North to Grid, Add 7.17°
To convert True North to Grid, Subtract 0.11°

Azimuth to Grid North
True North: -0.11°
Magnetic North: 7.17°
Magnetic Field
Strength: 48033.1nT
Dip Angle: 80.12°
Date: 4/5/2018
Model: HDGM

FORMATION TOP DETAILS

TVD PATH	MD PATH	FORMATION
461.00	461.00	SALADO/CASTILE
2411.00	2427.65	LAMAR
2472.00	2490.01	BELL CANYON
3267.00	3302.77	CHERRY CANYON
4487.00	4550.03	BRUSHY CANYON
5915.00	6009.93	BONE SPRING
6899.00	7008.33	1ST BONE SPRING SAND
7699.00	7808.33	2ND BONE SPRING SAND
8954.00	9063.33	3RD BONE SPRING SAND
9293.00	9402.33	WOLFCAMP
9429.00	9538.33	WOLFCAMP A
9592.00	9701.63	WOLFCAMP B
9730.00	9845.26	WOLFCAMP C
9906.00	10057.13	WOLFCAMP C2

SITE DETAILS: Squirrel Master Fee 23-28-5
Site Centre Northing: 486529.83
Easting: 565703.16

Positional Uncertainty: 0.00
Convergence: 0.11
Local North: Grid

Map System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone Name: New Mexico East 3001
Local Origin: Well WD #2H, Grid North
Latitude: 32° 20' 14.665 N
Longitude: 104° 7' 14.168 W
Grid East: 565703.16
Grid North: 486529.83
Scale Factor: 1.000

Geomagnetic Model: HDGM
Sample Date: 05-Apr-18
Magnetic Declination: 7.28°
Dip Angle from Horizontal: 60.12°
Magnetic Field Strength: 48033

To convert Magnetic North to Grid, Add 7.17°
To convert Magnetic North to True, Add 7.28° East
To convert True North to Grid, Subtract 0.11°

PROJECT DETAILS: Eddy County, NM (NAD27)
Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001

System Datum: Mean Sea Level

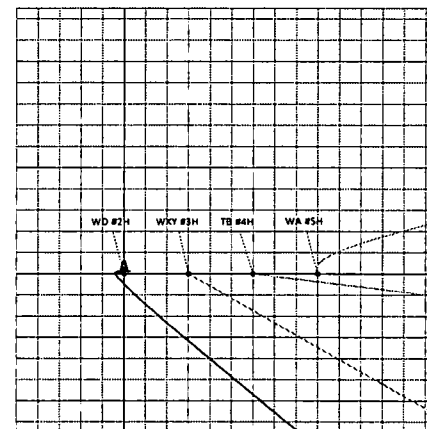
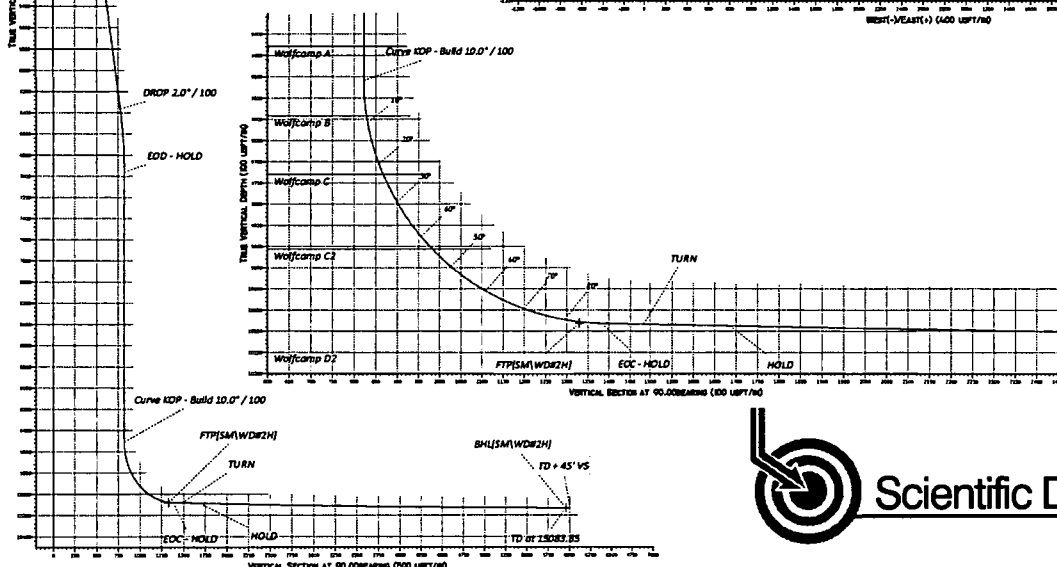
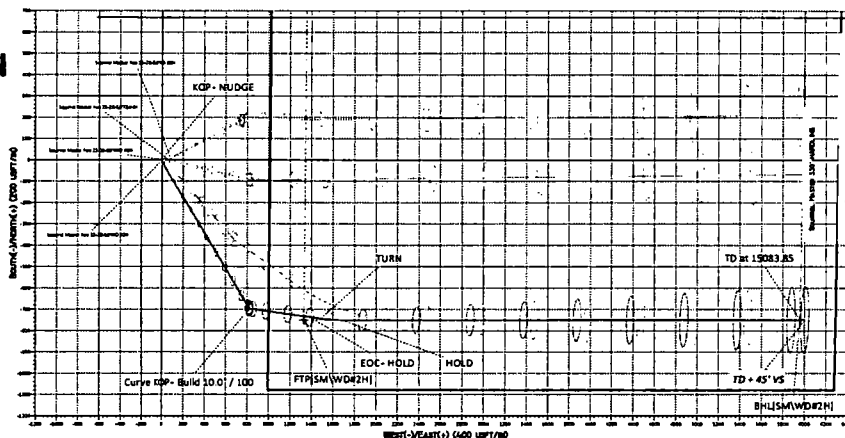
GL ELEV.: 3030.00
DEPTH REF.: KB = 26.5' @ 3056.50USFT

KOP - MUDGE
HOLD
Build 2.0' / 100
EOB - HOLD

NM OIL CONSERVATION
ARTESIA DISTRICT

APR 10 2018

RECEIVED



SQUIRREL MASTER FEE 23-28-5