

Marathon Oil Permian, LLC

Eddy County, NM (NAD27)

Squirrel Master Fee 23-28-5

TB #4H

30-015-44874

OH

NM OIL CONSERVATION
ARTESIA DISTRICT

Plan: Plan #1

APR 10 2018

RECEIVED

Standard Planning Report

05 April, 2018



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Planning Report

Database: Midland District
Company: Marathon Oil Permian, LLC
Project: Eddy County, NM (NAD27)
Site: Squirrel Master Fee 23-28-5
Well: TB #4H
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well TB #4H
TVD Reference: KB = 28.5' @ 3056.50usft (Rig TBD)
MD Reference: KB = 28.5' @ 3056.50usft (Rig TBD)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

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	TB #4H					
Well Position	+N/-S	-0.01 usft	Northing:	486,529.82 usft	Latitude:	32° 20' 14.664 N
	+E/-W	60.01 usft	Easting:	565,763.16 usft	Longitude:	104° 7' 13.466 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) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (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	
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,300.00	10.00	97.00	3,297.47	-5.30	43.20	2.00	2.00	0.00	97.00	
7,225.00	10.00	97.00	7,162.84	-88.37	719.69	0.00	0.00	0.00	0.00	
7,725.00	0.00	0.00	7,660.30	-93.67	762.89	2.00	-2.00	0.00	180.00	
8,765.57	0.00	0.00	8,700.87	-93.67	762.89	0.00	0.00	0.00	0.00	
9,654.57	88.90	89.71	9,273.73	-90.83	1,324.84	10.00	10.00	0.00	89.71	
14,252.76	88.90	89.71	9,362.00	-67.59	5,922.12	0.00	0.00	0.00	0.00	BHL[SM/TB#4H]
14,297.76	88.90	89.71	9,362.86	-67.36	5,967.11	0.00	0.00	0.00	0.00	

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 MD Reference: KB = 28.5' @ 3056.50usft (Rig TBD)
 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/Castle									
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
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,411.00	0.00	0.00	2,411.00	0.00	0.00	0.00	0.00	0.00	0.00
Lamar									
2,472.00	0.00	0.00	2,472.00	0.00	0.00	0.00	0.00	0.00	0.00
Bell Canyon									
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
KOP - Build 2.0° / 100									
2,900.00	2.00	97.00	2,899.98	-0.21	1.73	1.73	2.00	2.00	0.00
3,000.00	4.00	97.00	2,999.84	-0.85	6.93	6.93	2.00	2.00	0.00
3,100.00	6.00	97.00	3,099.45	-1.91	15.58	15.58	2.00	2.00	0.00
3,200.00	8.00	97.00	3,198.70	-3.40	27.67	27.67	2.00	2.00	0.00
3,269.09	9.38	97.00	3,267.00	-4.67	38.03	38.03	2.00	2.00	0.00
Cherry Canyon									
3,300.00	10.00	97.00	3,297.47	-5.30	43.20	43.20	2.00	2.00	0.00
EOB - HOLD									
3,400.00	10.00	97.00	3,395.95	-7.42	60.43	60.43	0.00	0.00	0.00
3,500.00	10.00	97.00	3,494.43	-9.54	77.67	77.67	0.00	0.00	0.00
3,600.00	10.00	97.00	3,592.91	-11.65	94.90	94.90	0.00	0.00	0.00
3,700.00	10.00	97.00	3,691.39	-13.77	112.14	112.14	0.00	0.00	0.00
3,800.00	10.00	97.00	3,789.87	-15.89	129.38	129.38	0.00	0.00	0.00
3,900.00	10.00	97.00	3,888.35	-18.00	146.61	146.61	0.00	0.00	0.00
4,000.00	10.00	97.00	3,986.83	-20.12	163.85	163.85	0.00	0.00	0.00
4,100.00	10.00	97.00	4,085.31	-22.23	181.08	181.08	0.00	0.00	0.00
4,200.00	10.00	97.00	4,183.79	-24.35	198.32	198.32	0.00	0.00	0.00

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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)
4,300.00	10.00	97.00	4,282.27	-26.47	215.55	215.55	0.00	0.00	0.00
4,400.00	10.00	97.00	4,380.75	-28.58	232.79	232.79	0.00	0.00	0.00
4,500.00	10.00	97.00	4,479.23	-30.70	250.02	250.02	0.00	0.00	0.00
4,507.89	10.00	97.00	4,487.00	-30.87	251.38	251.38	0.00	0.00	0.00
Brushy Canyon									
4,600.00	10.00	97.00	4,577.72	-32.82	267.26	267.26	0.00	0.00	0.00
4,700.00	10.00	97.00	4,676.20	-34.93	284.49	284.49	0.00	0.00	0.00
4,800.00	10.00	97.00	4,774.68	-37.05	301.73	301.73	0.00	0.00	0.00
4,900.00	10.00	97.00	4,873.16	-39.16	318.96	318.96	0.00	0.00	0.00
5,000.00	10.00	97.00	4,971.64	-41.28	336.20	336.20	0.00	0.00	0.00
5,100.00	10.00	97.00	5,070.12	-43.40	353.44	353.44	0.00	0.00	0.00
5,200.00	10.00	97.00	5,168.60	-45.51	370.67	370.67	0.00	0.00	0.00
5,300.00	10.00	97.00	5,267.08	-47.63	387.91	387.91	0.00	0.00	0.00
5,400.00	10.00	97.00	5,365.56	-49.75	405.14	405.14	0.00	0.00	0.00
5,500.00	10.00	97.00	5,464.04	-51.86	422.38	422.38	0.00	0.00	0.00
5,600.00	10.00	97.00	5,562.52	-53.98	439.61	439.61	0.00	0.00	0.00
5,700.00	10.00	97.00	5,661.00	-56.09	456.85	456.85	0.00	0.00	0.00
5,800.00	10.00	97.00	5,759.48	-58.21	474.08	474.08	0.00	0.00	0.00
5,900.00	10.00	97.00	5,857.97	-60.33	491.32	491.32	0.00	0.00	0.00
5,957.91	10.00	97.00	5,915.00	-61.55	501.30	501.30	0.00	0.00	0.00
Bone Spring									
6,000.00	10.00	97.00	5,956.45	-62.44	508.55	508.55	0.00	0.00	0.00
6,100.00	10.00	97.00	6,054.93	-64.56	525.79	525.79	0.00	0.00	0.00
6,200.00	10.00	97.00	6,153.41	-66.67	543.02	543.02	0.00	0.00	0.00
6,300.00	10.00	97.00	6,251.89	-68.79	560.26	560.26	0.00	0.00	0.00
6,400.00	10.00	97.00	6,350.37	-70.91	577.50	577.50	0.00	0.00	0.00
6,500.00	10.00	97.00	6,448.85	-73.02	594.73	594.73	0.00	0.00	0.00
6,600.00	10.00	97.00	6,547.33	-75.14	611.97	611.97	0.00	0.00	0.00
6,700.00	10.00	97.00	6,645.81	-77.26	629.20	629.20	0.00	0.00	0.00
6,800.00	10.00	97.00	6,744.29	-79.37	646.44	646.44	0.00	0.00	0.00
6,900.00	10.00	97.00	6,842.77	-81.49	663.67	663.67	0.00	0.00	0.00
6,957.09	10.00	97.00	6,899.00	-82.70	673.51	673.51	0.00	0.00	0.00
1st Bone Spring Sand									
7,000.00	10.00	97.00	6,941.25	-83.60	680.91	680.91	0.00	0.00	0.00
7,100.00	10.00	97.00	7,039.74	-85.72	698.14	698.14	0.00	0.00	0.00
7,200.00	10.00	97.00	7,138.22	-87.84	715.38	715.38	0.00	0.00	0.00
7,225.00	10.00	97.00	7,162.84	-88.37	719.69	719.69	0.00	0.00	0.00
DROP 2.0° / 100									
7,300.00	8.50	97.00	7,236.86	-89.84	731.65	731.65	2.00	-2.00	0.00
7,400.00	6.50	97.00	7,336.00	-91.43	744.61	744.61	2.00	-2.00	0.00
7,500.00	4.50	97.00	7,435.53	-92.59	754.12	754.12	2.00	-2.00	0.00
7,600.00	2.50	97.00	7,535.34	-93.34	760.18	760.18	2.00	-2.00	0.00
7,700.00	0.50	97.00	7,635.30	-93.66	762.78	762.78	2.00	-2.00	0.00
7,725.00	0.00	0.00	7,660.30	-93.67	762.89	762.89	2.00	-2.00	0.00
EOD - HOLD									
7,763.70	0.00	0.00	7,699.00	-93.67	762.89	762.89	0.00	0.00	0.00
2nd Bone Spring Sand									
7,800.00	0.00	0.00	7,735.30	-93.67	762.89	762.89	0.00	0.00	0.00
7,900.00	0.00	0.00	7,835.30	-93.67	762.89	762.89	0.00	0.00	0.00
8,000.00	0.00	0.00	7,935.30	-93.67	762.89	762.89	0.00	0.00	0.00
8,100.00	0.00	0.00	8,035.30	-93.67	762.89	762.89	0.00	0.00	0.00
8,200.00	0.00	0.00	8,135.30	-93.67	762.89	762.89	0.00	0.00	0.00
8,300.00	0.00	0.00	8,235.30	-93.67	762.89	762.89	0.00	0.00	0.00

Planning Report

Database:	Midland District	Local Co-ordinate Reference:	Well TB #4H
Company:	Marathon Oil Permian, LLC	TVD Reference:	KB = 28.5' @ 3056.50usft (Rig TBD)
Project:	Eddy County, NM (NAD27)	MD Reference:	KB = 28.5' @ 3056.50usft (Rig TBD)
Site:	Squirrel Master Fee 23-28-5	North Reference:	Grid
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Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Bulld Rate (°/100usft)	Turn Rate (°/100usft)
8,400.00	0.00	0.00	8,335.30	-93.67	762.89	762.89	0.00	0.00	0.00
8,500.00	0.00	0.00	8,435.30	-93.67	762.89	762.89	0.00	0.00	0.00
8,600.00	0.00	0.00	8,535.30	-93.67	762.89	762.89	0.00	0.00	0.00
8,700.00	0.00	0.00	8,635.30	-93.67	762.89	762.89	0.00	0.00	0.00
8,765.57	0.00	0.00	8,700.87	-93.67	762.89	762.89	0.00	0.00	0.00
Curve KOP - Build 10.0° / 100									
8,800.00	3.44	89.71	8,735.28	-93.67	763.92	763.92	10.00	10.00	0.00
8,850.00	8.44	89.71	8,785.00	-93.64	769.09	769.09	10.00	10.00	0.00
8,900.00	13.44	89.71	8,834.07	-93.59	778.58	778.58	10.00	10.00	0.00
8,950.00	18.44	89.71	8,882.13	-93.52	792.31	792.31	10.00	10.00	0.00
9,000.00	23.44	89.71	8,928.82	-93.43	810.18	810.18	10.00	10.00	0.00
9,027.75	26.22	89.71	8,954.00	-93.37	821.83	821.83	10.00	10.00	0.00
3rd Bone Spring Sand									
9,050.00	28.44	89.71	8,973.76	-93.32	832.04	832.04	10.00	10.00	0.00
9,100.00	33.44	89.71	9,016.63	-93.19	857.74	857.74	10.00	10.00	0.00
9,150.00	38.44	89.71	9,057.10	-93.04	887.08	887.08	10.00	10.00	0.00
9,200.00	43.44	89.71	9,094.86	-92.88	919.84	919.84	10.00	10.00	0.00
9,250.00	48.44	89.71	9,129.61	-92.70	955.76	955.76	10.00	10.00	0.00
9,300.00	53.44	89.71	9,161.11	-92.50	994.57	994.57	10.00	10.00	0.00
9,350.00	58.44	89.71	9,189.10	-92.29	1,035.98	1,035.98	10.00	10.00	0.00
9,400.00	63.44	89.71	9,213.38	-92.07	1,079.67	1,079.67	10.00	10.00	0.00
9,450.00	68.44	89.71	9,233.75	-91.84	1,125.32	1,125.32	10.00	10.00	0.00
9,500.00	73.44	89.71	9,250.07	-91.60	1,172.56	1,172.56	10.00	10.00	0.00
9,532.45	76.69	89.71	9,258.44	-91.44	1,203.90	1,203.90	10.00	10.00	0.00
FTP[SMITB#4H]									
9,550.00	78.44	89.71	9,262.22	-91.35	1,221.05	1,221.05	10.00	10.00	0.00
9,600.00	83.44	89.71	9,270.08	-91.10	1,270.41	1,270.41	10.00	10.00	0.00
9,654.57	88.90	89.71	9,273.73	-90.83	1,324.84	1,324.84	10.00	10.00	0.00
EOC - HOLD									
9,700.00	88.90	89.71	9,274.60	-90.60	1,370.25	1,370.25	0.00	0.00	0.00
9,800.00	88.90	89.71	9,276.52	-90.09	1,470.23	1,470.23	0.00	0.00	0.00
9,900.00	88.90	89.71	9,278.44	-89.59	1,570.21	1,570.21	0.00	0.00	0.00
10,000.00	88.90	89.71	9,280.36	-89.08	1,670.20	1,670.20	0.00	0.00	0.00
10,100.00	88.90	89.71	9,282.28	-88.58	1,770.18	1,770.18	0.00	0.00	0.00
10,200.00	88.90	89.71	9,284.20	-88.07	1,870.16	1,870.16	0.00	0.00	0.00
10,300.00	88.90	89.71	9,286.12	-87.57	1,970.14	1,970.14	0.00	0.00	0.00
10,400.00	88.90	89.71	9,288.04	-87.06	2,070.12	2,070.12	0.00	0.00	0.00
10,500.00	88.90	89.71	9,289.96	-86.56	2,170.10	2,170.10	0.00	0.00	0.00
10,600.00	88.90	89.71	9,291.88	-86.05	2,270.08	2,270.08	0.00	0.00	0.00
10,658.53	88.90	89.71	9,293.00	-85.75	2,328.60	2,328.60	0.00	0.00	0.00
Wolfcamp									
10,700.00	88.90	89.71	9,293.80	-85.54	2,370.06	2,370.06	0.00	0.00	0.00
10,800.00	88.90	89.71	9,295.72	-85.04	2,470.04	2,470.04	0.00	0.00	0.00
10,900.00	88.90	89.71	9,297.64	-84.53	2,570.02	2,570.02	0.00	0.00	0.00
11,000.00	88.90	89.71	9,299.56	-84.03	2,670.00	2,670.00	0.00	0.00	0.00
11,100.00	88.90	89.71	9,301.48	-83.52	2,769.98	2,769.98	0.00	0.00	0.00
11,200.00	88.90	89.71	9,303.39	-83.02	2,869.96	2,869.96	0.00	0.00	0.00
11,300.00	88.90	89.71	9,305.31	-82.51	2,969.94	2,969.94	0.00	0.00	0.00
11,400.00	88.90	89.71	9,307.23	-82.01	3,069.92	3,069.92	0.00	0.00	0.00
11,500.00	88.90	89.71	9,309.15	-81.50	3,169.90	3,169.90	0.00	0.00	0.00
11,600.00	88.90	89.71	9,311.07	-81.00	3,269.88	3,269.88	0.00	0.00	0.00
11,700.00	88.90	89.71	9,312.99	-80.49	3,369.86	3,369.86	0.00	0.00	0.00
11,800.00	88.90	89.71	9,314.91	-79.98	3,469.84	3,469.84	0.00	0.00	0.00

Planning Report

Database: Midland District
Company: Marathon Oil Permian, LLC
Project: Eddy County, NM (NAD27)
Site: Squirrel Master Fee 23-28-5
Well: TB #4H
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well TB #4H
TVD Reference: KB = 26.5' @ 3056.50usft (Rig TBD)
MD Reference: KB = 26.5' @ 3056.50usft (Rig TBD)
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)
11,900.00	88.90	89.71	9,316.83	-79.48	3,569.82	3,569.82	0.00	0.00	0.00
12,000.00	88.90	89.71	9,318.75	-78.97	3,669.80	3,669.80	0.00	0.00	0.00
12,100.00	88.90	89.71	9,320.67	-78.47	3,769.78	3,769.78	0.00	0.00	0.00
12,200.00	88.90	89.71	9,322.59	-77.96	3,869.76	3,869.76	0.00	0.00	0.00
12,300.00	88.90	89.71	9,324.51	-77.46	3,969.74	3,969.74	0.00	0.00	0.00
12,400.00	88.90	89.71	9,326.43	-76.95	4,069.72	4,069.72	0.00	0.00	0.00
12,500.00	88.90	89.71	9,328.35	-76.45	4,169.70	4,169.70	0.00	0.00	0.00
12,600.00	88.90	89.71	9,330.27	-75.94	4,269.68	4,269.68	0.00	0.00	0.00
12,700.00	88.90	89.71	9,332.19	-75.43	4,369.66	4,369.66	0.00	0.00	0.00
12,800.00	88.90	89.71	9,334.11	-74.93	4,469.64	4,469.64	0.00	0.00	0.00
12,900.00	88.90	89.71	9,336.03	-74.42	4,569.62	4,569.62	0.00	0.00	0.00
13,000.00	88.90	89.71	9,337.95	-73.92	4,669.60	4,669.60	0.00	0.00	0.00
13,100.00	88.90	89.71	9,339.87	-73.41	4,769.58	4,769.58	0.00	0.00	0.00
13,200.00	88.90	89.71	9,341.79	-72.91	4,869.56	4,869.56	0.00	0.00	0.00
13,300.00	88.90	89.71	9,343.71	-72.40	4,969.55	4,969.55	0.00	0.00	0.00
13,400.00	88.90	89.71	9,345.63	-71.90	5,069.53	5,069.53	0.00	0.00	0.00
13,500.00	88.90	89.71	9,347.55	-71.39	5,169.51	5,169.51	0.00	0.00	0.00
13,600.00	88.90	89.71	9,349.47	-70.89	5,269.49	5,269.49	0.00	0.00	0.00
13,700.00	88.90	89.71	9,351.39	-70.38	5,369.47	5,369.47	0.00	0.00	0.00
13,800.00	88.90	89.71	9,353.31	-69.87	5,469.45	5,469.45	0.00	0.00	0.00
13,900.00	88.90	89.71	9,355.23	-69.37	5,569.43	5,569.43	0.00	0.00	0.00
14,000.00	88.90	89.71	9,357.15	-68.86	5,669.41	5,669.41	0.00	0.00	0.00
14,100.00	88.90	89.71	9,359.07	-68.36	5,769.39	5,769.39	0.00	0.00	0.00
14,200.00	88.90	89.71	9,360.99	-67.85	5,869.37	5,869.37	0.00	0.00	0.00
14,252.76	88.90	89.71	9,362.00	-67.59	5,922.12	5,922.12	0.00	0.00	0.00
TD at 14252.76 - BHL[SM/TB#4H]									
14,297.76	88.90	89.71	9,362.86	-67.36	5,967.11	5,967.11	0.00	0.00	0.00
TD +48' VS									

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (bearing)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
FTP[SM/TB#4H]	0.00	0.00	8,954.00	-91.15	1,280.13	486,438.68	567,043.18	32° 20' 13.737 N	104° 6' 58.549 W
- hit/miss target									
- Shape									
- plan misses target center by 314.02usft at 9559.83usft MD (9264.10 TVD, -91.31 N, 1230.69 E)									
- Point									
BHL[SM/TB#4H]	0.00	0.00	9,362.00	-67.59	5,922.12	486,462.24	571,684.77	32° 20' 13.873 N	104° 6' 4.446 W
- plan hits target center									
- Point									

Planning Report

Database:	Midland District	Local Co-ordinate Reference:	Well TB #4H
Company:	Marathon Oil Permian, LLC	TVD Reference:	KB = 26.5' @ 3056.50usft (Rig TBD)
Project:	Eddy County, NM (NAD27)	MD Reference:	KB = 26.5' @ 3056.50usft (Rig TBD)
Site:	Squirrel Master Fee 23-28-5	North Reference:	Grid
Well:	TB #4H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (bearing)	
461.00	461.00	Salado/Castile				
2,411.00	2,411.00	Lamar				
2,472.00	2,472.00	Bell Canyon				
3,269.09	3,267.00	Cherry Canyon				
4,507.89	4,487.00	Brushy Canyon				
5,957.91	5,915.00	Bone Spring				
6,957.09	6,899.00	1st Bone Spring Sand				
7,763.70	7,699.00	2nd Bone Spring Sand				
9,027.75	8,954.00	3rd Bone Spring Sand				
10,658.53	9,293.00	Wolfcamp				

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
2,800.00	2,800.00	0.00	0.00	KOP - Build 2.0° / 100	
3,300.00	3,297.47	-5.30	43.20	EOB - HOLD	
7,225.00	7,162.84	-88.37	719.69	DROP 2.0° / 100	
7,725.00	7,660.30	-93.67	762.89	EOD - HOLD	
8,765.57	8,700.87	-93.67	762.89	Curve KOP - Build 10.0° / 100	
9,654.57	9,273.73	-90.83	1,324.84	EOC - HOLD	
14,252.76	9,362.00	-67.59	5,922.12	TD at 14252.76	
14,297.76	9,362.86	-67.36	5,967.11	TD +45' VS	

Marathon Oil Corporation

EDDY COUNTY, NM (NAD27)
SQUIRREL MASTER FEE 23-28-5
TB #4H

PLAN #1
RIG TBD

WELL DETAILS:

Ground Level: 3030.00
+N/-S 0.00 +E/-W 0.00
Northing 486529.82 Easting 565783.16 Latitude 32° 20' 14.664 N Longitude 104° 7' 13.466 W

SECTION DETAILS

MD	INC	Δ21	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	
2800.00	0.00	0.00	2800.00	0.00	0.00	0.00	0.00	0.00	
3300.00	10.00	97.00	3297.47	-5.30	43.20	2.00	97.00	43.20	
7225.00	10.00	97.00	7162.84	-88.37	719.69	0.00	0.00	719.69	
7725.00	0.00	0.00	7660.30	-93.67	762.89	2.00	180.00	762.89	
8765.57	0.00	0.00	8700.87	-93.67	762.89	0.00	0.00	762.89	
9654.57	88.90	89.71	9273.73	-90.83	1324.84	10.00	89.71	1324.84	
14252.76	88.90	89.71	9362.00	-87.59	5922.12	0.00	0.00	5922.12	
14297.76	88.90	89.71	9362.00	-87.59	5967.11	0.00	0.00	5967.11	

BHL[SM/TB#4H]

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting
FTP[SM/TB#4H]	9273.00	-91.15	1280.13	486438.68	567043.16
BHL[SM/TB#4H]	9362.00	-87.59	5922.12	486462.24	571084.77

DRILLING TARGET: 9248 'TVD @ OVS // 88.9° INC.

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



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

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

FORMATION TOP DETAILS

TVD PATH	MD PATH	FORMATION
461.00	461.00	SALADO/CASTILE
2411.00	2411.00	LAMAR
2472.00	2472.00	BELL CANYON
3267.00	3269.09	CHERRY CANYON
4487.00	4507.89	BRUSHY CANYON
5915.00	5957.91	BONE SPRING
6899.00	69571.89	BONE SPRING SAND
7699.00	77632.80	BONE SPRING SAND
8954.00	90273.85	BONE SPRING SAND
9293.00	10658.53	WOLFCAMP

SITE DETAILS: Squirrel Master Fee 23-28-5
Site Centre Northing: 486528.83
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 TB #4H, Grid North
Latitude: 32° 20' 14.664 N
Longitude: 104° 7' 13.466 W
Grid East: 565783.16
Grid North: 486529.82
Scale Factor: 1.000

Geomagnetic Model: HDGM
Sample Date: 05-Apr-18
Magnetic Declination: 7.28°
Dip Angle from Horizontal: 80.12°
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

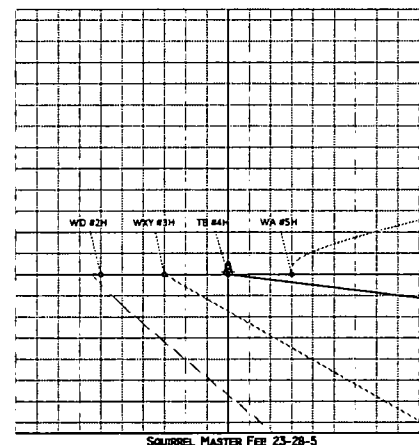
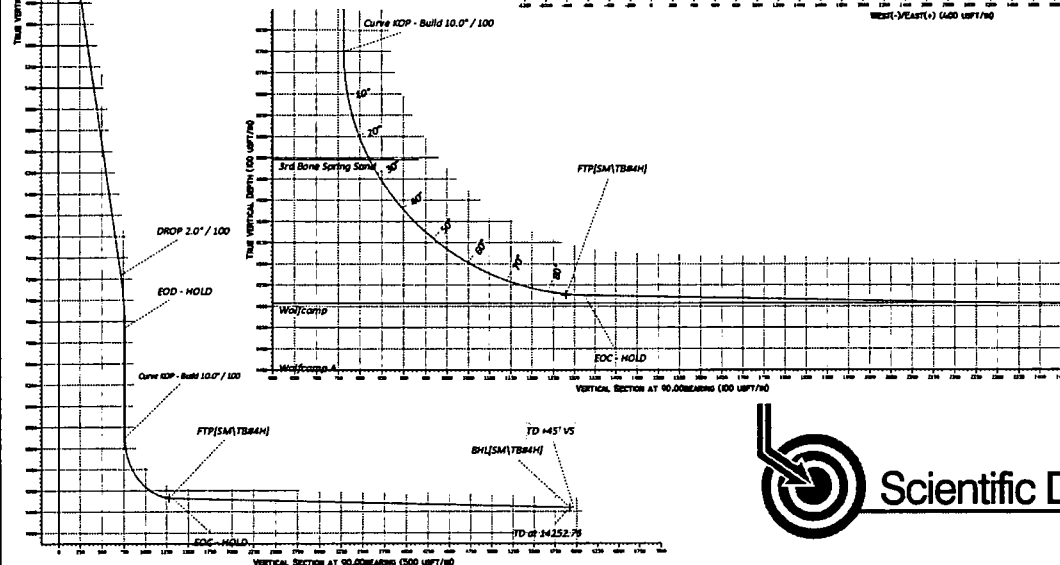
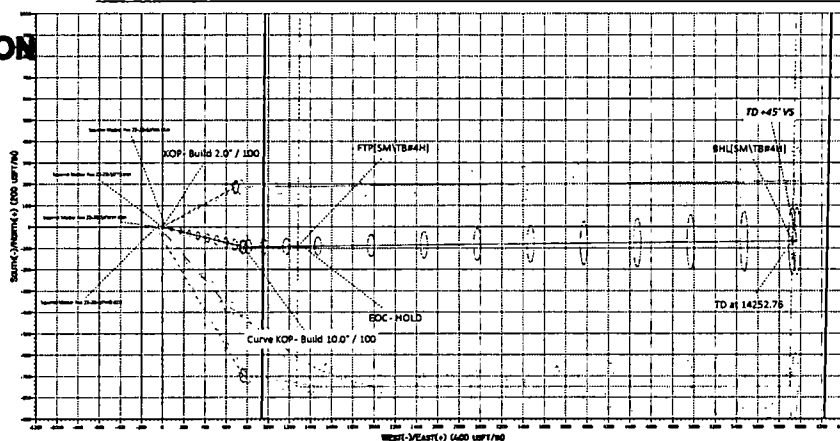
System Datum: Mean Sea Level

NM OIL CONSERVATION
ARTESIA DISTRICT

APR 10 2018

RECEIVED

GL ELEV.: 3030.00
DEPTH REF. KB = 26.5' @ 3056.50USFT (RIG TBD)



Scientific Drilling