

Marathon Oil Permian, LLC

Eddy County, NM (NAD27)

Macho Grande State 23-29-32

WXY #10H

30-015-44789

OH

Plan: Plan #1

NM OIL CONSERVATION
ARTESIA DISTRICT

FEB 27 2018

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Standard Planning Report

20 February, 2018



www.scientificdrilling.com

Planning Report

Office:	Midland District	Well WXY #10H
Company:	Marathon Oil Permian, LLC	KB = 26.5' @ 3012.50usft (H&P Rig)
Project:	Eddy County, NM (NAD27)	KB = 26.5' @ 3012.50usft (H&P Rig)
Site:	Macho Grande State 23-29-32	Grid
Well:	WXY #10H	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:	Macho Grande State 23-29-32		
Site Position:		Northing:	456,528.72 usft
From:	Map	Easting:	603,060.91 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16"
		Latitude:	32° 15' 16.828 N
		Longitude:	103° 59' 59.817 W
		Grid Convergence:	0.18 °

Well:	WXY #10H		
Well Position	+N-S	0.00 usft	Northing:
	+E-W	90.01 usft	Easting:
Position Uncertainty	0.00 usft	Wellhead Elevation:	0.00 usft
		Ground Level:	2,986.00 usft
		Latitude:	32° 15' 16.826 N
		Longitude:	103° 59' 58.769 W

Wellbore:	OH		
Map Date:	2/20/2018	Map Scale:	7.15
Map System:	HDGM	Map Zone:	60.05
Map Datum:		Map Projection:	48,049

Design:	Plan #1		
Audit Notes:			
Version:	Phase:	PLAN	Tie On Depth:
			0.00
Vertical Datum:	Depth From (TVD)	SLA	SEAD
	(ft)	(ft)	(ft)
	0.00	0.00	0.00

Plan Section:									
Interval	Interval	Interval	Interval	Interval	Interval	Interval	Interval	Interval	Interval
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	8.00	122.00	3,398.70	-14.77	23.64	2.00	2.00	0.00	122.00
5,570.00	8.00	122.00	5,547.58	-174.81	279.76	0.00	0.00	0.00	0.00
5,970.00	0.00	0.00	5,946.28	-189.59	303.40	2.00	-2.00	0.00	180.00
9,402.77	0.00	0.00	9,379.05	-189.59	303.40	0.00	0.00	0.00	0.00
10,304.77	90.20	358.76	9,952.01	385.24	290.98	10.00	10.00	0.00	358.76
14,603.88	90.20	358.76	9,937.00	4,683.32	198.11	0.00	0.00	0.00	0.00 BHL(MGSWXY#10H)
14,648.89	90.20	358.76	9,936.84	4,728.32	197.13	0.00	0.00	0.00	0.00

Planning Report

Client:	Midland District	Well:	Well WXY #10H
Company:	Marathon Oil Permian, LLC	KB:	KB = 26.5' @ 3012.50ust (H&P Rig)
Project:	Eddy County, NM (NAD27)	KB:	KB = 26.5' @ 3012.50ust (H&P Rig)
Site:	Macho Grande State 23-29-32	Grid:	Grid
Well:	WXY #10H	Minimum Curvature:	Minimum Curvature
Wellbore:	OH		
Plan:	Plan #1		

Station	Depth	Interval	Interval	Interval	Interval	Interval	Interval	Interval	Interval
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
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
182.00	0.00	0.00	182.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustler									
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
325.00	0.00	0.00	325.00	0.00	0.00	0.00	0.00	0.00	0.00
Salado/Castle									
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
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
2,500.00	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
2,816.00	0.00	0.00	2,816.00	0.00	0.00	0.00	0.00	0.00	0.00
Base of Salt									
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,945.00	0.00	0.00	2,945.00	0.00	0.00	0.00	0.00	0.00	0.00
Lamar									
2,974.00	0.00	0.00	2,974.00	0.00	0.00	0.00	0.00	0.00	0.00
Bell Canyon									
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
KOP - Build 2.0° / 100									
3,056.00	1.12	122.00	3,056.00	-0.29	0.46	-0.29	2.00	2.00	0.00
Cherry Canyon									
3,100.00	2.00	122.00	3,099.98	-0.92	1.48	-0.92	2.00	2.00	0.00
3,200.00	4.00	122.00	3,199.84	-3.70	5.92	-3.70	2.00	2.00	0.00
3,300.00	6.00	122.00	3,299.45	-8.32	13.31	-8.32	2.00	2.00	0.00
3,400.00	8.00	122.00	3,398.70	-14.77	23.64	-14.77	2.00	2.00	0.00
EOB - HOLD									
3,500.00	8.00	122.00	3,497.73	-22.15	35.45	-22.15	0.00	0.00	0.00
3,600.00	8.00	122.00	3,596.76	-29.52	47.25	-29.52	0.00	0.00	0.00
3,700.00	8.00	122.00	3,695.78	-36.90	59.05	-36.90	0.00	0.00	0.00
3,800.00	8.00	122.00	3,794.81	-44.27	70.85	-44.27	0.00	0.00	0.00

Planning Report

Client:	Midland District	Well:	Well WXY #10H
Company:	Marathon Oil Permian, LLC	KB = 26.5' @ 3012.50usft (H&P Rig)	
Location:	Eddy County, NM (NAD27)	KB = 26.5' @ 3012.50usft (H&P Rig)	
Section:	Macho Grande State 23-29-32	Grid	
Well:	WXY #10H	Minimum Curvature	
Wellbore:	OH		
Depth:	Plan #1		

Measured Depth (ft)	Interval (ft)	Assumed (ft)	Vertical Depth (ft)	True Depth (ft)	True Depth (ft)	True Depth (ft)	True Depth (ft)	True Depth (ft)	True Depth (ft)
3,900.00	8.00	122.00	3,893.84	-51.65	82.66	-51.65	0.00	0.00	0.00
4,000.00	8.00	122.00	3,992.86	-59.02	94.46	-59.02	0.00	0.00	0.00
4,100.00	8.00	122.00	4,091.89	-66.40	106.26	-66.40	0.00	0.00	0.00
4,200.00	8.00	122.00	4,190.92	-73.77	118.06	-73.77	0.00	0.00	0.00
4,300.00	8.00	122.00	4,289.94	-81.15	129.87	-81.15	0.00	0.00	0.00
4,400.00	8.00	122.00	4,388.97	-88.52	141.67	-88.52	0.00	0.00	0.00
4,500.00	8.00	122.00	4,488.00	-95.90	153.47	-95.90	0.00	0.00	0.00
4,600.00	8.00	122.00	4,587.02	-103.27	165.27	-103.27	0.00	0.00	0.00
4,700.00	8.00	122.00	4,686.05	-110.65	177.08	-110.65	0.00	0.00	0.00
4,800.00	8.00	122.00	4,785.08	-118.02	188.88	-118.02	0.00	0.00	0.00
4,900.00	8.00	122.00	4,884.10	-125.40	200.68	-125.40	0.00	0.00	0.00
5,000.00	8.00	122.00	4,983.13	-132.77	212.48	-132.77	0.00	0.00	0.00
5,001.89	8.00	122.00	4,985.00	-132.91	212.71	-132.91	0.00	0.00	0.00
Brushy Canyon									
5,100.00	8.00	122.00	5,082.16	-140.15	224.29	-140.15	0.00	0.00	0.00
5,200.00	8.00	122.00	5,181.18	-147.53	236.09	-147.53	0.00	0.00	0.00
5,300.00	8.00	122.00	5,280.21	-154.90	247.89	-154.90	0.00	0.00	0.00
5,400.00	8.00	122.00	5,379.24	-162.28	259.69	-162.28	0.00	0.00	0.00
5,500.00	8.00	122.00	5,478.26	-169.65	271.50	-169.65	0.00	0.00	0.00
5,570.00	8.00	122.00	5,547.58	-174.81	279.76	-174.81	0.00	0.00	0.00
DROP 2.0° / 100									
5,600.00	7.40	122.00	5,577.31	-176.94	283.17	-176.94	2.00	-2.00	0.00
5,700.00	5.40	122.00	5,676.68	-182.85	292.62	-182.85	2.00	-2.00	0.00
5,800.00	3.40	122.00	5,776.38	-186.91	299.13	-186.91	2.00	-2.00	0.00
5,900.00	1.40	122.00	5,876.29	-189.13	302.68	-189.13	2.00	-2.00	0.00
5,970.00	0.00	0.00	5,946.28	-189.59	303.40	-189.59	2.00	-2.00	0.00
EOD - HOLD									
6,000.00	0.00	0.00	5,976.28	-189.59	303.40	-189.59	0.00	0.00	0.00
6,100.00	0.00	0.00	6,076.28	-189.59	303.40	-189.59	0.00	0.00	0.00
6,200.00	0.00	0.00	6,176.28	-189.59	303.40	-189.59	0.00	0.00	0.00
6,300.00	0.00	0.00	6,276.28	-189.59	303.40	-189.59	0.00	0.00	0.00
6,400.00	0.00	0.00	6,376.28	-189.59	303.40	-189.59	0.00	0.00	0.00
6,500.00	0.00	0.00	6,476.28	-189.59	303.40	-189.59	0.00	0.00	0.00
6,600.00	0.00	0.00	6,576.28	-189.59	303.40	-189.59	0.00	0.00	0.00
6,645.72	0.00	0.00	6,622.00	-189.59	303.40	-189.59	0.00	0.00	0.00
Bone Spring									
6,700.00	0.00	0.00	6,676.28	-189.59	303.40	-189.59	0.00	0.00	0.00
6,800.00	0.00	0.00	6,776.28	-189.59	303.40	-189.59	0.00	0.00	0.00
6,900.00	0.00	0.00	6,876.28	-189.59	303.40	-189.59	0.00	0.00	0.00
7,000.00	0.00	0.00	6,976.28	-189.59	303.40	-189.59	0.00	0.00	0.00
7,100.00	0.00	0.00	7,076.28	-189.59	303.40	-189.59	0.00	0.00	0.00
7,200.00	0.00	0.00	7,176.29	-189.59	303.40	-189.59	0.00	0.00	0.00
7,300.00	0.00	0.00	7,276.29	-189.59	303.40	-189.59	0.00	0.00	0.00
7,400.00	0.00	0.00	7,376.29	-189.59	303.40	-189.59	0.00	0.00	0.00
7,500.00	0.00	0.00	7,476.29	-189.59	303.40	-189.59	0.00	0.00	0.00
7,600.00	0.00	0.00	7,576.29	-189.59	303.40	-189.59	0.00	0.00	0.00
7,647.72	0.00	0.00	7,624.00	-189.59	303.40	-189.59	0.00	0.00	0.00
1st Bone Spring Sand									
7,700.00	0.00	0.00	7,676.29	-189.59	303.40	-189.59	0.00	0.00	0.00
7,800.00	0.00	0.00	7,776.29	-189.59	303.40	-189.59	0.00	0.00	0.00
7,900.00	0.00	0.00	7,876.29	-189.59	303.40	-189.59	0.00	0.00	0.00
8,000.00	0.00	0.00	7,976.29	-189.59	303.40	-189.59	0.00	0.00	0.00
8,100.00	0.00	0.00	8,076.29	-189.59	303.40	-189.59	0.00	0.00	0.00
8,200.00	0.00	0.00	8,176.29	-189.59	303.40	-189.59	0.00	0.00	0.00

Planning Report

Midland District Marathon Oil Permian, LLC Eddy County, NM (NAD27) Macho Grande State 23-29-32 WXY #10H OH Plan #1	Well WXY #10H KB = 26.5' @ 3012.50usft (H&P Rig) KB = 26.5' @ 3012.50usft (H&P Rig) Grid Minimum Curvature
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Station	Offset	Angle	Dist	Delta	Delta	Delta	Delta	Delta	Delta
(+/-)	(+/-)	(+/-)	(+/-)	(+/-)	(+/-)	(+/-)	(+/-)	(+/-)	(+/-)
8,300.00	0.00	0.00	8,276.29	-189.59	303.40	-189.59	0.00	0.00	0.00
8,400.00	0.00	0.00	8,376.29	-189.59	303.40	-189.59	0.00	0.00	0.00
8,418.72	0.00	0.00	8,395.00	-189.59	303.40	-189.59	0.00	0.00	0.00
2nd Bone Spring Sand									
8,500.00	0.00	0.00	8,476.29	-189.59	303.40	-189.59	0.00	0.00	0.00
8,600.00	0.00	0.00	8,576.29	-189.59	303.40	-189.59	0.00	0.00	0.00
8,700.00	0.00	0.00	8,676.29	-189.59	303.40	-189.59	0.00	0.00	0.00
8,800.00	0.00	0.00	8,776.29	-189.59	303.40	-189.59	0.00	0.00	0.00
8,900.00	0.00	0.00	8,876.29	-189.59	303.40	-189.59	0.00	0.00	0.00
9,000.00	0.00	0.00	8,976.29	-189.59	303.40	-189.59	0.00	0.00	0.00
9,100.00	0.00	0.00	9,076.29	-189.59	303.40	-189.59	0.00	0.00	0.00
9,200.00	0.00	0.00	9,176.29	-189.59	303.40	-189.59	0.00	0.00	0.00
9,300.00	0.00	0.00	9,276.29	-189.59	303.40	-189.59	0.00	0.00	0.00
9,402.77	0.00	0.00	9,379.05	-189.59	303.40	-189.59	0.00	0.00	0.00
Curve KOP - Build 10.0° / 100									
9,450.00	4.72	358.76	9,426.23	-187.64	303.36	-187.64	10.00	10.00	0.00
9,500.00	9.72	358.76	9,475.82	-181.36	303.22	-181.36	10.00	10.00	0.00
9,550.00	14.72	358.76	9,524.67	-170.78	303.00	-170.78	10.00	10.00	0.00
9,573.22	17.05	358.76	9,547.00	-164.43	302.86	-164.43	10.00	10.00	0.00
3rd Bone Spring Sand									
9,600.00	19.72	358.76	9,572.41	-155.98	302.68	-155.98	10.00	10.00	0.00
9,650.00	24.72	358.76	9,618.68	-137.08	302.27	-137.08	10.00	10.00	0.00
9,700.00	29.72	358.76	9,663.13	-114.22	301.77	-114.22	10.00	10.00	0.00
9,750.00	34.72	358.76	9,705.42	-87.57	301.20	-87.57	10.00	10.00	0.00
9,800.00	39.72	358.76	9,745.22	-57.34	300.54	-57.34	10.00	10.00	0.00
9,850.00	44.72	358.76	9,782.23	-23.76	299.82	-23.76	10.00	10.00	0.00
9,900.00	49.72	358.76	9,816.18	12.92	299.03	12.92	10.00	10.00	0.00
9,950.00	54.72	358.76	9,846.80	52.42	298.17	52.42	10.00	10.00	0.00
10,000.00	59.72	358.76	9,873.86	94.43	297.27	94.43	10.00	10.00	0.00
10,003.43	60.07	358.76	9,875.58	97.40	297.20	97.40	10.00	10.00	0.00
FTP[MGSWXY#10H]									
10,031.53	62.88	358.76	9,889.00	122.08	296.67	122.08	10.00	10.00	0.00
Wolfcamp									
10,050.00	64.72	358.76	9,897.15	138.65	296.31	138.65	10.00	10.00	0.00
10,092.89	69.01	358.76	9,914.00	178.07	295.46	178.07	10.00	10.00	0.00
Wolfcamp X Sand									
10,100.00	69.72	358.76	9,916.50	184.72	295.31	184.72	10.00	10.00	0.00
10,150.00	74.72	358.76	9,931.76	232.31	294.29	232.31	10.00	10.00	0.00
10,200.00	79.72	358.76	9,942.82	281.04	293.23	281.04	10.00	10.00	0.00
10,250.00	84.72	358.76	9,949.58	330.56	292.16	330.56	10.00	10.00	0.00
10,304.77	90.20	358.76	9,952.01	385.24	290.98	385.24	10.00	10.00	0.00
EOC - HOLD									
10,400.00	90.20	358.76	9,951.67	480.45	288.92	480.45	0.00	0.00	0.00
10,500.00	90.20	358.76	9,951.33	580.42	286.76	580.42	0.00	0.00	0.00
10,600.00	90.20	358.76	9,950.98	680.40	284.60	680.40	0.00	0.00	0.00
10,700.00	90.20	358.76	9,950.63	780.37	282.44	780.37	0.00	0.00	0.00
10,800.00	90.20	358.76	9,950.28	880.35	280.28	880.35	0.00	0.00	0.00
10,900.00	90.20	358.76	9,949.93	980.33	278.12	980.33	0.00	0.00	0.00
11,000.00	90.20	358.76	9,949.58	1,080.30	275.96	1,080.30	0.00	0.00	0.00
11,100.00	90.20	358.76	9,949.23	1,180.28	273.80	1,180.28	0.00	0.00	0.00
11,200.00	90.20	358.76	9,948.88	1,280.25	271.64	1,280.25	0.00	0.00	0.00
11,300.00	90.20	358.76	9,948.53	1,380.23	269.48	1,380.23	0.00	0.00	0.00
11,400.00	90.20	358.76	9,948.18	1,480.21	267.32	1,480.21	0.00	0.00	0.00

Planning Report

Client:	Midland District	Well WXY #10H
Company:	Marathon Oil Permian, LLC	KB = 26.5' @ 3012.50usft (H&P Rig)
Project:	Eddy County, NM (NAD27)	KB = 26.5' @ 3012.50usft (H&P Rig)
Site:	Macho Grande State 23-29-32	Grid
Well:	WXY #10H	Minimum Curvature
Wellbore:	OH	
Position:	Plan #1	

Depth (ft)	Interval (ft)	Area (sq ft)	Volume (cu ft)	Weight (lb)	Volume (cu ft)	Weight (lb)	Volume (cu ft)	Weight (lb)	Volume (cu ft)	Weight (lb)
11,500.00	90.20	358.76	9,947.83	1,580.18	265.16	1,580.18	0.00	0.00	0.00	0.00
11,600.00	90.20	358.76	9,947.49	1,680.16	263.00	1,680.16	0.00	0.00	0.00	0.00
11,700.00	90.20	358.76	9,947.14	1,780.14	260.84	1,780.14	0.00	0.00	0.00	0.00
11,800.00	90.20	358.76	9,946.79	1,880.11	258.68	1,880.11	0.00	0.00	0.00	0.00
11,900.00	90.20	358.76	9,946.44	1,980.09	256.52	1,980.09	0.00	0.00	0.00	0.00
12,000.00	90.20	358.76	9,946.09	2,080.06	254.36	2,080.06	0.00	0.00	0.00	0.00
12,100.00	90.20	358.76	9,945.74	2,180.04	252.20	2,180.04	0.00	0.00	0.00	0.00
12,200.00	90.20	358.76	9,945.39	2,280.02	250.04	2,280.02	0.00	0.00	0.00	0.00
12,300.00	90.20	358.76	9,945.04	2,379.99	247.88	2,379.99	0.00	0.00	0.00	0.00
12,400.00	90.20	358.76	9,944.69	2,479.97	245.72	2,479.97	0.00	0.00	0.00	0.00
12,500.00	90.20	358.76	9,944.34	2,579.94	243.56	2,579.94	0.00	0.00	0.00	0.00
12,600.00	90.20	358.76	9,944.00	2,679.92	241.40	2,679.92	0.00	0.00	0.00	0.00
12,700.00	90.20	358.76	9,943.65	2,779.90	239.24	2,779.90	0.00	0.00	0.00	0.00
12,800.00	90.20	358.76	9,943.30	2,879.87	237.08	2,879.87	0.00	0.00	0.00	0.00
12,900.00	90.20	358.76	9,942.95	2,979.85	234.92	2,979.85	0.00	0.00	0.00	0.00
13,000.00	90.20	358.76	9,942.60	3,079.82	232.75	3,079.82	0.00	0.00	0.00	0.00
13,100.00	90.20	358.76	9,942.25	3,179.80	230.59	3,179.80	0.00	0.00	0.00	0.00
13,200.00	90.20	358.76	9,941.90	3,279.78	228.43	3,279.78	0.00	0.00	0.00	0.00
13,300.00	90.20	358.76	9,941.55	3,379.75	226.27	3,379.75	0.00	0.00	0.00	0.00
13,400.00	90.20	358.76	9,941.20	3,479.73	224.11	3,479.73	0.00	0.00	0.00	0.00
13,500.00	90.20	358.76	9,940.85	3,579.70	221.95	3,579.70	0.00	0.00	0.00	0.00
13,600.00	90.20	358.76	9,940.50	3,679.68	219.79	3,679.68	0.00	0.00	0.00	0.00
13,700.00	90.20	358.76	9,940.16	3,779.66	217.63	3,779.66	0.00	0.00	0.00	0.00
13,800.00	90.20	358.76	9,939.81	3,879.63	215.47	3,879.63	0.00	0.00	0.00	0.00
13,900.00	90.20	358.76	9,939.46	3,979.61	213.31	3,979.61	0.00	0.00	0.00	0.00
14,000.00	90.20	358.76	9,939.11	4,079.58	211.15	4,079.58	0.00	0.00	0.00	0.00
14,100.00	90.20	358.76	9,938.76	4,179.56	208.99	4,179.56	0.00	0.00	0.00	0.00
14,200.00	90.20	358.76	9,938.41	4,279.54	206.83	4,279.54	0.00	0.00	0.00	0.00
14,300.00	90.20	358.76	9,938.06	4,379.51	204.67	4,379.51	0.00	0.00	0.00	0.00
14,400.00	90.20	358.76	9,937.71	4,479.49	202.51	4,479.49	0.00	0.00	0.00	0.00
14,500.00	90.20	358.76	9,937.36	4,579.46	200.35	4,579.46	0.00	0.00	0.00	0.00
14,603.88	90.20	358.76	9,937.00	4,683.32	198.11	4,683.32	0.00	0.00	0.00	0.00
TD at 14603.88 - BHL[MGSWXY#10H]										
14,648.89	90.20	358.76	9,936.84	4,728.32	197.13	4,728.32	0.00	0.00	0.00	0.00
TD + 45' VS										

Point Name	Depth (ft)	Interval (ft)	Area (sq ft)	Volume (cu ft)	Weight (lb)	Volume (cu ft)	Weight (lb)	Volume (cu ft)	Weight (lb)
BHL[MGSWXY#10H]	0.00	0.01	9,937.00	4,683.32	198.11	461,211.67	603,349.00	32° 16' 3.163 N	103° 59' 56.292 W
- plan hits target center									
- Point									
FTP[MGSWXY#10H]	0.00	0.01	9,952.00	55.57	298.39	456,584.29	603,449.28	32° 15' 17.366 N	103° 59' 55.292 W
- plan misses target center by 87.13usft at 10003.43usft MD (9875.58 TVD, 97.40 N, 297.20 E)									
- Point									

Planning Report

Well Name	Midland District	Well WXY #10H
Company	Marathon Oil Permian, LLC	KB = 26.5' @ 3012.50usft (H&P Rig)
State	Eddy County, NM (NAD27)	KB = 26.5' @ 3012.50usft (H&P Rig)
Section	Macho Grande State 23-29-32	Grid
Well	WXY #10H	Minimum Curvature
Wellbore	OH	
Plan	Plan #1	

Formation	Depth (ft)	Top (ft)	Name	Depth (ft)	Top (ft)	Direction (ft)
	182.00	182.00	Rustler			
	325.00	325.00	Salado/Castle			
	2,816.00	2,816.00	Base of Salt			
	2,945.00	2,945.00	Lamar			
	2,974.00	2,974.00	Bell Canyon			
	3,056.00	3,056.00	Cherry Canyon			
	5,001.89	4,985.00	Brushy Canyon			
	6,645.72	6,622.00	Bone Spring			
	7,647.72	7,624.00	1st Bone Spring Sand			
	8,418.72	8,395.00	2nd Bone Spring Sand			
	9,573.22	9,547.00	3rd Bone Spring Sand			
	10,031.53	9,889.00	Wolfcamp			
	10,092.89	9,914.00	Wolfcamp X Sand			

Plan/Annotation	Depth (ft)	Top (ft)	Angle (deg)	Distance (ft)	Description
	3,000.00	3,000.00	0.00	0.00	KOP - Build 2.0° / 100
	3,400.00	3,398.70	-14.77	23.64	EOB - HOLD
	5,570.00	5,547.58	-174.81	279.76	DROP 2.0° / 100
	5,970.00	5,946.28	-189.59	303.40	EOD - HOLD
	9,402.77	9,379.05	-189.59	303.40	Curve KOP - Build 10.0° / 100
	10,304.77	9,952.01	385.24	290.98	EOC - HOLD
	14,603.88	9,937.00	4,683.32	198.11	TD at 14603.88
	14,648.89	9,936.84	4,728.32	197.13	TD + 45' VS

Marathon Oil Permian, LLC
WXY #10H - Plan #1

Eddy County, NM (NAD27)

Macho Grande State 23-29-32

Your Ref:

2/20/2018

Measured Depth (ft)	Incl.	Azim.	Vertical Depth (ft)	Northings (ft)	Eastings (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Grid X	Grid Y
0	0	0	0	0	0	0	0	603150.9	456528.7
3000	0	0	3000	0	0	0	0	603150.9	456528.7
3100	2	122	3099.98	-0.92	1.48	-0.92	2	603152.4	456527.8
3200	4	122	3199.84	-3.7	5.92	-3.7	2	603156.8	456525
3300	6	122	3299.45	-8.32	13.31	-8.32	2	603164.2	456520.4
3400	8	122	3398.7	-14.77	23.64	-14.77	2	603174.6	456514
3500	8	122	3497.73	-22.15	35.45	-22.15	0	603186.4	456506.6
3600	8	122	3596.76	-29.52	47.25	-29.52	0	603198.2	456499.2
3700	8	122	3695.78	-36.9	59.05	-36.9	0	603210	456491.8
3800	8	122	3794.81	-44.27	70.85	-44.27	0	603221.8	456484.5
3900	8	122	3893.84	-51.65	82.66	-51.65	0	603233.6	456477.1
4000	8	122	3992.86	-59.02	94.46	-59.02	0	603245.4	456469.7
4100	8	122	4091.89	-66.4	106.26	-66.4	0	603257.2	456462.3
4200	8	122	4190.92	-73.77	118.06	-73.77	0	603269	456455
4300	8	122	4289.94	-81.15	129.87	-81.15	0	603280.8	456447.6
4400	8	122	4388.97	-88.52	141.67	-88.52	0	603292.6	456440.2
4500	8	122	4488	-95.9	153.47	-95.9	0	603304.4	456432.8

4600	8	122	4587.02	-103.27	165.27	-103.27	0	603316.2	456425.5
4700	8	122	4686.05	-110.65	177.08	-110.65	0	603328	456418.1
4800	8	122	4785.08	-118.02	188.88	-118.02	0	603339.8	456410.7
4900	8	122	4884.1	-125.4	200.68	-125.4	0	603351.6	456403.3
5000	8	122	4983.13	-132.77	212.48	-132.77	0	603363.4	456396
5100	8	122	5082.16	-140.15	224.29	-140.15	0	603375.2	456388.6
5200	8	122	5181.18	-147.53	236.09	-147.53	0	603387	456381.2
5300	8	122	5280.21	-154.9	247.89	-154.9	0	603398.8	456373.8
5400	8	122	5379.24	-162.28	259.69	-162.28	0	603410.6	456366.5
5500	8	122	5478.26	-169.65	271.5	-169.65	0	603422.4	456359.1
5570	8	122	5547.58	-174.81	279.76	-174.81	0	603430.7	456353.9
5600	7.4	122	5577.31	-176.94	283.17	-176.94	2	603434.1	456351.8
5700	5.4	122	5676.68	-182.85	292.62	-182.85	2	603443.5	456345.9
5800	3.4	122	5776.38	-186.91	299.13	-186.91	2	603450	456341.8
5900	1.4	122	5876.29	-189.13	302.68	-189.13	2	603453.6	456339.6
5970	0	0	5946.28	-189.59	303.4	-189.59	2	603454.3	456339.2
6000	0	0	5976.28	-189.59	303.4	-189.59	0	603454.3	456339.2
6100	0	0	6076.28	-189.59	303.4	-189.59	0	603454.3	456339.2
6200	0	0	6176.28	-189.59	303.4	-189.59	0	603454.3	456339.2
6300	0	0	6276.28	-189.59	303.4	-189.59	0	603454.3	456339.2
6400	0	0	6376.28	-189.59	303.4	-189.59	0	603454.3	456339.2
6500	0	0	6476.28	-189.59	303.4	-189.59	0	603454.3	456339.2
6600	0	0	6576.28	-189.59	303.4	-189.59	0	603454.3	456339.2
6700	0	0	6676.28	-189.59	303.4	-189.59	0	603454.3	456339.2
6800	0	0	6776.28	-189.59	303.4	-189.59	0	603454.3	456339.2
6900	0	0	6876.28	-189.59	303.4	-189.59	0	603454.3	456339.2
7000	0	0	6976.28	-189.59	303.4	-189.59	0	603454.3	456339.2
7100	0	0	7076.28	-189.59	303.4	-189.59	0	603454.3	456339.2
7200	0	0	7176.28	-189.59	303.4	-189.59	0	603454.3	456339.2
7300	0	0	7276.28	-189.59	303.4	-189.59	0	603454.3	456339.2
7400	0	0	7376.28	-189.59	303.4	-189.59	0	603454.3	456339.2
7500	0	0	7476.28	-189.59	303.4	-189.59	0	603454.3	456339.2
7600	0	0	7576.28	-189.59	303.4	-189.59	0	603454.3	456339.2
7700	0	0	7676.28	-189.59	303.4	-189.59	0	603454.3	456339.2

7800	0	0	7776.28	-189.59	303.4	-189.59	0	603454.3	456339.2
7900	0	0	7876.28	-189.59	303.4	-189.59	0	603454.3	456339.2
8000	0	0	7976.28	-189.59	303.4	-189.59	0	603454.3	456339.2
8100	0	0	8076.28	-189.59	303.4	-189.59	0	603454.3	456339.2
8200	0	0	8176.28	-189.59	303.4	-189.59	0	603454.3	456339.2
8300	0	0	8276.28	-189.59	303.4	-189.59	0	603454.3	456339.2
8400	0	0	8376.28	-189.59	303.4	-189.59	0	603454.3	456339.2
8500	0	0	8476.28	-189.59	303.4	-189.59	0	603454.3	456339.2
8600	0	0	8576.28	-189.59	303.4	-189.59	0	603454.3	456339.2
8700	0	0	8676.28	-189.59	303.4	-189.59	0	603454.3	456339.2
8800	0	0	8776.28	-189.59	303.4	-189.59	0	603454.3	456339.2
8900	0	0	8876.28	-189.59	303.4	-189.59	0	603454.3	456339.2
9000	0	0	8976.28	-189.59	303.4	-189.59	0	603454.3	456339.2
9100	0	0	9076.28	-189.59	303.4	-189.59	0	603454.3	456339.2
9200	0	0	9176.28	-189.59	303.4	-189.59	0	603454.3	456339.2
9300	0	0	9276.28	-189.59	303.4	-189.59	0	603454.3	456339.2
9402.77	0	0	9379.05	-189.59	303.4	-189.59	0	603454.3	456339.2
9450	4.723	358.762	9426.23	-187.64	303.36	-187.64	10	603454.3	456341.1
9500	9.723	358.762	9475.82	-181.36	303.22	-181.36	10	603454.1	456347.4
9550	14.723	358.762	9524.67	-170.78	303	-170.78	10	603453.9	456358
9600	19.723	358.762	9572.41	-155.98	302.68	-155.98	10	603453.6	456372.8
9650	24.723	358.762	9618.68	-137.08	302.27	-137.08	10	603453.2	456391.7
9700	29.723	358.762	9663.13	-114.22	301.77	-114.22	10	603452.7	456414.5
9750	34.723	358.762	9705.42	-87.57	301.2	-87.57	10	603452.1	456441.2
9800	39.723	358.762	9745.22	-57.34	300.54	-57.34	10	603451.4	456471.4
9850	44.723	358.762	9782.23	-23.76	299.82	-23.76	10	603450.7	456505
9900	49.723	358.762	9816.18	12.92	299.03	12.92	10	603449.9	456541.6
9950	54.723	358.762	9846.8	52.42	298.17	52.42	10	603449.1	456581.1
10000	59.723	358.762	9873.86	94.43	297.27	94.43	10	603448.2	456623.1
10050	64.723	358.762	9897.15	138.65	296.31	138.65	10	603447.2	456667.4
10100	69.723	358.762	9916.5	184.72	295.31	184.72	10	603446.2	456713.4
10150	74.723	358.762	9931.76	232.31	294.29	232.31	10	603445.2	456761
10200	79.723	358.762	9942.82	281.04	293.23	281.04	10	603444.1	456809.7
10250	84.723	358.762	9949.58	330.56	292.16	330.56	10	603443.1	456859.3

10304.77	90.2	358.762	9952.01	385.24	290.98	385.24	10	603441.9	456913.9
10400	90.2	358.762	9951.67	480.45	288.92	480.45	0	603439.8	457009.1
10500	90.2	358.762	9951.33	580.42	286.76	580.42	0	603437.7	457109.1
10600	90.2	358.762	9950.98	680.4	284.6	680.4	0	603435.5	457209.1
10700	90.2	358.762	9950.63	780.37	282.44	780.37	0	603433.3	457309
10800	90.2	358.762	9950.28	880.35	280.28	880.35	0	603431.2	457409
10900	90.2	358.762	9949.93	980.33	278.12	980.33	0	603429	457509
11000	90.2	358.762	9949.58	1080.3	275.96	1080.3	0	603426.9	457608.9
11100	90.2	358.762	9949.23	1180.28	273.8	1180.28	0	603424.7	457708.9
11200	90.2	358.762	9948.88	1280.25	271.64	1280.25	0	603422.5	457808.9
11300	90.2	358.762	9948.53	1380.23	269.48	1380.23	0	603420.4	457908.8
11400	90.2	358.762	9948.18	1480.21	267.32	1480.21	0	603418.2	458008.8
11500	90.2	358.762	9947.83	1580.18	265.16	1580.18	0	603416.1	458108.8
11600	90.2	358.762	9947.49	1680.16	263	1680.16	0	603413.9	458208.8
11700	90.2	358.762	9947.14	1780.14	260.84	1780.14	0	603411.7	458308.7
11800	90.2	358.762	9946.79	1880.11	258.68	1880.11	0	603409.6	458408.7
11900	90.2	358.762	9946.44	1980.09	256.52	1980.09	0	603407.4	458508.7
12000	90.2	358.762	9946.09	2080.06	254.36	2080.06	0	603405.3	458608.6
12100	90.2	358.762	9945.74	2180.04	252.2	2180.04	0	603403.1	458708.6
12200	90.2	358.762	9945.39	2280.02	250.04	2280.02	0	603400.9	458808.6
12300	90.2	358.762	9945.04	2379.99	247.88	2379.99	0	603398.8	458908.5
12400	90.2	358.762	9944.69	2479.97	245.72	2479.97	0	603396.6	459008.5
12500	90.2	358.762	9944.34	2579.94	243.56	2579.94	0	603394.5	459108.5
12600	90.2	358.762	9943.99	2679.92	241.4	2679.92	0	603392.3	459208.4
12700	90.2	358.762	9943.65	2779.9	239.24	2779.9	0	603390.1	459308.4
12800	90.2	358.762	9943.3	2879.87	237.08	2879.87	0	603388	459408.4
12900	90.2	358.762	9942.95	2979.85	234.92	2979.85	0	603385.8	459508.3
13000	90.2	358.762	9942.6	3079.82	232.75	3079.82	0	603383.7	459608.3
13100	90.2	358.762	9942.25	3179.8	230.59	3179.8	0	603381.5	459708.3
13200	90.2	358.762	9941.9	3279.78	228.43	3279.78	0	603379.3	459808.2
13300	90.2	358.762	9941.55	3379.75	226.27	3379.75	0	603377.2	459908.2
13400	90.2	358.762	9941.2	3479.73	224.11	3479.73	0	603375	460008.2
13500	90.2	358.762	9940.85	3579.7	221.95	3579.7	0	603372.9	460108.1
13600	90.2	358.762	9940.5	3679.68	219.79	3679.68	0	603370.7	460208.1

13700	90.2	358.762	9940.16	3779.66	217.63	3779.66	0	603368.5	460308.1
13800	90.2	358.762	9939.81	3879.63	215.47	3879.63	0	603366.4	460408.1
13900	90.2	358.762	9939.46	3979.61	213.31	3979.61	0	603364.2	460508
14000	90.2	358.762	9939.11	4079.58	211.15	4079.58	0	603362	460608
14100	90.2	358.762	9938.76	4179.56	208.99	4179.56	0	603359.9	460708
14200	90.2	358.762	9938.41	4279.54	206.83	4279.54	0	603357.7	460807.9
14300	90.2	358.762	9938.06	4379.51	204.67	4379.51	0	603355.6	460907.9
14400	90.2	358.762	9937.71	4479.49	202.51	4479.49	0	603353.4	461007.9
14500	90.2	358.762	9937.36	4579.46	200.35	4579.46	0	603351.2	461107.8
14603.88	90.2	358.762	9937	4683.32	198.11	4683.32	0	603349	461211.7
14648.89	90.2	358.762	9936.84	4728.32	197.13	4728.32	0	603348	461256.7

All data are in feet unless otherwise stated. Directions and coordinates are relative to Grid North.

Vertical depths are relative to KB = 26.5'. Northings and Eastings are relative to Well.

The Dogleg Severity is in Degrees per 100 feet.

Vertical Section is from Slot and calculated along an Azimuth of 0.000° (Grid).

Coordinate System is NAD 1927 (NADCON CONUS) US State Plane 1927 (Exact solution), New Mexico East 3001.

Central meridian is -104.333°.

Grid Convergence at Surface is 0.178°.

Based upon Minimum Curvature type calculations, at a Measured Depth of 14648.89ft., the Bottom Hole Displacement is 4732.43ft., in the Direction of 0.000° (Grid).



EDDY COUNTY, NM (NAD27)
MACHO GRANDE STATE 23-29-31

WXY #101-
OH
PLAN #1
H&P RIG

	Ground Level:	2986.00	
+N-S	Northing	603150.91	32° 15' 16.828 N 03° 59' 58.769 W
0.00	+E-W	456528.72	

[illegible]

Name	TVD	+N-S	+E-W	Northing	Easting
BH[MGSIWXY#10H]	9937.00	4663.32	198.11	461211.67	603349.00
FTP[MGSIWXY#10H]	9952.00	55.57	298.39	458584.29	603449.28

Name	TVD	+N-S	+E-W	Northing	Easting
BH[MGSIWXY#10H]	9937.00	4663.32	198.11	461211.67	603349.00
FTP[MGSIWXY#10H]	9952.00	55.57	298.39	458584.29	603449.28

DRILLING TARGET: 9953' TVD @ OVS // 90.2° INC
TARGET WINDOW: 15' UP / 15' DOWN

SITE DETAILS: MACHO GRANDE SITE 23-29-32
SITE CENTER NOTHING. (565) 28-77

POSITIONAL UNCERTAINTY: 0.00
CONVERGENCE: 0.8
LOCAL NORTH: SPD
EASTING: 603060.9

PROJECT DETAILS: EDDY COUNTY, NM (NAD27)
GEODETIC SYSTEM: US STATE PLANE 1927 (EAST SOLUTION)
DATUM: NAD 1927 (NADCON CONUS)

ELLIPSOID: CLARKE 1866
ZONE: NEW MEXICO EAST 500
SYSTEM DATUM: MEAN SEA LEVEL

FORMATION TOP DETAIL

T (°F)	MDFA	Species
185.00	182.36	1st BONE SPIN
328.00	325.20	2nd BONE SPIN
266.00	265.30	3rd BONE SPIN
294.00	292.50	4th BONE SPIN
297.00	294.00	5th BONE SPIN
505.00	505.00	6th BONE SPIN
1498.00	1501.80	7th BONE SPIN
6625.00	6645.32	8th BONE SPIN
7621.00	7647.72	9th BONE SPIN
8392.00	8418.72	10th BONE SPIN
9250.00	9275.22	11th BONE SPIN
9942.00	10020.51	12th BONE SPIN
5971.35	5992.99	13th BONE SPIN

MILP SYSTEM: US STATE PLANE 92/ (EXACT SOLUTION)
 DATUM: NAD 1927 (NADCON CONUS)

EL PASO, TEXAS 79905
CITY NAME: NEW MEXICO EAST 3004
CITY NAME: NEW MEXICO EAST 3004
LOCAL ORIGIN TEL. X#1 (H) 000 000
LATITUDE: 32° E, 8.26° N
LONGITUDE: 106° 59' 58.76" W
GEO. EARTH: 601.501
GEO. NAME: 155585.72
SCALE: 1:1000
DEFORMATION: NONE
SOURCE: STATE DATA CENTER 8
DATE: 1980 JAN 01 00:05
ORIGIN: FROM NATIONAL 0105
MAGNETIC FIELD STRENGTH: 186.49
To convert Magnetic North to GEO. AND 0.97°
To convert Magnetic North to TRUE, AND 7.15° EAST
To convert TRUE NORTH to GEO. Subtract 0.89°

