



Marathon Oil

Marathon Oil

Eddy County, NM

Mariner Fee 23-28-19

WXY #6H

OH

Design: OH 181'-14395' PTB 14448'

Survey Report

21 June, 2018

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DISTRICT II-ARTESIA O.C.D.



PRO DIRECTIONAL



Professional Directional
Survey Report



Company:	Marathon Oil	Local Co-ordinate Reference:	Well WXY #6H
Project:	Eddy County, NM	TVD Reference:	Well @ 3092.50usft (GL: 3066' + KB: 26.5' (H&P423))
Site:	Mariner Fee 23-28-19	MD Reference:	Well @ 3092.50usft (GL: 3066' + KB: 26.5' (H&P423))
Well:	WXY #6H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH 181'-14395' PTB 14448'	Database:	WellPlanner1

Project	Eddy County, NM		
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		Mariner Fee 23-28-19				
Site Position:		Northing:	472,817.80	usft	Latitude:	32.299718
From:	Map	Easting:	564,941.79	usft	Longitude:	-104.123154
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16	"	Grid Convergence:	0.11 °

Well	WXY #6H					
Well Position	+N/-S	0.00 usft	Northing:	472,817.80 usft	Latitude:	32.299718
	+E/-W	0.00 usft	Easting:	564,941.79 usft	Longitude:	-104.123154
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,066.00 usft

Wellbore		OH			
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	4/20/2018	7.28	60.07	48,015.10

Design		OH 181'-14395' PTB 14448'		
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth: 0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	179.90

Survey Program		Date 6/21/2018		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
181.00	14,448.00	Survey #1 (OH)	MWD+IFR1	OWSG MWD + IFR1

Company: Marathon Oil
Project: Eddy County, NM
Site: Mariner Fee 23-28-19
Well: WXY #6H
Wellbore: OH
Design: OH 181'-14395' PTB 14448'

Local Co-ordinate Reference: Well WXY #6H
TVD Reference: Well @ 3092.50usft (GL: 3066' + KB: 26.5' (H&P423))
MD Reference: Well @ 3092.50usft (GL: 3066' + KB: 26.5' (H&P423))
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: WellPlanner1

Survey												
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	Northing (usft)	Easting (usft)		
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	472,817.80	564,941.79		
181.00	0.30	356.30	181.00	-0.47	0.47	-0.03	0.47	356.30	472,818.27	564,941.76		
242.00	0.20	42.20	242.00	-0.71	0.71	0.03	0.71	2.47	472,818.51	564,941.82		
333.00	0.50	237.30	333.00	-0.61	0.61	-0.20	0.65	342.23	472,818.41	564,941.59		
385.00	0.80	228.10	384.99	-0.25	0.25	-0.66	0.70	290.75	472,818.05	564,941.13		
515.00	1.00	234.70	514.98	1.01	-1.01	-2.26	2.48	245.86	472,816.79	564,939.53		
606.00	0.70	238.40	605.97	1.76	-1.76	-3.38	3.81	242.47	472,816.04	564,938.41		
700.00	0.80	242.20	699.96	2.36	-2.37	-4.45	5.04	241.97	472,815.43	564,937.34		
795.00	0.30	190.90	794.96	2.91	-2.92	-5.08	5.86	240.10	472,814.88	564,936.71		
889.00	0.80	155.80	888.95	3.75	-3.76	-4.86	6.15	232.26	472,814.04	564,936.93		
984.00	0.80	151.30	983.94	4.94	-4.95	-4.27	6.54	220.79	472,812.85	564,937.52		
1,079.00	0.70	184.80	1,078.93	6.10	-6.11	-4.00	7.30	213.22	472,811.69	564,937.79		
1,174.00	0.90	169.10	1,173.93	7.41	-7.42	-3.91	8.39	207.78	472,810.38	564,937.88		
1,268.00	0.80	171.20	1,267.91	8.79	-8.79	-3.67	9.53	202.65	472,809.01	564,938.12		
1,363.00	1.10	181.20	1,362.90	10.35	-10.36	-3.59	10.96	199.09	472,807.44	564,938.20		
1,457.00	0.30	188.60	1,456.89	11.50	-11.51	-3.64	12.07	197.56	472,806.29	564,938.15		
1,552.00	1.10	187.60	1,551.89	12.65	-12.66	-3.80	13.21	196.71	472,805.14	564,937.99		
1,647.00	1.70	163.70	1,646.86	14.91	-14.91	-3.53	15.32	193.30	472,802.89	564,938.26		
1,742.00	3.00	134.40	1,741.78	18.00	-18.00	-1.35	18.06	184.30	472,799.80	564,940.44		
1,836.00	3.40	127.30	1,835.63	21.42	-21.42	2.62	21.58	173.02	472,796.38	564,944.41		
1,931.00	3.30	129.40	1,930.47	24.87	-24.86	6.98	25.82	164.33	472,792.94	564,948.77		
2,026.00	3.50	126.50	2,025.30	28.34	-28.32	11.42	30.53	158.04	472,789.48	564,953.21		
2,121.00	3.80	116.60	2,120.11	31.48	-31.45	16.57	35.55	152.23	472,786.35	564,958.36		
2,215.00	4.20	114.10	2,213.88	34.29	-34.25	22.49	40.98	146.71	472,783.55	564,964.28		
2,310.00	4.20	113.20	2,308.63	37.09	-37.04	28.87	46.96	142.07	472,780.76	564,970.66		
2,362.00	4.00	113.60	2,360.49	38.58	-38.52	32.28	50.26	140.04	472,779.28	564,974.07		
2,477.00	3.60	118.00	2,475.24	41.89	-41.82	39.14	57.28	136.90	472,775.98	564,980.93		

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Project: Eddy County, NM
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Wellbore: OH
Design: OH 181'-14395' PTB 14448'

Local Co-ordinate Reference:
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MD Reference: Well @ 3092.50usft (GL: 3066' + KB: 26.5' (H&P423))
North Reference: Well @ 3092.50usft (GL: 3066' + KB: 26.5' (H&P423))
Survey Calculation Method: Grid
Database: Minimum Curvature
 WellPlanner1

Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	Northing (usft)	Easting (usft)
2,571.00	3.40	113.10	2,569.07	44.38	-44.30	44.31	62.66	134.99	472,773.50	564,986.10
2,666.00	3.20	124.20	2,663.91	46.98	-46.90	49.10	67.89	133.69	472,770.90	564,990.89
2,760.00	4.90	137.30	2,757.67	51.42	-51.32	53.99	74.49	133.55	472,766.48	564,995.78
2,855.00	6.50	135.60	2,852.20	58.25	-58.15	60.50	83.91	133.86	472,759.65	565,002.29
2,950.00	7.70	139.30	2,946.47	66.93	-66.81	68.41	95.63	134.32	472,750.99	565,010.20
3,044.00	9.20	143.20	3,039.45	77.74	-77.60	77.02	109.34	135.22	472,740.20	565,018.81
3,139.00	10.80	144.00	3,133.00	91.04	-90.89	86.80	125.68	136.32	472,726.91	565,028.59
3,234.00	10.50	144.10	3,226.37	105.27	-105.10	97.11	143.10	137.26	472,712.70	565,038.90
3,329.00	10.10	144.70	3,319.83	119.10	-118.91	107.00	159.97	138.02	472,698.89	565,048.79
3,423.00	10.10	142.60	3,412.38	132.39	-132.18	116.77	176.37	138.54	472,685.62	565,058.56
3,518.00	10.20	142.80	3,505.89	145.72	-145.50	126.92	193.08	138.90	472,672.30	565,068.71
3,613.00	10.30	142.70	3,599.38	159.20	-158.96	137.15	209.95	139.21	472,658.84	565,078.94
3,708.00	10.10	143.60	3,692.87	172.68	-172.42	147.24	226.73	139.50	472,645.38	565,089.03
3,803.00	10.20	144.20	3,786.39	186.22	-185.95	157.10	243.43	139.81	472,631.85	565,098.89
3,897.00	10.10	142.50	3,878.92	199.53	-199.24	166.99	259.96	140.03	472,618.56	565,108.78
3,992.00	10.00	143.30	3,972.46	212.77	-212.46	176.99	276.52	140.20	472,605.34	565,118.78
4,087.00	10.10	142.60	4,066.00	226.01	-225.69	186.98	293.08	140.36	472,592.11	565,128.77
4,182.00	10.10	142.60	4,159.53	239.27	-238.92	197.10	309.73	140.48	472,578.88	565,138.89
4,276.00	10.10	142.40	4,252.07	252.36	-252.00	207.13	326.20	140.58	472,565.80	565,148.92
4,371.00	10.10	141.90	4,345.60	265.53	-265.16	217.35	342.86	140.66	472,552.64	565,159.14
4,466.00	9.70	138.60	4,439.19	278.11	-277.71	227.79	359.18	140.64	472,540.09	565,169.58
4,561.00	9.10	136.80	4,532.91	289.61	-289.19	238.22	374.68	140.52	472,528.61	565,180.01
4,656.00	8.80	137.10	4,626.75	300.43	-299.99	248.31	389.43	140.38	472,517.81	565,190.10
4,751.00	8.90	141.30	4,720.62	311.50	-311.05	257.85	404.03	140.34	472,506.75	565,199.64
4,846.00	9.00	140.10	4,814.47	322.95	-322.49	267.21	418.81	140.35	472,495.31	565,209.00
4,941.00	9.00	142.00	4,908.30	334.53	-334.04	276.55	433.67	140.38	472,483.76	565,218.34
5,036.00	8.80	140.60	5,002.15	346.01	-345.51	285.74	448.36	140.41	472,472.29	565,227.53

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MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	Northing (usft)	Easting (usft)	
5,131.00	8.60	140.00	5,096.06	357.09	-356.57	294.92	462.73	140.41	472,461.23	565,236.71	
5,225.00	8.30	139.50	5,189.04	367.64	-367.11	303.84	476.54	140.39	472,450.69	565,245.63	
5,320.00	7.80	139.70	5,283.10	377.79	-377.24	312.47	489.85	140.37	472,440.56	565,254.26	
5,415.00	8.40	139.90	5,377.16	388.03	-387.47	321.11	503.23	140.35	472,430.33	565,262.90	
5,510.00	9.00	141.50	5,471.06	399.17	-398.59	330.20	517.60	140.36	472,419.21	565,271.99	
5,605.00	8.60	142.90	5,564.94	410.66	-410.07	339.11	532.12	140.41	472,407.73	565,280.90	
5,700.00	8.00	141.90	5,658.95	421.55	-420.94	347.47	545.83	140.46	472,396.86	565,289.26	
5,795.00	7.70	142.30	5,753.06	431.80	-431.18	355.45	558.80	140.50	472,386.62	565,297.24	
5,890.00	6.80	140.60	5,847.30	441.19	-440.56	362.91	570.78	140.52	472,377.24	565,304.70	
5,984.00	5.60	142.20	5,940.75	449.13	-448.48	369.25	580.93	140.53	472,369.32	565,311.04	
6,080.00	3.50	145.70	6,036.44	455.26	-454.61	373.77	588.54	140.57	472,363.19	565,315.56	
6,175.00	2.70	143.30	6,131.30	459.45	-458.80	376.75	593.66	140.61	472,359.00	565,318.54	
6,270.00	0.90	145.50	6,226.25	461.87	-461.21	378.51	596.64	140.62	472,356.59	565,320.30	
6,364.00	0.70	264.30	6,320.24	462.53	-461.87	378.35	597.06	140.68	472,355.93	565,320.14	
6,459.00	0.70	258.60	6,415.24	462.70	-462.04	377.21	596.46	140.77	472,355.76	565,319.00	
6,554.00	0.40	240.30	6,510.23	462.98	-462.32	376.35	596.14	140.85	472,355.48	565,318.14	
6,649.00	0.90	127.10	6,605.23	463.59	-462.94	376.66	596.81	140.87	472,354.86	565,318.45	
6,744.00	1.30	131.80	6,700.21	464.76	-464.11	378.05	598.60	140.83	472,353.69	565,319.84	
6,838.00	0.60	119.80	6,794.20	465.72	-465.06	379.28	600.11	140.80	472,352.74	565,321.07	
6,933.00	1.20	115.30	6,889.18	466.40	-465.73	380.61	601.47	140.74	472,352.07	565,322.40	
7,028.00	1.60	106.00	6,984.16	467.19	-466.52	382.78	603.46	140.63	472,351.28	565,324.57	
7,123.00	1.70	104.20	7,079.12	467.91	-467.23	385.42	605.69	140.48	472,350.57	565,327.21	
7,217.00	1.50	114.20	7,173.08	468.76	-468.08	387.90	607.92	140.35	472,349.72	565,329.69	
7,312.00	1.50	117.50	7,268.05	469.85	-469.17	390.13	610.18	140.25	472,348.63	565,331.92	
7,406.00	0.90	77.20	7,362.03	470.25	-469.57	391.94	611.65	140.15	472,348.23	565,333.73	
7,502.00	0.90	138.00	7,458.02	470.65	-469.96	393.18	612.75	140.08	472,347.84	565,334.97	
7,596.00	0.40	144.80	7,552.01	471.47	-470.78	393.87	613.81	140.08	472,347.02	565,335.66	

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Project: Eddy County, NM
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Wellbore: OH
Design: OH 181'-14395' PTB 14448'

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Survey

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7,690.00	1.00	283.90	7,646.01	471.54	-470.85	393.26	613.48	140.13	472,346.95	565,335.05
7,785.00	1.70	281.70	7,740.98	471.05	-470.37	391.08	611.71	140.26	472,347.43	565,332.87
7,880.00	1.60	270.90	7,835.94	470.74	-470.06	388.37	609.74	140.44	472,347.74	565,330.16
7,974.00	1.50	269.40	7,929.91	470.72	-470.05	385.83	608.12	140.62	472,347.75	565,327.62
8,069.00	1.80	295.10	8,024.87	470.10	-469.43	383.23	606.00	140.77	472,348.37	565,325.02
8,164.00	1.80	290.60	8,119.82	468.94	-468.27	380.49	603.36	140.91	472,349.53	565,322.28
8,259.00	2.10	269.80	8,214.77	468.41	-467.75	377.35	600.99	141.11	472,350.05	565,319.14
8,354.00	1.20	277.20	8,309.73	468.29	-467.64	374.62	599.19	141.30	472,350.16	565,316.41
8,448.00	0.90	258.20	8,403.71	468.31	-467.66	372.92	598.15	141.43	472,350.14	565,314.71
8,543.00	1.30	242.30	8,498.69	468.96	-468.32	371.24	597.61	141.60	472,349.48	565,313.03
8,638.00	1.60	208.40	8,593.67	470.63	-469.99	369.65	597.94	141.81	472,347.81	565,311.44
8,732.00	1.50	205.00	8,687.63	472.90	-472.25	368.51	599.02	142.03	472,345.55	565,310.30
8,815.00	1.50	210.80	8,770.60	474.81	-474.17	367.49	599.91	142.22	472,343.63	565,309.28
8,917.00	1.90	218.00	8,872.56	477.29	-476.65	365.77	600.82	142.50	472,341.15	565,307.56
9,012.00	11.70	185.50	8,966.79	488.14	-487.51	363.87	608.33	143.26	472,330.29	565,305.66
9,106.00	24.80	176.90	9,055.88	517.45	-516.81	364.02	632.15	144.84	472,300.99	565,305.81
9,201.00	35.00	176.10	9,138.13	564.66	-564.02	366.96	672.88	146.95	472,253.78	565,308.75
9,295.00	42.40	178.20	9,211.44	623.32	-622.67	369.79	724.20	149.29	472,195.13	565,311.58
9,390.00	48.70	176.60	9,277.94	691.03	-690.38	372.92	784.66	151.62	472,127.42	565,314.71
9,485.00	60.20	178.30	9,333.08	768.12	-767.46	376.27	854.74	153.88	472,050.34	565,318.06
9,579.00	72.10	178.90	9,371.02	853.92	-853.26	378.35	933.38	156.09	471,964.54	565,320.14
9,666.00	82.10	179.90	9,390.42	938.61	-937.95	379.22	1,011.71	157.99	471,879.85	565,321.01
9,738.00	86.60	179.40	9,397.51	1,010.24	-1,009.58	379.66	1,078.60	159.39	471,808.22	565,321.45
9,802.00	86.60	179.30	9,401.30	1,074.12	-1,073.46	380.38	1,138.86	160.49	471,744.34	565,322.17
9,896.00	88.90	177.70	9,404.99	1,168.01	-1,167.35	382.84	1,228.52	161.84	471,650.45	565,324.63
9,990.00	90.60	178.60	9,405.40	1,261.96	-1,261.29	385.88	1,319.00	162.99	471,556.51	565,327.67
10,084.00	89.10	178.10	9,405.65	1,355.93	-1,355.25	388.58	1,409.86	164.00	471,462.55	565,330.37

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Wellbore: OH
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North Reference: Grid
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Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	Northing (usft)	Easting (usft)	
10,178.00	88.80	177.90	9,407.37	1,449.86	-1,449.18	391.86	1,501.22	164.87	471,368.62	565,333.65	
10,272.00	92.30	179.80	9,406.47	1,543.82	-1,543.14	393.75	1,592.58	165.69	471,274.66	565,335.54	
10,366.00	92.30	179.80	9,402.70	1,637.74	-1,637.06	394.08	1,683.82	166.47	471,180.74	565,335.87	
10,460.00	88.70	178.20	9,401.88	1,731.71	-1,731.02	395.72	1,775.68	167.12	471,086.78	565,337.51	
10,555.00	95.10	180.20	9,398.73	1,826.60	-1,825.91	397.05	1,868.58	167.73	470,991.89	565,338.84	
10,649.00	91.40	181.90	9,393.40	1,920.41	-1,919.72	395.32	1,960.00	168.36	470,898.08	565,337.11	
10,743.00	90.60	181.30	9,391.76	2,014.35	-2,013.67	392.70	2,051.60	168.96	470,804.13	565,334.49	
10,838.00	89.80	180.40	9,391.43	2,109.33	-2,108.65	391.29	2,144.65	169.49	470,709.15	565,333.08	
10,933.00	88.20	179.10	9,393.09	2,204.31	-2,203.63	391.70	2,238.18	169.92	470,614.17	565,333.49	
11,026.00	88.90	179.50	9,395.44	2,297.28	-2,296.60	392.84	2,329.95	170.29	470,521.20	565,334.63	
11,121.00	88.20	179.40	9,397.84	2,392.25	-2,391.56	393.75	2,423.76	170.65	470,426.24	565,335.54	
11,215.00	90.90	179.20	9,398.58	2,486.23	-2,485.54	394.90	2,516.72	170.97	470,332.26	565,336.69	
11,309.00	87.40	177.90	9,399.98	2,580.18	-2,579.49	397.28	2,609.90	171.24	470,238.31	565,339.07	
11,404.00	90.90	180.40	9,401.39	2,675.13	-2,674.44	398.69	2,704.00	171.52	470,143.36	565,340.48	
11,499.00	90.60	180.30	9,400.14	2,770.12	-2,769.43	398.11	2,797.90	171.82	470,048.37	565,339.90	
11,594.00	89.20	180.80	9,400.31	2,865.11	-2,864.43	397.19	2,891.83	172.11	469,953.37	565,338.98	
11,688.00	90.50	180.50	9,400.55	2,959.10	-2,958.42	396.13	2,984.82	172.37	469,859.38	565,337.92	
11,782.00	89.10	180.70	9,400.88	3,053.09	-3,052.41	395.14	3,077.88	172.62	469,765.39	565,336.93	
11,876.00	92.20	179.80	9,399.82	3,147.07	-3,146.39	394.73	3,171.05	172.85	469,671.41	565,336.52	
11,971.00	88.60	175.70	9,399.15	3,241.97	-3,241.28	398.46	3,265.68	172.99	469,576.52	565,340.25	
12,065.00	91.10	177.10	9,399.40	3,335.78	-3,335.08	404.36	3,359.51	173.09	469,482.72	565,346.15	
12,159.00	92.30	176.60	9,396.61	3,429.61	-3,428.90	409.53	3,453.27	173.19	469,388.90	565,351.32	
12,254.00	93.20	179.40	9,392.05	3,524.43	-3,523.72	412.84	3,547.82	173.32	469,294.08	565,354.63	
12,347.00	91.40	178.80	9,388.32	3,617.35	-3,616.63	414.30	3,640.28	173.47	469,201.17	565,356.09	
12,441.00	92.60	180.80	9,385.04	3,711.28	-3,710.56	414.63	3,733.66	173.62	469,107.24	565,356.42	
12,535.00	91.80	180.80	9,381.43	3,805.20	-3,804.49	413.31	3,826.87	173.80	469,013.31	565,355.10	
12,629.00	91.70	180.70	9,378.56	3,899.15	-3,898.43	412.08	3,920.15	173.97	468,919.37	565,353.87	



Professional Directional Survey Report



Company: Marathon Oil
Project: Eddy County, NM
Site: Mariner Fee 23-28-19
Well: WXY #6H
Wellbore: OH
Design: OH 181'-14395' PTB 14448'

Local Co-ordinate Reference:
TVD Reference: Well @ 3092.50usft (GL: 3066' + KB: 26.5' (H&P423))
MD Reference: Well @ 3092.50usft (GL: 3066' + KB: 26.5' (H&P423))
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: WellPlanner1

Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	Northing (usft)	Easting (usft)
12,723.00	90.20	181.70	9,377.00	3,993.11	-3,992.40	410.12	4,013.41	174.13	468,825.40	565,351.91
12,817.00	89.50	181.40	9,377.25	4,087.07	-4,086.36	407.57	4,106.64	174.30	468,731.44	565,349.36
12,911.00	90.90	182.20	9,376.92	4,181.01	-4,180.31	404.62	4,199.85	174.47	468,637.49	565,346.41
13,006.00	89.10	181.20	9,376.92	4,275.96	-4,275.26	401.80	4,294.10	174.63	468,542.54	565,343.59
13,100.00	89.20	181.30	9,378.31	4,369.92	-4,369.23	399.75	4,387.48	174.77	468,448.57	565,341.54
13,193.00	88.50	180.80	9,380.18	4,462.88	-4,462.20	398.05	4,479.91	174.90	468,355.60	565,339.84
13,288.00	89.10	179.80	9,382.17	4,557.86	-4,557.17	397.55	4,574.48	175.01	468,260.63	565,339.34
13,382.00	91.40	180.40	9,381.76	4,651.85	-4,651.16	397.39	4,668.11	175.12	468,166.64	565,339.18
13,476.00	91.60	180.30	9,379.30	4,745.82	-4,745.13	396.81	4,761.69	175.22	468,072.67	565,338.60
13,571.00	91.30	180.30	9,376.90	4,840.78	-4,840.10	396.32	4,856.30	175.32	467,977.70	565,338.11
13,665.00	90.90	180.10	9,375.09	4,934.76	-4,934.08	395.99	4,949.94	175.41	467,883.72	565,337.78
13,760.00	88.90	179.40	9,375.26	5,029.76	-5,029.07	396.40	5,044.67	175.49	467,788.73	565,338.19
13,854.00	88.80	178.90	9,377.14	5,123.73	-5,123.04	397.80	5,138.46	175.56	467,694.76	565,339.59
13,949.00	88.30	178.60	9,379.55	5,218.68	-5,217.99	399.87	5,233.29	175.62	467,599.81	565,341.66
14,043.00	89.10	180.00	9,381.68	5,312.65	-5,311.96	401.02	5,327.07	175.68	467,505.84	565,342.81
14,137.00	88.60	179.70	9,383.57	5,406.63	-5,405.94	401.26	5,420.81	175.75	467,411.86	565,343.05
14,231.00	88.50	179.30	9,385.95	5,500.60	-5,499.90	402.08	5,514.58	175.82	467,317.90	565,343.87
14,326.00	91.10	178.90	9,386.28	5,595.58	-5,594.88	403.57	5,609.42	175.87	467,222.92	565,345.36
14,395.00	90.60	178.60	9,385.25	5,664.56	-5,663.86	405.08	5,678.32	175.91	467,153.94	565,346.87
Last Survey: 14395' MD, 9385' TVD										
14,448.00	90.60	178.60	9,384.70	5,717.54	-5,716.84	406.37	5,731.26	175.93	467,100.96	565,348.16
PTB: 14448' MD, 9385' TVD										



Professional Directional
Survey Report



Company:	Marathon Oil	Local Co-ordinate Reference:	Well WXY #6H
Project:	Eddy County, NM	TVD Reference:	Well @ 3092.50usft (GL: 3066' + KB: 26.5' (H&P423))
Site:	Mariner Fee 23-28-19	MD Reference:	Well @ 3092.50usft (GL: 3066' + KB: 26.5' (H&P423))
Well:	WXY #6H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH 181'-14395' PTB 14448'	Database:	WellPlanner1

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
14,395.00	9,385.25	-5,663.86	405.08	Last Survey: 14395' MD, 9385' TVD
14,448.00	9,384.70	-5,716.84	406.37	PTB: 14448' MD, 9385' TVD

US State Plane 1927 (Exact solution)
 NAD 1927 (NADCON CONUS)
 Clarke 1866
 New Mexico East 3001
 Mean Sea Level

RKB Elevation: Well @ 3092.50usft (GL: 3066' + KB: 26.5' (H&P423))

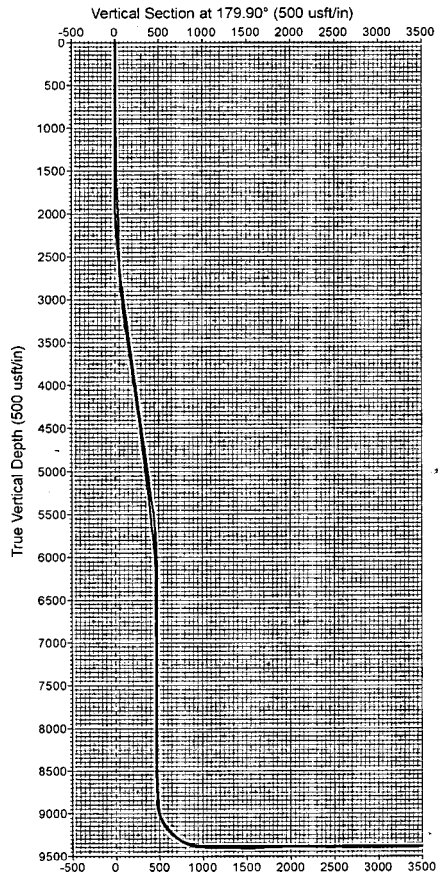
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	472817.80	564941.79	32.299718	-104.123154	

SECTION DETAILS

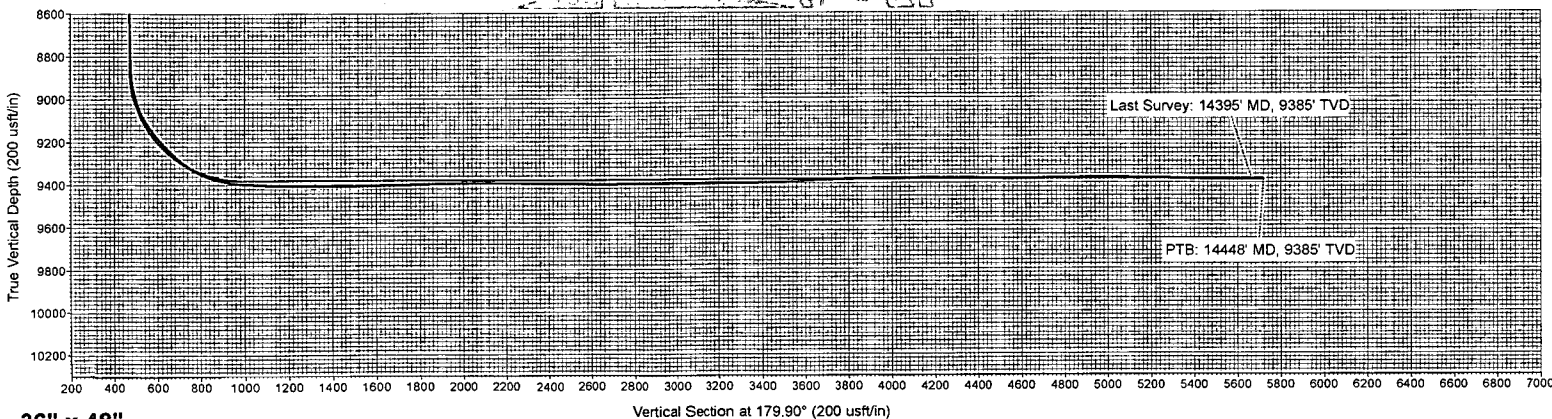
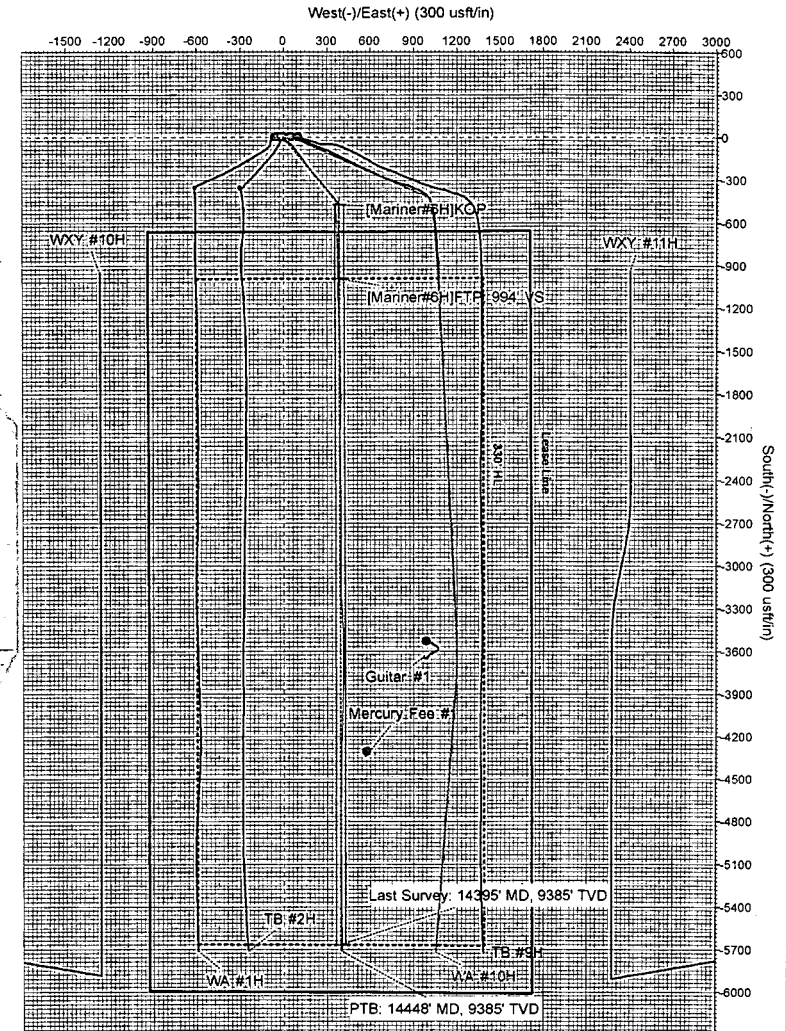
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	Vsect
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.00
2	1800.00	0.00	0.00	1800.00	0.00	0.00	0.00	0.00
3	2800.00	10.00	140.80	2794.93	-67.45	55.02	1.00	67.55
4	5472.24	10.00	140.80	5426.57	-427.03	348.32	0.00	427.64
5	6136.91	0.00	0.00	6089.86	-472.00	385.00	1.50	472.67
6	8910.18	0.00	0.00	8861.13	-472.00	385.00	0.00	472.67
7	9726.36	90.00	179.90	9382.00	-992.87	385.95	11.00	993.54
8	14407.70	90.00	179.90	9382.00	-5672.20	394.51	0.00	5672.88
9	14452.70	90.00	179.90	9382.00	-5717.20	394.59	0.00	5717.88

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting
Mariner#6HJFTP: 994' VS	0.00	-993.19	386.39	471824.61	565328.18
Mariner#6HJKOP	8879.00	-472.00	385.00	472345.80	565326.79
Mariner#6HLTP/BHL: 5673' VS	9382.00	-5672.20	394.51	467145.60	565336.30



Target Line: 9382' TVD @ 0° VS: 90° INC



Azimuths to Grid North
 True North: -0.11°
 Magnetic North: 7.17°
 Magnetic Field
 Strength: 48015.1nT
 Dip Angle: 60.07°
 Date: 4/20/2018
 Model: HDGM

Azimuth Corrections

Total Magnetic Corr. (M to G): 7.17°

Declination (M to T): 7.28° East