

30-015-42732

NM OIL CONSERVATION

ARTESIA DISTRICT

NOV 21 2017

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Marathon Oil

Marathon Oil

Eddy County, NM
Sterling 20 State
No. 2H
OH

Design: OH 216'-13922' PTB 13979'

Survey Report

09 October, 2017





Professional Directional
Survey Report



Marathon Oil Eddy County, NM Sterling 20 State No. 2H OH OH 216°-13922' PTB 13979'		Well No. 2H Well @ 3194.00usft (GL: 3169' + KB: 25' H&P480)) Well @ 3194.00usft (GL: 3169' + KB: 25' H&P480)) Grid Minimum Curvature 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		
Sterling 20 State			
Site Position:		Northings:	472,187.91 usft
From:	Map	Easting:	539,922.28 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32.2980950
		Longitude:	-104.2041299
		Grid Convergence:	0.07 °
No. 2H			
Well Position	+N-S 0.00 usft	Northings:	472,187.91 usft
	+E-W 0.00 usft	Easting:	539,922.28 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft
		Latitude:	32.2980950
		Longitude:	-104.2041299
		Ground Level:	3,169.00 usft
Wellbore			
OH			
Magnetics			
	HDGM	9/25/2017	7.40
			60.08
			48,067.60
OH 216°-13922' PTB 13979'			
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.00
	0.00	0.00	0.00
			179.85



0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	472,187.91	539,922.28
216.00	0.20	86.00	216.00	-0.03	0.03	0.38	0.38	86.00	472,187.94	539,922.66
306.08	2.20	320.00	306.06	-1.36	1.36	-0.58	1.48	336.98	472,189.27	539,921.70
397.37	2.30	350.00	397.28	-4.51	4.51	-2.02	4.94	335.83	472,192.42	539,920.26
487.92	2.00	345.00	487.77	-7.83	7.82	-2.75	8.29	340.65	472,195.73	539,919.53
580.00	2.10	350.00	579.79	-11.05	11.04	-3.46	11.57	342.61	472,198.95	539,918.82
624.00	2.10	351.30	623.76	-12.64	12.63	-3.72	13.16	343.59	472,200.54	539,918.56
685.00	1.50	357.60	684.73	-14.54	14.53	-3.92	15.05	344.90	472,202.44	539,918.36
776.00	0.30	337.80	775.72	-15.95	15.94	-4.06	16.45	345.71	472,203.85	539,918.22
868.00	0.30	141.60	867.72	-15.99	15.98	-4.00	16.47	345.94	472,203.89	539,918.28
959.00	0.30	149.70	958.71	-15.59	15.58	-3.73	16.02	346.53	472,203.49	539,918.55
1,051.00	0.30	123.00	1,050.71	-15.25	15.24	-3.41	15.62	347.39	472,203.15	539,918.87
1,143.00	0.50	97.60	1,142.71	-15.07	15.06	-2.81	15.32	349.43	472,202.97	539,919.47
1,234.00	2.00	103.40	1,233.69	-14.64	14.64	-0.87	14.67	356.59	472,202.55	539,921.41
1,326.00	4.30	106.40	1,325.54	-13.28	13.29	4.00	13.88	16.74	472,201.20	539,926.28
1,420.00	4.30	115.10	1,419.28	-10.78	10.80	10.57	15.11	44.38	472,198.71	539,932.85
1,514.00	3.30	117.60	1,513.07	-8.01	8.05	16.16	18.06	63.51	472,195.96	539,938.44
1,609.00	4.50	111.70	1,607.85	-5.35	5.41	22.05	22.70	76.21	472,193.32	539,944.33
1,703.00	4.90	110.20	1,701.53	-2.59	2.66	29.24	29.36	84.80	472,190.57	539,951.52
1,798.00	4.20	104.00	1,796.23	-0.32	0.42	36.42	36.43	89.34	472,188.33	539,958.70
1,892.00	2.60	107.60	1,890.06	1.17	-1.06	41.80	41.81	91.45	472,186.85	539,964.08



Professional Directional
Survey Report



Marathon Oil
Eddy County, NM
Sterling 20 State
No. 2H
OH
OH 216'-13922' PTB 13979'

Well No. 2H
Well @ 3194.00usft (GL: 3169' + KB: 25' H&P480))
Well @ 3194.00usft (GL: 3169' + KB: 25' H&P480))
Grid
Minimum Curvature
WellPlanner1

1,950.00	2.20	109.30	1,948.01	1.94	-1.83	44.10	44.14	92.37	472,186.08	539,966.38
2,044.00	1.90	108.50	2,041.95	3.04	-2.92	47.28	47.37	93.53	472,184.99	539,969.56
2,076.00	1.70	107.80	2,073.94	3.35	-3.23	48.24	48.34	93.83	472,184.68	539,970.52
2,170.00	1.70	105.80	2,167.90	4.17	-4.04	50.91	51.06	94.53	472,183.87	539,973.19
2,265.00	1.80	109.70	2,262.85	5.06	-4.92	53.67	53.89	95.24	472,182.99	539,975.95
2,359.00	1.90	112.20	2,356.80	6.15	-6.01	56.50	56.82	96.07	472,181.90	539,978.78
2,454.00	1.80	111.20	2,451.75	7.30	-7.14	59.35	59.78	96.86	472,180.77	539,981.63
2,548.00	1.70	112.40	2,545.71	8.37	-8.21	62.01	62.55	97.54	472,179.70	539,984.29
2,643.00	1.60	109.70	2,640.67	9.36	-9.19	64.56	65.22	98.10	472,178.72	539,986.84
2,737.00	1.40	109.90	2,734.64	10.20	-10.03	66.88	67.63	98.53	472,177.88	539,989.16
2,832.00	1.30	110.70	2,829.61	10.98	-10.80	68.98	69.82	98.90	472,177.11	539,991.26
2,926.00	1.20	109.20	2,923.59	11.68	-11.50	70.91	71.83	99.21	472,176.41	539,993.19
3,021.00	1.10	109.90	3,018.57	12.33	-12.14	72.70	73.71	99.48	472,175.77	539,994.98
3,115.00	1.00	105.10	3,112.55	12.85	-12.66	74.34	75.41	99.66	472,175.25	539,996.62
3,210.00	0.90	99.10	3,207.54	13.19	-12.99	75.88	76.99	99.72	472,174.92	539,998.16
3,305.00	0.70	95.80	3,302.53	13.37	-13.17	77.19	78.31	99.68	472,174.74	539,999.47
3,399.00	0.50	90.70	3,396.53	13.44	-13.23	78.18	79.29	99.61	472,174.68	540,000.46
3,494.00	0.30	77.30	3,491.52	13.39	-13.18	78.83	79.93	99.49	472,174.73	540,001.11
3,588.00	0.30	58.50	3,585.52	13.21	-13.00	79.28	80.34	99.31	472,174.91	540,001.56
3,683.00	0.30	47.40	3,680.52	12.91	-12.70	79.68	80.68	99.06	472,175.21	540,001.96
3,777.00	0.30	30.00	3,774.52	12.53	-12.32	79.98	80.93	98.76	472,175.59	540,002.26
3,871.00	0.30	29.60	3,868.52	12.10	-11.90	80.23	81.10	98.43	472,176.01	540,002.51
3,966.00	0.80	313.40	3,963.52	11.43	-11.23	79.87	80.65	98.00	472,176.68	540,002.15
4,060.00	1.00	309.60	4,057.50	10.45	-10.25	78.76	79.42	97.42	472,177.66	540,001.04
4,155.00	1.00	300.40	4,152.49	9.50	-9.30	77.41	77.96	96.85	472,178.61	539,999.69
4,249.00	1.00	289.90	4,246.48	8.80	-8.61	75.93	76.41	96.47	472,179.30	539,998.21
4,344.00	1.10	279.70	4,341.46	8.36	-8.17	74.25	74.70	96.28	472,179.74	539,996.53



Professional Directional
Survey Report



Marathon Oil
Eddy County, NM
Sterling 20 State
No. 2H
OH
OH 216°-13922' PTB 13979'

Well No. 2H
Well @ 3194.00usft (GL: 3169' + KB: 25' H&P480))
Well @ 3194.00usft (GL: 3169' + KB: 25' H&P480))
Grid
Minimum Curvature
WellPlanner1

MD (usft)	Interval (ft)	True Depth (ft)	True Vertical (ft)	True Horizontal (ft)	True Azimuth (deg)	True Dip (deg)	True Azimuth (deg)	True Dip (deg)	True Azimuth (deg)	True Dip (deg)
4,438.00	1.20	270.70	4,435.44	8.20	-8.01	72.37	72.82	96.31	472,179.90	539,994.65
4,533.00	1.90	276.50	4,530.41	8.00	-7.82	69.82	70.25	96.39	472,180.09	539,992.10
4,627.00	2.00	273.10	4,624.35	7.72	-7.55	66.63	67.06	96.47	472,180.36	539,988.91
4,722.00	1.80	267.80	4,719.30	7.68	-7.52	63.48	63.93	96.76	472,180.39	539,985.76
4,816.00	1.50	268.50	4,813.26	7.77	-7.61	60.78	61.25	97.14	472,180.30	539,983.06
4,910.00	1.10	274.90	4,907.24	7.72	-7.57	58.65	59.13	97.35	472,180.34	539,980.93
5,005.00	1.50	302.50	5,002.21	6.96	-6.82	56.69	57.10	96.86	472,181.09	539,978.97
5,099.00	1.50	307.50	5,096.18	5.55	-5.41	54.68	54.94	95.65	472,182.50	539,976.96
5,194.00	1.30	293.90	5,191.15	4.35	-4.22	52.71	52.87	94.57	472,183.69	539,974.99
5,288.00	1.20	277.70	5,285.13	3.78	-3.65	50.76	50.89	94.12	472,184.26	539,973.04
5,382.00	1.10	263.70	5,379.11	3.74	-3.62	48.88	49.02	94.23	472,184.29	539,971.16
5,477.00	0.50	257.80	5,474.10	3.93	-3.81	47.57	47.72	94.58	472,184.10	539,969.85
5,571.00	0.20	318.50	5,568.10	3.89	-3.77	47.06	47.21	94.58	472,184.14	539,969.34
5,666.00	1.10	302.50	5,663.09	3.27	-3.16	46.18	46.29	93.91	472,184.75	539,968.46
5,760.00	1.30	271.70	5,757.07	2.75	-2.64	44.36	44.44	93.41	472,185.27	539,966.64
5,855.00	1.00	251.80	5,852.05	2.98	-2.87	42.49	42.59	93.86	472,185.04	539,964.77
5,949.00	1.30	261.90	5,946.03	3.38	-3.27	40.66	40.79	94.60	472,184.64	539,962.94
6,044.00	1.90	270.50	6,041.00	3.51	-3.41	38.02	38.17	95.13	472,184.50	539,960.30
6,138.00	1.60	273.60	6,134.95	3.41	-3.32	35.15	35.30	95.39	472,184.59	539,957.43
6,233.00	1.90	286.60	6,229.91	2.87	-2.78	32.31	32.43	94.92	472,185.13	539,954.59
6,327.00	2.50	288.90	6,323.84	1.75	-1.67	28.88	28.93	93.32	472,186.24	539,951.16
6,422.00	2.50	289.50	6,418.75	0.37	-0.31	24.97	24.97	90.71	472,187.60	539,947.25
6,516.00	2.00	294.40	6,512.68	-1.00	1.05	21.54	21.57	87.20	472,188.96	539,943.82
6,611.00	1.20	298.80	6,607.64	-2.17	2.22	19.16	19.29	83.40	472,190.13	539,941.44
6,705.00	0.80	271.60	6,701.62	-2.66	2.71	17.64	17.85	81.27	472,190.62	539,939.92
6,800.00	1.00	238.70	6,796.61	-2.25	2.30	16.27	16.43	81.97	472,190.21	539,938.55
6,894.00	1.70	208.30	6,890.59	-0.60	0.64	14.91	14.92	87.53	472,188.55	539,937.19



Professional Directional
Survey Report



Marathon Oil Eddy County, NM Sterling 20 State No. 2H OH OH 216'-13922' PTB 13979'				Well No. 2H Well @ 3194.00surf (GL: 3169' + KB: 25' H&P480)) Well @ 3194.00surf (GL: 3169' + KB: 25' H&P480)) Grid Minimum Curvature WellPlanner1						
6,989.00	2.00	192.30	6,985.54	2.25	-2.22	13.89	14.06	99.07	472,185.69	539,936.17
7,083.00	1.90	188.40	7,079.48	5.40	-5.36	13.31	14.35	111.94	472,182.55	539,935.59
7,177.00	1.80	187.50	7,173.44	8.40	-8.37	12.89	15.37	122.99	472,179.54	539,935.17
7,272.00	1.60	190.70	7,268.39	11.18	-11.15	12.45	16.71	131.85	472,176.76	539,934.73
7,366.00	1.60	215.20	7,362.36	13.54	-13.51	11.45	17.71	139.72	472,174.40	539,933.73
7,461.00	1.30	222.60	7,457.33	15.41	-15.39	9.95	18.33	147.10	472,172.52	539,932.23
7,555.00	1.20	232.90	7,551.31	16.79	-16.77	8.45	18.78	153.26	472,171.14	539,930.73
7,650.00	1.00	245.10	7,646.29	17.73	-17.72	6.90	19.01	158.71	472,170.19	539,929.18
7,744.00	1.50	280.00	7,740.27	17.86	-17.85	4.95	18.52	164.51	472,170.06	539,927.23
7,838.00	0.90	247.90	7,834.25	17.92	-17.91	3.05	18.17	170.33	472,170.00	539,925.33
7,933.00	1.60	285.10	7,929.22	17.85	-17.85	1.08	17.88	176.54	472,170.06	539,923.36
8,027.00	1.20	263.40	8,023.20	17.62	-17.62	-1.17	17.66	183.78	472,170.29	539,921.11
8,121.00	1.90	233.60	8,117.16	18.65	-18.66	-3.40	18.96	190.32	472,169.25	539,918.88
8,216.00	3.00	222.10	8,212.08	21.42	-21.44	-6.33	22.35	196.46	472,166.47	539,915.95
8,310.00	2.80	218.70	8,305.96	25.03	-25.05	-9.42	26.76	200.60	472,162.86	539,912.86
8,404.00	2.70	209.70	8,399.85	28.74	-28.77	-11.95	31.15	202.56	472,159.14	539,910.33
8,498.00	13.00	197.30	8,492.85	40.78	-40.82	-16.20	43.92	201.65	472,147.09	539,906.08
8,593.00	23.10	182.30	8,583.10	69.68	-69.73	-20.14	72.58	196.11	472,118.18	539,902.14
8,687.00	35.90	176.10	8,664.76	115.80	-115.85	-19.00	117.40	189.31	472,072.06	539,903.28
8,782.00	50.10	174.80	8,734.06	180.23	-180.26	-13.78	180.79	184.37	472,007.65	539,908.50
8,877.00	59.00	176.40	8,789.11	257.33	-257.35	-7.90	257.47	181.76	471,930.56	539,914.38
8,971.00	63.30	177.50	8,834.46	339.53	-339.54	-3.54	339.56	180.60	471,848.37	539,918.74
9,065.00	63.20	176.30	8,876.77	423.36	-423.36	1.00	423.36	179.86	471,764.55	539,923.28
9,160.00	62.20	176.10	8,920.34	507.61	-507.59	6.59	507.63	179.26	471,680.32	539,928.87
9,247.00	66.70	173.90	8,957.86	585.79	-585.76	13.46	585.91	178.68	471,602.15	539,935.74
9,278.00	70.40	173.20	8,969.19	614.46	-614.42	16.70	614.65	178.44	471,573.49	539,938.98
9,310.00	72.30	173.40	8,979.42	644.58	-644.53	20.24	644.85	178.20	471,543.38	539,942.52



Professional Directional
Survey Report



Company	Marathon Oil							Well No. 2H		
Location	Eddy County, NM							Well @ 3194.00usft (GL: 3169' + KB: 25' H&P480))		
State	Sterling 20 State							Well @ 3194.00usft (GL: 3169' + KB: 25' H&P480))		
Well Name	No. 2H							Grid		
Well Status	OH							Minimum Curvature		
Depth	OH 216'-13922' PTB 13979'							WellPlanner1		
MD (ft)	True Azimuth	True Inclination	True Azimuth	True Inclination	True Azimuth	True Inclination	True Azimuth	True Inclination	True Azimuth	True Inclination
9,341.00	72.20	174.10	8,988.87	673.94	-673.88	23.45	674.29	178.01	471,514.03	539,945.73
9,373.00	73.10	175.00	8,998.42	704.35	-704.29	26.35	704.78	177.86	471,483.62	539,948.83
9,404.00	74.70	175.70	9,007.01	734.04	-733.97	28.77	734.53	177.76	471,453.94	539,951.05
9,436.00	74.20	175.30	9,015.59	764.78	-764.70	31.19	765.34	177.66	471,423.21	539,953.47
9,467.00	76.10	174.60	9,023.54	794.63	-794.55	33.82	795.27	177.56	471,393.36	539,956.10
9,562.00	86.90	177.60	9,037.56	888.24	-888.14	40.17	889.05	177.41	471,299.77	539,962.45
9,657.00	89.90	177.50	9,040.21	983.12	-983.01	44.23	984.00	177.42	471,204.90	539,966.51
9,751.00	91.40	179.40	9,039.15	1,077.08	-1,076.96	46.77	1,077.97	177.51	471,110.95	539,969.05
9,846.00	89.50	178.90	9,038.40	1,172.06	-1,171.94	48.18	1,172.93	177.65	471,015.97	539,970.46
9,940.00	91.00	180.60	9,037.99	1,266.05	-1,265.93	48.59	1,266.87	177.80	470,921.98	539,970.87
10,035.00	89.40	182.40	9,037.66	1,361.01	-1,360.89	46.10	1,361.67	178.06	470,827.02	539,968.38
10,130.00	92.30	183.10	9,036.25	1,455.86	-1,455.76	41.55	1,456.36	178.37	470,732.15	539,963.83
10,225.00	86.80	180.70	9,036.99	1,550.76	-1,550.66	38.40	1,551.14	178.58	470,637.25	539,960.68
10,319.00	87.30	181.30	9,041.83	1,644.61	-1,644.52	36.76	1,644.94	178.72	470,543.39	539,959.04
10,413.00	90.40	181.40	9,043.72	1,738.55	-1,738.47	34.55	1,738.81	178.86	470,449.44	539,956.83
10,508.00	89.00	180.60	9,044.22	1,833.53	-1,833.45	32.89	1,833.74	178.97	470,354.46	539,955.17
10,603.00	91.30	181.00	9,043.97	1,928.51	-1,928.43	31.56	1,928.69	179.06	470,259.48	539,953.84
10,697.00	88.70	179.80	9,043.97	2,022.49	-2,022.42	30.91	2,022.66	179.12	470,165.49	539,953.19
10,792.00	92.60	180.30	9,042.89	2,117.47	-2,117.40	30.82	2,117.62	179.17	470,070.51	539,953.10
10,886.00	92.40	180.30	9,038.79	2,211.38	-2,211.31	30.33	2,211.51	179.21	469,976.60	539,952.61
10,981.00	91.20	179.20	9,035.81	2,306.33	-2,306.25	30.75	2,306.46	179.24	469,881.66	539,953.03
11,076.00	89.80	178.40	9,034.98	2,401.30	-2,401.23	32.73	2,401.45	179.22	469,786.68	539,955.01
11,170.00	89.60	177.50	9,035.47	2,495.25	-2,495.16	36.10	2,495.43	179.17	469,692.75	539,958.38
11,264.00	89.30	179.20	9,036.37	2,589.21	-2,589.12	38.80	2,589.41	179.14	469,598.79	539,961.08
11,359.00	91.70	181.40	9,035.54	2,684.19	-2,684.10	38.31	2,684.37	179.18	469,503.81	539,960.59
11,453.00	90.30	181.10	9,033.90	2,778.14	-2,778.06	36.26	2,778.30	179.25	469,409.85	539,958.54
11,548.00	91.00	181.30	9,032.82	2,873.11	-2,873.03	34.27	2,873.24	179.32	469,314.88	539,956.55



Professional Directional
Survey Report



Company	Marathon Oil	Well No.	2H
Project	Eddy County, NM	Well @	3194.00usft (GL: 3169' + KB: 25' H&P480))
Site	Sterling 20 State	Well @	3194.00usft (GL: 3169' + KB: 25' H&P480))
Well	No. 2H	Grid	
Measure	OH	Minimum Curvature	
Design	OH 216'-13922' PTB 13979'	WellPlanner1	

MD	True Depth	True Vertical	True Horizontal	True Azimuth	True Angle	True Distance	True Depth	True Vertical	True Horizontal	True Azimuth	True Angle	True Distance
11,643.00	91.70	180.90	9,030.59	2,968.06	-2,967.99	32.44	2,968.17	179.37	469,219.92	539,954.72		
11,737.00	91.00	180.30	9,028.37	3,062.03	-3,061.96	31.46	3,062.12	179.41	469,125.95	539,953.74		
11,832.00	88.20	178.60	9,029.03	3,157.01	-3,156.94	32.37	3,157.10	179.41	469,030.97	539,954.85		
11,926.00	88.30	177.90	9,031.91	3,250.93	-3,250.85	35.24	3,251.04	179.38	468,937.06	539,957.52		
12,021.00	92.70	180.70	9,031.08	3,345.89	-3,345.80	36.40	3,346.00	179.38	468,842.11	539,958.68		
12,115.00	92.00	179.90	9,027.22	3,439.80	-3,439.72	35.91	3,439.91	179.40	468,748.19	539,958.19		
12,210.00	91.70	179.90	9,024.15	3,534.75	-3,534.67	36.08	3,534.86	179.42	468,653.24	539,958.36		
12,304.00	90.20	180.20	9,022.60	3,628.74	-3,628.66	35.99	3,628.84	179.43	468,559.25	539,958.27		
12,399.00	91.70	181.00	9,021.02	3,723.71	-3,723.64	35.00	3,723.80	179.46	468,464.27	539,957.28		
12,493.00	90.90	180.20	9,018.89	3,817.68	-3,817.61	34.02	3,817.76	179.49	468,370.30	539,956.30		
12,588.00	88.20	179.20	9,019.63	3,912.67	-3,912.59	34.51	3,912.74	179.49	468,275.32	539,956.79		
12,682.00	89.10	179.20	9,021.85	4,006.63	-4,006.55	35.82	4,006.71	179.49	468,181.36	539,958.10		
12,777.00	88.90	179.00	9,023.51	4,101.61	-4,101.53	37.32	4,101.70	179.48	468,086.38	539,959.60		
12,871.00	91.80	179.80	9,022.93	4,195.60	-4,195.51	38.30	4,195.69	179.48	467,992.40	539,960.58		
12,966.00	90.10	179.50	9,021.36	4,290.58	-4,290.49	38.88	4,290.67	179.48	467,897.42	539,961.16		
13,061.00	88.80	179.20	9,022.27	4,385.57	-4,385.48	39.96	4,385.66	179.48	467,802.43	539,962.24		
13,155.00	90.90	178.80	9,022.52	4,479.55	-4,479.46	41.60	4,479.65	179.47	467,708.45	539,963.88		
13,250.00	90.60	177.60	9,021.27	4,574.50	-4,574.40	44.58	4,574.62	179.44	467,613.51	539,966.86		
13,345.00	89.80	179.40	9,020.94	4,669.47	-4,669.36	47.07	4,669.60	179.42	467,518.55	539,969.35		
13,439.00	87.00	179.00	9,023.57	4,763.42	-4,763.31	48.38	4,763.56	179.42	467,424.60	539,970.66		
13,534.00	90.00	179.90	9,026.05	4,858.37	-4,858.26	49.29	4,858.51	179.42	467,329.65	539,971.57		
13,628.00	88.80	179.20	9,027.04	4,952.36	-4,952.25	50.03	4,952.50	179.42	467,235.66	539,972.31		
13,723.00	86.70	178.30	9,030.77	5,047.27	-5,047.15	52.10	5,047.42	179.41	467,140.76	539,974.38		
13,817.00	86.90	177.90	9,036.01	5,141.07	-5,140.95	55.21	5,141.25	179.38	467,046.96	539,977.49		
13,922.00	86.90	177.90	9,041.69	5,245.86	-5,245.73	59.05	5,246.06	179.36	466,942.18	539,981.33		

Last Survey: 13922' MD, 9042' TVD



Professional Directional
Survey Report



Company	Marathon Oil	Well No. 2H
Project	Eddy County, NM	Well @ 3194.00ust (GL: 3169' + KB: 25' (H&P480))
Form	Sterling 20 State	Well @ 3194.00ust (GL: 3169' + KB: 25' (H&P480))
Well	No. 2H	Grid
Wellbore	OH	Minimum Curvature
Depth	OH 216'-13922' PTB 13979'	WellPlanner1

Survey											
MD	13,979.00	86.90	177.90	9,044.77	5,302.74	-5,302.60	61.14	5,302.96	179.34	466,885.31	539,983.42
UPVC											
PTB: 13979' MD, 9045' TVD											

Design Annotations											
MD	13,922.00	9,041.69	-5,245.73	59.05	Last Survey: 13922' MD, 9042' TVD						
UPVC	13,979.00	9,044.77	-5,302.60	61.14	PTB: 13979' MD, 9045' TVD						



Marathon Oil
Eddy County, NM
Sterling 20 State
No. 2H
Plan #1 - FINAL PVA
GL: 3169' + KB: 25' (H&P480)

US State Plane 1983 (East solution)
NAD 83 (NADCO CONUS)
Clarke 1866
New Mexico East 3001
Mean Sea Level

RKB Elevation: Well @ 3194.00usft (GL: 3169' + KB: 25' (H&P480))

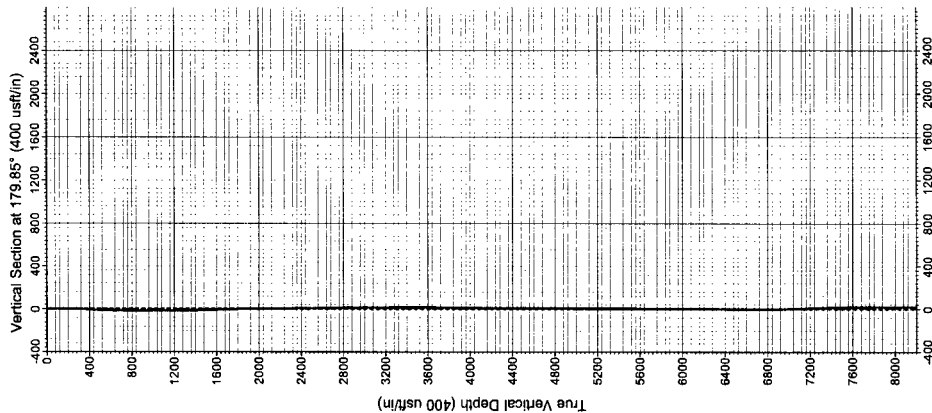
	+N-S	+E-W	Northing	Easting	Latitude	Longitude	Spot
	0.00	0.00	472187.91	539922.28	32.2980950	-104.2041299	

SECTION DETAILS

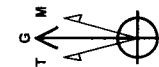
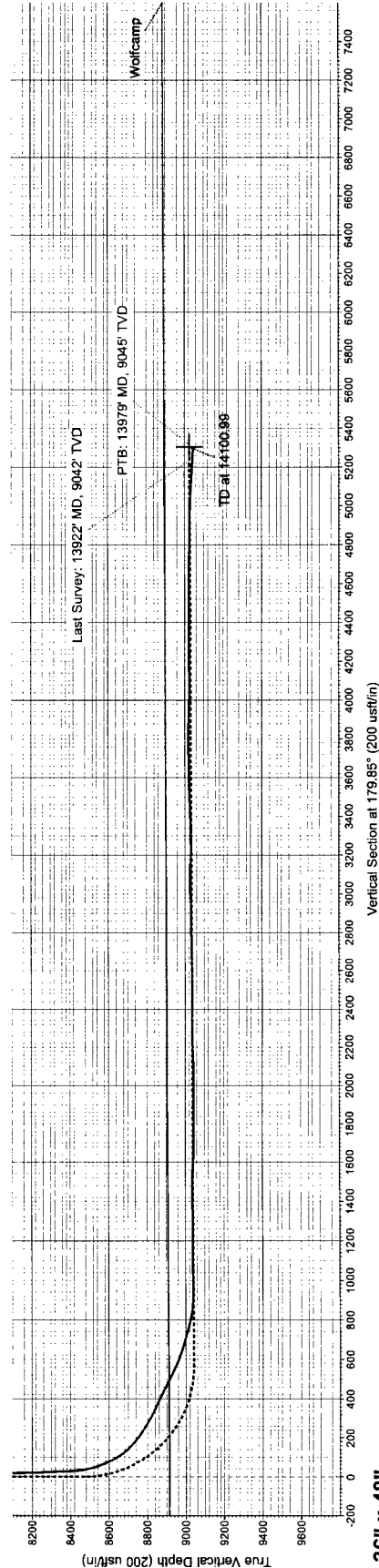
Sec	MD	INC	Adj	TVD	+N-S	+E-W	Dleg	VSect
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	8470.04	0.00	0.00	8470.04	0.00	0.00	0.00	0.00
3	9372.04	90.20	179.85	9043.00	-574.96	1.48	10.00	574.96
4	14100.99	90.20	179.85	9026.49	-5303.86	13.62	0.00	5303.88

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N-S	+E-W	Northing	Easting
[Sterling20S#2HJFTP	0.00	-569.98	1.51	471617.93	539923.79
[Sterling20S#2HJLTP	0.00	-5213.86	13.39	466974.05	539935.67
[Sterling20S#2HJLTP	9026.49	-5303.86	13.62	466884.05	539935.90



Target Line: 9045' TVD @ 0° VS, 90.2° INC



Azimuths to Grid North
True North: 0.07°
Magnetic North: 7.33°
Magnetic Field
Strength: 48867.8eAT
Dip Angle: 60.08°
Date: 12/25/2017
Model: TCGM

Azimuth Corrections

Total Magnetic Corr. (M to G): 7.33°
Declination (M to T): 7.40° East

36" x 48"