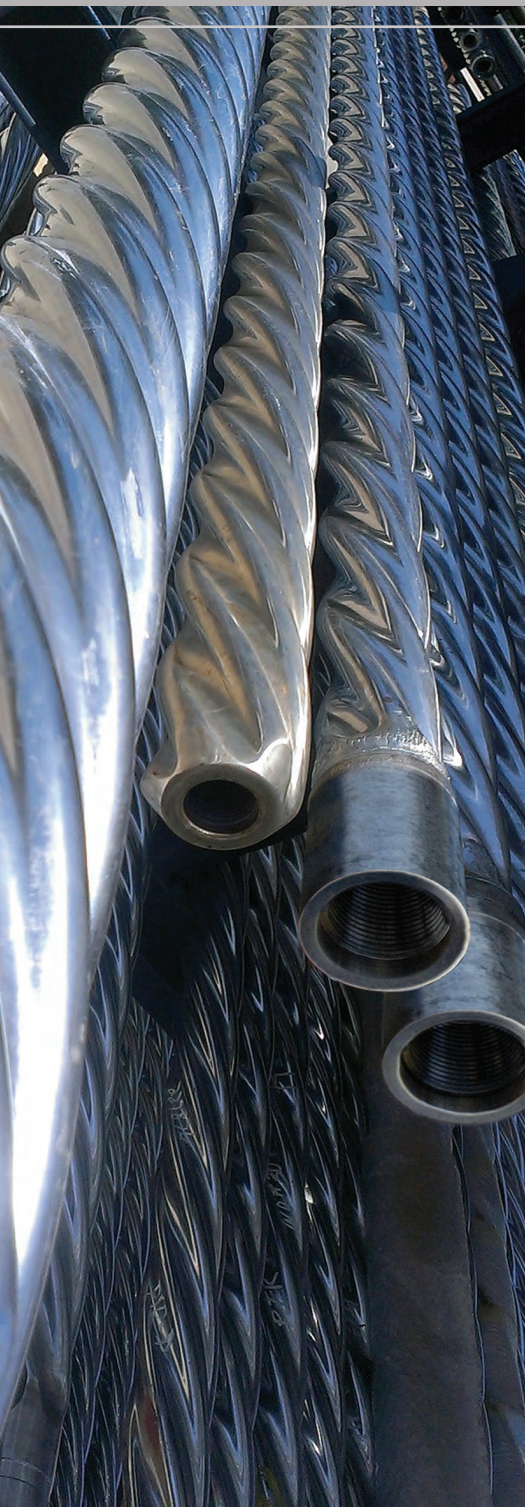




Marathon Oil Corporation

Blue Steel 21 WA Fee No. 2H
Eddy County, NM

January 21, 2020

Job# LNM1525919
API# 30-015-46069

Survey Completion Report



Survey Certification Letter

January 21, 2020



Operator Name: Marathon Oil
Well Name: Blue Steel 21 WA Fee No. 2H
County/Parish: Eddy County,
State: NM
Rig Name: Precision 582
Job Number: LNM1525919

This is to certify the surveys performed on the referenced well by Professional Directional Ent., Inc. are true and correct MWD Surveys, data provided as follows:

<u>Surveyor</u>	<u>Surveyed Depths</u>	<u>Projection to Bit</u>	<u>Dates Performed</u>	<u>Type of Survey</u>
ProDirectional	418' MD – 20,302' MD	20,365' MD	08/30/19 – 12/31/19	MWD

Sincerely,

Mike Coats
Regulatory Specialist
Professional Directional

850 Conroe Park West Drive | Conroe, TX 77303 | Phone: 936.441.7266
prodirectional.com



Marathon Oil

**Eddy County, NM
Blue Steel 21 WA Fee
No. 2H
OH**

Survey: ProDirectional

Survey Report

21 January, 2020



Company:	Marathon Oil	Local Co-ordinate Reference:	Well No. 2H
Project:	Eddy County, NM(NAD 83)	TVD Reference:	Well @ 3028.00usft
Site:	Blue Steel 21 WA Fee	MD Reference:	Well @ 3028.00usft
Well:	No. 2H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	MWD-101-20302', PTB: 20365'	Database:	WellPlanner1

Project	Eddy County, NM(NAD 83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Blue Steel 21 WA Fee		
Site Position:		Northing:	466,663.81 usft
From:	Map	Easting:	646,073.65 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32.2824782
		Longitude:	-103.9944195
		Grid Convergence:	0.18 °

Well		No. 2H, LNM1525919				
Well Position	+N/-S	0.00 usft	Northing:	466,663.71 usft	Latitude:	32.2824792
	+E/-W	0.00 usft	Easting:	645,923.78 usft	Longitude:	-103.9949044
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,001.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	8/1/2019	7.00	60.03	47,903.50

Design	MWD-101-20302', PTB: 20365'			
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	0.27

Company:	Marathon Oil	Local Co-ordinate Reference:	Well No. 2H
Project:	Eddy County, NM(NAD 83)	TVD Reference:	Well @ 3028.00usft
Site:	Blue Steel 21 WA Fee	MD Reference:	Well @ 3028.00usft
Well:	No. 2H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	MWD-101-20302', PTB: 20365'	Database:	WellPlanner1

Survey Program		Date	1/21/2020		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
101.00	375.00	Survey #1 (OH)	GYRO-NS-CT	OWSG XYZ Accel with XY Static and Continuous Gyro	
418.00	20,365.00	Survey #2 (OH)	MWD+HDGM	OWSG MWD + HRGM	

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	466,663.71	645,923.78
101.00	0.10	176.00	101.00	-0.09	-0.09	0.01	0.09	176.00	466,663.62	645,923.79
185.00	0.60	246.00	185.00	-0.34	-0.34	-0.39	0.52	228.96	466,663.37	645,923.39
284.00	0.60	286.00	283.99	-0.41	-0.41	-1.36	1.42	253.33	466,663.30	645,922.42
375.00	0.60	324.00	374.99	0.10	0.11	-2.10	2.10	272.97	466,663.82	645,921.68
418.00	0.80	344.90	417.99	0.57	0.58	-2.31	2.38	284.11	466,664.29	645,921.47
Pro MWD First Survey: 418' MD										
510.00	0.80	338.00	509.98	1.78	1.80	-2.72	3.26	303.45	466,665.51	645,921.06
603.00	0.40	18.00	602.97	2.69	2.71	-2.86	3.94	313.41	466,666.42	645,920.92
698.00	0.20	2.50	697.97	3.18	3.19	-2.75	4.21	319.20	466,666.90	645,921.03
792.00	0.50	297.50	791.97	3.53	3.54	-3.11	4.71	318.72	466,667.25	645,920.67
887.00	0.50	304.80	886.97	3.95	3.97	-3.82	5.51	316.12	466,667.68	645,919.96
979.00	0.50	274.40	978.96	4.21	4.23	-4.55	6.21	312.93	466,667.94	645,919.23
1,073.00	1.40	262.20	1,072.95	4.08	4.10	-6.09	7.35	303.97	466,667.81	645,917.69
1,163.00	1.90	254.80	1,162.91	3.52	3.56	-8.62	9.33	292.46	466,667.27	645,915.16
1,252.00	1.40	242.50	1,251.87	2.62	2.68	-11.01	11.33	283.66	466,666.39	645,912.77
1,341.00	2.70	260.40	1,340.82	1.76	1.82	-14.04	14.16	277.40	466,665.53	645,909.74
1,431.00	5.10	289.10	1,430.61	2.69	2.78	-19.91	20.11	277.95	466,666.49	645,903.87
1,520.00	6.10	295.20	1,519.18	5.96	6.09	-27.93	28.59	282.30	466,669.80	645,895.85
1,610.00	6.40	298.40	1,608.65	10.34	10.51	-36.67	38.15	285.99	466,674.22	645,887.11
1,700.00	8.00	296.40	1,697.94	15.46	15.68	-46.69	49.25	288.56	466,679.39	645,877.09

Company: Marathon Oil
Project: Eddy County, NM(NAD 83)
Site: Blue Steel 21 WA Fee
Well: No. 2H
Wellbore: OH
Design: MWD-101-20302', PTB: 20365'

Local Co-ordinate Reference: Well No. 2H
TVD Reference: Well @ 3028.00usft
MD Reference: Well @ 3028.00usft
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)
1,789.00	8.00	296.70	1,786.07	20.94	21.22	-57.77	61.55	290.17	466,684.93	645,866.01
1,878.00	7.40	295.90	1,874.27	26.18	26.50	-68.46	73.41	291.16	466,690.21	645,855.32
1,968.00	7.10	292.70	1,963.55	30.81	31.18	-78.81	84.75	291.59	466,694.89	645,844.97
2,057.00	6.60	292.70	2,051.91	34.86	35.28	-88.60	95.36	291.71	466,698.99	645,835.18
2,147.00	6.70	294.50	2,141.31	38.99	39.45	-98.15	105.78	291.90	466,703.16	645,825.63
2,236.00	7.70	293.50	2,229.60	43.47	43.98	-108.34	116.93	292.09	466,707.69	645,815.44
2,326.00	7.40	287.60	2,318.82	47.57	48.14	-119.39	128.73	291.96	466,711.85	645,804.39
2,415.00	8.90	291.70	2,406.92	51.80	52.42	-131.26	141.33	291.77	466,716.13	645,792.52
2,505.00	9.30	292.50	2,495.79	57.09	57.77	-144.44	155.57	291.80	466,721.48	645,779.34
2,595.00	10.50	292.80	2,584.45	62.99	63.74	-158.72	171.04	291.88	466,727.45	645,765.06
2,685.00	10.00	290.40	2,673.01	68.82	69.64	-173.61	187.05	291.86	466,733.35	645,750.17
2,774.00	9.10	287.90	2,760.78	73.61	74.49	-187.55	201.80	291.66	466,738.20	645,736.23
2,864.00	9.10	292.20	2,849.65	78.42	79.37	-200.91	216.02	291.56	466,743.08	645,722.87
2,954.00	10.10	295.40	2,938.39	84.43	85.44	-214.63	231.01	291.71	466,749.15	645,709.15
3,113.00	9.90	294.50	3,094.97	95.96	97.09	-239.66	258.58	292.05	466,760.80	645,684.12
3,202.00	10.20	293.80	3,182.61	102.25	103.45	-253.83	274.10	292.17	466,767.16	645,669.95
3,291.00	10.20	293.00	3,270.20	108.44	109.70	-268.29	289.86	292.24	466,773.41	645,655.49
3,381.00	10.20	293.50	3,358.78	114.66	116.00	-282.94	305.79	292.29	466,779.71	645,640.84
3,470.00	10.20	292.90	3,446.37	120.80	122.20	-297.42	321.55	292.34	466,785.91	645,626.36
3,560.00	10.20	292.80	3,534.95	126.92	128.39	-312.11	337.49	292.36	466,792.10	645,611.67
3,650.00	10.80	293.30	3,623.44	133.27	134.82	-327.20	353.89	292.39	466,798.53	645,596.58
3,739.00	10.60	294.90	3,710.89	139.95	141.56	-342.28	370.40	292.47	466,805.27	645,581.50
3,829.00	10.40	294.60	3,799.39	146.74	148.43	-357.18	386.79	292.57	466,812.14	645,566.60
3,918.00	10.20	292.80	3,886.95	153.07	154.83	-371.75	402.70	292.61	466,818.54	645,552.03
4,008.00	10.30	291.60	3,975.52	159.05	160.88	-386.57	418.71	292.60	466,824.59	645,537.21
4,097.00	10.30	291.10	4,063.08	164.78	166.67	-401.40	434.62	292.55	466,830.38	645,522.38
4,187.00	11.00	305.60	4,151.55	172.60	174.57	-415.89	451.04	292.77	466,838.28	645,507.89

Company: Marathon Oil
Project: Eddy County, NM(NAD 83)
Site: Blue Steel 21 WA Fee
Well: No. 2H
Wellbore: OH
Design: MWD-101-20302', PTB: 20365'

Local Co-ordinate Reference: Well No. 2H
TVD Reference: Well @ 3028.00usft
MD Reference: Well @ 3028.00usft
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)	
4,277.00	11.00	305.50	4,239.89	182.52	184.55	-429.86	467.80	293.24	466,848.26	645,493.92	
4,366.00	10.70	305.00	4,327.30	192.13	194.22	-443.54	484.20	293.65	466,857.93	645,480.24	
4,456.00	10.70	304.70	4,415.74	201.61	203.77	-457.25	500.60	294.02	466,867.48	645,466.53	
4,545.00	10.20	303.90	4,503.26	210.65	212.87	-470.59	516.49	294.34	466,876.58	645,453.19	
4,635.00	9.40	291.80	4,591.96	217.76	220.04	-484.03	531.70	294.45	466,883.75	645,439.75	
4,725.00	9.50	289.90	4,680.73	222.95	225.30	-497.83	546.44	294.35	466,889.01	645,425.95	
4,815.00	9.80	290.60	4,769.46	228.11	230.52	-511.99	561.49	294.24	466,894.23	645,411.79	
4,904.00	10.30	288.80	4,857.10	233.27	235.75	-526.61	576.97	294.12	466,899.46	645,397.17	
4,993.00	10.30	288.70	4,944.66	238.31	240.87	-541.68	592.82	293.97	466,904.58	645,382.10	
5,083.00	9.50	285.20	5,033.32	242.77	245.39	-556.47	608.17	293.80	466,909.10	645,367.31	
5,173.00	8.60	289.90	5,122.20	246.94	249.63	-569.96	622.23	293.65	466,913.34	645,353.82	
5,262.00	8.00	287.40	5,210.27	251.00	253.75	-582.13	635.03	293.55	466,917.46	645,341.65	
5,352.00	7.80	286.30	5,299.41	254.53	257.34	-593.97	647.32	293.42	466,921.05	645,329.81	
5,442.00	7.30	284.80	5,388.63	257.66	260.51	-605.36	659.03	293.28	466,924.22	645,318.42	
5,531.00	8.30	299.30	5,476.82	262.19	265.10	-616.43	671.02	293.27	466,928.81	645,307.35	
5,621.00	8.30	296.60	5,565.88	268.23	271.19	-627.90	683.96	293.36	466,934.90	645,295.88	
5,710.00	8.30	294.70	5,653.94	273.73	276.75	-639.48	696.80	293.40	466,940.46	645,284.30	
5,800.00	9.50	302.10	5,742.86	280.34	283.41	-651.68	710.64	293.50	466,947.12	645,272.10	
5,890.00	9.30	300.70	5,831.65	287.94	291.07	-664.22	725.20	293.66	466,954.78	645,259.56	
5,980.00	9.90	298.50	5,920.39	295.28	298.47	-677.27	740.13	293.78	466,962.18	645,246.51	
6,069.00	9.90	298.20	6,008.07	302.48	305.74	-690.74	755.38	293.88	466,969.45	645,233.04	
6,159.00	9.50	296.80	6,096.78	309.42	312.74	-704.19	770.51	293.95	466,976.45	645,219.59	
6,248.00	9.10	295.80	6,184.61	315.74	319.12	-717.08	784.88	293.99	466,982.83	645,206.70	
6,338.00	9.10	292.20	6,273.48	321.46	324.91	-730.08	799.11	293.99	466,988.62	645,193.70	
6,428.00	8.70	292.60	6,362.39	326.71	330.21	-742.95	813.03	293.96	466,993.92	645,180.83	
6,517.00	8.50	289.10	6,450.39	331.39	334.95	-755.38	826.31	293.91	466,998.66	645,168.40	
6,607.00	7.40	290.90	6,539.53	335.58	339.19	-767.08	838.73	293.85	467,002.90	645,156.70	

Company:	Marathon Oil	Local Co-ordinate Reference:	Well No. 2H
Project:	Eddy County, NM(NAD 83)	TVD Reference:	Well @ 3028.00usft
Site:	Blue Steel 21 WA Fee	MD Reference:	Well @ 3028.00usft
Well:	No. 2H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	MWD-101-20302', PTB: 20365'	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)	
6,697.00	5.80	297.00	6,628.93	339.66	343.33	-776.55	849.06	293.85	467,007.04	645,147.23	
6,787.00	5.00	294.40	6,718.53	343.31	347.01	-784.17	857.52	293.87	467,010.72	645,139.61	
6,876.00	3.10	288.60	6,807.30	345.66	349.38	-789.98	863.80	293.86	467,013.09	645,133.80	
6,966.00	2.20	281.80	6,897.21	346.77	350.51	-793.98	867.91	293.82	467,014.22	645,129.80	
7,056.00	1.90	291.50	6,987.15	347.65	351.41	-797.06	871.09	293.79	467,015.12	645,126.72	
7,145.00	1.10	250.00	7,076.12	347.89	351.66	-799.24	873.18	293.75	467,015.37	645,124.54	
7,235.00	1.00	193.40	7,166.11	346.83	350.60	-800.23	873.66	293.66	467,014.31	645,123.55	
7,324.00	1.00	145.50	7,255.10	345.43	349.20	-799.97	872.87	293.58	467,012.91	645,123.81	
7,413.00	0.80	161.30	7,344.09	344.21	347.98	-799.33	871.79	293.53	467,011.69	645,124.45	
7,503.00	0.30	262.80	7,434.08	343.58	347.35	-799.36	871.57	293.49	467,011.06	645,124.42	
7,593.00	0.70	308.70	7,524.08	343.89	347.67	-800.03	872.30	293.49	467,011.38	645,123.75	
7,683.00	1.00	249.80	7,614.07	343.96	347.74	-801.19	873.40	293.46	467,011.45	645,122.59	
7,772.00	1.40	229.10	7,703.05	342.97	346.76	-802.74	874.44	293.36	467,010.47	645,121.04	
7,862.00	1.10	260.20	7,793.03	342.10	345.89	-804.43	875.64	293.27	467,009.60	645,119.35	
7,951.00	1.20	264.20	7,882.01	341.85	345.65	-806.19	877.17	293.21	467,009.36	645,117.59	
8,041.00	0.60	65.30	7,972.01	341.95	345.75	-806.70	877.68	293.20	467,009.46	645,117.08	
8,130.00	1.60	79.00	8,060.99	342.39	346.19	-805.06	876.34	293.27	467,009.90	645,118.72	
8,220.00	1.50	77.10	8,150.96	342.90	346.69	-802.68	874.35	293.36	467,010.40	645,121.10	
8,309.00	1.10	72.70	8,239.93	343.43	347.20	-800.73	872.76	293.44	467,010.91	645,123.05	
8,399.00	0.90	89.80	8,329.92	343.69	347.46	-799.20	871.46	293.50	467,011.17	645,124.58	
8,488.00	1.50	89.00	8,418.90	343.72	347.48	-797.33	869.76	293.55	467,011.19	645,126.45	
8,578.00	1.60	102.00	8,508.87	343.49	347.24	-794.93	867.46	293.60	467,010.95	645,128.85	
8,668.00	0.80	87.50	8,598.85	343.27	347.01	-793.07	865.66	293.63	467,010.72	645,130.71	
8,758.00	0.90	125.00	8,688.84	342.90	346.63	-791.86	864.41	293.64	467,010.34	645,131.92	
8,847.00	1.00	124.80	8,777.83	342.06	345.79	-790.65	862.96	293.62	467,009.50	645,133.13	
8,937.00	1.10	192.60	8,867.81	340.77	344.50	-790.20	862.03	293.56	467,008.21	645,133.58	
9,027.00	1.10	228.60	8,957.80	339.35	343.08	-791.03	862.23	293.45	467,006.79	645,132.75	

Company: Marathon Oil
Project: Eddy County, NM(NAD 83)
Site: Blue Steel 21 WA Fee
Well: No. 2H
Wellbore: OH
Design: MWD-101-20302', PTB: 20365'

Local Co-ordinate Reference: Well No. 2H
TVD Reference: Well @ 3028.00usft
MD Reference: Well @ 3028.00usft
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)
9,116.00	0.30	332.90	9,046.79	338.99	342.72	-791.78	862.77	293.41	467,006.43	645,132.00
9,206.00	0.30	15.80	9,136.79	339.43	343.16	-791.82	862.98	293.43	467,006.87	645,131.96
9,295.00	0.20	53.80	9,225.79	339.74	343.48	-791.63	862.94	293.46	467,007.19	645,132.15
9,385.00	0.30	56.20	9,315.79	339.97	343.70	-791.31	862.73	293.48	467,007.41	645,132.47
9,474.00	0.40	149.10	9,404.79	339.83	343.56	-790.96	862.35	293.48	467,007.27	645,132.82
9,564.00	0.60	202.20	9,494.79	339.13	342.86	-790.97	862.09	293.43	467,006.57	645,132.81
9,648.00	1.40	188.90	9,578.77	337.70	341.44	-791.30	861.82	293.34	467,005.15	645,132.48
9,741.00	1.10	208.10	9,671.75	335.79	339.53	-791.90	861.61	293.21	467,003.24	645,131.88
9,830.00	6.50	352.20	9,760.58	340.03	343.77	-792.98	864.29	293.44	467,007.48	645,130.80
9,920.00	15.10	350.30	9,848.90	356.65	360.40	-795.65	873.47	294.37	467,024.11	645,128.13
10,009.00	24.50	353.00	9,932.55	386.44	390.21	-799.87	889.97	296.01	467,053.92	645,123.91
10,099.00	34.70	359.80	10,010.72	430.70	434.48	-802.24	912.34	298.44	467,098.19	645,121.54
10,188.00	44.80	357.30	10,079.07	487.49	491.29	-803.81	942.06	301.43	467,155.00	645,119.97
10,277.00	56.40	352.30	10,135.48	555.77	559.60	-810.27	984.73	304.63	467,223.31	645,113.51
10,294.00	59.20	352.80	10,144.54	570.03	573.86	-812.14	994.43	305.25	467,237.57	645,111.64
10,362.00	66.81	357.61	10,175.40	630.32	634.18	-817.11	1,034.34	307.82	467,297.89	645,106.67
10,454.00	71.82	1.74	10,207.90	716.34	720.20	-817.55	1,089.53	311.38	467,383.91	645,106.23
10,547.00	83.70	1.60	10,227.58	807.03	810.88	-814.91	1,149.61	314.86	467,474.59	645,108.87
10,639.00	90.90	3.90	10,231.91	898.78	902.61	-810.50	1,213.10	318.08	467,566.32	645,113.28
10,731.00	91.40	4.40	10,230.06	990.55	994.35	-803.84	1,278.62	321.05	467,658.06	645,119.94
10,823.00	87.30	4.30	10,231.11	1,082.29	1,086.06	-796.86	1,347.04	323.73	467,749.77	645,126.92
10,916.00	87.90	4.70	10,235.00	1,174.95	1,178.69	-789.57	1,418.71	326.18	467,842.40	645,134.21
11,009.00	88.40	2.90	10,238.00	1,267.72	1,271.43	-783.41	1,493.41	328.36	467,935.14	645,140.37
11,103.00	88.10	358.30	10,240.88	1,361.65	1,365.36	-782.43	1,573.66	330.18	468,029.07	645,141.35
11,197.00	89.80	356.80	10,242.60	1,455.53	1,459.25	-786.45	1,657.68	331.68	468,122.96	645,137.33
11,291.00	90.10	356.00	10,242.68	1,549.31	1,553.06	-792.35	1,743.51	332.97	468,216.77	645,131.43
11,384.00	90.24	356.47	10,242.40	1,642.08	1,645.86	-798.46	1,829.31	334.12	468,309.57	645,125.32

Company: Marathon Oil
Project: Eddy County, NM(NAD 83)
Site: Blue Steel 21 WA Fee
Well: No. 2H
Wellbore: OH
Design: MWD-101-20302', PTB: 20365'

Local Co-ordinate Reference:
TVD Reference: Well No. 2H
MD Reference: Well @ 3028.00usft
North Reference: Well @ 3028.00usft
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)	
11,480.00	92.57	358.23	10,240.05	1,737.92	1,741.72	-802.89	1,917.87	335.25	468,405.43	645,120.89	
11,575.00	94.29	1.30	10,234.37	1,832.73	1,836.53	-803.28	2,004.52	336.38	468,500.24	645,120.50	
11,669.00	92.26	2.09	10,229.00	1,926.54	1,930.33	-800.51	2,089.74	337.48	468,594.04	645,123.27	
11,754.00	90.24	1.65	10,227.14	2,011.48	2,015.26	-797.74	2,167.41	338.40	468,678.97	645,126.04	
11,858.00	89.49	1.92	10,227.39	2,115.44	2,119.21	-794.50	2,263.24	339.45	468,782.92	645,129.28	
11,953.00	88.79	1.83	10,228.81	2,210.39	2,214.15	-791.39	2,351.33	340.33	468,877.86	645,132.39	
12,048.00	91.12	2.45	10,228.89	2,305.34	2,309.07	-787.84	2,439.78	341.16	468,972.78	645,135.94	
12,142.00	91.78	3.94	10,226.51	2,399.18	2,402.90	-782.60	2,527.13	341.96	469,066.61	645,141.18	
12,237.00	90.51	2.09	10,224.61	2,494.05	2,497.74	-777.61	2,615.98	342.71	469,161.45	645,146.17	
12,331.00	90.02	1.83	10,224.18	2,588.00	2,591.68	-774.39	2,704.90	343.36	469,255.39	645,149.39	
12,426.00	89.19	1.21	10,224.83	2,682.98	2,686.65	-771.87	2,795.33	343.97	469,350.36	645,151.91	
12,520.00	89.54	1.65	10,225.87	2,776.95	2,780.61	-769.53	2,885.13	344.53	469,444.32	645,154.25	
12,614.00	90.02	1.92	10,226.23	2,870.92	2,874.56	-766.60	2,975.03	345.07	469,538.27	645,157.18	
12,708.00	90.20	2.09	10,226.05	2,964.88	2,968.51	-763.31	3,065.07	345.58	469,632.22	645,160.47	
12,803.00	88.53	0.16	10,227.11	3,059.85	3,063.47	-761.45	3,156.69	346.04	469,727.18	645,162.33	
12,898.00	88.92	1.65	10,229.22	3,154.82	3,158.44	-759.95	3,248.57	346.47	469,822.15	645,163.83	
12,992.00	88.97	2.27	10,230.95	3,248.76	3,252.36	-756.73	3,339.24	346.90	469,916.07	645,167.05	
13,087.00	88.75	1.74	10,232.84	3,343.70	3,347.29	-753.41	3,431.03	347.32	470,011.00	645,170.37	
13,181.00	89.89	359.02	10,233.96	3,437.68	3,441.27	-752.79	3,522.64	347.66	470,104.98	645,170.99	
13,275.00	91.78	359.90	10,232.59	3,531.66	3,535.25	-753.67	3,614.69	347.97	470,198.96	645,170.11	
13,369.00	91.74	359.90	10,229.70	3,625.61	3,629.20	-753.84	3,706.67	348.27	470,292.91	645,169.94	
13,464.00	92.44	0.07	10,226.23	3,720.55	3,724.14	-753.86	3,799.67	348.56	470,387.85	645,169.92	
13,559.00	91.03	359.81	10,223.36	3,815.50	3,819.09	-753.96	3,892.81	348.83	470,482.80	645,169.82	
13,653.00	92.26	359.63	10,220.66	3,909.45	3,913.05	-754.42	3,985.11	349.09	470,576.76	645,169.36	
13,747.00	89.10	358.58	10,219.54	4,003.41	4,007.02	-755.89	4,077.69	349.32	470,670.73	645,167.89	
13,842.00	88.75	358.75	10,221.33	4,098.36	4,101.98	-758.10	4,171.44	349.53	470,765.69	645,165.68	
13,937.00	88.04	358.49	10,223.99	4,193.28	4,196.91	-760.39	4,265.24	349.73	470,860.62	645,163.39	

Company:	Marathon Oil	Local Co-ordinate Reference:	Well No. 2H
Project:	Eddy County, NM(NAD 83)	TVD Reference:	Well @ 3028.00usft
Site:	Blue Steel 21 WA Fee	MD Reference:	Well @ 3028.00usft
Well:	No. 2H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	MWD-101-20302', PTB: 20365'	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)	
14,031.00	88.04	358.84	10,227.20	4,287.19	4,290.83	-762.58	4,358.07	349.92	470,954.54	645,161.20	
14,125.00	90.37	359.37	10,228.51	4,381.16	4,384.80	-764.04	4,450.87	350.12	471,048.51	645,159.74	
14,220.00	89.85	1.13	10,228.32	4,476.15	4,479.80	-763.63	4,544.42	350.33	471,143.51	645,160.15	
14,315.00	92.53	2.62	10,226.35	4,571.08	4,574.72	-760.52	4,637.50	350.56	471,238.43	645,163.26	
14,410.00	93.41	3.24	10,221.43	4,665.85	4,669.46	-755.67	4,730.22	350.81	471,333.17	645,168.11	
14,504.00	93.71	3.41	10,215.59	4,759.54	4,763.12	-750.23	4,821.85	351.05	471,426.83	645,173.55	
14,599.00	90.51	1.04	10,212.09	4,854.40	4,857.97	-746.55	4,915.00	351.26	471,521.68	645,177.23	
14,693.00	90.51	0.25	10,211.26	4,948.39	4,951.96	-745.49	5,007.76	351.44	471,615.67	645,178.29	
14,788.00	93.93	359.98	10,207.58	5,043.31	5,046.87	-745.30	5,101.61	351.60	471,710.58	645,178.48	
14,882.00	94.99	359.55	10,200.27	5,137.02	5,140.59	-745.68	5,194.39	351.75	471,804.30	645,178.10	
14,976.00	92.09	359.11	10,194.47	5,230.81	5,234.39	-746.78	5,287.39	351.88	471,898.10	645,177.00	
15,070.00	92.09	358.31	10,191.04	5,324.71	5,328.30	-748.90	5,380.67	352.00	471,992.01	645,174.88	
15,165.00	92.84	358.14	10,186.95	5,419.57	5,423.17	-751.84	5,475.04	352.11	472,086.88	645,171.94	
15,258.00	92.75	359.55	10,182.42	5,512.42	5,516.04	-753.71	5,567.29	352.22	472,179.75	645,170.07	
15,353.00	89.10	358.23	10,180.88	5,607.37	5,610.99	-755.55	5,661.63	352.33	472,274.70	645,168.23	
15,448.00	87.12	357.61	10,184.02	5,702.23	5,705.87	-758.99	5,756.13	352.42	472,369.58	645,164.79	
15,542.00	88.57	359.02	10,187.55	5,796.10	5,799.76	-761.76	5,849.57	352.52	472,463.47	645,162.02	
15,638.00	89.89	358.75	10,188.84	5,892.06	5,895.73	-763.62	5,944.98	352.62	472,559.44	645,160.16	
15,733.00	90.77	359.63	10,188.29	5,987.04	5,990.72	-764.97	6,039.36	352.72	472,654.43	645,158.81	
15,827.00	91.03	0.34	10,186.82	6,081.03	6,084.70	-764.99	6,132.60	352.83	472,748.41	645,158.79	
15,921.00	91.60	0.51	10,184.66	6,175.01	6,178.68	-764.29	6,225.77	352.95	472,842.39	645,159.49	
16,016.00	91.78	0.34	10,181.86	6,269.96	6,273.63	-763.59	6,319.93	353.06	472,937.34	645,160.19	
16,111.00	92.48	0.78	10,178.33	6,364.90	6,368.56	-762.66	6,414.06	353.17	473,032.27	645,161.12	
16,206.00	89.27	1.65	10,176.88	6,459.86	6,463.51	-760.65	6,508.12	353.29	473,127.22	645,163.13	
16,300.00	93.27	5.35	10,174.79	6,553.65	6,557.28	-754.92	6,600.59	353.43	473,220.99	645,168.86	
16,396.00	90.42	4.47	10,171.70	6,649.28	6,652.87	-746.70	6,694.64	353.60	473,316.58	645,177.08	
16,490.00	89.85	4.12	10,171.48	6,743.04	6,746.60	-739.66	6,787.03	353.74	473,410.31	645,184.12	

Company:	Marathon Oil	Local Co-ordinate Reference:	Well No. 2H
Project:	Eddy County, NM(NAD 83)	TVD Reference:	Well @ 3028.00usft
Site:	Blue Steel 21 WA Fee	MD Reference:	Well @ 3028.00usft
Well:	No. 2H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	MWD-101-20302', PTB: 20365'	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)	
16,585.00	88.79	1.04	10,172.61	6,837.95	6,841.49	-735.39	6,880.90	353.86	473,505.20	645,188.39	
16,679.00	89.05	0.25	10,174.38	6,931.93	6,935.46	-734.33	6,974.23	353.96	473,599.17	645,189.45	
16,774.00	88.40	0.25	10,176.49	7,026.90	7,030.44	-733.92	7,068.64	354.04	473,694.15	645,189.86	
16,866.00	88.00	0.42	10,179.38	7,118.86	7,122.39	-733.38	7,160.05	354.12	473,786.10	645,190.40	
16,957.00	88.44	359.72	10,182.21	7,209.81	7,213.35	-733.27	7,250.52	354.20	473,877.06	645,190.51	
17,050.00	88.66	358.23	10,184.56	7,302.76	7,306.30	-734.93	7,343.17	354.26	473,970.01	645,188.85	
17,144.00	89.19	359.63	10,186.33	7,396.71	7,400.26	-736.69	7,436.84	354.32	474,063.97	645,187.09	
17,238.00	89.93	0.25	10,187.05	7,490.71	7,494.26	-736.78	7,530.39	354.39	474,157.97	645,187.00	
17,332.00	88.92	359.90	10,187.99	7,584.70	7,588.25	-736.66	7,623.93	354.46	474,251.96	645,187.12	
17,426.00	89.36	0.16	10,189.40	7,678.69	7,682.24	-736.61	7,717.48	354.52	474,345.95	645,187.17	
17,522.00	89.23	0.25	10,190.59	7,774.68	7,778.24	-736.27	7,813.00	354.59	474,441.95	645,187.51	
17,617.00	89.76	359.46	10,191.42	7,869.67	7,873.23	-736.51	7,907.60	354.66	474,536.94	645,187.27	
17,712.00	90.29	359.55	10,191.38	7,964.66	7,968.23	-737.33	8,002.27	354.71	474,631.94	645,186.45	
17,807.00	88.53	0.60	10,192.36	8,059.65	8,063.22	-737.21	8,096.85	354.78	474,726.93	645,186.57	
17,902.00	88.88	359.90	10,194.51	8,154.63	8,158.19	-736.79	8,191.39	354.84	474,821.90	645,186.99	
17,997.00	88.22	359.02	10,196.91	8,249.59	8,253.15	-737.69	8,286.06	354.89	474,916.86	645,186.09	
18,091.00	88.70	359.37	10,199.44	8,343.54	8,347.11	-739.01	8,379.76	354.94	475,010.82	645,184.77	
18,186.00	88.48	359.37	10,201.77	8,438.50	8,442.08	-740.05	8,474.45	354.99	475,105.79	645,183.73	
18,280.00	89.45	359.19	10,203.47	8,532.46	8,536.05	-741.23	8,568.17	355.04	475,199.76	645,182.55	
18,375.00	88.48	359.90	10,205.19	8,627.44	8,631.03	-741.99	8,662.87	355.09	475,294.74	645,181.79	
18,469.00	89.45	0.78	10,206.89	8,721.42	8,725.01	-741.43	8,756.46	355.14	475,388.72	645,182.35	
18,564.00	90.33	1.65	10,207.07	8,816.41	8,819.99	-739.41	8,850.93	355.21	475,483.70	645,184.37	
18,659.00	89.01	1.13	10,207.62	8,911.39	8,914.96	-737.11	8,945.38	355.27	475,578.67	645,186.67	
18,752.00	88.88	359.63	10,209.33	9,004.37	9,007.94	-736.49	9,037.99	355.33	475,671.65	645,187.29	
18,846.00	88.70	359.81	10,211.31	9,098.34	9,101.91	-736.95	9,131.70	355.37	475,765.62	645,186.83	
18,942.00	88.53	359.81	10,213.63	9,194.31	9,197.89	-737.27	9,227.39	355.42	475,861.60	645,186.51	
19,036.00	88.70	0.42	10,215.91	9,288.28	9,291.86	-737.08	9,321.05	355.46	475,955.57	645,186.70	

Company:	Marathon Oil	Local Co-ordinate Reference:	Well No. 2H
Project:	Eddy County, NM(NAD 83)	TVD Reference:	Well @ 3028.00usft
Site:	Blue Steel 21 WA Fee	MD Reference:	Well @ 3028.00usft
Well:	No. 2H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	MWD-101-20302', PTB: 20365'	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)	
19,131.00	87.65	359.72	10,218.93	9,383.23	9,386.81	-736.97	9,415.69	355.51	476,050.52	645,186.81	
19,226.00	87.34	0.16	10,223.08	9,478.14	9,481.72	-737.06	9,510.32	355.56	476,145.43	645,186.72	
19,321.00	90.11	1.39	10,225.20	9,573.10	9,576.67	-735.78	9,604.90	355.61	476,240.38	645,188.00	
19,416.00	90.77	1.39	10,224.47	9,668.08	9,671.64	-733.48	9,699.41	355.66	476,335.35	645,190.30	
19,511.00	91.03	1.74	10,222.97	9,763.04	9,766.59	-730.88	9,793.90	355.72	476,430.30	645,192.90	
19,606.00	91.87	1.83	10,220.57	9,857.98	9,861.52	-727.92	9,888.35	355.78	476,525.23	645,195.86	
19,700.00	91.74	1.92	10,217.61	9,951.89	9,955.42	-724.85	9,981.77	355.84	476,619.13	645,198.93	
19,794.00	88.66	359.19	10,217.28	10,045.87	10,049.40	-723.94	10,075.44	355.88	476,713.11	645,199.84	
19,889.00	87.74	359.72	10,220.27	10,140.81	10,144.34	-724.84	10,170.21	355.91	476,808.05	645,198.94	
19,984.00	88.92	0.51	10,223.03	10,235.77	10,239.30	-724.65	10,264.91	355.95	476,903.01	645,199.13	
20,078.00	90.51	1.65	10,223.50	10,329.76	10,333.28	-722.88	10,358.53	356.00	476,996.99	645,200.90	
20,173.00	89.58	0.86	10,223.43	10,424.74	10,428.25	-720.80	10,453.13	356.05	477,091.96	645,202.98	
20,267.00	89.63	0.95	10,224.08	10,518.73	10,522.24	-719.31	10,546.80	356.09	477,185.95	645,204.47	
20,302.00	89.63	1.04	10,224.30	10,553.73	10,557.23	-718.71	10,581.67	356.11	477,220.94	645,205.07	
Last Survey: 20302' MD											
20,365.00	89.63	1.04	10,224.71	10,616.72	10,620.22	-717.56	10,644.43	356.13	477,283.93	645,206.22	
PTB: 20365' MD											

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
418.00	417.99	0.58	-2.31	Pro MWD First Survey: 418' MD	
20,302.00	10,224.30	10,557.23	-718.71	Last Survey: 20302' MD	
20,365.00	10,224.71	10,620.22	-717.56	PTB: 20365' MD	