

RECEIVED

DEC 13 2018

DISTRICT II-ARTESIA O.C.D.



Marathon Oil

Marathon Oil

Eddy County, NM

Fiddle Fee 24-28-23 (3-4-7-8)

WD #3H 30. 015-415035

OH

Design: MWD 173'-15127' PTB 15195'

Standard Survey Report

21 September, 2018



PRODIRECTIONAL

Company: Marathon Oil
Project: Eddy County, NM
Site: Fiddle Fee 24-28-23 (3-4-7-8)
Well: WD #3H
Wellbore: OH
Design: MWD 173'-15127' PTB 15195'

Local Co-ordinate Reference: Well WD #3H
TVD Reference: Well @ 3023.00usft (GL: 2996' KB: 27' (Precision582))
MD Reference: Well @ 3023.00usft (GL: 2996' KB: 27' (Precision582))
North Reference: Grid
Survey Calculation Method: Minimum Curvature
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		Fiddle Fee 24-28-23 (3-4-7-8)			
Site Position:		Northing:	438,692.25 usft	Latitude:	32.205799
From:	Map	Easting:	582,820.53 usft	Longitude:	-104.065567
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.14 °

Well	WD #3H					
Well Position	+N/-S	0.00 usft	Northing:	438,692.25 usft	Latitude:	32.205799
	+E/-W	0.00 usft	Easting:	582,820.53 usft	Longitude:	-104.065567
Position Uncertainty	0.00 usft		Wellhead Elevation:	usft	Ground Level:	2,996.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	7/4/2018	7.18	59.98	47,983.40

Design	MWD 173'-15127' PTB 15195'				
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	90.61	

Survey Program	Date 9/21/2018				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
173.00	15,195.00	Survey #1 (OH)	MWD+IFR1	OWSG MWD + IFR1	

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.06	0.00	350.30	0.06	0.00	0.00	0.00	0.00	0.00	0.00
[FiddleFee#3H]FTP									
173.00	0.10	350.30	173.00	0.15	-0.03	-0.03	0.06	0.06	0.00
235.00	0.20	44.30	235.00	0.28	0.04	0.04	0.26	0.16	87.10
329.00	0.50	57.30	329.00	0.62	0.50	0.49	0.33	0.32	13.83
422.00	0.70	64.50	421.99	1.08	1.35	1.34	0.23	0.22	7.74
507.00	0.60	57.60	506.99	1.54	2.20	2.18	0.15	-0.12	-8.12
701.00	0.40	44.20	700.98	2.57	3.53	3.50	0.12	-0.10	-6.91

Company: Marathon Oil
Project: Eddy County, NM
Site: Fiddle Fee 24-28-23 (3-4-7-8)
Well: WD #3H
Wellbore: OH
Design: MWD 173'-15127' PTB 15195'

Local Co-ordinate Reference: Well WD #3H
TVD Reference: Well @ 3023.00usft (GL: 2996' KB: 27' (Precision582))
MD Reference: Well @ 3023.00usft (GL: 2996' KB: 27' (Precision582))
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: WellPlanner1

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
795.00	0.50	341.50	794.98	3.20	3.63	3.59	0.51	0.11	-66.70
888.00	0.80	335.80	887.97	4.18	3.23	3.19	0.33	0.32	-6.13
978.00	0.80	323.00	977.96	5.25	2.60	2.54	0.20	0.00	-14.22
1,069.00	1.00	327.40	1,068.95	6.43	1.79	1.72	0.23	0.22	4.84
1,159.00	1.10	330.00	1,158.94	7.84	0.93	0.85	0.12	0.11	2.89
1,249.00	1.40	336.40	1,248.91	9.59	0.06	-0.04	0.37	0.33	7.11
1,338.00	1.70	331.40	1,337.88	11.75	-1.01	-1.13	0.37	0.34	-5.62
1,428.00	1.50	323.70	1,427.85	13.87	-2.34	-2.49	0.33	-0.22	-8.56
1,518.00	1.80	312.20	1,517.81	15.77	-4.09	-4.26	0.49	0.33	-12.78
1,607.00	2.30	312.00	1,606.75	17.90	-6.45	-6.64	0.56	0.56	-0.22
1,697.00	2.40	293.00	1,696.68	19.85	-9.53	-9.74	0.87	0.11	-21.11
1,786.00	2.50	278.90	1,785.60	20.87	-13.16	-13.38	0.68	0.11	-15.84
1,876.00	1.80	276.40	1,875.53	21.34	-16.50	-16.73	0.78	-0.78	-2.78
1,965.00	0.90	270.50	1,964.51	21.50	-18.59	-18.82	1.02	-1.01	-6.63
2,055.00	0.80	254.30	2,054.50	21.33	-19.90	-20.13	0.29	-0.11	-18.00
2,144.00	1.10	255.90	2,143.49	20.96	-21.33	-21.55	0.34	0.34	1.80
2,234.00	1.40	261.10	2,233.46	20.58	-23.26	-23.47	0.36	0.33	5.78
2,324.00	1.40	271.80	2,323.44	20.44	-25.44	-25.66	0.29	0.00	11.89
2,413.00	1.80	290.30	2,412.40	20.96	-27.84	-28.06	0.73	0.45	20.79
2,503.00	1.20	296.80	2,502.37	21.88	-30.00	-30.24	0.69	-0.67	7.22
2,540.00	1.00	297.70	2,539.37	22.20	-30.64	-30.87	0.54	-0.54	2.43
2,671.00	0.80	280.70	2,670.35	22.90	-32.55	-32.79	0.25	-0.15	-12.98
2,761.00	3.30	294.40	2,760.29	24.09	-35.52	-35.78	2.81	2.78	15.22
2,850.00	5.60	293.50	2,849.01	26.88	-41.84	-42.12	2.59	2.58	-1.01
2,939.00	5.80	295.70	2,937.57	30.56	-49.87	-50.20	0.33	0.22	2.47
3,029.00	7.30	299.20	3,026.98	35.32	-58.96	-59.34	1.72	1.67	3.89
3,118.00	7.10	298.80	3,115.28	40.73	-68.72	-69.15	0.23	-0.22	-0.45
3,208.00	7.50	298.50	3,204.55	46.21	-78.76	-79.24	0.45	0.44	-0.33
3,297.00	7.30	296.70	3,292.81	51.53	-88.91	-89.46	0.34	-0.22	-2.02
3,387.00	7.70	298.80	3,382.04	57.00	-99.30	-99.90	0.54	0.44	2.33
3,477.00	7.20	297.80	3,471.28	62.53	-109.58	-110.24	0.57	-0.56	-1.11
3,566.00	6.60	304.00	3,559.64	68.00	-118.75	-119.47	1.07	-0.67	6.97
3,657.00	6.90	306.50	3,650.00	74.17	-127.48	-128.26	0.46	0.33	2.75
3,747.00	7.00	306.00	3,739.34	80.61	-136.26	-137.11	0.13	0.11	-0.56
3,836.00	7.40	306.60	3,827.64	87.22	-145.25	-146.17	0.46	0.45	0.67
3,925.00	7.30	306.00	3,915.91	93.96	-154.43	-155.42	0.14	-0.11	-0.67
4,015.00	7.40	304.90	4,005.17	100.63	-163.81	-164.87	0.19	0.11	-1.22
4,104.00	7.50	305.80	4,093.42	107.31	-173.22	-174.35	0.17	0.11	1.01
4,194.00	7.60	304.00	4,182.64	114.07	-182.92	-184.12	0.29	0.11	-2.00
4,283.00	7.50	302.40	4,270.87	120.48	-192.70	-193.97	0.26	-0.11	-1.80
4,373.00	7.60	303.90	4,360.09	126.94	-202.60	-203.94	0.25	0.11	1.67
4,463.00	5.60	301.20	4,449.49	132.54	-211.30	-212.69	2.25	-2.22	-3.00

Company: Marathon Oil
Project: Eddy County, NM

Site: Fiddle Fee 24-28-23 (3-4-7-8)

Well: WD #3H
Wellbore: OH
Design: MWD 173'-15127' PTB 15195'

Local Co-ordinate Reference: Well WD #3H
TVD Reference: Well @ 3023.00usft (GL: 2996' KB: 27' (Precision582))
MD Reference: Well @ 3023.00usft (GL: 2996' KB: 27' (Precision582))
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: WellPlanner1

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,553.00	4.20	298.70	4,539.16	136.40	-217.94	-219.38	1.57	-1.56	-2.78
4,642.00	1.70	283.90	4,628.03	138.28	-222.08	-223.54	2.91	-2.81	-16.63
4,732.00	0.30	241.30	4,718.02	138.49	-223.59	-225.05	1.66	-1.56	-47.33
4,821.00	0.50	235.90	4,807.01	138.16	-224.11	-225.57	0.23	0.22	-6.07
4,910.00	0.70	256.10	4,896.01	137.81	-224.96	-226.42	0.32	0.22	22.70
5,000.00	1.00	243.50	4,986.00	137.33	-226.20	-227.65	0.39	0.33	-14.00
5,090.00	1.20	243.80	5,075.98	136.56	-227.75	-229.19	0.22	0.22	0.33
5,179.00	1.90	223.90	5,164.95	135.09	-229.61	-231.03	0.98	0.79	-22.36
5,269.00	2.20	218.30	5,254.89	132.65	-231.71	-233.11	0.40	0.33	-6.22
5,359.00	2.40	218.80	5,344.82	129.83	-233.96	-235.33	0.22	0.22	0.56
5,449.00	2.50	217.00	5,434.74	126.79	-236.32	-237.66	0.14	0.11	-2.00
5,538.00	2.50	221.10	5,523.65	123.78	-238.77	-240.07	0.20	0.00	4.61
5,628.00	2.70	219.20	5,613.56	120.66	-241.40	-242.67	0.24	0.22	-2.11
5,718.00	2.60	218.90	5,703.46	117.43	-244.02	-245.26	0.11	-0.11	-0.33
5,807.00	2.60	216.00	5,792.37	114.22	-246.47	-247.68	0.15	0.00	-3.26
5,897.00	2.80	217.30	5,882.27	110.82	-249.01	-250.17	0.23	0.22	1.44
6,076.00	2.70	213.90	6,061.07	103.85	-254.01	-255.10	0.11	-0.06	-1.90
6,166.00	2.80	213.10	6,150.96	100.25	-256.39	-257.44	0.12	0.11	-0.89
6,256.00	2.90	218.00	6,240.85	96.61	-258.99	-260.01	0.29	0.11	5.44
6,346.00	2.50	226.60	6,330.75	93.47	-261.82	-262.80	0.63	-0.44	9.56
6,435.00	2.10	241.40	6,419.68	91.35	-264.66	-265.62	0.80	-0.45	16.63
6,525.00	0.30	233.50	6,509.66	90.42	-266.30	-267.25	2.00	-2.00	-8.78
6,615.00	0.50	235.70	6,599.66	90.06	-266.81	-267.76	0.22	0.22	2.44
6,704.00	0.40	132.00	6,688.65	89.64	-266.90	-267.84	0.80	-0.11	-116.52
6,794.00	0.20	261.80	6,778.65	89.40	-266.83	-267.76	0.61	-0.22	144.22
6,883.00	0.30	294.60	6,867.65	89.48	-267.19	-268.13	0.19	0.11	36.85
6,973.00	0.40	208.30	6,957.65	89.30	-267.55	-268.49	0.54	0.11	-95.89
7,063.00	0.10	265.90	7,047.65	89.02	-267.78	-268.71	0.40	-0.33	64.00
7,152.00	0.50	252.00	7,136.65	88.89	-268.23	-269.16	0.45	0.45	-15.62
7,242.00	0.70	275.20	7,226.64	88.82	-269.15	-270.08	0.35	0.22	25.78
7,332.00	0.60	265.40	7,316.64	88.83	-270.17	-271.10	0.17	-0.11	-10.89
7,422.00	1.20	240.60	7,406.63	88.33	-271.46	-272.38	0.78	0.67	-27.56
7,512.00	1.60	244.00	7,496.60	87.32	-273.41	-274.32	0.45	0.44	3.78
7,602.00	0.80	204.30	7,586.58	86.19	-274.80	-275.70	1.23	-0.89	-44.11
7,692.00	1.90	170.70	7,676.56	84.15	-274.81	-275.69	1.46	1.22	-37.33
7,781.00	3.20	169.70	7,765.47	80.25	-274.13	-274.97	1.46	1.46	-1.12
7,871.00	2.50	146.00	7,855.36	76.15	-272.58	-273.38	1.51	-0.78	-26.33
7,960.00	2.20	132.50	7,944.28	73.39	-270.24	-271.00	0.71	-0.34	-15.17
8,049.00	1.70	144.50	8,033.23	71.16	-268.21	-268.95	0.72	-0.56	13.48
8,139.00	1.40	162.80	8,123.20	69.02	-267.11	-267.83	0.64	-0.33	20.33
8,229.00	1.20	125.10	8,213.18	67.43	-266.02	-266.72	0.96	-0.22	-41.89
8,319.00	1.20	110.10	8,303.16	66.56	-264.36	-265.05	0.35	0.00	-16.67

Company: Marathon Oil
Project: Eddy County, NM
Site: Fiddle Fee 24-28-23 (3-4-7-8)
Well: WD #3H
Wellbore: OH
Design: MWD 173'-15127' PTB 15195'

Local Co-ordinate Reference: Well WD #3H
TVD Reference: Well @ 3023.00usft (GL: 2996' KB: 27' (Precision582))
MD Reference: Well @ 3023.00usft (GL: 2996' KB: 27' (Precision582))
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: WellPlanner1

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,408.00	0.80	99.20	8,392.14	66.14	-262.87	-263.56	0.50	-0.45	-12.25
8,498.00	0.80	72.60	8,482.14	66.23	-261.65	-262.34	0.41	0.00	-29.56
8,587.00	1.20	89.80	8,571.12	66.42	-260.13	-260.82	0.56	0.45	19.33
8,677.00	2.10	98.00	8,661.08	66.19	-257.55	-258.24	1.03	1.00	9.11
8,767.00	1.80	97.90	8,751.03	65.77	-254.52	-255.20	0.33	-0.33	-0.11
8,856.00	0.90	41.50	8,840.01	66.10	-252.67	-253.36	1.69	-1.01	-63.37
8,946.00	1.00	18.80	8,930.00	67.37	-251.95	-252.65	0.43	0.11	-25.22
9,035.00	0.90	44.10	9,018.99	68.61	-251.21	-251.93	0.48	-0.11	28.43
9,125.00	0.80	57.80	9,108.98	69.45	-250.19	-250.91	0.25	-0.11	15.22
9,214.00	0.80	75.10	9,197.97	69.94	-249.06	-249.79	0.27	0.00	19.44
9,304.00	0.70	82.50	9,287.96	70.18	-247.91	-248.64	0.15	-0.11	8.22
9,394.00	0.70	107.80	9,377.95	70.08	-246.84	-247.57	0.34	0.00	28.11
9,472.00	0.50	120.30	9,455.95	69.76	-246.09	-246.82	0.30	-0.26	16.03
9,595.00	0.80	174.40	9,578.94	68.64	-245.55	-246.26	0.53	0.24	43.98
9,690.00	1.60	113.20	9,673.92	67.46	-244.26	-244.97	1.48	0.84	-64.42
9,707.37	3.78	97.86	9,691.27	67.28	-243.47	-244.18	13.10	12.54	-88.32
[FiddleFee#3H]KOP									
9,785.00	13.90	90.00	9,767.88	66.93	-231.58	-232.28	13.10	13.04	-10.12
9,879.00	19.00	83.90	9,858.01	68.56	-205.06	-205.78	5.72	5.43	-6.49
9,974.00	26.30	84.00	9,945.63	72.41	-168.70	-169.46	7.68	7.68	0.11
10,068.00	32.50	85.90	10,027.48	76.39	-122.76	-123.56	6.67	6.60	2.02
10,162.00	36.40	89.60	10,104.99	78.39	-69.65	-70.48	4.71	4.15	3.94
10,256.00	47.00	89.20	10,175.07	79.07	-7.21	-8.06	11.28	11.28	-0.43
10,351.00	58.20	86.50	10,232.69	82.03	68.07	67.19	12.00	11.79	-2.84
10,445.00	73.00	85.40	10,271.41	88.11	153.21	152.27	15.78	15.74	-1.17
10,465.00	76.80	85.50	10,276.62	89.64	172.46	171.49	19.01	19.00	0.50
10,503.00	83.80	85.40	10,283.02	92.61	209.77	208.78	18.42	18.42	-0.26
10,540.00	87.30	86.30	10,285.89	95.28	246.56	245.53	9.77	9.46	2.43
10,572.00	89.50	84.70	10,286.79	97.79	278.45	277.39	8.50	6.88	-5.00
10,604.00	91.60	85.30	10,286.48	100.58	310.32	309.23	6.83	6.56	1.88
10,635.00	91.70	87.40	10,285.59	102.55	341.24	340.13	6.78	0.32	6.77
10,730.00	91.50	91.20	10,282.93	103.71	436.18	435.05	4.00	-0.21	4.00
10,824.00	92.10	91.50	10,279.98	101.49	530.11	529.00	0.71	0.64	0.32
10,919.00	92.20	89.80	10,276.42	100.42	625.03	623.93	1.79	0.11	-1.79
11,014.00	90.20	90.50	10,274.43	100.17	720.01	718.90	2.23	-2.11	0.74
11,108.00	88.90	91.30	10,275.16	98.69	813.99	812.89	1.62	-1.38	0.85
11,203.00	89.60	91.50	10,276.41	96.37	908.95	907.87	0.77	0.74	0.21
11,297.00	90.20	91.10	10,276.57	94.24	1,002.93	1,001.87	0.77	0.64	-0.43
11,392.00	89.40	91.90	10,276.90	91.75	1,097.89	1,096.85	1.19	-0.84	0.84
11,486.00	88.90	92.40	10,278.30	88.23	1,191.81	1,190.81	0.75	-0.53	0.53
11,581.00	87.10	92.70	10,281.61	84.00	1,286.66	1,285.69	1.92	-1.89	0.32
11,675.00	88.00	93.40	10,285.63	79.01	1,380.44	1,379.52	1.21	0.96	0.74

Company:	Marathon Oil	Local Co-ordinate Reference:	Well WD #3H
Project:	Eddy County, NM	TVD Reference:	Well @ 3023.00usft (GL: 2996' KB: 27' (Precision582))
Site:	Fiddle Fee 24-28-23 (3-4-7-8)	MD Reference:	Well @ 3023.00usft (GL: 2996' KB: 27' (Precision582))
Well:	WD #3H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	MWD 173'-15127' PTB 15195'	Database:	WellPlanner1

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
11,770.00	85.00	90.80	10,291.43	75.53	1,475.18	1,474.29	4.18	-3.16	-2.74
11,864.00	85.60	91.10	10,299.13	73.97	1,568.85	1,567.97	0.71	0.64	0.32
11,958.00	88.30	91.10	10,304.14	72.17	1,662.69	1,661.83	2.87	2.87	0.00
12,053.00	88.70	90.60	10,306.62	70.76	1,757.65	1,756.79	0.67	0.42	-0.53
12,147.00	88.50	90.10	10,308.92	70.19	1,851.62	1,850.76	0.57	-0.21	-0.53
12,242.00	89.60	90.00	10,310.49	70.11	1,946.60	1,945.74	1.16	1.16	-0.11
12,337.00	89.90	89.90	10,310.91	70.19	2,041.60	2,040.74	0.33	0.32	-0.11
12,431.00	90.10	90.90	10,310.91	69.53	2,135.60	2,134.74	1.08	0.21	1.06
12,526.00	92.10	91.40	10,309.08	67.63	2,230.55	2,229.71	2.17	2.11	0.53
12,620.00	89.60	89.00	10,307.69	67.30	2,324.53	2,323.68	3.69	-2.66	-2.55
12,715.00	90.10	88.70	10,307.94	69.21	2,419.51	2,418.64	0.61	0.53	-0.32
12,810.00	90.20	91.60	10,307.69	68.96	2,514.50	2,513.62	3.05	0.11	3.05
12,904.00	88.00	91.20	10,309.17	66.66	2,608.45	2,607.60	2.38	-2.34	-0.43
12,999.00	85.60	92.20	10,314.47	63.85	2,703.26	2,702.42	2.74	-2.53	1.05
13,094.00	84.30	91.80	10,322.83	60.55	2,797.83	2,797.02	1.43	-1.37	-0.42
13,189.00	86.30	91.80	10,330.62	57.57	2,892.46	2,891.68	2.11	2.11	0.00
13,283.00	88.10	91.80	10,335.21	54.62	2,986.29	2,985.54	1.91	1.91	0.00
13,378.00	88.40	91.20	10,338.11	52.14	3,081.22	3,080.49	0.71	0.32	-0.63
13,473.00	89.10	90.10	10,340.18	51.06	3,176.18	3,175.46	1.37	0.74	-1.16
13,568.00	89.00	89.80	10,341.76	51.14	3,271.17	3,270.44	0.33	-0.11	-0.32
13,663.00	89.10	89.80	10,343.33	51.48	3,366.16	3,365.42	0.11	0.11	0.00
13,757.00	89.40	89.00	10,344.56	52.46	3,460.14	3,459.39	0.91	0.32	-0.85
13,851.00	88.70	88.20	10,346.12	54.76	3,554.10	3,553.32	1.13	-0.74	-0.85
13,946.00	87.30	87.30	10,349.44	58.48	3,648.97	3,648.14	1.75	-1.47	-0.95
14,041.00	87.90	87.50	10,353.41	62.79	3,743.79	3,742.91	0.67	0.63	0.21
14,136.00	88.80	89.20	10,356.15	65.52	3,838.70	3,837.79	2.02	0.95	1.79
14,230.00	89.20	90.50	10,357.79	65.77	3,932.69	3,931.76	1.45	0.43	1.38
14,325.00	89.20	90.80	10,359.12	64.69	4,027.67	4,026.75	0.32	0.00	0.32
14,419.00	88.00	91.00	10,361.41	63.21	4,121.63	4,120.72	1.29	-1.28	0.21
14,514.00	88.40	91.60	10,364.40	61.06	4,216.56	4,215.67	0.76	0.42	0.63
14,609.00	89.00	91.20	10,366.55	58.74	4,311.50	4,310.63	0.76	0.63	-0.42
14,704.00	88.60	90.30	10,368.54	57.50	4,406.47	4,405.61	1.04	-0.42	-0.95
14,798.00	88.80	90.40	10,370.67	56.92	4,500.45	4,499.59	0.24	0.21	0.11
14,893.00	87.70	90.20	10,373.58	56.43	4,595.40	4,594.54	1.18	-1.16	-0.21
14,988.00	87.40	89.00	10,377.64	57.09	4,690.31	4,689.44	1.30	-0.32	-1.26
15,083.00	86.80	89.10	10,382.44	58.66	4,785.17	4,784.28	0.64	-0.63	0.11
15,127.00	86.90	89.80	10,384.86	59.08	4,829.11	4,828.20	1.60	0.23	1.59
Last Survey: 16127' MD, 10385' TVD - [FiddleFee#3H]LTP/BHL									
15,195.00	86.90	89.80	10,388.54	59.32	4,897.01	4,896.10	0.00	0.00	0.00
PTB: 15195' MD, 10389' TVD									

Company:	Marathon Oil	Local Co-ordinate Reference:	Well WD #3H
Project:	Eddy County, NM	TVD Reference:	Well @ 3023.00usft (GL: 2996' KB: 27' (Precision582))
Site:	Fiddle Fee 24-28-23 (3-4-7-8)	MD Reference:	Well @ 3023.00usft (GL: 2996' KB: 27' (Precision582))
Well:	WD #3H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	MWD 173'-15127' PTB 15195'	Database:	WellPlanner1

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
15,127.00	10,384.86	59.08	4,829.11	Last Survey: 15127' MD, 10385' TVD
15,195.00	10,388.54	59.32	4,897.01	PTB: 15195' MD, 10389' TVD

Marathon Oil
Eddy County, NM
Fiddle Fee 24-28-23 (3-4-7-8)
WD #3H
Plan #2
GL: 2996' KB: 27' (Precision582)

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

RKB Elevation: Well @ 3023.00usft (GL: 2996' KB: 27' (Precision582))

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	438692.25	582820.53	32.205799	-104.085566	

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting
[FiddleFee#3H]FTP	0.00	82.83	47.21	438775.08	582867.74
[FiddleFee#3H]KOP	9690.00	88.00	-233.00	438778.25	582587.53
[FiddleFee#3H]LTP/BHL	10381.05	31.60	4852.55	438723.85	587673.08



Azimuths to Grid North
 True North: -0.14°
 Magnetic North: 7.04°

Magnetic Field
 Strength: 47983.4uT
 Dip Angle: 59.98°
 Date: 7/4/2018
 Model: HDGM

Azimuth Corrections

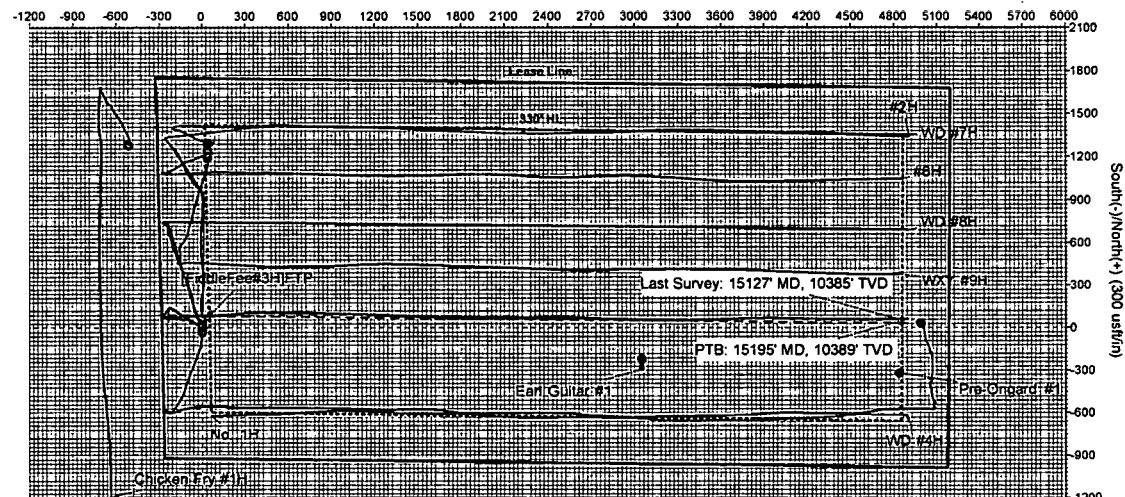
Total Magnetic Corr. (M to G): 7.04°

Declination (M to T): 7.18° East

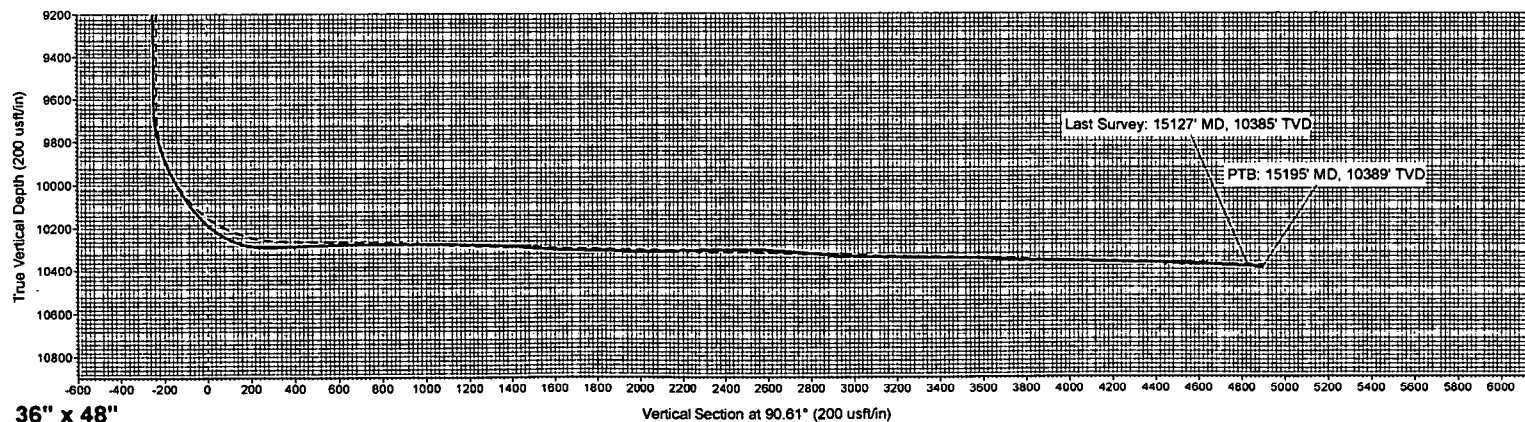
SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	VSecl
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00
3	700.00	2.00	90.00	699.98	0.00	3.49	1.00	3.49
4	1500.53	2.00	90.00	1500.00	0.00	31.43	0.00	31.43
5	1846.95	5.00	287.84	1846.08	4.58	23.09	2.00	23.04
6	4807.83	5.00	287.84	4795.51	82.70	-222.63	0.00	-223.50
7	5057.43	0.00	0.00	5045.00	86.00	-233.00	2.00	-233.90
8	9702.43	0.00	0.00	9690.00	88.00	-233.00	0.00	-233.90
9	10587.47	88.50	90.61	10262.78	80.03	324.96	10.00	324.09
10	15116.86	88.50	90.61	10381.05	31.60	4852.55	0.00	4851.84
11	15161.86	88.50	90.61	10382.23	31.12	4897.53	0.00	4896.92

West(-)/East(+) (300 usft/in)



Target Line: 10254' TVD @ 0' VS: 88.5° INC



36" x 48"

Vertical Section at 90.61° (200 usft/in)

Marathon Oil
 Corporation

