

Provide Signature Page for
Directional Survey



Marathon Oil

Marathon Oil

Eddy County, NM

Cypress Fee 23-27-9 (5-6-7-8)

No. 7H

Lateral

30-015-44379

NM OIL CONSERVATION
ARTESIA DISTRICT
APR 16 2018
RECEIVED

Design: Lateral 200'-13157' PTB 13230'

Survey Report

10 November, 2017





Professional Directional Survey Report



Company: Marathon Oil
Project: Eddy County, NM
Site: Cypress Fee 23-27-9 (5-6-7-8)
Well: No. 7H
Wellbore: Lateral
Design: Lateral 200'-13157' PTB 13230'

Local Co-ordinate Reference: Well No. 7H
TVD Reference: Well @ 3190.50usft (GL: 3164' + KB: 26.5' (H&P498))
MD Reference: Well @ 3190.50usft (GL: 3164' + KB: 26.5' (H&P498))
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	Cypress Fee 23-27-9 (5-6-7-8)		
Site Position:	Northing:	479,338.54 usft	Latitude: 32.3177495
From: Map	Easting:	540,590.90 usft	Longitude: -104.2019376
Position Uncertainty: 0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence: 0.07 °

Well	No. 7H		
Well Position	+N/-S	0.00 usft	Northing: 479,411.23 usft
	+E/-W	0.00 usft	Easting: 540,537.73 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft
			Latitude: 32.3179495
			Longitude: -104.2021094
			Ground Level: 3,164.00 usft

Wellbore	Lateral		
Magnetics	Model Name	Sample Date	Declination
	HDGM	10/1/2017	(°) 7.40
			Dip Angle (°) 60.12
			Field Strength (nT) 48,100.80

Design	Lateral 200'-13157' PTB 13230'		
Audit Notes:			
Version: 1.0	Phase:	ACTUAL	Tie On Depth: 8,243.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.00	0.00	0.00
			Direction (°) 88.51



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Survey Program		Date	11/10/2017		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
200.00	8,243.00	Survey #1 (Pilot)	MWD+IFR1	OWSG MWD + IFR1	
8,294.00	8,294.00	Gyro (Lateral)	GYRO-NS-CT	OWSG XYZ Accel with XY Static and Continuous Gyro	
8,369.00	13,230.00	Survey #2 (Lateral)	MWD+IFR1	OWSG MWD + IFR1	

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	479,411.23	540,537.73
200.00	0.90	91.80	199.99	1.57	-0.05	1.57	1.57	91.80	479,411.18	540,539.30
297.00	1.20	140.10	296.98	2.96	-0.85	2.98	3.10	105.95	479,410.38	540,540.71
386.00	0.90	165.50	385.96	3.70	-2.24	3.76	4.38	120.86	479,408.99	540,541.49
511.00	0.30	269.00	510.96	3.59	-3.20	3.67	4.87	131.06	479,408.03	540,541.40
604.00	1.40	300.50	603.95	2.38	-2.63	2.45	3.59	136.98	479,408.60	540,540.18
696.00	2.20	303.10	695.90	-0.02	-1.09	0.00	1.09	179.77	479,410.14	540,537.73
788.00	1.00	301.00	787.86	-2.16	0.28	-2.16	2.18	277.50	479,411.51	540,535.57
880.00	0.30	240.20	879.86	-3.04	0.58	-3.06	3.11	280.70	479,411.81	540,534.67
972.00	0.60	258.70	971.85	-3.73	0.36	-3.74	3.76	275.56	479,411.59	540,533.99
1,065.00	0.20	211.80	1,064.85	-4.30	0.13	-4.30	4.31	271.74	479,411.36	540,533.43
1,160.00	1.20	275.80	1,159.84	-5.38	0.09	-5.38	5.38	270.96	479,411.32	540,532.35
1,254.00	1.50	5.30	1,253.83	-6.21	1.42	-6.25	6.41	282.76	479,412.65	540,531.48
1,349.00	2.20	38.50	1,348.78	-4.89	4.08	-5.00	6.45	309.23	479,415.31	540,532.73
1,444.00	3.00	16.50	1,443.68	-2.95	7.89	-3.16	8.50	338.20	479,419.12	540,534.57
1,538.00	3.10	352.30	1,537.55	-2.47	12.77	-2.80	13.07	347.64	479,424.00	540,534.93
1,633.00	3.00	352.00	1,632.42	-3.02	17.78	-3.49	18.12	348.90	479,429.01	540,534.24
1,728.00	2.50	339.00	1,727.31	-4.00	22.17	-4.58	22.64	348.34	479,433.40	540,533.15
1,823.00	3.10	329.30	1,822.20	-5.94	26.32	-6.63	27.14	345.86	479,437.55	540,531.10
1,921.00	4.90	329.80	1,919.95	-9.25	32.21	-10.09	33.75	342.61	479,443.44	540,527.64



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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)
2,001.00	5.60	329.00	1,999.62	-12.81	38.51	-13.82	40.91	340.26	479,449.74	540,523.91
2,096.00	7.70	334.90	2,093.97	-17.65	48.25	-18.91	51.82	338.60	479,459.48	540,518.82
2,190.00	10.20	338.00	2,186.82	-23.08	61.67	-24.70	66.43	338.18	479,472.90	540,513.03
2,285.00	10.60	338.70	2,280.26	-28.99	77.61	-31.02	83.58	338.21	479,488.84	540,506.71
2,379.00	10.50	339.40	2,372.67	-34.73	93.68	-37.18	100.79	338.36	479,504.91	540,500.55
2,474.00	11.60	331.90	2,465.92	-41.84	110.21	-44.72	118.94	337.91	479,521.44	540,493.01
2,569.00	11.40	331.40	2,559.01	-50.40	126.88	-53.71	137.78	337.06	479,538.11	540,484.02
2,663.00	11.20	331.60	2,651.19	-58.76	143.07	-62.50	156.12	336.40	479,554.30	540,475.23
2,758.00	10.60	331.80	2,744.47	-66.86	158.88	-71.02	174.03	335.92	479,570.11	540,466.71
2,852.00	10.20	330.90	2,836.93	-74.61	173.78	-79.15	190.95	335.51	479,585.01	540,458.58
2,947.00	7.80	337.40	2,930.75	-80.83	187.08	-85.72	205.78	335.38	479,598.31	540,452.01
3,042.00	7.60	337.80	3,024.90	-85.37	198.85	-90.57	218.50	335.51	479,610.08	540,447.16
3,136.00	4.80	343.00	3,118.34	-88.62	208.37	-94.07	228.62	335.70	479,619.60	540,443.66
3,231.00	1.50	3.20	3,213.18	-89.58	213.41	-95.17	233.67	335.97	479,624.64	540,442.56
3,326.00	1.10	11.60	3,308.16	-89.28	215.54	-94.91	235.52	336.23	479,626.77	540,442.82
3,421.00	2.00	88.30	3,403.13	-87.41	216.49	-93.07	235.65	336.74	479,627.72	540,444.66
3,515.00	2.20	139.00	3,497.08	-84.62	215.17	-90.25	233.33	337.25	479,626.40	540,447.48
3,610.00	2.30	140.60	3,592.00	-82.29	212.32	-87.84	229.78	337.52	479,623.55	540,449.89
3,704.00	2.40	143.70	3,685.92	-80.01	209.28	-85.48	226.06	337.78	479,620.51	540,452.25
3,799.00	2.20	142.80	3,780.85	-77.81	206.23	-83.20	222.38	338.03	479,617.46	540,454.53
3,893.00	2.20	138.90	3,874.78	-75.61	203.43	-80.92	218.93	338.31	479,614.66	540,456.81
3,988.00	1.70	187.90	3,969.73	-74.67	200.66	-79.92	215.99	338.28	479,611.89	540,457.81
4,083.00	1.90	196.40	4,064.68	-75.39	197.75	-80.56	213.53	337.84	479,608.98	540,457.17
4,177.00	1.80	203.80	4,158.63	-76.50	194.91	-81.59	211.30	337.28	479,606.14	540,456.14
4,272.00	1.50	208.40	4,253.59	-77.75	192.45	-82.79	209.50	336.72	479,603.68	540,454.94
4,366.00	2.60	267.40	4,347.54	-80.50	191.27	-85.50	209.51	335.91	479,602.50	540,452.23
4,461.00	3.00	270.10	4,442.43	-85.14	191.17	-90.14	211.36	334.76	479,602.40	540,447.59

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Survey

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4,556.00	2.80	269.50	4,537.31	-89.94	191.16	-94.95	213.44	333.59	479,602.39	540,442.78
4,650.00	2.60	270.70	4,631.20	-94.37	191.16	-99.37	215.45	332.53	479,602.39	540,438.36
4,745.00	1.60	325.40	4,726.14	-97.25	192.28	-102.28	217.79	331.99	479,603.51	540,435.45
4,839.00	1.70	339.60	4,820.11	-98.42	194.67	-103.51	220.48	332.00	479,605.90	540,434.22
4,934.00	1.40	331.40	4,915.07	-99.40	197.01	-104.56	223.04	332.04	479,608.24	540,433.17
5,028.00	1.80	55.20	5,009.05	-98.69	198.86	-103.90	224.37	332.41	479,610.09	540,433.83
5,123.00	1.50	51.60	5,104.01	-96.45	200.48	-101.70	224.80	333.10	479,611.71	540,436.03
5,217.00	1.30	57.40	5,197.98	-94.55	201.82	-99.83	225.17	333.68	479,613.05	540,437.90
5,312.00	0.90	162.00	5,292.97	-93.42	201.69	-98.70	224.55	333.93	479,612.92	540,439.03
5,407.00	0.80	76.30	5,387.96	-92.56	201.14	-97.82	223.67	334.06	479,612.37	540,439.91
5,501.00	0.40	110.00	5,481.95	-91.61	201.18	-96.88	223.29	334.29	479,612.41	540,440.85
5,596.00	0.40	126.90	5,576.95	-91.04	200.87	-96.30	222.76	334.39	479,612.10	540,441.43
5,690.00	0.10	201.10	5,670.95	-90.82	200.60	-96.07	222.42	334.41	479,611.83	540,441.66
5,785.00	0.40	10.60	5,765.95	-90.78	200.85	-96.03	222.63	334.45	479,612.08	540,441.70
5,879.00	0.30	119.50	5,859.95	-90.50	201.05	-95.76	222.69	334.53	479,612.28	540,441.97
5,974.00	1.20	137.60	5,954.94	-89.64	200.19	-94.87	221.53	334.64	479,611.42	540,442.86
6,068.00	2.20	164.60	6,048.90	-88.56	197.73	-93.73	218.82	334.64	479,608.96	540,444.00
6,163.00	1.10	202.90	6,143.86	-88.50	195.13	-93.60	216.42	334.37	479,606.36	540,444.13
6,257.00	0.80	219.60	6,237.85	-89.30	193.79	-94.37	215.55	334.04	479,605.02	540,443.36
6,352.00	1.10	232.10	6,332.84	-90.47	192.72	-95.51	215.09	333.64	479,603.95	540,442.22
6,447.00	1.00	236.40	6,427.82	-91.90	191.70	-96.92	214.81	333.18	479,602.93	540,440.81
6,541.00	0.50	210.30	6,521.81	-92.82	190.89	-97.81	214.49	332.87	479,602.12	540,439.92
6,636.00	0.40	168.90	6,616.81	-92.98	190.21	-97.96	213.95	332.75	479,601.44	540,439.77
6,730.00	0.70	136.50	6,710.80	-92.54	189.47	-97.50	213.08	332.77	479,600.70	540,440.23
6,825.00	0.80	126.30	6,805.80	-91.63	188.66	-96.57	211.93	332.89	479,599.89	540,441.16
6,919.00	1.00	124.50	6,899.78	-90.44	187.80	-95.36	210.63	333.08	479,599.03	540,442.37
7,014.00	1.20	106.00	6,994.77	-88.83	187.06	-93.72	209.23	333.39	479,598.29	540,444.01

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7,109.00	1.50	95.00	7,089.74	-86.64	186.68	-91.53	207.91	333.88	479,597.91	540,446.20
7,203.00	1.50	93.30	7,183.71	-84.19	186.50	-89.07	206.68	334.47	479,597.73	540,448.66
7,298.00	1.10	84.60	7,278.68	-82.04	186.51	-86.92	205.77	335.01	479,597.74	540,450.81
7,392.00	0.90	64.00	7,372.67	-80.47	186.92	-85.36	205.49	335.46	479,598.15	540,452.37
7,487.00	0.80	47.70	7,467.66	-79.29	187.70	-84.20	205.72	335.84	479,598.93	540,453.53
7,581.00	0.70	43.10	7,561.65	-78.39	188.56	-83.32	206.15	336.16	479,599.79	540,454.41
7,675.00	1.20	8.40	7,655.64	-77.82	189.95	-82.79	207.21	336.45	479,601.18	540,454.94
7,770.00	2.10	336.20	7,750.60	-78.31	192.53	-83.34	209.79	336.59	479,603.76	540,454.39
7,865.00	2.50	336.70	7,845.52	-79.74	196.02	-84.87	213.60	336.59	479,607.25	540,452.86
7,959.00	2.20	330.80	7,939.45	-81.34	199.48	-86.56	217.45	336.54	479,610.71	540,451.17
8,054.00	1.00	246.30	8,034.42	-82.96	200.74	-88.21	219.26	336.28	479,611.97	540,449.52
8,148.00	1.40	223.90	8,128.40	-84.53	199.58	-89.75	218.83	335.79	479,610.81	540,447.98
8,243.00	0.90	233.10	8,223.38	-85.97	198.30	-91.15	218.24	335.31	479,609.53	540,446.58
8,294.00	2.80	136.80	8,274.35	-85.46	197.15	-90.62	216.98	335.31	479,608.38	540,447.11
8,369.00	7.00	118.20	8,349.07	-80.27	193.65	-85.34	211.62	336.22	479,604.88	540,452.39
8,432.00	13.30	91.20	8,411.08	-69.68	191.68	-74.69	205.72	338.71	479,602.91	540,463.04
8,525.00	26.30	86.80	8,498.40	-38.27	192.61	-43.29	197.42	347.33	479,603.84	540,494.44
8,620.00	39.00	82.70	8,578.24	12.72	197.61	7.59	197.75	2.20	479,608.84	540,545.32
8,715.00	46.50	83.50	8,647.95	76.88	205.32	71.56	217.43	19.22	479,616.55	540,609.29
8,809.00	54.30	90.80	8,707.87	149.15	208.65	143.77	253.39	34.57	479,619.88	540,681.50
8,904.00	61.90	88.90	8,758.03	229.71	208.92	224.36	306.57	47.04	479,620.15	540,762.09
8,998.00	76.30	85.50	8,791.49	317.26	213.32	311.81	377.80	55.62	479,624.55	540,849.54
9,093.00	80.00	94.90	8,811.03	410.06	212.94	404.66	457.27	62.25	479,624.17	540,942.39
9,187.00	76.60	100.20	8,830.11	500.92	200.88	495.86	535.01	67.95	479,612.11	541,033.59
9,282.00	66.10	94.80	8,860.46	589.64	189.03	584.92	614.71	72.09	479,600.26	541,122.65
9,370.00	70.00	81.30	8,893.48	671.00	191.93	666.24	693.33	73.93	479,603.16	541,203.97
9,464.00	90.10	82.10	8,909.64	762.46	205.20	757.39	784.69	74.84	479,616.43	541,295.12



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9,489.00	90.80	81.60	8,909.45	787.30	208.75	782.13	809.51	75.06	479,619.98	541,319.86
9,583.00	90.90	83.80	8,908.05	880.80	220.69	875.35	902.74	75.85	479,631.92	541,413.08
9,677.00	90.10	86.90	8,907.23	974.64	228.31	969.03	995.56	76.74	479,639.54	541,506.76
9,771.00	88.50	86.10	8,908.38	1,068.57	234.05	1,062.84	1,088.31	77.58	479,645.28	541,600.57
9,865.00	90.10	89.00	8,909.53	1,162.54	238.06	1,156.74	1,180.98	78.37	479,649.29	541,694.47
9,959.00	89.60	90.00	8,909.77	1,256.52	238.88	1,250.73	1,273.34	79.19	479,650.11	541,788.46
10,053.00	89.20	91.30	8,910.76	1,350.45	237.82	1,344.72	1,365.58	79.97	479,649.05	541,882.45
10,148.00	89.70	91.80	8,911.67	1,445.31	235.25	1,439.68	1,458.77	80.72	479,646.48	541,977.41
10,242.00	90.30	93.40	8,911.67	1,539.07	230.98	1,533.58	1,550.88	81.43	479,642.21	542,071.31
10,335.00	88.00	92.20	8,913.05	1,631.79	226.44	1,626.45	1,642.14	82.07	479,637.67	542,164.18
10,425.00	87.70	92.20	8,916.43	1,721.54	222.99	1,716.32	1,730.74	82.60	479,634.22	542,254.05
10,519.00	90.30	88.50	8,918.07	1,815.45	222.42	1,810.28	1,823.89	83.00	479,633.65	542,348.01
10,613.00	89.80	88.30	8,917.99	1,909.45	225.04	1,904.24	1,917.49	83.26	479,636.27	542,441.97
10,707.00	87.90	87.60	8,919.87	2,003.42	228.40	1,998.16	2,011.17	83.48	479,639.63	542,535.89
10,802.00	90.10	86.70	8,921.53	2,098.37	233.12	2,093.02	2,105.96	83.64	479,644.35	542,630.75
10,896.00	91.20	87.30	8,920.46	2,192.33	238.04	2,186.88	2,199.80	83.79	479,649.27	542,724.61
10,989.00	91.60	86.70	8,918.19	2,285.27	242.91	2,279.73	2,292.63	83.92	479,654.14	542,817.46
11,083.00	93.10	88.00	8,914.34	2,379.17	247.25	2,373.54	2,386.39	84.05	479,658.48	542,911.27
11,177.00	92.80	89.40	8,909.50	2,473.04	249.38	2,467.39	2,479.96	84.23	479,660.61	543,005.12
11,271.00	92.20	91.20	8,905.40	2,566.90	248.89	2,561.30	2,573.36	84.45	479,660.12	543,099.03
11,365.00	90.50	92.60	8,903.18	2,660.70	245.77	2,655.21	2,666.56	84.71	479,657.00	543,192.94
11,459.00	89.30	92.80	8,903.35	2,754.45	241.35	2,749.11	2,759.68	84.98	479,652.58	543,286.84
11,554.00	90.30	92.70	8,903.68	2,849.19	236.79	2,843.99	2,853.83	85.24	479,648.02	543,381.72
11,648.00	86.30	91.70	8,906.47	2,942.93	233.18	2,937.86	2,947.10	85.46	479,644.41	543,475.59
11,741.00	86.50	91.50	8,912.31	3,035.61	230.59	3,030.64	3,039.40	85.65	479,641.82	543,568.37
11,835.00	85.40	88.90	8,918.95	3,129.33	230.26	3,124.40	3,132.87	85.79	479,641.49	543,662.13
11,930.00	85.30	86.40	8,926.65	3,224.00	234.14	3,219.00	3,227.50	85.84	479,645.37	543,756.73



Professional Directional Survey Report

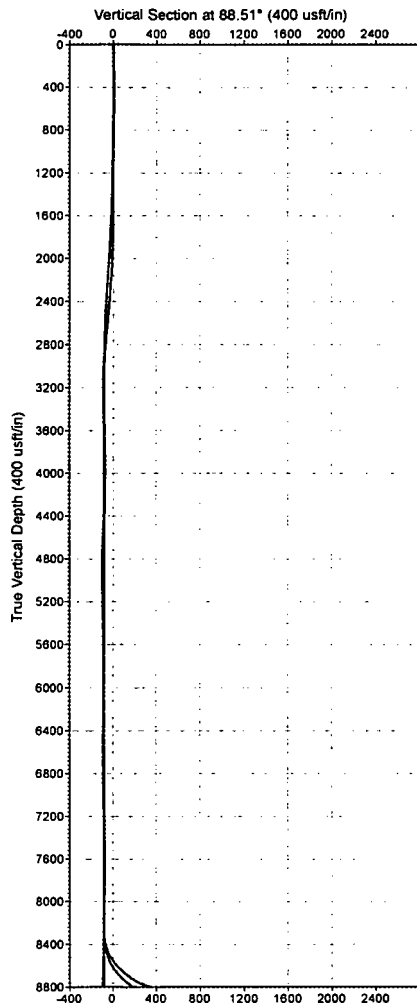


Company: Marathon Oil
Project: Eddy County, NM
Site: Cypress Fee 23-27-9 (5-6-7-8)
Well: No. 7H
Wellbore: Lateral
Design: Lateral 200'-13157' PTB 13230'

Local Co-ordinate Reference: Well No. 7H
TVD Reference: Well @ 3190.50usft (GL: 3164' + KB: 26.5' (H&P498))
MD Reference: Well @ 3190.50usft (GL: 3164' + KB: 26.5' (H&P498))
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)
12,024.00	87.10	84.40	8,932.88	3,317.65	241.67	3,312.48	3,321.29	85.83	479,652.90	543,850.21
12,118.00	91.20	83.90	8,934.27	3,411.34	251.24	3,405.96	3,415.22	85.78	479,662.47	543,943.69
12,213.00	90.90	85.30	8,932.53	3,506.10	260.18	3,500.52	3,510.18	85.75	479,671.41	544,038.25
12,308.00	88.70	87.40	8,932.87	3,601.02	266.23	3,595.32	3,605.16	85.77	479,677.46	544,133.05
12,402.00	89.20	87.50	8,934.59	3,694.99	270.41	3,689.21	3,699.10	85.81	479,681.64	544,226.94
12,497.00	90.10	89.80	8,935.17	3,789.98	272.65	3,784.17	3,793.98	85.88	479,683.88	544,321.90
12,591.00	87.50	90.20	8,937.14	3,883.92	272.65	3,878.14	3,887.72	85.98	479,683.88	544,415.87
12,685.00	87.10	89.90	8,941.56	3,977.78	272.57	3,972.04	3,981.38	86.07	479,683.80	544,509.77
12,780.00	87.00	89.50	8,946.45	4,072.64	273.06	4,066.91	4,076.07	86.16	479,684.29	544,604.64
12,874.00	86.70	89.20	8,951.62	4,166.48	274.13	4,160.76	4,169.78	86.23	479,685.36	544,698.49
12,969.00	86.70	89.30	8,957.09	4,261.32	275.37	4,255.60	4,264.50	86.30	479,686.60	544,793.33
13,063.00	87.00	89.10	8,962.25	4,355.17	276.68	4,349.45	4,358.24	86.36	479,687.91	544,887.18
13,157.00	86.30	88.70	8,967.75	4,449.01	278.48	4,443.27	4,451.99	86.41	479,689.71	544,981.00
Last Survey: 13157' MD, 8968' TVD										
13,230.00	86.30	88.70	8,972.46	4,521.85	280.13	4,516.10	4,524.78	86.45	479,691.36	545,053.83
PTB: 13230' MD										

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
13,157.00	8,967.75	278.48	4,443.27	Last Survey: 13157' MD, 8968' TVD
13,230.00	8,972.46	280.13	4,516.10	PTB: 13230' MD



Marathon Oil Corporation



Marathon Oil
Eddy County, NM
Cypress Fee 23-27-9 (5-6-7-8)
No. 7H
Plan #2 - FINAL PVA
GL: 3164' + KB: 26.5' (H&P498)

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

RKB Elevation: Well @ 3190.50usf (GL: 3164' + KB: 26.5' (H&P498))

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Spot
0.00	0.00	479411.23	540537.73	32.3179495	-104.2021094	

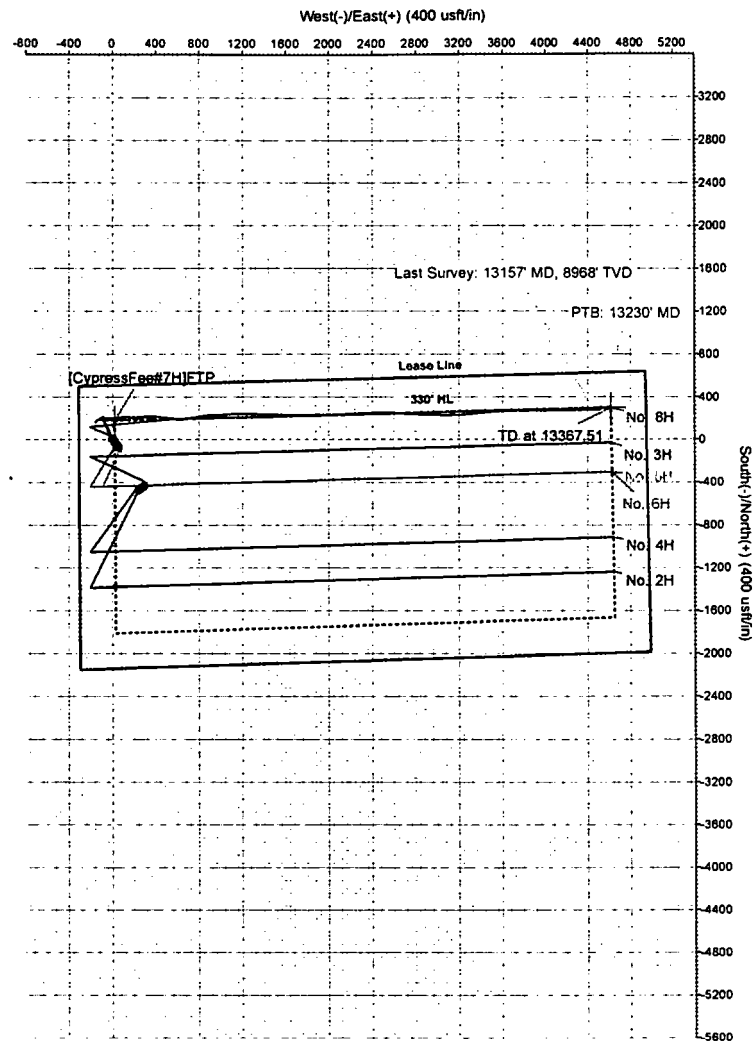
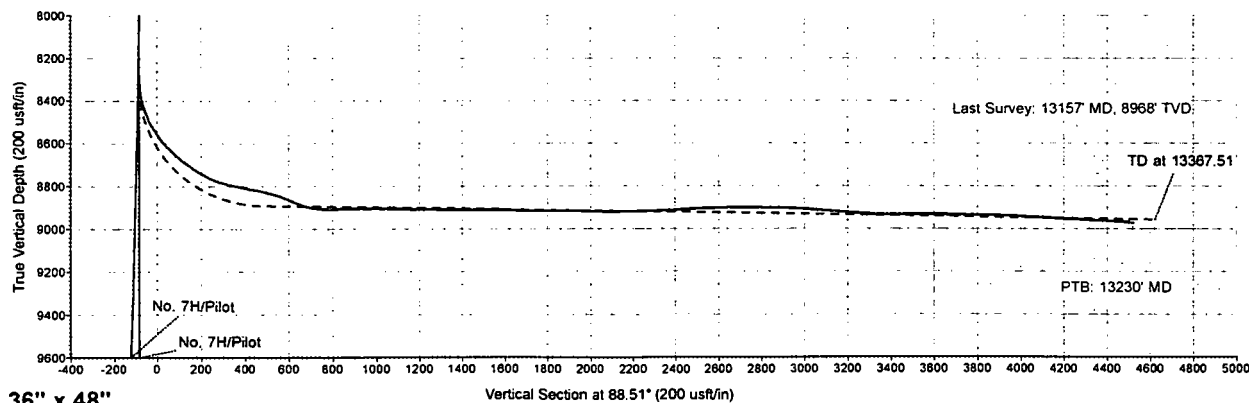
SECTION DETAILS- LATERAL

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	VSec
1	8333.00	0.00	0.00	8319.50	200.00	-90.00	0.00	-84.77
2	9224.00	89.10	90.89	8892.39	191.54	473.89	10.00	478.71
3	9341.66	89.10	88.51	8894.24	192.19	591.53	2.00	596.33
4	13367.51	89.10	88.51	8957.60	297.10	4615.51	0.00	4621.67

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting
[CypressFee#7H]FTP	0.00	177.40	18.88	479588.63	540556.61
[CypressFee#7H]LTP/BHL	8957.60	297.10	4615.51	479708.33	545153.24

Target Line: 8885' TVD @ 0° VS, 89.1° INC



Azimuths to Grid North
 True North: -0.07°
 Magnetic North: 7.33°
 Magnetic Field
 Strength: 48100 nT
 Dip Angle: 60.12°
 Date: 10/1/2017
 Model: HDGM

Azimuth Corrections

Total Magnetic Corr. (M to G): 7.33°

Declination (M to T): 7.40° East