



Marathon Oil
Lea County, NM
Flowmaster 24-34-15 (4-5-8)
No. 5H
Prelim Plan A
GL: 3520' + 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 @ 3546.50usft (GL: 3520' + KB: 26.5' (H&P498))

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	446206.72	769431.32	32.2237364	-103.4620775	

SECTION DETAILS

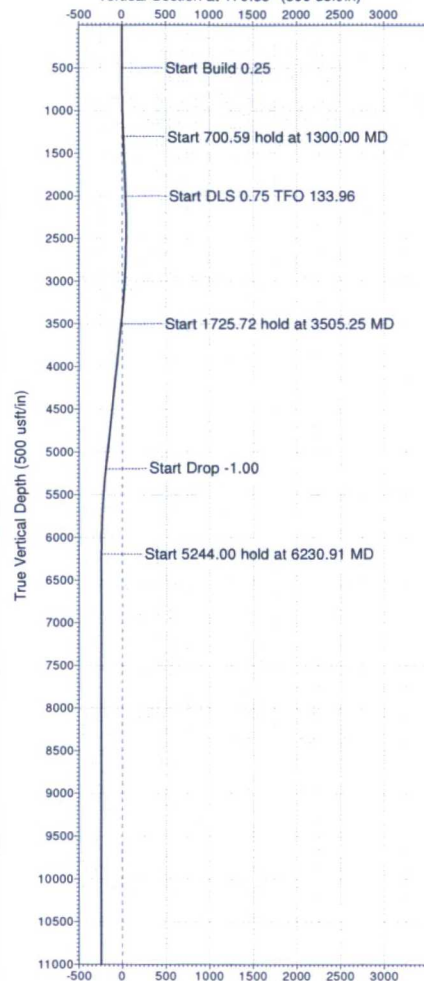
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	VSect
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00
3	1300.00	2.00	180.00	1299.84	-13.96	0.00	0.25	13.96
4	2000.59	2.00	180.00	2000.00	-38.41	0.00	0.00	38.41
5	3505.25	10.00	305.79	3497.62	11.88	-106.32	0.75	-12.72
6	5230.97	10.00	305.79	5197.12	187.11	-349.40	0.00	-189.84
7	6230.91	0.00	0.00	6192.00	238.00	-420.00	1.00	-241.29
8	11474.91	0.00	0.00	11436.00	238.00	-420.00	0.00	-241.29
9	12374.91	90.00	187.30	12008.96	-330.31	-492.80	10.00	326.43
10	12762.36	90.00	179.55	12008.96	-716.77	-515.94	2.00	712.70
11	16656.31	90.00	179.55	12009.00	-4610.60	-485.43	0.00	4606.65

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

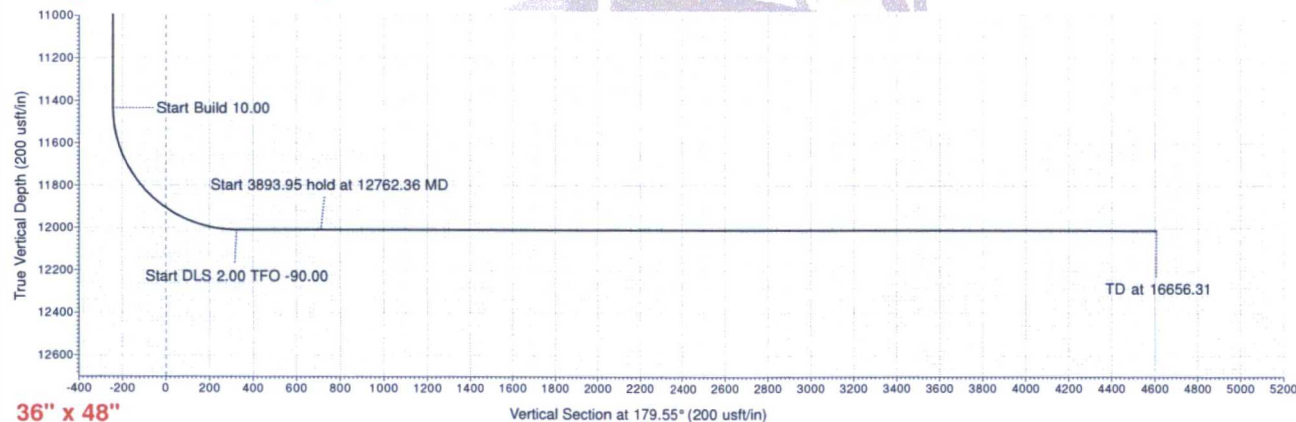
Name	TVD	+N/-S	+E/-W	Northing	Easting
(Flowmaster#5H)FTP	0.00	7.92	-521.54	446214.64	768909.78
(Flowmaster#5H)KOP	11436.00	238.00	-420.00	446444.72	769011.32
(Flowmaster#5H)JTP/BHL	12009.00	-4610.60	-485.43	441596.12	768945.89



Vertical Section at 179.55° (500 usft/in)

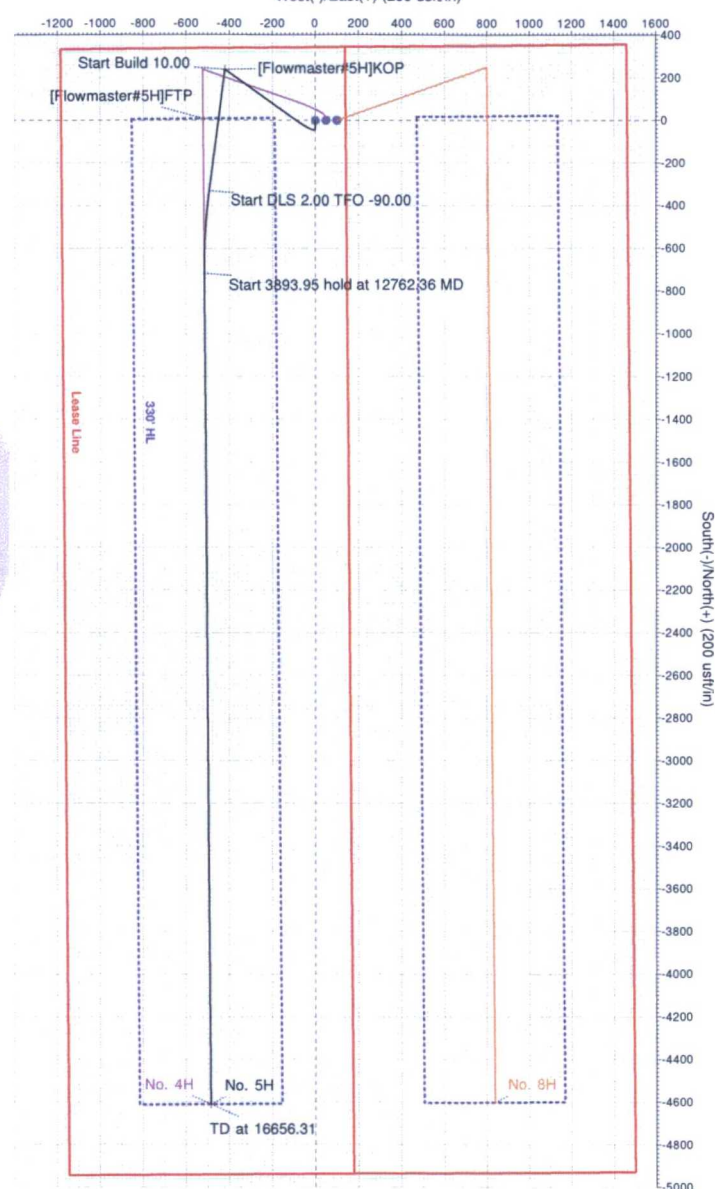


Target Line: 12009' TVD @ 0° VS: 90° INC



36" x 48"

West(-)/East(+) (200 usft/in)



Azimuths to Grid North
True North: -0.47°
Magnetic North: 6.32°

Magnetic Field
Strength: 48093.0nT
Dip Angle: 60.00°
Date: 10/24/2017
Model: HDGM

Azimuth Corrections

Total Magnetic Corr. (M to G): 6.32°

Declination (M to T): 6.78° East

Company:	Marathon Oil	Local Co-ordinate Reference:	Well No. 5H
Project:	Lea County, NM	TVD Reference:	Well @ 3546.50usft (GL: 3520' + KB: 26.5' (H&P498))
Site:	Flowmaster 24-34-15 (4-5-8)	MD Reference:	Well @ 3546.50usft (GL: 3520' + KB: 26.5' (H&P498))
Well:	No. 5H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Prelim Plan A	Database:	WellPlanner1

Project	Lea 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		Flowmaster 24-34-15 (4-5-8)			
Site Position:		Northing:	446,206.72 usft	Latitude:	32.2237353
From:	Map	Easting:	769,481.32 usft	Longitude:	-103.4619158
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.46 °

Well		No. 5H				
Well Position	+N/-S	0.00 usft	Northing:	446,206.72 usft	Latitude:	32.2237364
	+E/-W	0.00 usft	Easting:	769,431.32 usft	Longitude:	-103.4620775
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,520.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	10/24/2017	6.78	60.00	48,093.00

Design	Prelim Plan A				
Audit Notes:					
Version:	Phase:	PLAN	Tie On Depth:	0.00	
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	179.55	

Survey Tool Program	Date	10/24/2017			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	5,000.00	Prelim Plan A (OH)	MWD+IFR1	OWSG MWD + IFR1	
5,000.00	10,000.00	Prelim Plan A (OH)	MWD+IFR1	OWSG MWD + IFR1	
10,000.00	16,656.31	Prelim Plan A (OH)	MWD+IFR1	OWSG MWD + IFR1	

Planned 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	
[Flowmaster#5H]FTP										
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00	
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	

Company:	Marathon Oil	Local Co-ordinate Reference:	Well No. 5H
Project:	Lea County, NM	TVD Reference:	Well @ 3546.50usft (GL: 3520' + KB: 26.5' (H&P498))
Site:	Flowmaster 24-34-15 (4-5-8)	MD Reference:	Well @ 3546.50usft (GL: 3520' + KB: 26.5' (H&P498))
Well:	No. 5H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Prelim Plan A	Database:	WellPlanner1

Planned 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)
600.00	0.25	180.00	600.00	-0.22	0.00	0.22	0.25	0.25	0.00
700.00	0.50	180.00	700.00	-0.87	0.00	0.87	0.25	0.25	0.00
800.00	0.75	180.00	799.99	-1.96	0.00	1.96	0.25	0.25	0.00
900.00	1.00	180.00	899.98	-3.49	0.00	3.49	0.25	0.25	0.00
1,000.00	1.25	180.00	999.96	-5.45	0.00	5.45	0.25	0.25	0.00
1,100.00	1.50	180.00	1,099.93	-7.85	0.00	7.85	0.25	0.25	0.00
1,200.00	1.75	180.00	1,199.89	-10.69	0.00	10.69	0.25	0.25	0.00
1,300.00	2.00	180.00	1,299.84	-13.96	0.00	13.96	0.25	0.25	0.00
1,400.00	2.00	180.00	1,399.78	-17.45	0.00	17.45	0.00	0.00	0.00
1,500.00	2.00	180.00	1,499.72	-20.94	0.00	20.94	0.00	0.00	0.00
1,600.00	2.00	180.00	1,599.65	-24.43	0.00	24.43	0.00	0.00	0.00
1,700.00	2.00	180.00	1,699.59	-27.92	0.00	27.92	0.00	0.00	0.00
1,800.00	2.00	180.00	1,799.53	-31.41	0.00	31.41	0.00	0.00	0.00
1,900.00	2.00	180.00	1,899.47	-34.90	0.00	34.90	0.00	0.00	0.00
2,000.59	2.00	180.00	2,000.00	-38.41	0.00	38.41	0.00	0.00	0.00
2,100.00	1.58	199.90	2,099.36	-41.43	-0.47	41.43	0.75	-0.43	20.02
2,200.00	1.44	228.23	2,199.33	-43.56	-1.87	43.55	0.75	-0.13	28.32
2,300.00	1.68	254.75	2,299.29	-44.79	-4.22	44.75	0.75	0.23	26.52
2,400.00	2.16	272.14	2,399.24	-45.10	-7.51	45.04	0.75	0.48	17.39
2,500.00	2.76	282.58	2,499.15	-44.51	-11.75	44.41	0.75	0.60	10.45
2,600.00	3.42	289.14	2,599.00	-43.00	-16.92	42.87	0.75	0.66	6.56
2,700.00	4.12	293.54	2,698.78	-40.59	-23.03	40.41	0.75	0.69	4.40
2,800.00	4.83	296.66	2,798.48	-37.27	-30.08	37.03	0.75	0.71	3.12
2,900.00	5.55	298.98	2,898.07	-33.04	-38.07	32.74	0.75	0.72	2.32
3,000.00	6.27	300.77	2,997.54	-27.90	-46.99	27.53	0.75	0.73	1.78
3,100.00	7.01	302.18	3,096.87	-21.86	-56.85	21.41	0.75	0.73	1.41
3,200.00	7.74	303.33	3,196.04	-14.91	-67.63	14.38	0.75	0.74	1.15
3,300.00	8.48	304.28	3,295.04	-7.06	-79.35	6.44	0.75	0.74	0.95
3,400.00	9.22	305.07	3,393.85	1.70	-92.00	-2.42	0.75	0.74	0.80
3,505.25	10.00	305.79	3,497.62	11.88	-106.32	-12.72	0.75	0.74	0.68
3,600.00	10.00	305.79	3,590.93	21.50	-119.66	-22.44	0.00	0.00	0.00
3,700.00	10.00	305.79	3,689.41	31.66	-133.75	-32.71	0.00	0.00	0.00
3,800.00	10.00	305.79	3,787.89	41.81	-147.83	-42.97	0.00	0.00	0.00
3,900.00	10.00	305.79	3,886.37	51.96	-161.92	-53.23	0.00	0.00	0.00
4,000.00	10.00	305.79	3,984.85	62.12	-176.00	-63.50	0.00	0.00	0.00
4,100.00	10.00	305.79	4,083.33	72.27	-190.09	-73.76	0.00	0.00	0.00
4,200.00	10.00	305.79	4,181.82	82.43	-204.18	-84.03	0.00	0.00	0.00
4,300.00	10.00	305.79	4,280.30	92.58	-218.26	-94.29	0.00	0.00	0.00
4,400.00	10.00	305.79	4,378.78	102.73	-232.35	-104.55	0.00	0.00	0.00
4,500.00	10.00	305.79	4,477.26	112.89	-246.43	-114.82	0.00	0.00	0.00
4,600.00	10.00	305.79	4,575.74	123.04	-260.52	-125.08	0.00	0.00	0.00
4,700.00	10.00	305.79	4,674.22	133.19	-274.60	-135.35	0.00	0.00	0.00

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Well:	No. 5H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Prelim Plan A	Database:	WellPlanner1

Planned 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)
4,800.00	10.00	305.79	4,772.70	143.35	-288.69	-145.61	0.00	0.00	0.00
4,900.00	10.00	305.79	4,871.18	153.50	-302.78	-155.87	0.00	0.00	0.00
5,000.00	10.00	305.79	4,969.66	163.65	-316.86	-166.14	0.00	0.00	0.00
5,100.00	10.00	305.79	5,068.14	173.81	-330.95	-176.40	0.00	0.00	0.00
5,200.00	10.00	305.79	5,166.62	183.96	-345.03	-186.67	0.00	0.00	0.00
5,230.97	10.00	305.79	5,197.12	187.11	-349.40	-189.84	0.00	0.00	0.00
5,300.00	9.31	305.79	5,265.18	193.88	-358.79	-196.69	1.00	-1.00	0.00
5,400.00	8.31	305.79	5,364.00	202.83	-371.21	-205.74	1.00	-1.00	0.00
5,500.00	7.31	305.79	5,463.07	210.78	-382.23	-213.77	1.00	-1.00	0.00
5,600.00	6.31	305.79	5,562.36	217.71	-391.85	-220.78	1.00	-1.00	0.00
5,700.00	5.31	305.79	5,661.85	223.63	-400.06	-226.76	1.00	-1.00	0.00
5,800.00	4.31	305.79	5,761.49	228.53	-406.86	-231.72	1.00	-1.00	0.00
5,900.00	3.31	305.79	5,861.27	232.41	-412.25	-235.64	1.00	-1.00	0.00
6,000.00	2.31	305.79	5,961.15	235.28	-416.23	-238.54	1.00	-1.00	0.00
6,100.00	1.31	305.79	6,061.10	237.13	-418.79	-240.41	1.00	-1.00	0.00
6,200.00	0.31	305.79	6,161.09	237.95	-419.93	-241.24	1.00	-1.00	0.00
6,230.91	0.00	0.00	6,192.00	238.00	-420.00	-241.29	1.00	-1.00	0.00
6,300.00	0.00	0.00	6,261.09	238.00	-420.00	-241.29	0.00	0.00	0.00
6,400.00	0.00	0.00	6,361.09	238.00	-420.00	-241.29	0.00	0.00	0.00
6,500.00	0.00	0.00	6,461.09	238.00	-420.00	-241.29	0.00	0.00	0.00
6,600.00	0.00	0.00	6,561.09	238.00	-420.00	-241.29	0.00	0.00	0.00
6,700.00	0.00	0.00	6,661.09	238.00	-420.00	-241.29	0.00	0.00	0.00
6,800.00	0.00	0.00	6,761.09	238.00	-420.00	-241.29	0.00	0.00	0.00
6,900.00	0.00	0.00	6,861.09	238.00	-420.00	-241.29	0.00	0.00	0.00
7,000.00	0.00	0.00	6,961.09	238.00	-420.00	-241.29	0.00	0.00	0.00
7,100.00	0.00	0.00	7,061.09	238.00	-420.00	-241.29	0.00	0.00	0.00
7,200.00	0.00	0.00	7,161.09	238.00	-420.00	-241.29	0.00	0.00	0.00
7,300.00	0.00	0.00	7,261.09	238.00	-420.00	-241.29	0.00	0.00	0.00
7,400.00	0.00	0.00	7,361.09	238.00	-420.00	-241.29	0.00	0.00	0.00
7,500.00	0.00	0.00	7,461.09	238.00	-420.00	-241.29	0.00	0.00	0.00
7,600.00	0.00	0.00	7,561.09	238.00	-420.00	-241.29	0.00	0.00	0.00
7,700.00	0.00	0.00	7,661.09	238.00	-420.00	-241.29	0.00	0.00	0.00
7,800.00	0.00	0.00	7,761.09	238.00	-420.00	-241.29	0.00	0.00	0.00
7,900.00	0.00	0.00	7,861.09	238.00	-420.00	-241.29	0.00	0.00	0.00
8,000.00	0.00	0.00	7,961.09	238.00	-420.00	-241.29	0.00	0.00	0.00
8,100.00	0.00	0.00	8,061.09	238.00	-420.00	-241.29	0.00	0.00	0.00
8,200.00	0.00	0.00	8,161.09	238.00	-420.00	-241.29	0.00	0.00	0.00
8,300.00	0.00	0.00	8,261.09	238.00	-420.00	-241.29	0.00	0.00	0.00
8,400.00	0.00	0.00	8,361.09	238.00	-420.00	-241.29	0.00	0.00	0.00
8,500.00	0.00	0.00	8,461.09	238.00	-420.00	-241.29	0.00	0.00	0.00
8,600.00	0.00	0.00	8,561.09	238.00	-420.00	-241.29	0.00	0.00	0.00
8,700.00	0.00	0.00	8,661.09	238.00	-420.00	-241.29	0.00	0.00	0.00

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8,800.00	0.00	0.00	8,761.09	238.00	-420.00	-241.29	0.00	0.00	0.00
8,900.00	0.00	0.00	8,861.09	238.00	-420.00	-241.29	0.00	0.00	0.00
9,000.00	0.00	0.00	8,961.09	238.00	-420.00	-241.29	0.00	0.00	0.00
9,100.00	0.00	0.00	9,061.09	238.00	-420.00	-241.29	0.00	0.00	0.00
9,200.00	0.00	0.00	9,161.09	238.00	-420.00	-241.29	0.00	0.00	0.00
9,300.00	0.00	0.00	9,261.09	238.00	-420.00	-241.29	0.00	0.00	0.00
9,400.00	0.00	0.00	9,361.09	238.00	-420.00	-241.29	0.00	0.00	0.00
9,500.00	0.00	0.00	9,461.09	238.00	-420.00	-241.29	0.00	0.00	0.00
9,600.00	0.00	0.00	9,561.09	238.00	-420.00	-241.29	0.00	0.00	0.00
9,700.00	0.00	0.00	9,661.09	238.00	-420.00	-241.29	0.00	0.00	0.00
9,800.00	0.00	0.00	9,761.09	238.00	-420.00	-241.29	0.00	0.00	0.00
9,900.00	0.00	0.00	9,861.09	238.00	-420.00	-241.29	0.00	0.00	0.00
10,000.00	0.00	0.00	9,961.09	238.00	-420.00	-241.29	0.00	0.00	0.00
10,100.00	0.00	0.00	10,061.09	238.00	-420.00	-241.29	0.00	0.00	0.00
10,200.00	0.00	0.00	10,161.09	238.00	-420.00	-241.29	0.00	0.00	0.00
10,300.00	0.00	0.00	10,261.09	238.00	-420.00	-241.29	0.00	0.00	0.00
10,400.00	0.00	0.00	10,361.09	238.00	-420.00	-241.29	0.00	0.00	0.00
10,500.00	0.00	0.00	10,461.09	238.00	-420.00	-241.29	0.00	0.00	0.00
10,600.00	0.00	0.00	10,561.09	238.00	-420.00	-241.29	0.00	0.00	0.00
10,700.00	0.00	0.00	10,661.09	238.00	-420.00	-241.29	0.00	0.00	0.00
10,800.00	0.00	0.00	10,761.09	238.00	-420.00	-241.29	0.00	0.00	0.00
10,900.00	0.00	0.00	10,861.09	238.00	-420.00	-241.29	0.00	0.00	0.00
11,000.00	0.00	0.00	10,961.09	238.00	-420.00	-241.29	0.00	0.00	0.00
11,100.00	0.00	0.00	11,061.09	238.00	-420.00	-241.29	0.00	0.00	0.00
11,200.00	0.00	0.00	11,161.09	238.00	-420.00	-241.29	0.00	0.00	0.00
11,300.00	0.00	0.00	11,261.09	238.00	-420.00	-241.29	0.00	0.00	0.00
11,400.00	0.00	0.00	11,361.09	238.00	-420.00	-241.29	0.00	0.00	0.00
11,474.91	0.00	0.00	11,436.00	238.00	-420.00	-241.29	0.00	0.00	0.00
[Flowmaster#5H]KOP									
11,500.00	2.51	187.30	11,461.08	237.46	-420.07	-240.75	10.00	10.00	0.00
11,550.00	7.51	187.30	11,510.87	233.13	-420.62	-236.42	10.00	10.00	0.00
11,600.00	12.51	187.30	11,560.09	224.51	-421.73	-227.82	10.00	10.00	0.00
11,650.00	17.51	187.30	11,608.37	211.67	-423.37	-214.99	10.00	10.00	0.00
11,700.00	22.51	187.30	11,655.34	194.71	-425.55	-198.04	10.00	10.00	0.00
11,750.00	27.51	187.30	11,700.64	173.75	-428.23	-177.11	10.00	10.00	0.00
11,800.00	32.51	187.30	11,743.92	148.95	-431.41	-152.34	10.00	10.00	0.00
11,850.00	37.51	187.30	11,784.86	120.51	-435.05	-123.92	10.00	10.00	0.00
11,900.00	42.51	187.30	11,823.15	88.63	-439.13	-92.08	10.00	10.00	0.00
11,950.00	47.51	187.30	11,858.49	53.57	-443.63	-57.05	10.00	10.00	0.00
12,000.00	52.51	187.30	11,890.61	15.59	-448.49	-19.11	10.00	10.00	0.00
12,050.00	57.51	187.30	11,919.27	-25.03	-453.70	21.47	10.00	10.00	0.00
12,100.00	62.51	187.30	11,944.26	-67.97	-459.20	64.36	10.00	10.00	0.00

Company:	Marathon Oil	Local Co-ordinate Reference:	Well No. 5H
Project:	Lea County, NM	TVD Reference:	Well @ 3546.50usft (GL: 3520' + KB: 26.5' (H&P498))
Site:	Flowmaster 24-34-15 (4-5-8)	MD Reference:	Well @ 3546.50usft (GL: 3520' + KB: 26.5' (H&P498))
Well:	No. 5H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Prelim Plan A	Database:	WellPlanner1

Planned 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)
12,150.00	67.51	187.30	11,965.38	-112.91	-464.95	109.25	10.00	10.00	0.00
12,200.00	72.51	187.30	11,982.47	-159.50	-470.92	155.80	10.00	10.00	0.00
12,250.00	77.51	187.30	11,995.40	-207.39	-477.06	203.64	10.00	10.00	0.00
12,300.00	82.51	187.30	12,004.07	-256.22	-483.31	252.41	10.00	10.00	0.00
12,350.00	87.51	187.30	12,008.42	-305.61	-489.64	301.75	10.00	10.00	0.00
12,374.91	90.00	187.30	12,008.96	-330.31	-492.80	326.43	10.00	10.00	0.00
12,400.00	90.00	186.80	12,008.96	-355.21	-495.88	351.30	2.00	0.00	-2.00
12,500.00	90.00	184.80	12,008.96	-454.69	-505.98	450.71	2.00	0.00	-2.00
12,600.00	90.00	182.80	12,008.96	-554.47	-512.61	550.43	2.00	0.00	-2.00
12,700.00	90.00	180.80	12,008.96	-654.41	-515.75	650.34	2.00	0.00	-2.00
12,762.36	90.00	179.55	12,008.96	-716.77	-515.94	712.70	2.00	0.00	-2.00
12,800.00	90.00	179.55	12,008.96	-754.41	-515.64	750.34	0.00	0.00	0.00
12,900.00	90.00	179.55	12,008.96	-854.41	-514.86	850.34	0.00	0.00	0.00
13,000.00	90.00	179.55	12,008.96	-954.41	-514.07	950.34	0.00	0.00	0.00
13,100.00	90.00	179.55	12,008.96	-1,054.40	-513.29	1,050.34	0.00	0.00	0.00
13,200.00	90.00	179.55	12,008.96	-1,154.40	-512.51	1,150.34	0.00	0.00	0.00
13,300.00	90.00	179.55	12,008.97	-1,254.40	-511.72	1,250.34	0.00	0.00	0.00
13,400.00	90.00	179.55	12,008.97	-1,354.39	-510.94	1,350.34	0.00	0.00	0.00
13,500.00	90.00	179.55	12,008.97	-1,454.39	-510.16	1,450.34	0.00	0.00	0.00
13,600.00	90.00	179.55	12,008.97	-1,554.39	-509.37	1,550.34	0.00	0.00	0.00
13,700.00	90.00	179.55	12,008.97	-1,654.38	-508.59	1,650.34	0.00	0.00	0.00
13,800.00	90.00	179.55	12,008.97	-1,754.38	-507.81	1,750.34	0.00	0.00	0.00
13,900.00	90.00	179.55	12,008.97	-1,854.38	-507.02	1,850.34	0.00	0.00	0.00
14,000.00	90.00	179.55	12,008.97	-1,954.37	-506.24	1,950.34	0.00	0.00	0.00
14,100.00	90.00	179.55	12,008.97	-2,054.37	-505.46	2,050.34	0.00	0.00	0.00
14,200.00	90.00	179.55	12,008.97	-2,154.37	-504.67	2,150.34	0.00	0.00	0.00
14,300.00	90.00	179.55	12,008.98	-2,254.37	-503.89	2,250.34	0.00	0.00	0.00
14,400.00	90.00	179.55	12,008.98	-2,354.36	-503.11	2,350.34	0.00	0.00	0.00
14,500.00	90.00	179.55	12,008.98	-2,454.36	-502.32	2,450.34	0.00	0.00	0.00
14,600.00	90.00	179.55	12,008.98	-2,554.36	-501.54	2,550.34	0.00	0.00	0.00
14,700.00	90.00	179.55	12,008.98	-2,654.35	-500.76	2,650.34	0.00	0.00	0.00
14,800.00	90.00	179.55	12,008.98	-2,754.35	-499.97	2,750.34	0.00	0.00	0.00
14,900.00	90.00	179.55	12,008.98	-2,854.35	-499.19	2,850.34	0.00	0.00	0.00
15,000.00	90.00	179.55	12,008.98	-2,954.34	-498.41	2,950.34	0.00	0.00	0.00
15,100.00	90.00	179.55	12,008.98	-3,054.34	-497.62	3,050.34	0.00	0.00	0.00
15,200.00	90.00	179.55	12,008.99	-3,154.34	-496.84	3,150.34	0.00	0.00	0.00
15,300.00	90.00	179.55	12,008.99	-3,254.33	-496.06	3,250.34	0.00	0.00	0.00
15,400.00	90.00	179.55	12,008.99	-3,354.33	-495.27	3,350.34	0.00	0.00	0.00
15,500.00	90.00	179.55	12,008.99	-3,454.33	-494.49	3,450.34	0.00	0.00	0.00
15,600.00	90.00	179.55	12,008.99	-3,554.33	-493.71	3,550.34	0.00	0.00	0.00
15,700.00	90.00	179.55	12,008.99	-3,654.32	-492.92	3,650.34	0.00	0.00	0.00
15,800.00	90.00	179.55	12,008.99	-3,754.32	-492.14	3,750.34	0.00	0.00	0.00

Company:	Marathon Oil	Local Co-ordinate Reference:	Well No. 5H
Project:	Lea County, NM	TVD Reference:	Well @ 3546.50usft (GL: 3520' + KB: 26.5' (H&P498))
Site:	Flowmaster 24-34-15 (4-5-8)	MD Reference:	Well @ 3546.50usft (GL: 3520' + KB: 26.5' (H&P498))
Well:	No. 5H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Prelim Plan A	Database:	WellPlanner1

Planned 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)	
15,900.00	90.00	179.55	12,008.99	-3,854.32	-491.35	3,850.34	0.00	0.00	0.00	
16,000.00	90.00	179.55	12,008.99	-3,954.31	-490.57	3,950.34	0.00	0.00	0.00	
16,100.00	90.00	179.55	12,008.99	-4,054.31	-489.79	4,050.34	0.00	0.00	0.00	
16,200.00	90.00	179.55	12,009.00	-4,154.31	-489.00	4,150.34	0.00	0.00	0.00	
16,300.00	90.00	179.55	12,009.00	-4,254.30	-488.22	4,250.34	0.00	0.00	0.00	
16,400.00	90.00	179.55	12,009.00	-4,354.30	-487.44	4,350.34	0.00	0.00	0.00	
16,500.00	90.00	179.55	12,009.00	-4,454.30	-486.65	4,450.34	0.00	0.00	0.00	
16,600.00	90.00	179.55	12,009.00	-4,554.29	-485.87	4,550.34	0.00	0.00	0.00	
16,656.31	90.00	179.55	12,009.00	-4,610.60	-485.43	4,606.65	0.00	0.00	0.00	
[Flowmaster#5H]LTP/BHL										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
[Flowmaster#5H]FTP	0.00	0.00	0.00	7.92	-521.54	446,214.64	768,909.78	32.2237698	-103.4637636	
- hit/miss target										
- plan misses target center by 521.60usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)										
- Point										
[Flowmaster#5H]KOP	0.00	0.00	11,436.00	238.00	-420.00	446,444.72	769,011.32	32.2244000	-103.4634293	
- plan hits target center										
- Point										
[Flowmaster#5H]LTP/BH	0.00	0.00	12,009.00	-4,610.60	-485.43	441,596.12	768,945.89	32.2110742	-103.4637677	
- plan hits target center										
- Point										

Checked By: _____	Approved By: _____	Date: _____
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