



Marathon Oil
Lea County, NM
Flowmaster 15 (11-12-16-17)
WB Fee #11H
Prelim Plan B

US State Plane 1027 (Exact solution)
NAD 1983 (NAD83 CONUS)
Clarke 1866
New Mexico East 3001
Mean Sea Level

RKB Elevation: well @ 3546.50usft

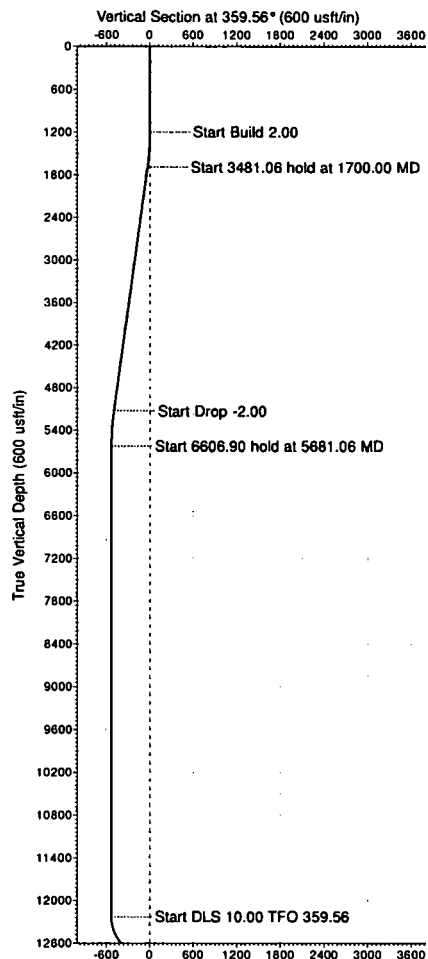
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Spot
0.00	0.00	441903.16	770380.21	32.211886	-103.459123	

SECTION DETAILS

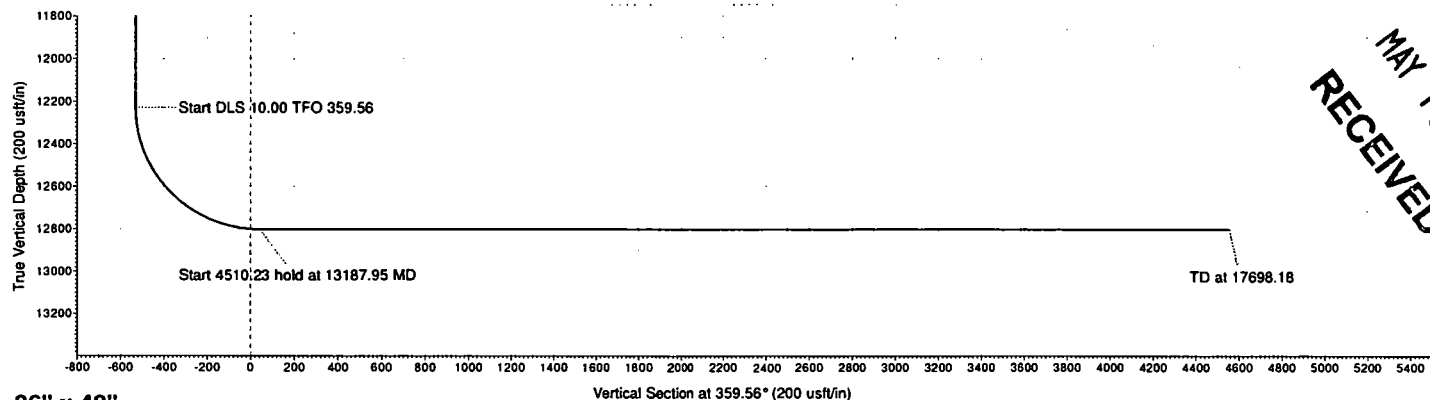
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	VSecl
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	1200.00	0.00	0.00	1200.00	0.00	0.00	0.00	0.00
3	1700.00	10.00	219.65	1697.47	-33.51	-27.77	2.00	-33.30
4	5181.06	10.00	219.65	5125.64	-498.95	-413.47	0.00	-495.76
5	5681.06	0.00	0.00	5623.10	-532.46	-441.24	2.00	-529.05
6	12287.95	0.00	0.00	12230.00	-532.46	-441.24	0.00	-529.05
7	13187.95	90.00	359.56	12802.96	40.48	-445.67	10.00	43.90
8	17698.18	90.00	359.56	12803.00	4550.57	-480.52	0.00	4554.13

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting
Flowmaster15#11HJFTP/KOP	12230.00	-532.46	-441.24	441370.70	769938.97
Flowmaster15#11HJLTP/BHL	12803.00	4550.57	-480.52	446453.73	769899.69



Target Line: 12803' TVD @ 0° VS, 90° INC



36" x 48"

HOBBS OCD
MAY 15 2019
RECEIVED

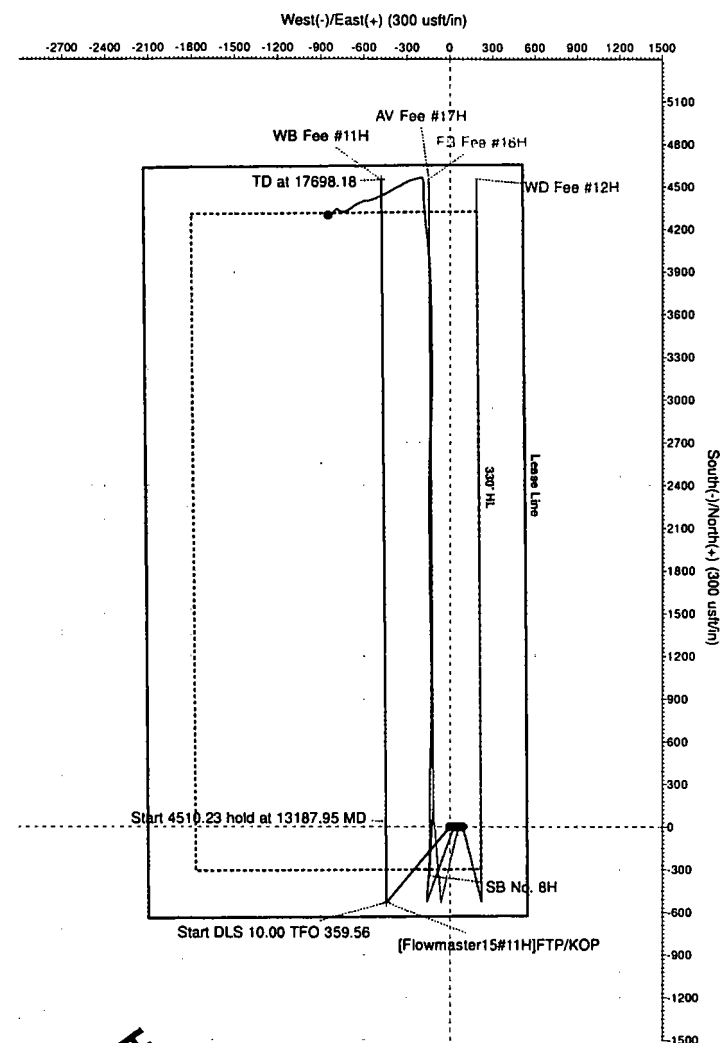


Azimuth to Grid North
True North: -0.47°
Magnetic North: 6.22°
Magnetic Field
Strength: 470.46 San T
Dip Angle: 59.88°
Date: 12/17/2018
Model: HDGM

Azimuth Corrections

Total Magnetic Corr. (M to G): 6.22°

Declination (M to T): 6.68° East



Company: Marathon Oil
Project: Lea County, NM
Site: Flowmaster 15 (11-12-16-17)
Well: WB Fee #11H
Wellbore: OH
Design: Prelim Plan B

Local Co-ordinate Reference: Well WB Fee #11H
TVD Reference: well @ 3546.50usft
MD Reference: well @ 3546.50usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
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 15 (11-12-16-17)				
Site Position:		Northing:	441,863.44 usft	Latitude:	32.211783
From:	Map	Easting:	770,110.06 usft	Longitude:	-103.459997
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.47 °

Well	WB Fee #11H					
Well Position	+N/-S	0.00 usft	Northing:	441,903.16 usft	Latitude:	32.211886
	+E/-W	0.00 usft	Easting:	770,380.21 usft	Longitude:	-103.459123
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	12/17/2018	6.68	59.88	47,946.80

Design	Prelim Plan B				
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	359.56	

Survey Tool Program	Date	5/9/2019			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	1,850.00	Prelim Plan B (OH)	MWD+HDGM	OWSG MWD + HRGM	
1,850.00	5,400.00	Prelim Plan B (OH)	MWD+HDGM	OWSG MWD + HRGM	
5,400.00	10,000.00	Prelim Plan B (OH)	MWD+HDGM	OWSG MWD + HRGM	
10,000.00	17,698.18	Prelim Plan B (OH)	MWD+HDGM	OWSG MWD + HRGM	

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	
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	
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00	
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	

Company:	Marathon Oil	Local Co-ordinate Reference:	Well WB Fee #11H
Project:	Lea County, NM	TVD Reference:	well @ 3546.50usft
Site:	Flowmaster 15 (11-12-16-17)	MD Reference:	well @ 3546.50usft
Well:	WB Fee #11H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Prelim Plan B	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)
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	2.00	219.65	1,299.98	-1.34	-1.11	-1.34	2.00	2.00	0.00
1,400.00	4.00	219.65	1,399.84	-5.37	-4.45	-5.34	2.00	2.00	0.00
1,500.00	6.00	219.65	1,499.45	-12.08	-10.01	-12.01	2.00	2.00	0.00
1,600.00	8.00	219.65	1,598.70	-21.47	-17.79	-21.33	2.00	2.00	0.00
1,700.00	10.00	219.65	1,697.47	-33.51	-27.77	-33.30	2.00	2.00	0.00
1,800.00	10.00	219.65	1,795.95	-46.88	-38.85	-46.58	0.00	0.00	0.00
1,900.00	10.00	219.65	1,894.43	-60.25	-49.93	-59.87	0.00	0.00	0.00
2,000.00	10.00	219.65	1,992.91	-73.62	-61.01	-73.15	0.00	0.00	0.00
2,100.00	10.00	219.65	2,091.39	-86.99	-72.09	-86.44	0.00	0.00	0.00
2,200.00	10.00	219.65	2,189.87	-100.36	-83.17	-99.72	0.00	0.00	0.00
2,300.00	10.00	219.65	2,288.35	-113.73	-94.25	-113.01	0.00	0.00	0.00
2,400.00	10.00	219.65	2,386.83	-127.11	-105.33	-126.29	0.00	0.00	0.00
2,500.00	10.00	219.65	2,485.31	-140.48	-116.41	-139.58	0.00	0.00	0.00
2,600.00	10.00	219.65	2,583.79	-153.85	-127.49	-152.86	0.00	0.00	0.00
2,700.00	10.00	219.65	2,682.27	-167.22	-138.57	-166.15	0.00	0.00	0.00
2,800.00	10.00	219.65	2,780.75	-180.59	-149.65	-179.43	0.00	0.00	0.00
2,900.00	10.00	219.65	2,879.23	-193.96	-160.73	-192.72	0.00	0.00	0.00
3,000.00	10.00	219.65	2,977.72	-207.33	-171.81	-206.00	0.00	0.00	0.00
3,100.00	10.00	219.65	3,076.20	-220.70	-182.89	-219.29	0.00	0.00	0.00
3,200.00	10.00	219.65	3,174.68	-234.07	-193.97	-232.57	0.00	0.00	0.00
3,300.00	10.00	219.65	3,273.16	-247.44	-205.05	-245.86	0.00	0.00	0.00
3,400.00	10.00	219.65	3,371.64	-260.81	-216.13	-259.14	0.00	0.00	0.00
3,500.00	10.00	219.65	3,470.12	-274.18	-227.21	-272.43	0.00	0.00	0.00
3,600.00	10.00	219.65	3,568.60	-287.55	-238.29	-285.71	0.00	0.00	0.00
3,700.00	10.00	219.65	3,667.08	-300.92	-249.37	-299.00	0.00	0.00	0.00
3,800.00	10.00	219.65	3,765.56	-314.29	-260.45	-312.28	0.00	0.00	0.00
3,900.00	10.00	219.65	3,864.04	-327.66	-271.53	-325.57	0.00	0.00	0.00
4,000.00	10.00	219.65	3,962.52	-341.03	-282.61	-338.85	0.00	0.00	0.00
4,100.00	10.00	219.65	4,061.00	-354.40	-293.69	-352.14	0.00	0.00	0.00
4,200.00	10.00	219.65	4,159.48	-367.78	-304.77	-365.42	0.00	0.00	0.00
4,300.00	10.00	219.65	4,257.97	-381.15	-315.85	-378.71	0.00	0.00	0.00
4,400.00	10.00	219.65	4,356.45	-394.52	-326.93	-391.99	0.00	0.00	0.00
4,500.00	10.00	219.65	4,454.93	-407.89	-338.01	-405.28	0.00	0.00	0.00
4,600.00	10.00	219.65	4,553.41	-421.26	-349.09	-418.56	0.00	0.00	0.00
4,700.00	10.00	219.65	4,651.89	-434.63	-360.17	-431.85	0.00	0.00	0.00
4,800.00	10.00	219.65	4,750.37	-448.00	-371.25	-445.13	0.00	0.00	0.00
4,900.00	10.00	219.65	4,848.85	-461.37	-382.33	-458.42	0.00	0.00	0.00
5,000.00	10.00	219.65	4,947.33	-474.74	-393.41	-471.70	0.00	0.00	0.00

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Well:	WB Fee #11H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Prelim Plan B	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)
5,100.00	10.00	219.65	5,045.81	-488.11	-404.49	-484.99	0.00	0.00	0.00
5,181.06	10.00	219.65	5,125.64	-498.95	-413.47	-495.76	0.00	0.00	0.00
5,200.00	9.62	219.65	5,144.30	-501.43	-415.53	-498.22	2.00	-2.00	0.00
5,300.00	7.62	219.65	5,243.17	-512.98	-425.09	-509.69	2.00	-2.00	0.00
5,400.00	5.62	219.65	5,342.50	-521.85	-432.45	-518.51	2.00	-2.00	0.00
5,500.00	3.62	219.65	5,442.17	-528.06	-437.59	-524.68	2.00	-2.00	0.00
5,600.00	1.62	219.65	5,542.06	-531.58	-440.51	-528.17	2.00	-2.00	0.00
5,681.06	0.00	0.00	5,623.10	-532.46	-441.24	-529.05	2.00	-2.00	0.00
5,700.00	0.00	0.00	5,642.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
5,800.00	0.00	0.00	5,742.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
5,900.00	0.00	0.00	5,842.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
6,000.00	0.00	0.00	5,942.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
6,100.00	0.00	0.00	6,042.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
6,200.00	0.00	0.00	6,142.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
6,300.00	0.00	0.00	6,242.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
6,400.00	0.00	0.00	6,342.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
6,500.00	0.00	0.00	6,442.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
6,600.00	0.00	0.00	6,542.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
6,700.00	0.00	0.00	6,642.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
6,800.00	0.00	0.00	6,742.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
6,900.00	0.00	0.00	6,842.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
7,000.00	0.00	0.00	6,942.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
7,100.00	0.00	0.00	7,042.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
7,200.00	0.00	0.00	7,142.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
7,300.00	0.00	0.00	7,242.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
7,400.00	0.00	0.00	7,342.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
7,500.00	0.00	0.00	7,442.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
7,600.00	0.00	0.00	7,542.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
7,700.00	0.00	0.00	7,642.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
7,800.00	0.00	0.00	7,742.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
7,900.00	0.00	0.00	7,842.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
8,000.00	0.00	0.00	7,942.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
8,100.00	0.00	0.00	8,042.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
8,200.00	0.00	0.00	8,142.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
8,300.00	0.00	0.00	8,242.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
8,400.00	0.00	0.00	8,342.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
8,500.00	0.00	0.00	8,442.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
8,600.00	0.00	0.00	8,542.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
8,700.00	0.00	0.00	8,642.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
8,800.00	0.00	0.00	8,742.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
8,900.00	0.00	0.00	8,842.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
9,000.00	0.00	0.00	8,942.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
9,100.00	0.00	0.00	9,042.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
9,200.00	0.00	0.00	9,142.05	-532.46	-441.24	-529.05	0.00	0.00	0.00

Company:	Marathon Oil	Local Co-ordinate Reference:	Well WB Fee #11H
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9,300.00	0.00	0.00	9,242.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
9,400.00	0.00	0.00	9,342.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
9,500.00	0.00	0.00	9,442.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
9,600.00	0.00	0.00	9,542.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
9,700.00	0.00	0.00	9,642.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
9,800.00	0.00	0.00	9,742.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
9,900.00	0.00	0.00	9,842.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
10,000.00	0.00	0.00	9,942.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
10,100.00	0.00	0.00	10,042.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
10,200.00	0.00	0.00	10,142.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
10,300.00	0.00	0.00	10,242.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
10,400.00	0.00	0.00	10,342.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
10,500.00	0.00	0.00	10,442.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
10,600.00	0.00	0.00	10,542.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
10,700.00	0.00	0.00	10,642.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
10,800.00	0.00	0.00	10,742.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
10,900.00	0.00	0.00	10,842.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
11,000.00	0.00	0.00	10,942.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
11,100.00	0.00	0.00	11,042.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
11,200.00	0.00	0.00	11,142.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
11,300.00	0.00	0.00	11,242.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
11,400.00	0.00	0.00	11,342.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
11,500.00	0.00	0.00	11,442.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
11,600.00	0.00	0.00	11,542.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
11,700.00	0.00	0.00	11,642.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
11,800.00	0.00	0.00	11,742.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
11,900.00	0.00	0.00	11,842.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
12,000.00	0.00	0.00	11,942.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
12,100.00	0.00	0.00	12,042.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
12,200.00	0.00	0.00	12,142.05	-532.46	-441.24	-529.05	0.00	0.00	0.00
12,287.95	0.00	0.00	12,230.00	-532.46	-441.24	-529.05	0.00	0.00	0.00
[Flowmaster15#11H]FTP/KOP									
12,300.00	1.20	359.56	12,242.05	-532.33	-441.24	-528.93	10.00	10.00	0.00
12,350.00	6.20	359.56	12,291.92	-529.10	-441.27	-525.70	10.00	10.00	0.00
12,400.00	11.20	359.56	12,341.33	-521.54	-441.32	-518.13	10.00	10.00	0.00
12,450.00	16.20	359.56	12,389.89	-509.70	-441.42	-506.29	10.00	10.00	0.00
12,500.00	21.20	359.56	12,437.24	-493.67	-441.54	-490.26	10.00	10.00	0.00
12,550.00	26.20	359.56	12,483.01	-473.57	-441.70	-470.17	10.00	10.00	0.00
12,600.00	31.20	359.56	12,526.85	-449.57	-441.88	-446.16	10.00	10.00	0.00
12,650.00	36.20	359.56	12,568.43	-421.83	-442.09	-418.42	10.00	10.00	0.00
12,700.00	41.20	359.56	12,607.44	-390.58	-442.34	-387.17	10.00	10.00	0.00
12,750.00	46.20	359.56	12,643.57	-356.04	-442.60	-352.63	10.00	10.00	0.00
12,800.00	51.20	359.56	12,676.56	-318.49	-442.89	-315.08	10.00	10.00	0.00

Company:	Marathon Oil	Local Co-ordinate Reference:	Well WB Fee #11H
Project:	Lea County, NM	TVD Reference:	well @ 3546.50usft
Site:	Flowmaster 15 (11-12-16-17)	MD Reference:	well @ 3546.50usft
Well:	WB Fee #11H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Prelim Plan B	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)
12,850.00	56.20	359.56	12,706.14	-278.21	-443.20	-274.79	10.00	10.00	0.00
12,900.00	61.20	359.56	12,732.11	-235.50	-443.53	-232.08	10.00	10.00	0.00
12,950.00	66.20	359.56	12,754.25	-190.69	-443.88	-187.27	10.00	10.00	0.00
13,000.00	71.20	359.56	12,772.41	-144.12	-444.24	-140.70	10.00	10.00	0.00
13,050.00	76.20	359.56	12,786.43	-96.14	-444.61	-92.72	10.00	10.00	0.00
13,100.00	81.20	359.56	12,796.22	-47.13	-444.99	-43.70	10.00	10.00	0.00
13,150.00	86.20	359.56	12,801.70	2.56	-445.37	5.98	10.00	10.00	0.00
13,187.95	90.00	359.56	12,802.96	40.48	-445.67	43.90	10.00	10.00	0.00
13,200.00	90.00	359.56	12,802.96	52.53	-445.76	55.95	0.00	0.00	0.00
13,300.00	90.00	359.56	12,802.96	152.52	-446.53	155.95	0.00	0.00	0.00
13,400.00	90.00	359.56	12,802.96	252.52	-447.31	255.95	0.00	0.00	0.00
13,500.00	90.00	359.56	12,802.96	352.52	-448.08	355.95	0.00	0.00	0.00
13,600.00	90.00	359.56	12,802.96	452.51	-448.85	455.95	0.00	0.00	0.00
13,700.00	90.00	359.56	12,802.96	552.51	-449.62	555.95	0.00	0.00	0.00
13,800.00	90.00	359.56	12,802.96	652.51	-450.40	655.95	0.00	0.00	0.00
13,900.00	90.00	359.56	12,802.96	752.51	-451.17	755.95	0.00	0.00	0.00
14,000.00	90.00	359.56	12,802.97	852.50	-451.94	855.95	0.00	0.00	0.00
14,100.00	90.00	359.56	12,802.97	952.50	-452.72	955.95	0.00	0.00	0.00
14,200.00	90.00	359.56	12,802.97	1,052.50	-453.49	1,055.95	0.00	0.00	0.00
14,300.00	90.00	359.56	12,802.97	1,152.49	-454.26	1,155.95	0.00	0.00	0.00
14,400.00	90.00	359.56	12,802.97	1,252.49	-455.03	1,255.95	0.00	0.00	0.00
14,500.00	90.00	359.56	12,802.97	1,352.49	-455.81	1,355.95	0.00	0.00	0.00
14,600.00	90.00	359.56	12,802.97	1,452.48	-456.58	1,455.95	0.00	0.00	0.00
14,700.00	90.00	359.56	12,802.97	1,552.48	-457.35	1,555.95	0.00	0.00	0.00
14,800.00	90.00	359.56	12,802.97	1,652.48	-458.12	1,655.95	0.00	0.00	0.00
14,900.00	90.00	359.56	12,802.97	1,752.48	-458.90	1,755.95	0.00	0.00	0.00
15,000.00	90.00	359.56	12,802.98	1,852.47	-459.67	1,855.95	0.00	0.00	0.00
15,100.00	90.00	359.56	12,802.98	1,952.47	-460.44	1,955.95	0.00	0.00	0.00
15,200.00	90.00	359.56	12,802.98	2,052.47	-461.22	2,055.95	0.00	0.00	0.00
15,300.00	90.00	359.56	12,802.98	2,152.46	-461.99	2,155.95	0.00	0.00	0.00
15,400.00	90.00	359.56	12,802.98	2,252.46	-462.76	2,255.95	0.00	0.00	0.00
15,500.00	90.00	359.56	12,802.98	2,352.46	-463.53	2,355.95	0.00	0.00	0.00
15,600.00	90.00	359.56	12,802.98	2,452.45	-464.31	2,455.95	0.00	0.00	0.00
15,700.00	90.00	359.56	12,802.98	2,552.45	-465.08	2,555.95	0.00	0.00	0.00
15,800.00	90.00	359.56	12,802.98	2,652.45	-465.85	2,655.95	0.00	0.00	0.00
15,900.00	90.00	359.56	12,802.98	2,752.45	-466.62	2,755.95	0.00	0.00	0.00
16,000.00	90.00	359.56	12,802.98	2,852.44	-467.40	2,855.95	0.00	0.00	0.00
16,100.00	90.00	359.56	12,802.99	2,952.44	-468.17	2,955.95	0.00	0.00	0.00
16,200.00	90.00	359.56	12,802.99	3,052.44	-468.94	3,055.95	0.00	0.00	0.00
16,300.00	90.00	359.56	12,802.99	3,152.43	-469.72	3,155.95	0.00	0.00	0.00
16,400.00	90.00	359.56	12,802.99	3,252.43	-470.49	3,255.95	0.00	0.00	0.00
16,500.00	90.00	359.56	12,802.99	3,352.43	-471.26	3,355.95	0.00	0.00	0.00
16,600.00	90.00	359.56	12,802.99	3,452.42	-472.03	3,455.95	0.00	0.00	0.00

Company: Marathon Oil
Project: Lea County, NM
Site: Flowmaster 15 (11-12-16-17)
Well: WB Fee #11H
Wellbore: OH
Design: Prelim Plan B

Local Co-ordinate Reference: Well WB Fee #11H
TVD Reference: well @ 3546.50usft
MD Reference: well @ 3546.50usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
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)
16,700.00	90.00	359.56	12,802.99	3,552.42	-472.81	3,555.95	0.00	0.00	0.00
16,800.00	90.00	359.56	12,802.99	3,652.42	-473.58	3,655.95	0.00	0.00	0.00
16,900.00	90.00	359.56	12,802.99	3,752.42	-474.35	3,755.95	0.00	0.00	0.00
17,000.00	90.00	359.56	12,802.99	3,852.41	-475.12	3,855.95	0.00	0.00	0.00
17,100.00	90.00	359.56	12,802.99	3,952.41	-475.90	3,955.95	0.00	0.00	0.00
17,200.00	90.00	359.56	12,803.00	4,052.41	-476.67	4,055.95	0.00	0.00	0.00
17,300.00	90.00	359.56	12,803.00	4,152.40	-477.44	4,155.95	0.00	0.00	0.00
17,400.00	90.00	359.56	12,803.00	4,252.40	-478.22	4,255.95	0.00	0.00	0.00
17,500.00	90.00	359.56	12,803.00	4,352.40	-478.99	4,355.95	0.00	0.00	0.00
17,600.00	90.00	359.56	12,803.00	4,452.39	-479.76	4,455.95	0.00	0.00	0.00
17,698.18	90.00	359.56	12,803.00	4,550.57	-480.52	4,554.13	0.00	0.00	0.00
[Flowmaster15#11H]LTP/BHL									

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
[Flowmaster15#11H]FTF	0.00	0.00	12,230.00	-532.46	-441.24	441,370.70	769,938.97	32.210433	-103.460563
- plan hits target center									
- Point									
[Flowmaster15#11H]LTF	0.00	0.00	12,803.00	4,550.57	-480.52	446,453.73	769,899.69	32.224405	-103.460557
- plan hits target center									
- Point									

Checked By: _____ Approved By: _____ Date: _____