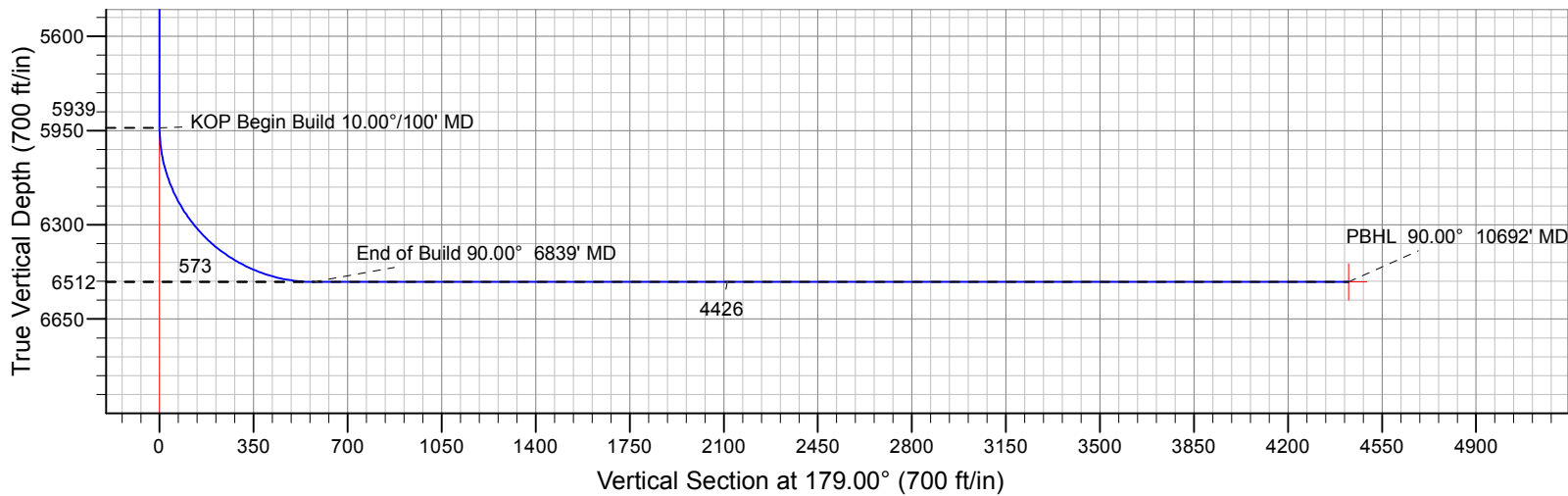
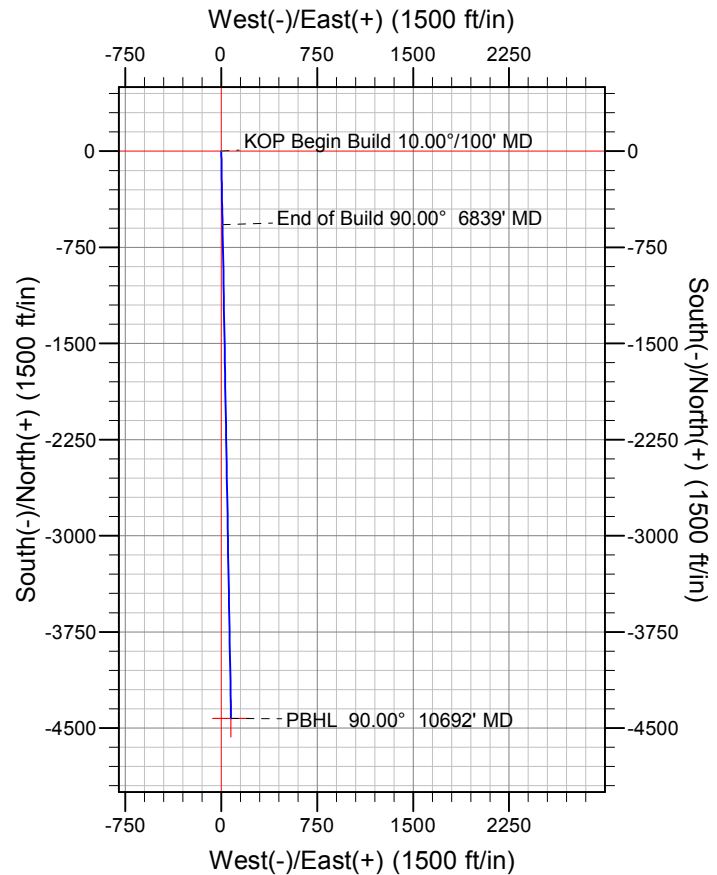
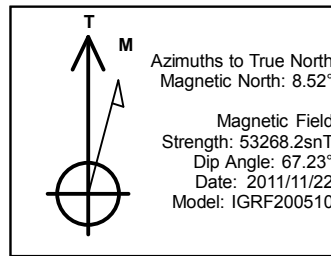
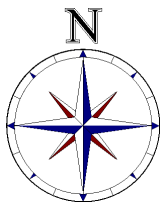


Marathon Oil Company

Crow Valley 7-62-35-2H

Weld County, Colorado



Design #1

Surface Location

Northing	Easting	Latitude	Longitude
1440771.09	3335727.23	40° 32' 13.344 N	104° 17' 31.495 W

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
1	0.0			0.0	0.0	0.0	0.00	0.00	0.0	
2	5939.0	0.00	0.00	5939.0	0.0	0.0	0.00	0.00	0.0	
3	6839.0	90.00	179.00	6512.0	-572.9	10.0	10.00	179.00	573.0	
4	10692.0	90.00	179.00	6512.0	-4425.3	77.3	0.00	0.00	4425.9	PBHL

To convert a Magnetic Direction to a Grid Direction, Add 7.74°

Marathon Oil Company

Weld County

Weld County, Colorado .

Crow Valley 7-62-35-2H

Wellbore #1

Plan: Design #1

Standard Planning Report

22 November, 2011

Gyrodata

Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Weld County, Colorado
Company:	Marathon Oil Company	TVD Reference:	WELL @ 0.0ft (Original Well Elev)
Project:	Weld County	MD Reference:	WELL @ 0.0ft (Original Well Elev)
Site:	Weld County, Colorado	North Reference:	True
Well:	Crow Valley 7-62-35-2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Project	Weld County		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site		Weld County, Colorado			
Site Position: From:	Lat/Long	Northing:	1,440,771.09 ft	Latitude:	40° 32' 13.344 N
		Easting:	3,335,727.24 ft	Longitude:	104° 17' 31.495 W
		Position Uncertainty:	0.0 ft	Slot Radius:	0 "

Well	Crow Valley 7-62-35-2H					
Well Position	+N/-S	0.0 ft	Northing:	1,440,771.09 ft	Latitude:	40° 32' 13.344 N
	+E/-W	0.0 ft	Easting:	3,335,727.24 ft	Longitude:	104° 17' 31.495 W
Position Uncertainty		0.0 ft	Wellhead Elevation:		Ground Level:	0.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	2011/11/22	8.52	67.23	53,268

Design	Design #1			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	179.00

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
5,939.0	0.00	0.00	5,939.0	0.0	0.0	0.00	0.00	0.00	0.00	
6,839.0	90.00	179.00	6,512.0	-572.9	10.0	10.00	10.00	0.00	179.00	
10,692.0	90.00	179.00	6,512.0	-4,425.3	77.3	0.00	0.00	0.00	0.00	PBHL

Gyrodatta

Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Weld County, Colorado
Company:	Marathon Oil Company	TVD Reference:	WELL @ 0.0ft (Original Well Elev)
Project:	Weld County	MD Reference:	WELL @ 0.0ft (Original Well Elev)
Site:	Weld County, Colorado	North Reference:	True
Well:	Crow Valley 7-62-35-2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	0.00
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	0.00
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	0.00
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	0.00
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	0.00
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	0.00
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	0.00
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	0.00
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	0.00
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	0.00
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	0.00
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.0	0.00	0.00	0.00
4,400.0	0.00	0.00	4,400.0	0.0	0.0	0.0	0.00	0.00	0.00
4,500.0	0.00	0.00	4,500.0	0.0	0.0	0.0	0.00	0.00	0.00
4,600.0	0.00	0.00	4,600.0	0.0	0.0	0.0	0.00	0.00	0.00
4,700.0	0.00	0.00	4,700.0	0.0	0.0	0.0	0.00	0.00	0.00
4,800.0	0.00	0.00	4,800.0	0.0	0.0	0.0	0.00	0.00	0.00
4,900.0	0.00	0.00	4,900.0	0.0	0.0	0.0	0.00	0.00	0.00
5,000.0	0.00	0.00	5,000.0	0.0	0.0	0.0	0.00	0.00	0.00
5,100.0	0.00	0.00	5,100.0	0.0	0.0	0.0	0.00	0.00	0.00
5,200.0	0.00	0.00	5,200.0	0.0	0.0	0.0	0.00	0.00	0.00
5,300.0	0.00	0.00	5,300.0	0.0	0.0	0.0	0.00	0.00	0.00

Gyrodatta

Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Weld County, Colorado
Company:	Marathon Oil Company	TVD Reference:	WELL @ 0.0ft (Original Well Elev)
Project:	Weld County	MD Reference:	WELL @ 0.0ft (Original Well Elev)
Site:	Weld County, Colorado	North Reference:	True
Well:	Crow Valley 7-62-35-2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,400.0	0.00	0.00	5,400.0	0.0	0.0	0.0	0.00	0.00	0.00
5,500.0	0.00	0.00	5,500.0	0.0	0.0	0.0	0.00	0.00	0.00
5,600.0	0.00	0.00	5,600.0	0.0	0.0	0.0	0.00	0.00	0.00
5,700.0	0.00	0.00	5,700.0	0.0	0.0	0.0	0.00	0.00	0.00
5,800.0	0.00	0.00	5,800.0	0.0	0.0	0.0	0.00	0.00	0.00
5,900.0	0.00	0.00	5,900.0	0.0	0.0	0.0	0.00	0.00	0.00
5,939.0	0.00	0.00	5,939.0	0.0	0.0	0.0	0.00	0.00	0.00
KOP Begin Build 10.00°/100' MD									
6,000.0	6.10	179.00	5,999.9	-3.2	0.1	3.2	9.99	9.99	0.00
6,100.0	16.10	179.00	6,097.9	-22.5	0.4	22.5	10.00	10.00	0.00
6,200.0	26.10	179.00	6,191.1	-58.4	1.0	58.4	10.00	10.00	0.00
6,300.0	36.10	179.00	6,276.6	-110.0	1.9	110.0	10.00	10.00	0.00
6,400.0	46.10	179.00	6,351.9	-175.6	3.1	175.6	10.00	10.00	0.00
6,500.0	56.10	179.00	6,414.6	-253.3	4.4	253.4	10.00	10.00	0.00
6,600.0	66.10	179.00	6,462.9	-340.7	6.0	340.8	10.00	10.00	0.00
6,700.0	76.10	179.00	6,495.2	-435.2	7.6	435.3	10.00	10.00	0.00
6,800.0	86.10	179.00	6,510.7	-533.9	9.3	533.9	10.00	10.00	0.00
6,839.0	90.00	179.00	6,512.0	-572.8	10.0	572.9	10.00	10.00	0.00
End of Build 90.00° 6839' MD									
6,900.0	90.00	179.00	6,512.0	-633.8	11.1	633.9	0.01	0.01	0.00
7,000.0	90.00	179.00	6,512.0	-733.8	12.8	733.9	0.00	0.00	0.00
7,100.0	90.00	179.00	6,512.0	-833.8	14.6	833.9	0.00	0.00	0.00
7,200.0	90.00	179.00	6,512.0	-933.8	16.3	933.9	0.00	0.00	0.00
7,300.0	90.00	179.00	6,512.0	-1,033.8	18.1	1,033.9	0.00	0.00	0.00
7,400.0	90.00	179.00	6,512.0	-1,133.7	19.8	1,133.9	0.00	0.00	0.00
7,500.0	90.00	179.00	6,512.0	-1,233.7	21.5	1,233.9	0.00	0.00	0.00
7,600.0	90.00	179.00	6,512.0	-1,333.7	23.3	1,333.9	0.00	0.00	0.00
7,700.0	90.00	179.00	6,512.0	-1,433.7	25.0	1,433.9	0.00	0.00	0.00
7,800.0	90.00	179.00	6,512.0	-1,533.7	26.8	1,533.9	0.00	0.00	0.00
7,900.0	90.00	179.00	6,512.0	-1,633.7	28.5	1,633.9	0.00	0.00	0.00
8,000.0	90.00	179.00	6,512.0	-1,733.7	30.3	1,733.9	0.00	0.00	0.00
8,100.0	90.00	179.00	6,512.0	-1,833.6	32.0	1,833.9	0.00	0.00	0.00
8,200.0	90.00	179.00	6,512.0	-1,933.6	33.8	1,933.9	0.00	0.00	0.00
8,300.0	90.00	179.00	6,512.0	-2,033.6	35.5	2,033.9	0.00	0.00	0.00
8,400.0	90.00	179.00	6,512.0	-2,133.6	37.3	2,133.9	0.00	0.00	0.00
8,500.0	90.00	179.00	6,512.0	-2,233.6	39.0	2,233.9	0.00	0.00	0.00
8,600.0	90.00	179.00	6,512.0	-2,333.6	40.8	2,333.9	0.00	0.00	0.00
8,700.0	90.00	179.00	6,512.0	-2,433.5	42.5	2,433.9	0.00	0.00	0.00
8,800.0	90.00	179.00	6,512.0	-2,533.5	44.2	2,533.9	0.00	0.00	0.00
8,900.0	90.00	179.00	6,512.0	-2,633.5	46.0	2,633.9	0.00	0.00	0.00
9,000.0	90.00	179.00	6,512.0	-2,733.5	47.7	2,733.9	0.00	0.00	0.00
9,100.0	90.00	179.00	6,512.0	-2,833.5	49.5	2,833.9	0.00	0.00	0.00
9,200.0	90.00	179.00	6,512.0	-2,933.5	51.2	2,933.9	0.00	0.00	0.00
9,300.0	90.00	179.00	6,512.0	-3,033.5	53.0	3,033.9	0.00	0.00	0.00
9,400.0	90.00	179.00	6,512.0	-3,133.4	54.7	3,133.9	0.00	0.00	0.00
9,500.0	90.00	179.00	6,512.0	-3,233.4	56.5	3,233.9	0.00	0.00	0.00
9,600.0	90.00	179.00	6,512.0	-3,333.4	58.2	3,333.9	0.00	0.00	0.00
9,700.0	90.00	179.00	6,512.0	-3,433.4	60.0	3,433.9	0.00	0.00	0.00
9,800.0	90.00	179.00	6,512.0	-3,533.4	61.7	3,533.9	0.00	0.00	0.00
9,900.0	90.00	179.00	6,512.0	-3,633.4	63.5	3,633.9	0.00	0.00	0.00
10,000.0	90.00	179.00	6,512.0	-3,733.3	65.2	3,733.9	0.00	0.00	0.00
10,100.0	90.00	179.00	6,512.0	-3,833.3	66.9	3,833.9	0.00	0.00	0.00
10,200.0	90.00	179.00	6,512.0	-3,933.3	68.7	3,933.9	0.00	0.00	0.00

Gyrodata

Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Weld County, Colorado .
Company:	Marathon Oil Company	TVD Reference:	WELL @ 0.0ft (Original Well Elev)
Project:	Weld County	MD Reference:	WELL @ 0.0ft (Original Well Elev)
Site:	Weld County, Colorado .	North Reference:	True
Well:	Crow Valley 7-62-35-2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
10,300.0	90.00	179.00	6,512.0	-4,033.3	70.4	4,033.9	0.00	0.00	0.00
10,400.0	90.00	179.00	6,512.0	-4,133.3	72.2	4,133.9	0.00	0.00	0.00
10,500.0	90.00	179.00	6,512.0	-4,233.3	73.9	4,233.9	0.00	0.00	0.00
10,600.0	90.00	179.00	6,512.0	-4,333.3	75.7	4,333.9	0.00	0.00	0.00
10,692.0	90.00	179.00	6,512.0	-4,425.2	77.3	4,425.9	0.00	0.00	0.00
PBHL 90.00° 10692' MD									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
PBHL .	0.00	0.00	6,512.0	-4,425.3	77.3	1,436,347.30	3,335,864.79	40° 31' 29.615 N	104° 17' 30.494 W
- plan hits target center									
- Point									

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
5,939.0	5,939.0	0.0	0.0	KOP Begin Build 10.00°/100' MD
6,839.0	6,512.0	-572.8	10.0	End of Build 90.00° 6839' MD
10,692.0	6,512.0	-4,425.2	77.3	PBHL 90.00° 10692' MD