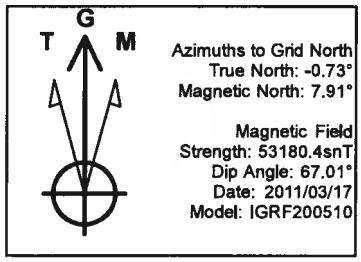
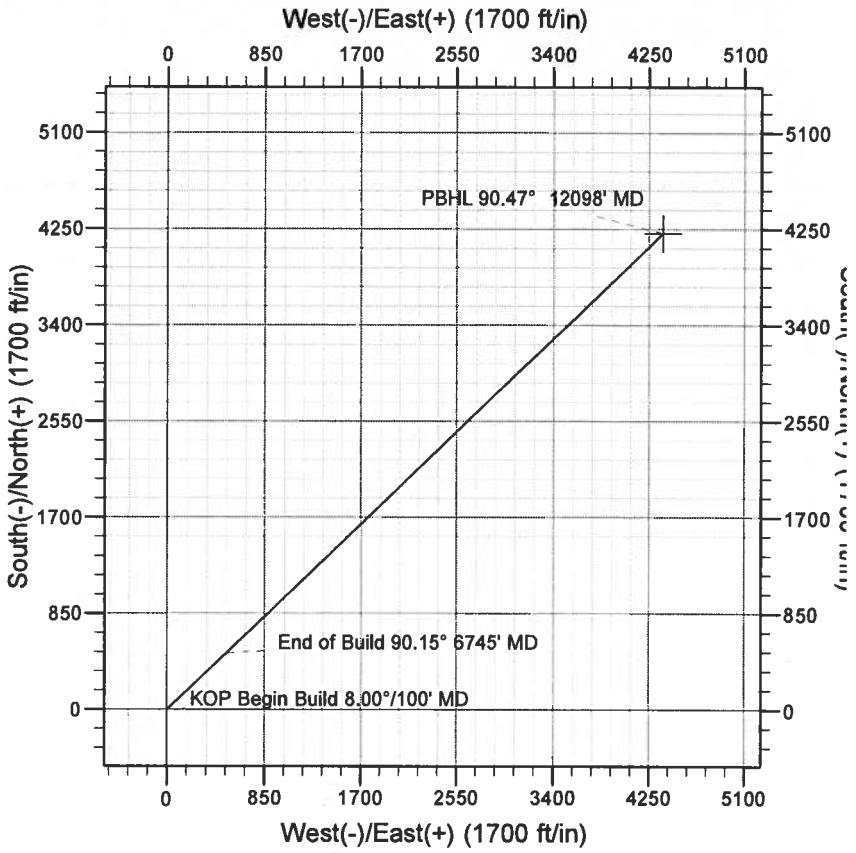
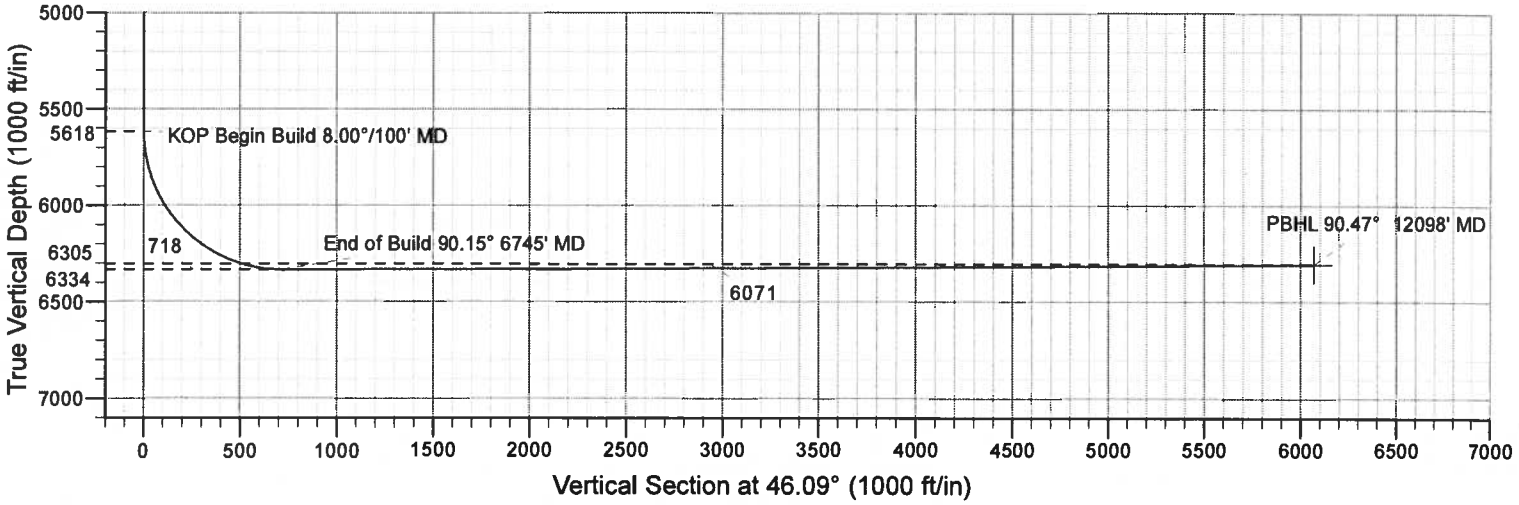
Marathon Oil Company

French Lake 03-62-6-1B

Weld County, Colorado







Design #1

Surface Location

Northing	Easting	Latitude	Longitude
1335394.33	3314105.95	40° 14' 54.906 N	104° 22' 28.834 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	5618.0	0.00	0.00	5618.0	0.0	0.0	0.00	0.00	0.0	
3	6744.6	90.15	46.09	6334.0	497.9	517.2	8.00	46.09	717.9	
4	12097.5	90.47	46.09	6305.0	4210.2	4373.5	0.01	-0.03	6070.7	PBHL

To convert a Magnetic Direction to a Grid Direction, Add 7.91°

Marathon Oil Company

Niobrara Horizontals
Weld County, Colorado .
French Lake 03-62-6-1B

Wellbore #1

Plan: Design #1

Standard Planning Report

17 March, 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:	Niobrara Horizontals	**MD Reference:**	WELL @ 0.0ft (Original Well Elev)
Site:	Weld County, Colorado .	**North Reference:**	Grid
Well:	French Lake 03-62-6-1B	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Project	Niobrara Horizontals		
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:		**Northing:**	1,335,394.33 ft	**Latitude:**	40° 14' 54.906 N
From:	Lat/Long	**Easting:**	3,314,105.96 ft	**Longitude:**	104° 22' 28.834 W
Position Uncertainty:	0.0 ft	**Slot Radius:**	0 "	**Grid Convergence:**	0.73 °

Well	French Lake 03-62-6-1B					
Well Position	**+N/-S**	0.0 ft	**Northing:**	1,335,394.33 ft	**Latitude:**	40° 14' 54.906 N
	+E/-W	0.0 ft	**Easting:**	3,314,105.96 ft	**Longitude:**	104° 22' 28.834 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	2011/03/17	8.64	67.01	53,180

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	46.09	

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	
5,618.0	0.00	0.00	5,618.0	0.0	0.0	0.00	0.00	0.00	0.00	
6,744.6	90.15	46.09	6,334.0	497.9	517.2	8.00	8.00	0.00	46.09	
12,097.5	90.47	46.09	6,305.0	4,210.2	4,373.5	0.01	0.01	0.00	-0.03	PBHL .

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:	Niobrara Horizontals	**MD Reference:**	WELL @ 0.0ft (Original Well Elev)
Site:	Weld County, Colorado	**North Reference:**	Grid
Well:	French Lake 03-62-6-1B	**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)
5,600.0	0.00	0.00	5,600.0	0.0	0.0	0.0	0.00	0.00	0.00
5,618.0	0.00	0.00	5,618.0	0.0	0.0	0.0	0.00	0.00	0.00
KOP Begin Build 8.00°/100' MD									
5,700.0	6.56	46.09	5,699.8	3.3	3.4	4.7	8.00	8.00	0.00
5,800.0	14.56	46.09	5,798.0	16.0	16.6	23.0	8.00	8.00	0.00
5,900.0	22.57	46.09	5,892.8	38.0	39.5	54.8	8.00	8.00	0.00
6,000.0	30.57	46.09	5,982.1	69.0	71.7	99.5	8.00	8.00	0.00
6,100.0	38.57	46.09	6,064.4	108.3	112.5	156.2	8.00	8.00	0.00
6,200.0	46.57	46.09	6,138.0	155.2	161.2	223.8	8.00	8.00	0.00
6,300.0	54.57	46.09	6,201.5	208.7	216.8	301.0	8.00	8.00	0.00
6,400.0	62.58	46.09	6,253.5	267.9	278.3	386.2	8.00	8.00	0.00
6,500.0	70.58	46.09	6,293.3	331.5	344.3	477.9	8.00	8.00	0.00
6,600.0	78.58	46.09	6,319.8	398.3	413.7	574.3	8.00	8.00	0.00
6,700.0	86.58	46.09	6,332.7	467.0	485.1	673.3	8.00	8.00	0.00
6,744.6	90.15	46.09	6,334.0	497.9	517.2	717.9	8.00	8.00	0.00
End of Build 90.15° 6745' MD									
6,800.0	90.15	46.09	6,333.9	536.3	557.1	773.3	0.01	0.01	0.00
6,900.0	90.16	46.09	6,333.6	605.7	629.2	873.3	0.01	0.01	0.00
7,000.0	90.17	46.09	6,333.3	675.0	701.2	973.3	0.01	0.01	0.00
7,100.0	90.17	46.09	6,333.0	744.4	773.2	1,073.3	0.01	0.01	0.00
7,200.0	90.18	46.09	6,332.7	813.7	845.3	1,173.3	0.01	0.01	0.00
7,300.0	90.18	46.09	6,332.4	883.1	917.3	1,273.3	0.01	0.01	0.00
7,400.0	90.19	46.09	6,332.1	952.4	989.4	1,373.3	0.01	0.01	0.00
7,500.0	90.20	46.09	6,331.7	1,021.8	1,061.4	1,473.3	0.01	0.01	0.00
7,600.0	90.20	46.09	6,331.4	1,091.1	1,133.5	1,573.3	0.01	0.01	0.00
7,700.0	90.21	46.09	6,331.0	1,160.5	1,205.5	1,673.3	0.01	0.01	0.00
7,800.0	90.21	46.09	6,330.7	1,229.8	1,277.5	1,773.3	0.01	0.01	0.00
7,900.0	90.22	46.09	6,330.3	1,299.2	1,349.6	1,873.3	0.01	0.01	0.00
8,000.0	90.23	46.09	6,329.9	1,368.5	1,421.6	1,973.3	0.01	0.01	0.00
8,100.0	90.23	46.09	6,329.5	1,437.9	1,493.7	2,073.3	0.01	0.01	0.00
8,200.0	90.24	46.09	6,329.1	1,507.2	1,565.7	2,173.3	0.01	0.01	0.00
8,300.0	90.24	46.09	6,328.7	1,576.6	1,637.8	2,273.3	0.01	0.01	0.00
8,400.0	90.25	46.09	6,328.2	1,645.9	1,709.8	2,373.3	0.01	0.01	0.00
8,500.0	90.26	46.09	6,327.8	1,715.3	1,781.8	2,473.3	0.01	0.01	0.00
8,600.0	90.26	46.09	6,327.3	1,784.7	1,853.9	2,573.3	0.01	0.01	0.00
8,700.0	90.27	46.09	6,326.9	1,854.0	1,925.9	2,673.3	0.01	0.01	0.00
8,800.0	90.27	46.09	6,326.4	1,923.4	1,998.0	2,773.3	0.01	0.01	0.00
8,900.0	90.28	46.09	6,325.9	1,992.7	2,070.0	2,873.3	0.01	0.01	0.00
9,000.0	90.29	46.09	6,325.4	2,062.1	2,142.0	2,973.3	0.01	0.01	0.00
9,100.0	90.29	46.09	6,324.9	2,131.4	2,214.1	3,073.3	0.01	0.01	0.00
9,200.0	90.30	46.09	6,324.4	2,200.8	2,286.1	3,173.3	0.01	0.01	0.00
9,300.0	90.30	46.09	6,323.9	2,270.1	2,358.2	3,273.3	0.01	0.01	0.00
9,400.0	90.31	46.09	6,323.4	2,339.5	2,430.2	3,373.3	0.01	0.01	0.00
9,500.0	90.32	46.09	6,322.8	2,408.8	2,502.3	3,473.3	0.01	0.01	0.00
9,600.0	90.32	46.09	6,322.3	2,478.2	2,574.3	3,573.3	0.01	0.01	0.00
9,700.0	90.33	46.09	6,321.7	2,547.5	2,646.3	3,673.3	0.01	0.01	0.00
9,800.0	90.33	46.09	6,321.1	2,616.9	2,718.4	3,773.3	0.01	0.01	0.00
9,900.0	90.34	46.09	6,320.5	2,686.2	2,790.4	3,873.3	0.01	0.01	0.00
10,000.0	90.35	46.09	6,319.9	2,755.6	2,862.5	3,973.3	0.01	0.01	0.00
10,100.0	90.35	46.09	6,319.3	2,824.9	2,934.5	4,073.3	0.01	0.01	0.00
10,200.0	90.36	46.09	6,318.7	2,894.3	3,006.5	4,173.3	0.01	0.01	0.00
10,300.0	90.36	46.09	6,318.1	2,963.6	3,078.6	4,273.3	0.01	0.01	0.00
10,400.0	90.37	46.09	6,317.4	3,033.0	3,150.6	4,373.3	0.01	0.01	0.00
10,500.0	90.38	46.09	6,316.8	3,102.3	3 222.7	4,473.3	0.01	0.01	0.00

Gyrodata
Planning Report

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Project:	Niobrara Horizontals	**MD Reference:**	WELL @ 0.0ft (Original Well Elev)
Site:	Weld County, Colorado .	**North Reference:**	Grid
Well:	French Lake 03-62-6-1B	**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)
10,600.0	90.38	46.09	6,316.1	3,171.7	3,294.7	4,573.3	0.01	0.01	0.00
10,700.0	90.39	46.09	6,315.5	3,241.0	3,366.8	4,673.3	0.01	0.01	0.00
10,800.0	90.39	46.09	6,314.8	3,310.4	3,438.8	4,773.3	0.01	0.01	0.00
10,900.0	90.40	46.09	6,314.1	3,379.7	3,510.8	4,873.3	0.01	0.01	0.00
11,000.0	90.41	46.09	6,313.4	3,449.1	3,582.9	4,973.3	0.01	0.01	0.00
11,100.0	90.41	46.09	6,312.7	3,518.4	3,654.9	5,073.3	0.01	0.01	0.00
11,200.0	90.42	46.09	6,312.0	3,587.8	3,727.0	5,173.2	0.01	0.01	0.00
11,300.0	90.42	46.09	6,311.2	3,657.1	3,799.0	5,273.2	0.01	0.01	0.00
11,400.0	90.43	46.09	6,310.5	3,726.5	3,871.0	5,373.2	0.01	0.01	0.00
11,500.0	90.44	46.09	6,309.7	3,795.8	3,943.1	5,473.2	0.01	0.01	0.00
11,600.0	90.44	46.09	6,309.0	3,865.2	4,015.1	5,573.2	0.01	0.01	0.00
11,700.0	90.45	46.09	6,308.2	3,934.5	4,087.2	5,673.2	0.01	0.01	0.00
11,800.0	90.45	46.09	6,307.4	4,003.9	4,159.2	5,773.2	0.01	0.01	0.00
11,900.0	90.46	46.09	6,306.6	4,073.3	4,231.2	5,873.2	0.01	0.01	0.00
12,000.0	90.46	46.09	6,305.8	4,142.6	4,303.3	5,973.2	0.01	0.01	0.00
12,097.5	90.47	46.09	6,305.0	4,210.2	4,373.5	6,070.7	0.01	0.01	0.00

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
PBHL . - plan hits target center - Point	0.00	0.00	6,305.0	4,210.2	4,373.5	1,339,604.52	3,318,479.46	40° 15' 35.957 N	104° 21' 31.734 W

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
5,618.0	5,618.0	0.0	0.0	KOP Begin Build 8.00°/100' MD
6,744.6	6,334.0	497.9	517.2	End of Build 90.15° 6745' MD
12,097.5	6,305.0	4,210.2	4,373.5	PBHL 90.47° 12098' MD