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Azimuths to True North

Magnetic North: 10.90°

Magnetic Field

Strength: 52700.9snT

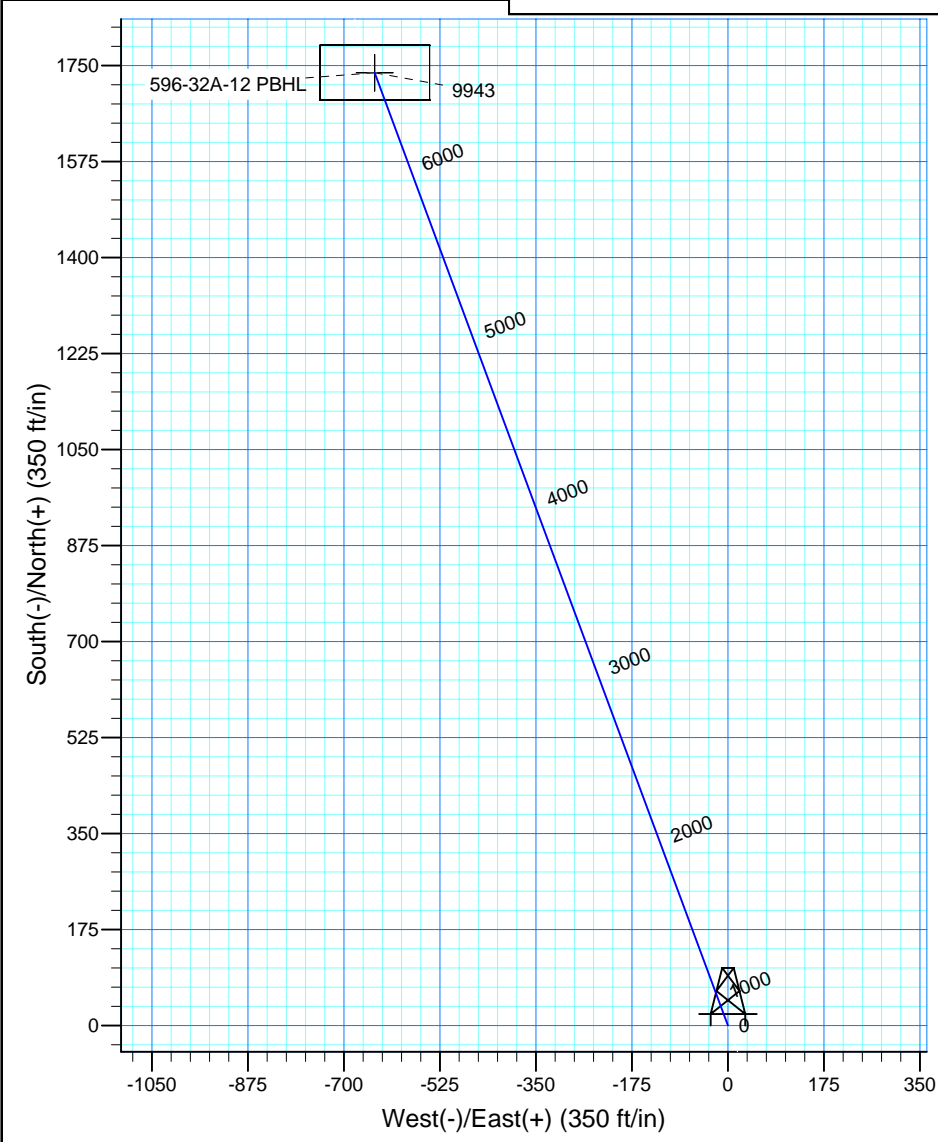
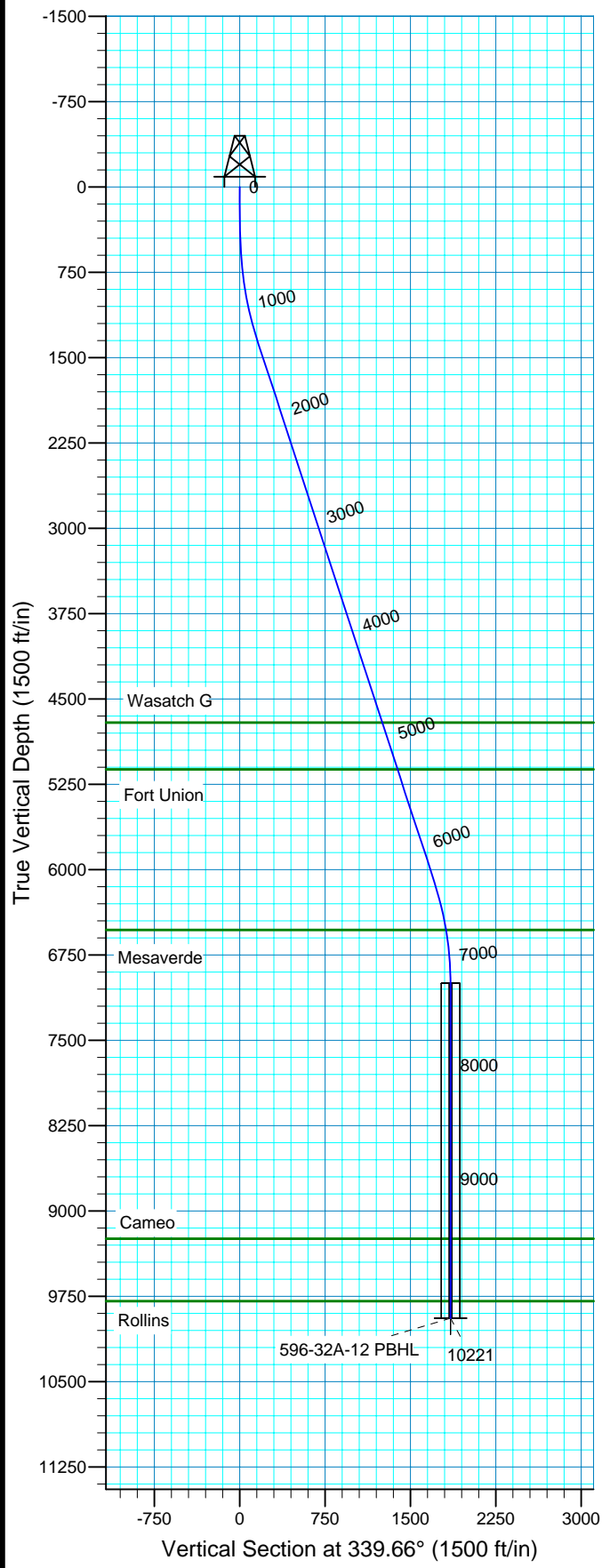
Dip Angle: 65.87°

Date: 10/31/2007

Model: IGRF200510

WELL DETAILS: 596-32A-12

Ground Level:		GL 8291 & RKB 24' @ 8315.00ft			
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	1644691.96	2242328.90	39° 34' 21.655 N	108° 11' 17.537 W



FORMATION TOP DETAILS					Plan: Plan 2 (596-32A-12/OH)					
TVDP	Path	MD	Path	Formation	Created By: Laura Turner			Date: 2008-11-		
	4707.00	4897.31	Wasatch	G	PROJECT DETAILS: Garfield County, CO NAD 83					
	5119.00	5330.73	Fort Union		Geodetic System: US State Plane 1983					
	6530.00	6806.08	Mesaverde		Datum: North American Datum 1983					
	9243.00	9521.21	Cameo		Ellipsoid: GRS 1980					
9793.00	10071.21	Rollins		Zone: Colorado Central Zone						
					System Datum: Mean Sea Level					
					Local North: True					
SECTION DETAILS										
	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
	0.00	0.00	0.00	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	
	700.00	5.00	339.66	699.37	20.44	-7.58	1.00	339.66	21.80	596-32A-12 PBHL
	1354.29	18.09	339.66	1339.03	142.94	-52.99	2.00	0.00	152.44	
	6373.92	18.09	339.66	6110.65	1604.06	-594.67	0.00	0.00	1710.75	
	7278.21	0.00	0.00	7000.00	1736.78	-643.87	2.00	180.00	1852.29	
	10221.21	0.00	0.00	9943.00	1736.78	-643.87	0.00	0.00	1852.29	596-32A-12 PBHL

Marathon Oil Co.

Garfield County, CO NAD 83

596-32A Pad

596-32A-12 - Slot I

OH

Plan: Plan 2

Standard Planning Report

11 November, 2008

Scientific Drilling

Planning Report

Database:	EDM2003.16 MultiuserDB	Local Co-ordinate Reference:	Well 596-32A-12 - Slot I
Company:	Marathon Oil Co.	TVD Reference:	GL 8291 & RKB 24' @ 8315.00ft
Project:	Garfield County, CO NAD 83	MD Reference:	GL 8291 & RKB 24' @ 8315.00ft
Site:	596-32A Pad	North Reference:	True
Well:	596-32A-12	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 2		

Project	Garfield County, CO NAD 83		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Central Zone		

Site		596-32A Pad, Sec 32 T5S R96W			
Site Position:		Northing:	1,644,738.19ft	Latitude:	39° 34' 22.108 N
From:	Map	Easting:	2,242,317.00ft	Longitude:	108° 11' 17.707 W
Position Uncertainty:	0.00 ft	Slot Radius:	in	Grid Convergence:	-1.70 °

Well	596-32A-12 - Slot I, 2258' FNL 1328' FEL					
Well Position	+N/-S	0.00 ft	Northing:	1,644,691.96 ft	Latitude:	39° 34' 21.655 N
	+E/-W	0.00 ft	Easting:	2,242,328.90 ft	Longitude:	108° 11' 17.537 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	8,291.00ft

Wellbore	OH
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	10/31/2007	10.90	65.87	52,701

Design	Plan 2
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Audit Notes:	
Version:	Phase: PLAN Tie On Depth: 0.00

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	339.66

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
0.00	0.00	0.00	0.00	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	
700.00	5.00	339.66	699.37	20.44	-7.58	1.00	1.00	0.00	339.66	596-32A-12 PBHL
1,354.29	18.09	339.66	1,339.03	142.94	-52.99	2.00	2.00	0.00	0.00	
6,373.92	18.09	339.66	6,110.65	1,604.06	-594.67	0.00	0.00	0.00	0.00	
7,278.21	0.00	0.00	7,000.00	1,736.78	-643.87	2.00	-2.00	0.00	180.00	
10,221.21	0.00	0.00	9,943.00	1,736.78	-643.87	0.00	0.00	0.00	0.00	596-32A-12 PBHL

Scientific Drilling

Planning Report

Database:	EDM2003.16 MultiuserDB	Local Co-ordinate Reference:	Well 596-32A-12 - Slot I
Company:	Marathon Oil Co.	TVD Reference:	GL 8291 & RKB 24' @ 8315.00ft
Project:	Garfield County, CO NAD 83	MD Reference:	GL 8291 & RKB 24' @ 8315.00ft
Site:	596-32A Pad	North Reference:	True
Well:	596-32A-12	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 2		

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)
0.00	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
Start Build 2.00									
300.00	1.00	339.66	299.99	0.82	-0.30	0.87	1.00	1.00	0.00
400.00	2.00	339.66	399.96	3.27	-1.21	3.49	1.00	1.00	0.00
500.00	3.00	339.66	499.86	7.36	-2.73	7.85	1.00	1.00	0.00
600.00	4.00	339.66	599.68	13.09	-4.85	13.96	1.00	1.00	0.00
700.00	5.00	339.66	699.37	20.44	-7.58	21.80	1.00	1.00	0.00
800.00	7.00	339.66	798.81	30.24	-11.21	32.26	2.00	2.00	0.00
900.00	9.00	339.66	897.83	43.29	-16.05	46.17	2.00	2.00	0.00
1,000.00	11.00	339.66	996.31	59.57	-22.09	63.54	2.00	2.00	0.00
1,100.00	13.00	339.66	1,094.12	79.07	-29.31	84.33	2.00	2.00	0.00
1,122.59	13.45	339.66	1,116.11	83.91	-31.11	89.49	2.00	2.00	0.00
Start 18.45° Hold at 1122.59 MD									
1,200.00	15.00	339.66	1,191.14	101.75	-37.72	108.52	2.00	2.00	0.00
1,300.00	17.00	339.66	1,287.27	127.59	-47.30	136.08	2.00	2.00	0.00
1,354.29	18.09	339.66	1,339.03	142.94	-52.99	152.44	2.00	2.00	0.00
1,400.00	18.09	339.66	1,382.48	156.24	-57.92	166.63	0.00	0.00	0.00
1,500.00	18.09	339.66	1,477.54	185.35	-68.71	197.68	0.00	0.00	0.00
1,600.00	18.09	339.66	1,572.60	214.46	-79.51	228.72	0.00	0.00	0.00
1,700.00	18.09	339.66	1,667.66	243.57	-90.30	259.77	0.00	0.00	0.00
1,800.00	18.09	339.66	1,762.72	272.68	-101.09	290.81	0.00	0.00	0.00
1,900.00	18.09	339.66	1,857.78	301.78	-111.88	321.85	0.00	0.00	0.00
2,000.00	18.09	339.66	1,952.84	330.89	-122.67	352.90	0.00	0.00	0.00
2,100.00	18.09	339.66	2,047.90	360.00	-133.46	383.94	0.00	0.00	0.00
2,200.00	18.09	339.66	2,142.96	389.11	-144.25	414.99	0.00	0.00	0.00
2,300.00	18.09	339.66	2,238.02	418.22	-155.04	446.03	0.00	0.00	0.00
2,400.00	18.09	339.66	2,333.07	447.33	-165.83	477.08	0.00	0.00	0.00
2,500.00	18.09	339.66	2,428.13	476.43	-176.63	508.12	0.00	0.00	0.00
2,600.00	18.09	339.66	2,523.19	505.54	-187.42	539.16	0.00	0.00	0.00
2,700.00	18.09	339.66	2,618.25	534.65	-198.21	570.21	0.00	0.00	0.00
2,800.00	18.09	339.66	2,713.31	563.76	-209.00	601.25	0.00	0.00	0.00
2,900.00	18.09	339.66	2,808.37	592.87	-219.79	632.30	0.00	0.00	0.00
3,000.00	18.09	339.66	2,903.43	621.97	-230.58	663.34	0.00	0.00	0.00
3,100.00	18.09	339.66	2,998.49	651.08	-241.37	694.38	0.00	0.00	0.00
3,200.00	18.09	339.66	3,093.55	680.19	-252.16	725.43	0.00	0.00	0.00
3,300.00	18.09	339.66	3,188.61	709.30	-262.95	756.47	0.00	0.00	0.00
3,400.00	18.09	339.66	3,283.67	738.41	-273.75	787.52	0.00	0.00	0.00
3,500.00	18.09	339.66	3,378.73	767.52	-284.54	818.56	0.00	0.00	0.00
3,600.00	18.09	339.66	3,473.79	796.62	-295.33	849.61	0.00	0.00	0.00
3,700.00	18.09	339.66	3,568.84	825.73	-306.12	880.65	0.00	0.00	0.00
3,800.00	18.09	339.66	3,663.90	854.84	-316.91	911.69	0.00	0.00	0.00
3,900.00	18.09	339.66	3,758.96	883.95	-327.70	942.74	0.00	0.00	0.00
4,000.00	18.09	339.66	3,854.02	913.06	-338.49	973.78	0.00	0.00	0.00
4,100.00	18.09	339.66	3,949.08	942.17	-349.28	1,004.83	0.00	0.00	0.00
4,200.00	18.09	339.66	4,044.14	971.27	-360.08	1,035.87	0.00	0.00	0.00
4,300.00	18.09	339.66	4,139.20	1,000.38	-370.87	1,066.91	0.00	0.00	0.00
4,400.00	18.09	339.66	4,234.26	1,029.49	-381.66	1,097.96	0.00	0.00	0.00
4,500.00	18.09	339.66	4,329.32	1,058.60	-392.45	1,129.00	0.00	0.00	0.00
4,600.00	18.09	339.66	4,424.38	1,087.71	-403.24	1,160.05	0.00	0.00	0.00
4,700.00	18.09	339.66	4,519.44	1,116.82	-414.03	1,191.09	0.00	0.00	0.00
4,800.00	18.09	339.66	4,614.50	1,145.92	-424.82	1,222.14	0.00	0.00	0.00

Scientific Drilling

Planning Report

Database: EDM2003.16 MultiuserDB
Company: Marathon Oil Co.
Project: Garfield County, CO NAD 83
Site: 596-32A Pad
Well: 596-32A-12
Wellbore: OH
Design: Plan 2

Local Co-ordinate Reference: Well 596-32A-12 - Slot I
TVD Reference: GL 8291 & RKB 24' @ 8315.00ft
MD Reference: GL 8291 & RKB 24' @ 8315.00ft
North Reference: True
Survey Calculation Method: Minimum Curvature

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)
4,897.31	18.09	339.66	4,707.00	1,174.25	-435.32	1,252.35	0.00	0.00	0.00
Wasatch G									
4,900.00	18.09	339.66	4,709.56	1,175.03	-435.61	1,253.18	0.00	0.00	0.00
5,000.00	18.09	339.66	4,804.61	1,204.14	-446.40	1,284.22	0.00	0.00	0.00
5,100.00	18.09	339.66	4,899.67	1,233.25	-457.20	1,315.27	0.00	0.00	0.00
5,200.00	18.09	339.66	4,994.73	1,262.36	-467.99	1,346.31	0.00	0.00	0.00
5,300.00	18.09	339.66	5,089.79	1,291.47	-478.78	1,377.36	0.00	0.00	0.00
5,330.73	18.09	339.66	5,119.00	1,300.41	-482.09	1,386.90	0.00	0.00	0.00
Fort Union									
5,400.00	18.09	339.66	5,184.85	1,320.57	-489.57	1,408.40	0.00	0.00	0.00
5,500.00	18.09	339.66	5,279.91	1,349.68	-500.36	1,439.45	0.00	0.00	0.00
5,600.00	18.09	339.66	5,374.97	1,378.79	-511.15	1,470.49	0.00	0.00	0.00
5,700.00	18.09	339.66	5,470.03	1,407.90	-521.94	1,501.53	0.00	0.00	0.00
5,800.00	18.09	339.66	5,565.09	1,437.01	-532.73	1,532.58	0.00	0.00	0.00
5,882.86	18.09	339.66	5,643.86	1,461.13	-541.68	1,558.30	0.00	0.00	0.00
Start Drop -2.00									
5,900.00	18.09	339.66	5,660.15	1,466.12	-543.52	1,563.62	0.00	0.00	0.00
6,000.00	18.09	339.66	5,755.21	1,495.22	-554.32	1,594.67	0.00	0.00	0.00
6,100.00	18.09	339.66	5,850.27	1,524.33	-565.11	1,625.71	0.00	0.00	0.00
6,200.00	18.09	339.66	5,945.33	1,553.44	-575.90	1,656.75	0.00	0.00	0.00
6,300.00	18.09	339.66	6,040.38	1,582.55	-586.69	1,687.80	0.00	0.00	0.00
6,373.92	18.09	339.66	6,110.65	1,604.06	-594.67	1,710.75	0.00	0.00	0.00
6,400.00	17.56	339.66	6,135.48	1,611.55	-597.44	1,718.73	2.00	-2.00	0.00
6,500.00	15.56	339.66	6,231.33	1,638.28	-607.35	1,747.24	2.00	-2.00	0.00
6,600.00	13.56	339.66	6,328.11	1,661.86	-616.09	1,772.38	2.00	-2.00	0.00
6,700.00	11.56	339.66	6,425.71	1,682.25	-623.65	1,794.13	2.00	-2.00	0.00
6,800.00	9.56	339.66	6,524.01	1,699.44	-630.03	1,812.47	2.00	-2.00	0.00
6,805.46	9.46	339.66	6,529.39	1,700.29	-630.34	1,813.37	2.00	-2.00	0.00
Start 0.00° Hold at 6805.46 MD									
6,806.08	9.44	339.66	6,530.00	1,700.38	-630.37	1,813.47	2.00	-2.00	0.00
Mesaverde									
6,900.00	7.56	339.66	6,622.89	1,713.41	-635.20	1,827.36	2.00	-2.00	0.00
7,000.00	5.56	339.66	6,722.23	1,724.12	-639.17	1,838.79	2.00	-2.00	0.00
7,100.00	3.56	339.66	6,821.90	1,731.58	-641.94	1,846.75	2.00	-2.00	0.00
7,200.00	1.56	339.66	6,921.80	1,735.78	-643.50	1,851.22	2.00	-2.00	0.00
7,278.21	0.00	0.00	7,000.00	1,736.78	-643.87	1,852.29	2.00	-2.00	0.00
7,300.00	0.00	0.00	7,021.79	1,736.78	-643.87	1,852.29	0.00	0.00	0.00
7,400.00	0.00	0.00	7,121.79	1,736.78	-643.87	1,852.29	0.00	0.00	0.00
7,500.00	0.00	0.00	7,221.79	1,736.78	-643.87	1,852.29	0.00	0.00	0.00
7,600.00	0.00	0.00	7,321.79	1,736.78	-643.87	1,852.29	0.00	0.00	0.00
7,700.00	0.00	0.00	7,421.79	1,736.78	-643.87	1,852.29	0.00	0.00	0.00
7,800.00	0.00	0.00	7,521.79	1,736.78	-643.87	1,852.29	0.00	0.00	0.00
7,900.00	0.00	0.00	7,621.79	1,736.78	-643.87	1,852.29	0.00	0.00	0.00
8,000.00	0.00	0.00	7,721.79	1,736.78	-643.87	1,852.29	0.00	0.00	0.00
8,100.00	0.00	0.00	7,821.79	1,736.78	-643.87	1,852.29	0.00	0.00	0.00
8,200.00	0.00	0.00	7,921.79	1,736.78	-643.87	1,852.29	0.00	0.00	0.00
8,300.00	0.00	0.00	8,021.79	1,736.78	-643.87	1,852.29	0.00	0.00	0.00
8,400.00	0.00	0.00	8,121.79	1,736.78	-643.87	1,852.29	0.00	0.00	0.00
8,500.00	0.00	0.00	8,221.79	1,736.78	-643.87	1,852.29	0.00	0.00	0.00
8,600.00	0.00	0.00	8,321.79	1,736.78	-643.87	1,852.29	0.00	0.00	0.00
8,700.00	0.00	0.00	8,421.79	1,736.78	-643.87	1,852.29	0.00	0.00	0.00
8,800.00	0.00	0.00	8,521.79	1,736.78	-643.87	1,852.29	0.00	0.00	0.00
8,900.00	0.00	0.00	8,621.79	1,736.78	-643.87	1,852.29	0.00	0.00	0.00

Scientific Drilling

Planning Report

Database: EDM2003.16 MultiuserDB
Company: Marathon Oil Co.
Project: Garfield County, CO NAD 83
Site: 596-32A Pad
Well: 596-32A-12
Wellbore: OH
Design: Plan 2

Local Co-ordinate Reference: Well 596-32A-12 - Slot I
TVD Reference: GL 8291 & RKB 24' @ 8315.00ft
MD Reference: GL 8291 & RKB 24' @ 8315.00ft
North Reference: True
Survey Calculation Method: Minimum Curvature

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)
9,000.00	0.00	0.00	8,721.79	1,736.78	-643.87	1,852.29	0.00	0.00	0.00
9,100.00	0.00	0.00	8,821.79	1,736.78	-643.87	1,852.29	0.00	0.00	0.00
9,200.00	0.00	0.00	8,921.79	1,736.78	-643.87	1,852.29	0.00	0.00	0.00
9,300.00	0.00	0.00	9,021.79	1,736.78	-643.87	1,852.29	0.00	0.00	0.00
9,400.00	0.00	0.00	9,121.79	1,736.78	-643.87	1,852.29	0.00	0.00	0.00
9,500.00	0.00	0.00	9,221.79	1,736.78	-643.87	1,852.29	0.00	0.00	0.00
9,521.21	0.00	0.00	9,243.00	1,736.78	-643.87	1,852.29	0.00	0.00	0.00
Cameo									
9,600.00	0.00	0.00	9,321.79	1,736.78	-643.87	1,852.29	0.00	0.00	0.00
9,700.00	0.00	0.00	9,421.79	1,736.78	-643.87	1,852.29	0.00	0.00	0.00
9,800.00	0.00	0.00	9,521.79	1,736.78	-643.87	1,852.29	0.00	0.00	0.00
9,900.00	0.00	0.00	9,621.79	1,736.78	-643.87	1,852.29	0.00	0.00	0.00
10,000.00	0.00	0.00	9,721.79	1,736.78	-643.87	1,852.29	0.00	0.00	0.00
10,071.21	0.00	0.00	9,793.00	1,736.78	-643.87	1,852.29	0.00	0.00	0.00
Rollins									
10,100.00	0.00	0.00	9,821.79	1,736.78	-643.87	1,852.29	0.00	0.00	0.00
10,111.46	0.00	0.00	9,833.24	1,736.78	-643.87	1,852.29	0.00	0.00	0.00
PBHL=1646447.03, 2241736.70									
10,200.00	0.00	0.00	9,921.79	1,736.78	-643.87	1,852.29	0.00	0.00	0.00
10,221.21	0.00	0.00	9,943.00	1,736.78	-643.87	1,852.29	0.00	0.00	0.00
596-32A-12 PBHL									

Targets

Target Name

- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- Shape									
596-32A-12 PBHL	0.00	0.00	9,943.00	1,736.78	-643.87	1,646,447.03	2,241,736.70	39° 34' 38.820 N	108° 11' 25.761 W
- plan hits target center									
- Rectangle (sides W100.00 H200.00 D0.00)									

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
4,897.31	4,707.00	Wasatch G		0.00	
5,330.73	5,119.00	Fort Union		0.00	
6,806.08	6,530.00	Mesaverde		0.00	
9,521.21	9,243.00	Cameo		0.00	
10,071.21	9,793.00	Rollins		0.00	

Scientific Drilling

Planning Report

Database:	EDM2003.16 MultiuserDB	Local Co-ordinate Reference:	Well 596-32A-12 - Slot I
Company:	Marathon Oil Co.	TVD Reference:	GL 8291 & RKB 24' @ 8315.00ft
Project:	Garfield County, CO NAD 83	MD Reference:	GL 8291 & RKB 24' @ 8315.00ft
Site:	596-32A Pad	North Reference:	True
Well:	596-32A-12	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 2		

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
200.00	200.00	0.00	0.00	Start Build 2.00
1,122.59	1,116.11	83.91	-31.11	Start 18.45° Hold at 1122.59 MD
5,882.86	5,643.86	1,461.13	-541.68	Start Drop -2.00
6,805.46	6,529.39	1,700.29	-630.34	Start 0.00° Hold at 6805.46 MD
10,111.46	9,833.24	1,736.78	-643.87	PBHL=1646447.03, 2241736.70