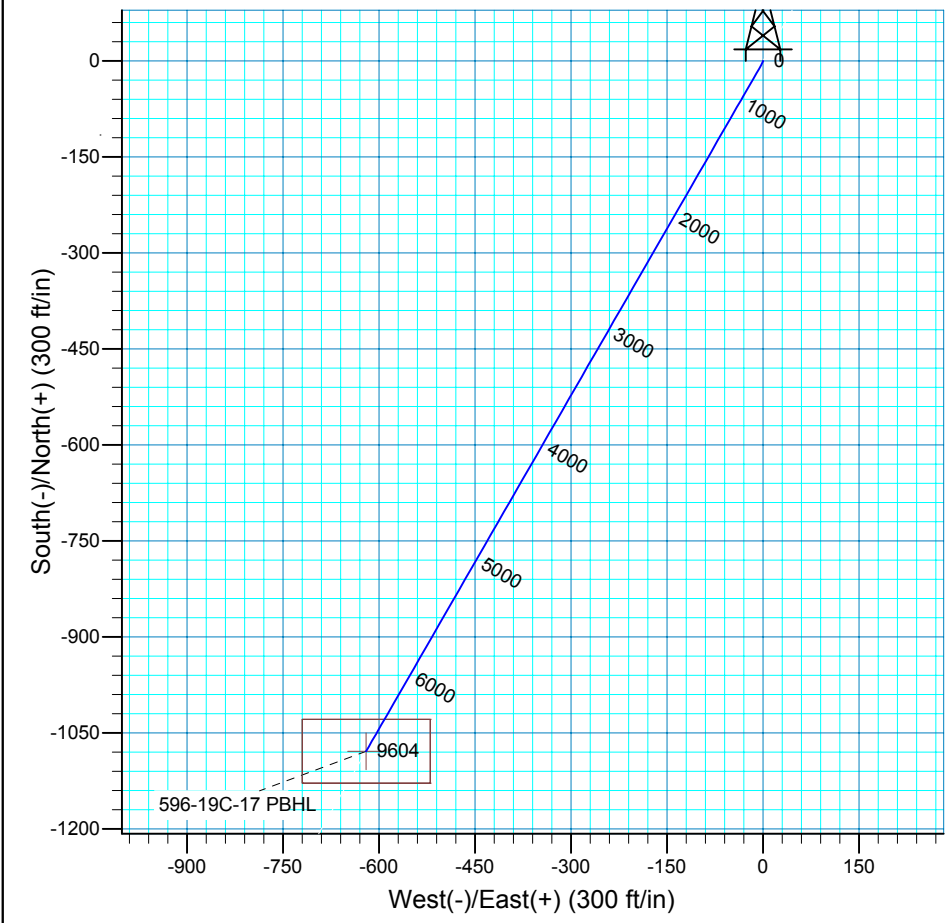
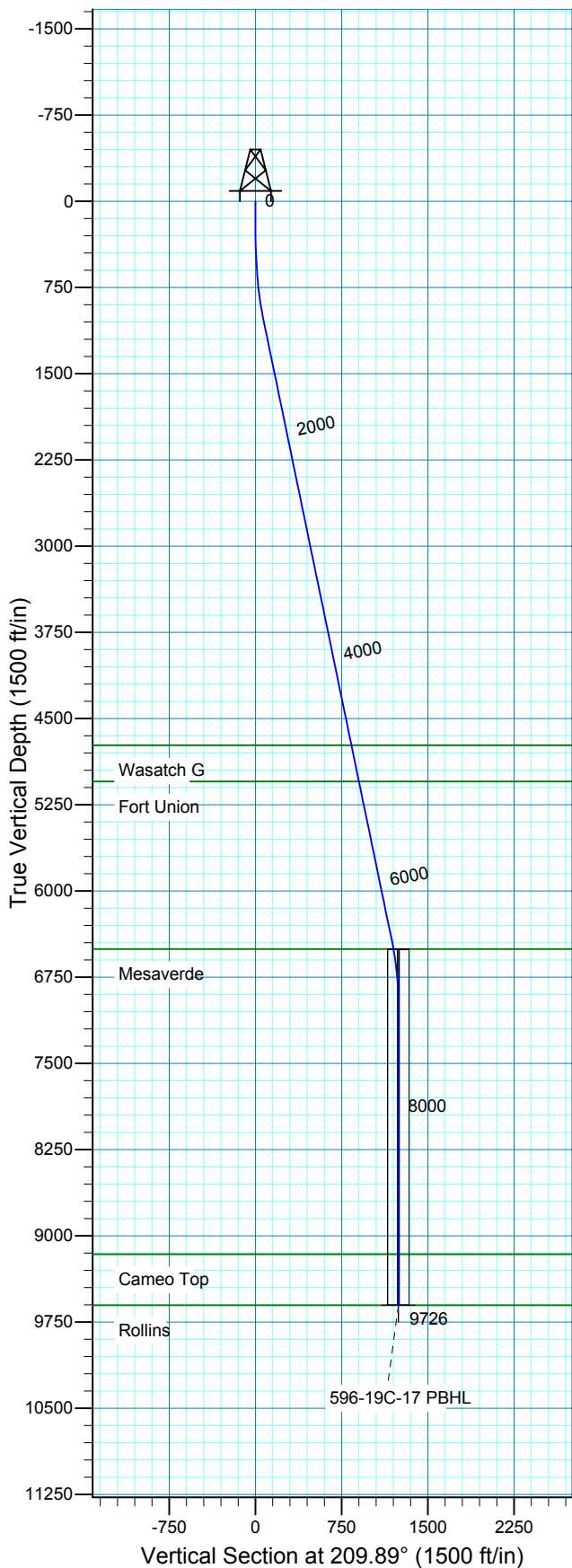


Azimuths to True North
 Magnetic North: 10.86°

Magnetic Field
 Strength: 52604.2snT
 Dip Angle: 65.88°
 Date: 2008-03-24
 Model: IGRF2005-10

WELL DETAILS: 596-19C-17

GL 8423.5' & RKB 24' @ 8447.50ft 8423.50
 +N/-S 0.00 +E/-W 0.00 Northing 1654027.62 Easting 2235631.62 Latitude 39° 35' 51.948 N Longitude 108° 12' 46.533 W



FORMATION TOP DETAILS			Plan: Plan 2 (596-19C-17/OH)		
TVDPath	MDPath	Formation	Created By: Julie Cruse Date: 2009-05-26		
4731.50	4814.23	Wasatch G	PROJECT DETAILS: Garfield County, CO NAD 83		
5047.50	5136.92	Fort Union	Geodetic System: US State Plane 1983		
6505.50	6625.54	Mesaverde	Datum: North American Datum 1983		
9160.50	9283.03	Cameo Top	Ellipsoid: GRS 1980		
9603.50	9726.03	Rollins	Zone: Colorado Central Zone		
			Location: Sec 19 T5S R96W		
			System Datum: Mean Sea Level		
			Local North: True		

SECTION DETAILS										
MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target	
140.02	0.13	110.75	140.02	0.21	0.18	0.00	0.00	-0.28		
200.00	0.13	110.75	200.00	0.17	0.31	0.00	0.00	-0.30		
702.24	5.00	209.93	701.60	-19.02	-10.08	1.00	100.64	21.51	596-19C-17 PBHL	
1036.77	11.69	209.93	1032.41	-61.07	-34.29	2.00	0.00	70.04		
6538.00	11.69	209.93	6419.51	-1027.14	-590.41	0.00	0.00	0.001184.74		
7122.53	0.00	0.00	7000.00	-1078.65	-620.06	2.00	180.00	1244.17		
9726.03	0.00	0.00	9603.50	-1078.65	-620.06	0.00	0.00	1244.17	596-19C-17 PBHL	



Scientific Drilling
Rocky Mountain Operations

Marathon Oil Co.

Garfield County, CO NAD 83

596-19C Pad

596-19C-17 - Slot H

OH

Plan: Plan 2

Standard Planning Report

26 May, 2009

Database:	EDM 2003.16 Multi User Db	Local Co-ordinate Reference:	Well 596-19C-17 - Slot H
Company:	Marathon Oil Co.	TVD Reference:	GL 8423.5' & RKB 24' @ 8447.50ft
Project:	Garfield County, CO NAD 83	MD Reference:	GL 8423.5' & RKB 24' @ 8447.50ft
Site:	596-19C Pad	North Reference:	True
Well:	596-19C-17	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	596-19C Pad, Sec 19 T5S R96W				
Site Position:		Northing:	1,654,080.12 ft	Latitude:	39° 35' 52.467 N
From:	Map	Easting:	2,235,631.58 ft	Longitude:	108° 12' 46.553 W
Position Uncertainty:	0.00 ft	Slot Radius:	in	Grid Convergence:	-1.71 °

Well	596-19C-17 - Slot H, 1598' FSL 1286' FEL					
Well Position	+N/-S	0.00 ft	Northing:	1,654,027.62 ft	Latitude:	39° 35' 51.948 N
	+E/-W	0.00 ft	Easting:	2,235,631.62 ft	Longitude:	108° 12' 46.533 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	8,423.50 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF2005-10	2008-03-24	10.86	65.88	52,604

Design	Plan 2			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	140.02
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.00	0.00	0.00	209.89

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
140.02	0.13	110.75	140.02	0.21	0.18	0.00	0.00	0.00	0.00	
200.00	0.13	110.75	200.00	0.17	0.31	0.00	0.00	0.00	0.00	
702.24	5.00	209.93	701.60	-19.02	-10.08	1.00	0.97	19.75	100.64	596-19C-17 PBHL
1,036.77	11.69	209.93	1,032.41	-61.07	-34.29	2.00	2.00	0.00	0.00	
6,538.00	11.69	209.93	6,419.51	-1,027.14	-590.41	0.00	0.00	0.00	0.00	
7,122.53	0.00	0.00	7,000.00	-1,078.65	-620.06	2.00	-2.00	0.00	180.00	
9,726.03	0.00	0.00	9,603.50	-1,078.65	-620.06	0.00	0.00	0.00	0.00	596-19C-17 PBHL

Database:	EDM 2003.16 Multi User Db	Local Co-ordinate Reference:	Well 596-19C-17 - Slot H
Company:	Marathon Oil Co.	TVD Reference:	GL 8423.5' & RKB 24' @ 8447.50ft
Project:	Garfield County, CO NAD 83	MD Reference:	GL 8423.5' & RKB 24' @ 8447.50ft
Site:	596-19C Pad	North Reference:	True
Well:	596-19C-17	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)
140.02	0.13	110.75	140.02	0.21	0.18	-0.28	0.00	0.00	0.00
200.00	0.13	110.75	200.00	0.17	0.31	-0.30	0.00	0.00	0.00
300.00	0.98	203.93	299.99	-0.66	0.07	0.54	1.00	0.85	93.18
400.00	1.98	207.69	399.96	-2.97	-1.08	3.12	1.00	1.00	3.76
500.00	2.98	208.93	499.86	-6.78	-3.14	7.44	1.00	1.00	1.24
600.00	3.98	209.55	599.68	-12.07	-6.11	13.51	1.00	1.00	0.62
700.00	4.98	209.92	699.37	-18.85	-9.98	21.32	1.00	1.00	0.37
702.24	5.00	209.93	701.60	-19.02	-10.08	21.51	1.00	1.00	0.29
800.00	6.96	209.93	798.83	-27.84	-15.16	31.69	2.00	2.00	0.00
900.00	8.96	209.93	897.86	-39.83	-22.07	45.53	2.00	2.00	0.00
1,000.00	10.96	209.93	996.35	-54.81	-30.69	62.82	2.00	2.00	0.00
1,036.77	11.69	209.93	1,032.41	-61.07	-34.29	70.04	2.00	2.00	0.00
1,100.00	11.69	209.93	1,094.32	-72.18	-40.68	82.85	0.00	0.00	0.00
1,200.00	11.69	209.93	1,192.25	-89.74	-50.79	103.11	0.00	0.00	0.00
1,300.00	11.69	209.93	1,290.17	-107.30	-60.90	123.37	0.00	0.00	0.00
1,400.00	11.69	209.93	1,388.10	-124.86	-71.01	143.64	0.00	0.00	0.00
1,500.00	11.69	209.93	1,486.02	-142.42	-81.12	163.90	0.00	0.00	0.00
1,600.00	11.69	209.93	1,583.95	-159.98	-91.23	184.16	0.00	0.00	0.00
1,700.00	11.69	209.93	1,681.88	-177.54	-101.34	204.43	0.00	0.00	0.00
1,800.00	11.69	209.93	1,779.80	-195.10	-111.45	224.69	0.00	0.00	0.00
1,900.00	11.69	209.93	1,877.73	-212.66	-121.56	244.95	0.00	0.00	0.00
2,000.00	11.69	209.93	1,975.65	-230.22	-131.66	265.21	0.00	0.00	0.00
2,100.00	11.69	209.93	2,073.58	-247.79	-141.77	285.48	0.00	0.00	0.00
2,200.00	11.69	209.93	2,171.50	-265.35	-151.88	305.74	0.00	0.00	0.00
2,300.00	11.69	209.93	2,269.43	-282.91	-161.99	326.00	0.00	0.00	0.00
2,400.00	11.69	209.93	2,367.35	-300.47	-172.10	346.27	0.00	0.00	0.00
2,500.00	11.69	209.93	2,465.28	-318.03	-182.21	366.53	0.00	0.00	0.00
2,600.00	11.69	209.93	2,563.21	-335.59	-192.32	386.79	0.00	0.00	0.00
2,700.00	11.69	209.93	2,661.13	-353.15	-202.43	407.05	0.00	0.00	0.00
2,800.00	11.69	209.93	2,759.06	-370.71	-212.54	427.32	0.00	0.00	0.00
2,900.00	11.69	209.93	2,856.98	-388.27	-222.65	447.58	0.00	0.00	0.00
3,000.00	11.69	209.93	2,954.91	-405.83	-232.75	467.84	0.00	0.00	0.00
3,100.00	11.69	209.93	3,052.83	-423.40	-242.86	488.11	0.00	0.00	0.00
3,200.00	11.69	209.93	3,150.76	-440.96	-252.97	508.37	0.00	0.00	0.00
3,300.00	11.69	209.93	3,248.68	-458.52	-263.08	528.63	0.00	0.00	0.00
3,400.00	11.69	209.93	3,346.61	-476.08	-273.19	548.89	0.00	0.00	0.00
3,500.00	11.69	209.93	3,444.54	-493.64	-283.30	569.16	0.00	0.00	0.00
3,600.00	11.69	209.93	3,542.46	-511.20	-293.41	589.42	0.00	0.00	0.00
3,700.00	11.69	209.93	3,640.39	-528.76	-303.52	609.68	0.00	0.00	0.00
3,800.00	11.69	209.93	3,738.31	-546.32	-313.63	629.94	0.00	0.00	0.00
3,900.00	11.69	209.93	3,836.24	-563.88	-323.74	650.21	0.00	0.00	0.00
4,000.00	11.69	209.93	3,934.16	-581.44	-333.85	670.47	0.00	0.00	0.00
4,100.00	11.69	209.93	4,032.09	-599.01	-343.95	690.73	0.00	0.00	0.00
4,200.00	11.69	209.93	4,130.02	-616.57	-354.06	711.00	0.00	0.00	0.00
4,300.00	11.69	209.93	4,227.94	-634.13	-364.17	731.26	0.00	0.00	0.00
4,400.00	11.69	209.93	4,325.87	-651.69	-374.28	751.52	0.00	0.00	0.00
4,500.00	11.69	209.93	4,423.79	-669.25	-384.39	771.78	0.00	0.00	0.00
4,600.00	11.69	209.93	4,521.72	-686.81	-394.50	792.05	0.00	0.00	0.00
4,700.00	11.69	209.93	4,619.64	-704.37	-404.61	812.31	0.00	0.00	0.00
4,800.00	11.69	209.93	4,717.57	-721.93	-414.72	832.57	0.00	0.00	0.00
4,814.23	11.69	209.93	4,731.50	-724.43	-416.16	835.46	0.00	0.00	0.00
Wasatch G									
4,900.00	11.69	209.93	4,815.49	-739.49	-424.83	852.84	0.00	0.00	0.00

Database:	EDM 2003.16 Multi User Db	Local Co-ordinate Reference:	Well 596-19C-17 - Slot H
Company:	Marathon Oil Co.	TVD Reference:	GL 8423.5' & RKB 24' @ 8447.50ft
Project:	Garfield County, CO NAD 83	MD Reference:	GL 8423.5' & RKB 24' @ 8447.50ft
Site:	596-19C Pad	North Reference:	True
Well:	596-19C-17	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)
5,000.00	11.69	209.93	4,913.42	-757.06	-434.94	873.10	0.00	0.00	0.00
5,100.00	11.69	209.93	5,011.35	-774.62	-445.04	893.36	0.00	0.00	0.00
5,136.92	11.69	209.93	5,047.50	-781.10	-448.78	900.84	0.00	0.00	0.00
Fort Union									
5,200.00	11.69	209.93	5,109.27	-792.18	-455.15	913.62	0.00	0.00	0.00
5,300.00	11.69	209.93	5,207.20	-809.74	-465.26	933.89	0.00	0.00	0.00
5,400.00	11.69	209.93	5,305.12	-827.30	-475.37	954.15	0.00	0.00	0.00
5,500.00	11.69	209.93	5,403.05	-844.86	-485.48	974.41	0.00	0.00	0.00
5,600.00	11.69	209.93	5,500.97	-862.42	-495.59	994.68	0.00	0.00	0.00
5,700.00	11.69	209.93	5,598.90	-879.98	-505.70	1,014.94	0.00	0.00	0.00
5,800.00	11.69	209.93	5,696.82	-897.54	-515.81	1,035.20	0.00	0.00	0.00
5,900.00	11.69	209.93	5,794.75	-915.10	-525.92	1,055.46	0.00	0.00	0.00
6,000.00	11.69	209.93	5,892.68	-932.67	-536.03	1,075.73	0.00	0.00	0.00
6,100.00	11.69	209.93	5,990.60	-950.23	-546.14	1,095.99	0.00	0.00	0.00
6,200.00	11.69	209.93	6,088.53	-967.79	-556.24	1,116.25	0.00	0.00	0.00
6,300.00	11.69	209.93	6,186.45	-985.35	-566.35	1,136.52	0.00	0.00	0.00
6,400.00	11.69	209.93	6,284.38	-1,002.91	-576.46	1,156.78	0.00	0.00	0.00
6,500.00	11.69	209.93	6,382.30	-1,020.47	-586.57	1,177.04	0.00	0.00	0.00
6,538.00	11.69	209.93	6,419.51	-1,027.14	-590.41	1,184.74	0.00	0.00	0.00
6,600.00	10.45	209.93	6,480.36	-1,037.46	-596.35	1,196.65	2.00	-2.00	0.00
6,625.54	9.94	209.93	6,505.50	-1,041.38	-598.61	1,201.17	2.00	-2.00	0.00
Mesaverde									
6,700.00	8.45	209.93	6,579.00	-1,051.69	-604.54	1,213.07	2.00	-2.00	0.00
6,800.00	6.45	209.93	6,678.15	-1,062.93	-611.01	1,226.03	2.00	-2.00	0.00
6,900.00	4.45	209.93	6,777.69	-1,071.16	-615.75	1,235.53	2.00	-2.00	0.00
7,000.00	2.45	209.93	6,877.50	-1,076.38	-618.75	1,241.55	2.00	-2.00	0.00
7,100.00	0.45	209.93	6,977.47	-1,078.57	-620.02	1,244.08	2.00	-2.00	0.00
7,122.53	0.00	0.00	7,000.00	-1,078.65	-620.06	1,244.17	2.00	-2.00	0.00
7,200.00	0.00	0.00	7,077.47	-1,078.65	-620.06	1,244.17	0.00	0.00	0.00
7,300.00	0.00	0.00	7,177.47	-1,078.65	-620.06	1,244.17	0.00	0.00	0.00
7,400.00	0.00	0.00	7,277.47	-1,078.65	-620.06	1,244.17	0.00	0.00	0.00
7,500.00	0.00	0.00	7,377.47	-1,078.65	-620.06	1,244.17	0.00	0.00	0.00
7,600.00	0.00	0.00	7,477.47	-1,078.65	-620.06	1,244.17	0.00	0.00	0.00
7,700.00	0.00	0.00	7,577.47	-1,078.65	-620.06	1,244.17	0.00	0.00	0.00
7,800.00	0.00	0.00	7,677.47	-1,078.65	-620.06	1,244.17	0.00	0.00	0.00
7,900.00	0.00	0.00	7,777.47	-1,078.65	-620.06	1,244.17	0.00	0.00	0.00
8,000.00	0.00	0.00	7,877.47	-1,078.65	-620.06	1,244.17	0.00	0.00	0.00
8,100.00	0.00	0.00	7,977.47	-1,078.65	-620.06	1,244.17	0.00	0.00	0.00
8,200.00	0.00	0.00	8,077.47	-1,078.65	-620.06	1,244.17	0.00	0.00	0.00
8,300.00	0.00	0.00	8,177.47	-1,078.65	-620.06	1,244.17	0.00	0.00	0.00
8,400.00	0.00	0.00	8,277.47	-1,078.65	-620.06	1,244.17	0.00	0.00	0.00
8,500.00	0.00	0.00	8,377.47	-1,078.65	-620.06	1,244.17	0.00	0.00	0.00
8,600.00	0.00	0.00	8,477.47	-1,078.65	-620.06	1,244.17	0.00	0.00	0.00
8,700.00	0.00	0.00	8,577.47	-1,078.65	-620.06	1,244.17	0.00	0.00	0.00
8,800.00	0.00	0.00	8,677.47	-1,078.65	-620.06	1,244.17	0.00	0.00	0.00
8,900.00	0.00	0.00	8,777.47	-1,078.65	-620.06	1,244.17	0.00	0.00	0.00
9,000.00	0.00	0.00	8,877.47	-1,078.65	-620.06	1,244.17	0.00	0.00	0.00
9,100.00	0.00	0.00	8,977.47	-1,078.65	-620.06	1,244.17	0.00	0.00	0.00
9,200.00	0.00	0.00	9,077.47	-1,078.65	-620.06	1,244.17	0.00	0.00	0.00
9,283.03	0.00	0.00	9,160.50	-1,078.65	-620.06	1,244.17	0.00	0.00	0.00
Cameo Top									
9,300.00	0.00	0.00	9,177.47	-1,078.65	-620.06	1,244.17	0.00	0.00	0.00
9,400.00	0.00	0.00	9,277.47	-1,078.65	-620.06	1,244.17	0.00	0.00	0.00

Database:	EDM 2003.16 Multi User Db	Local Co-ordinate Reference:	Well 596-19C-17 - Slot H
Company:	Marathon Oil Co.	TVD Reference:	GL 8423.5' & RKB 24' @ 8447.50ft
Project:	Garfield County, CO NAD 83	MD Reference:	GL 8423.5' & RKB 24' @ 8447.50ft
Site:	596-19C Pad	North Reference:	True
Well:	596-19C-17	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)
9,500.00	0.00	0.00	9,377.47	-1,078.65	-620.06	1,244.17	0.00	0.00	0.00
9,600.00	0.00	0.00	9,477.47	-1,078.65	-620.06	1,244.17	0.00	0.00	0.00
9,700.00	0.00	0.00	9,577.47	-1,078.65	-620.06	1,244.17	0.00	0.00	0.00
9,726.03	0.00	0.00	9,603.50	-1,078.65	-620.06	1,244.17	0.00	0.00	0.00
Rollins									

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
596-19C-17 PBHL	0.00	0.00	9,603.50	-1,078.65	-620.06	1,652,967.97	2,234,979.63	39° 35' 41.287 N	108° 12' 54.454 W
- hit/miss target									
- Shape									
- plan hits target center									
- Rectangle (sides W100.00 H200.00 D0.00)									

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
4,814.23	4,731.50	Wasatch G		0.00		
5,136.92	5,047.50	Fort Union		0.00		
6,625.54	6,505.50	Mesaverde		0.00		
9,283.03	9,160.50	Cameo Top		0.00		
9,726.03	9,603.50	Rollins		0.00		