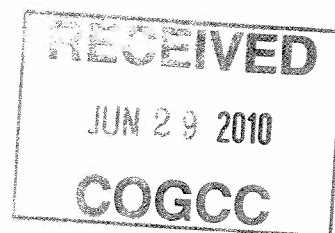




ORIGINAL WELLBORE



Marathon Oil Co.

Garfield County, CO

697-13C Pad

697-13C-18 - Slot D

OH

Design: OH

Standard Survey Report

28 December, 2007

Scientific Drilling

Survey Report

Company:	Marathon Oil Co.	Local Co-ordinate Reference:	Well 697-13C-18 - Slot D
Project:	Garfield County, CO	TVD Reference:	GL 8342' & RKB 24' @ 8366.00ft
Site:	697-13C Pad	MD Reference:	GL 8342' & RKB 24' @ 8366.00ft
Well:	697-13C-18	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 2003.16 Multi-User Db

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

Site		697-13C Pad, Sec 13 T6S R97W			
Site Position:		Northing:	1,625,030.22 ft	Latitude:	39° 31' 8.521 N
From:	Map	Easting:	2,246,124.60 ft	Longitude:	108° 10' 21.698 W
Position Uncertainty:	0.00 ft	Slot Radius:	in	Grid Convergence:	-1.69 °

Well	697-13C-18 - Slot D, 1173' FSL & 1498' FWL					
Well Position	+N/-S	0.00 ft	Northing:	1,624,984.19 ft	Latitude:	39° 31' 8.059 N
	+E/-W	0.00 ft	Easting:	2,246,099.36 ft	Longitude:	108° 10' 22.003 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	8,342.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF2005-10	2007-08-06	10.92	65.84	52,696

Design	OH				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(ft)	(ft)	(ft)	(°)	
	0.00	0.00	0.00	219.46	

Survey Program	Date 2007-12-28				
From	To	Survey (Wellbore)	Tool Name	Description	
(ft)	(ft)				
100.00	359.00	Survey #1 (OH)	NS-GYRO-MS	North sensing gyrocompassing m/s	
373.00	9,380.00	Survey #2 (OH)	MWD	MWD - Standard	

Survey										
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Vertical	Dogleg	Build	Turn	
Depth	(°)	(°)	Depth	(ft)	(ft)	Section	Rate	Rate	Rate	
(ft)			(ft)			(ft)	(°/100ft)	(°/100ft)	(°/100ft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
100.00	0.62	87.19	100.00	0.03	0.54	-0.36	0.62	0.62	0.00	
140.00	0.88	160.31	140.00	-0.25	0.86	-0.35	2.29	0.65	182.80	
173.00	0.97	184.48	172.99	-0.77	0.92	0.01	1.20	0.27	73.24	
206.00	1.58	194.94	205.98	-1.49	0.78	0.65	1.97	1.85	31.70	
236.00	1.85	213.05	235.97	-2.29	0.41	1.51	2.01	0.90	60.37	
267.00	2.38	225.44	266.95	-3.16	-0.32	2.64	2.25	1.71	39.97	
299.00	3.26	237.20	298.91	-4.12	-1.56	4.17	3.28	2.75	36.75	
329.00	3.78	241.52	328.85	-5.06	-3.14	5.90	1.94	1.73	14.40	
359.00	4.75	239.06	358.77	-6.17	-5.08	7.99	3.29	3.23	-8.20	
373.00	4.88	236.09	372.72	-6.80	-6.07	9.10	2.01	0.93	-21.21	
386.00	5.34	233.84	385.67	-7.46	-7.02	10.22	3.86	3.54	-17.31	

Scientific Drilling

Survey Report

Company:	Marathon Oil Co.	Local Co-ordinate Reference:	Well 697-13C-18 - Slot D
Project:	Garfield County, CO	TVD Reference:	GL 8342' & RKB 24' @ 8366.00ft
Site:	697-13C Pad	MD Reference:	GL 8342' & RKB 24' @ 8366.00ft
Well:	697-13C-18	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 2003.16 Multi-User Db

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)	
417.00	5.87	226.91	416.52	-9.40	-9.34	13.19	2.77	1.71	-22.35	
449.00	6.44	224.80	448.34	-11.79	-11.80	16.60	1.92	1.78	-6.59	
478.00	7.05	225.44	477.14	-14.19	-14.21	19.99	2.12	2.10	2.21	
509.00	7.61	223.24	507.88	-17.02	-16.97	23.93	2.02	1.81	-7.10	
539.00	8.16	220.51	537.60	-20.09	-19.72	28.04	2.22	1.83	-9.10	
631.00	9.85	217.04	628.46	-31.33	-28.70	42.43	1.93	1.84	-3.77	
723.00	11.74	211.91	718.83	-45.56	-38.39	59.57	2.30	2.05	-5.58	
819.00	12.31	213.08	812.72	-62.43	-49.14	79.43	0.65	0.59	1.22	
907.00	12.50	216.79	898.67	-77.91	-59.96	98.26	0.93	0.22	4.22	
999.00	12.84	218.33	988.43	-93.91	-72.26	118.43	0.52	0.37	1.67	
1,088.00	13.32	224.30	1,075.13	-109.00	-85.56	138.53	1.61	0.54	6.71	
1,182.00	13.80	221.67	1,166.51	-125.13	-100.57	160.52	0.83	0.51	-2.80	
1,277.00	14.43	222.40	1,258.64	-142.33	-116.09	183.67	0.69	0.66	0.77	
1,369.00	14.09	222.37	1,347.80	-159.07	-131.36	206.30	0.37	-0.37	-0.03	
1,467.00	14.06	222.42	1,442.86	-176.67	-147.43	230.10	0.03	-0.03	0.05	
1,562.00	13.66	223.87	1,535.10	-193.28	-162.99	252.81	0.56	-0.42	1.53	
1,657.00	13.67	226.28	1,627.41	-209.12	-178.88	275.14	0.60	0.01	2.54	
1,783.00	13.78	224.62	1,749.81	-230.09	-200.18	304.87	0.32	0.09	-1.32	
1,877.00	13.49	224.10	1,841.16	-245.94	-215.67	326.95	0.33	-0.31	-0.55	
1,972.00	13.94	218.50	1,933.46	-262.85	-230.51	349.44	1.48	0.47	-5.89	
2,067.00	13.94	218.94	2,025.66	-280.70	-244.82	372.32	0.11	0.00	0.46	
2,161.00	13.85	220.16	2,116.91	-298.11	-259.20	394.89	0.33	-0.10	1.30	
2,256.00	13.43	220.85	2,209.23	-315.15	-273.75	417.29	0.47	-0.44	0.73	
2,351.00	13.64	225.37	2,301.59	-331.36	-288.93	439.46	1.13	0.22	4.76	
2,445.00	13.80	226.47	2,392.91	-346.87	-304.95	461.61	0.33	0.17	1.17	
2,540.00	13.92	224.25	2,485.14	-362.86	-321.14	484.25	0.57	0.13	-2.34	
2,634.00	14.02	223.32	2,576.36	-379.24	-336.84	506.87	0.26	0.11	-0.99	
2,654.00	14.53	221.16	2,595.75	-382.89	-340.15	511.80	3.69	2.55	-10.80	
2,748.00	14.09	224.99	2,686.83	-399.86	-356.00	534.98	1.11	-0.47	4.07	
2,843.00	13.65	219.13	2,779.07	-416.74	-371.25	557.70	1.55	-0.46	-6.17	
2,938.00	13.06	214.82	2,871.50	-434.24	-384.46	579.60	1.22	-0.62	-4.54	
3,032.00	14.97	212.96	2,962.70	-453.15	-397.13	602.26	2.09	2.03	-1.98	
3,127.00	14.31	218.10	3,054.62	-472.69	-411.05	626.18	1.53	-0.69	5.41	
3,222.00	15.15	220.74	3,146.49	-491.33	-426.39	650.33	1.13	0.88	2.78	
3,316.00	14.99	219.44	3,237.26	-510.03	-442.13	674.77	0.40	-0.17	-1.38	
3,411.00	14.21	221.32	3,329.19	-528.27	-457.64	698.71	0.96	-0.82	1.98	
3,506.00	14.90	222.19	3,421.14	-546.08	-473.54	722.57	0.76	0.73	0.92	
3,600.00	14.14	223.22	3,512.14	-563.40	-489.52	746.09	0.85	-0.81	1.10	
3,695.00	15.13	221.04	3,604.06	-581.21	-505.61	770.07	1.19	1.04	-2.29	
3,789.00	14.23	222.28	3,694.99	-599.01	-521.43	793.87	1.01	-0.96	1.32	
3,884.00	15.11	219.71	3,786.89	-617.17	-537.20	817.91	1.15	0.93	-2.71	
3,979.00	14.78	218.33	3,878.68	-636.21	-552.63	842.41	0.51	-0.35	-1.45	
4,073.00	14.63	219.17	3,969.60	-654.82	-567.56	866.27	0.28	-0.16	0.89	
4,168.00	14.33	221.04	4,061.58	-672.98	-582.86	890.02	0.58	-0.32	1.97	
4,263.00	13.87	220.58	4,153.72	-690.50	-597.98	913.16	0.50	-0.48	-0.48	
4,357.00	15.00	222.84	4,244.75	-707.98	-613.59	936.57	1.34	1.20	2.40	
4,452.00	14.58	221.38	4,336.61	-725.96	-629.85	960.79	0.59	-0.44	-1.54	
4,547.00	13.72	222.79	4,428.72	-743.20	-645.41	983.99	0.98	-0.91	1.48	
4,641.00	13.09	222.68	4,520.16	-759.21	-660.20	1,005.74	0.67	-0.67	-0.12	
4,736.00	12.44	221.80	4,612.81	-774.75	-674.31	1,026.71	0.71	-0.68	-0.93	
4,831.00	13.20	223.63	4,705.44	-790.23	-688.61	1,047.75	0.91	0.80	1.93	
4,925.00	14.80	223.19	4,796.65	-806.75	-704.24	1,070.44	1.71	1.70	-0.47	
5,020.00	13.50	224.53	4,888.77	-823.50	-720.32	1,093.59	1.41	-1.37	1.41	
5,115.00	11.42	226.11	4,981.52	-837.93	-734.87	1,113.98	2.22	-2.19	1.66	

Scientific Drilling

Survey Report

Company:	Marathon Oil Co.	Local Co-ordinate Reference:	Well 697-13C-18 - Slot D
Project:	Garfield County, CO	TVD Reference:	GL 8342' & RKB 24' @ 8366.00ft
Site:	697-13C Pad	MD Reference:	GL 8342' & RKB 24' @ 8366.00ft
Well:	697-13C-18	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 2003.16 Multi-User Db

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)	
5,210.00	10.78	225.33	5,074.75	-850.69	-747.97	1,132.16	0.69	-0.67	-0.82	
5,304.00	13.56	218.94	5,166.63	-865.45	-761.15	1,151.93	3.28	2.96	-6.80	
5,399.00	13.54	217.08	5,258.98	-882.98	-774.86	1,174.18	0.46	-0.02	-1.96	
5,494.00	13.07	220.06	5,351.43	-900.08	-788.47	1,196.03	0.88	-0.49	3.14	
5,588.00	12.32	221.08	5,443.14	-915.77	-801.91	1,216.68	0.83	-0.80	1.09	
5,683.00	11.62	222.21	5,536.07	-930.50	-814.99	1,236.37	0.78	-0.74	1.19	
5,778.00	11.43	221.28	5,629.15	-944.66	-827.63	1,255.34	0.28	-0.20	-0.98	
5,872.00	7.79	214.88	5,721.82	-956.89	-837.42	1,271.00	4.03	-3.87	-6.81	
5,967.00	4.84	226.68	5,816.24	-964.92	-844.02	1,281.40	3.38	-3.11	12.42	
6,062.00	3.38	223.45	5,910.99	-969.70	-848.86	1,288.17	1.56	-1.54	-3.40	
6,158.00	0.77	285.40	6,006.93	-971.59	-851.43	1,291.25	3.22	-2.72	64.53	
6,252.00	0.65	342.93	6,100.92	-970.91	-852.20	1,291.22	0.74	-0.13	61.20	
6,347.00	0.30	36.88	6,195.92	-970.20	-852.21	1,290.67	0.56	-0.37	56.79	
6,442.00	0.20	326.62	6,290.92	-969.86	-852.15	1,290.38	0.31	-0.11	-73.96	
6,537.00	0.09	233.30	6,385.92	-969.77	-852.30	1,290.40	0.24	-0.12	-98.23	
6,631.00	0.63	265.04	6,479.92	-969.85	-852.87	1,290.83	0.59	0.57	33.77	
6,726.00	1.08	258.56	6,574.91	-970.08	-854.27	1,291.89	0.48	0.47	-6.82	
6,821.00	1.19	245.81	6,669.89	-970.66	-856.05	1,293.47	0.29	0.12	-13.42	
6,916.00	1.16	255.61	6,764.87	-971.30	-857.88	1,295.13	0.21	-0.03	10.32	
7,010.00	1.26	258.42	6,858.85	-971.75	-859.82	1,296.70	0.12	0.11	2.99	
7,105.00	1.34	286.45	6,953.82	-971.64	-861.90	1,297.95	0.67	0.08	29.51	
7,200.00	1.07	284.66	7,048.80	-971.10	-863.83	1,298.76	0.29	-0.28	-1.88	
7,295.00	1.07	324.68	7,143.79	-970.15	-865.20	1,298.90	0.77	0.00	42.13	
7,389.00	1.11	31.31	7,237.77	-968.66	-865.23	1,297.76	1.27	0.04	70.88	
7,484.00	0.91	31.22	7,332.76	-967.23	-864.36	1,296.11	0.21	-0.21	-0.09	
7,579.00	0.77	32.20	7,427.75	-966.04	-863.63	1,294.73	0.15	-0.15	1.03	
7,673.00	0.79	33.30	7,521.74	-964.97	-862.94	1,293.46	0.03	0.02	1.17	
7,768.00	0.69	336.87	7,616.73	-963.89	-862.80	1,292.54	0.74	-0.11	-59.40	
7,862.00	0.64	336.06	7,710.73	-962.89	-863.24	1,292.05	0.05	-0.05	-0.86	
7,957.00	0.74	289.67	7,805.72	-962.20	-864.03	1,292.02	0.58	0.11	-48.83	
8,052.00	1.00	270.76	7,900.71	-961.98	-865.44	1,292.74	0.40	0.27	-19.91	
8,146.00	1.04	243.77	7,994.69	-962.35	-867.03	1,294.03	0.51	0.04	-28.71	
8,241.00	1.38	246.48	8,089.67	-963.19	-868.85	1,295.84	0.36	0.36	2.85	
8,336.00	1.60	225.43	8,184.64	-964.58	-870.84	1,298.18	0.62	0.23	-22.16	
8,430.00	1.52	234.68	8,278.61	-966.22	-872.79	1,300.68	0.28	-0.09	9.84	
9,380.00	1.52	234.68	9,228.27	-980.79	-893.35	1,325.00	0.00	0.00	0.00	

Scientific Drilling

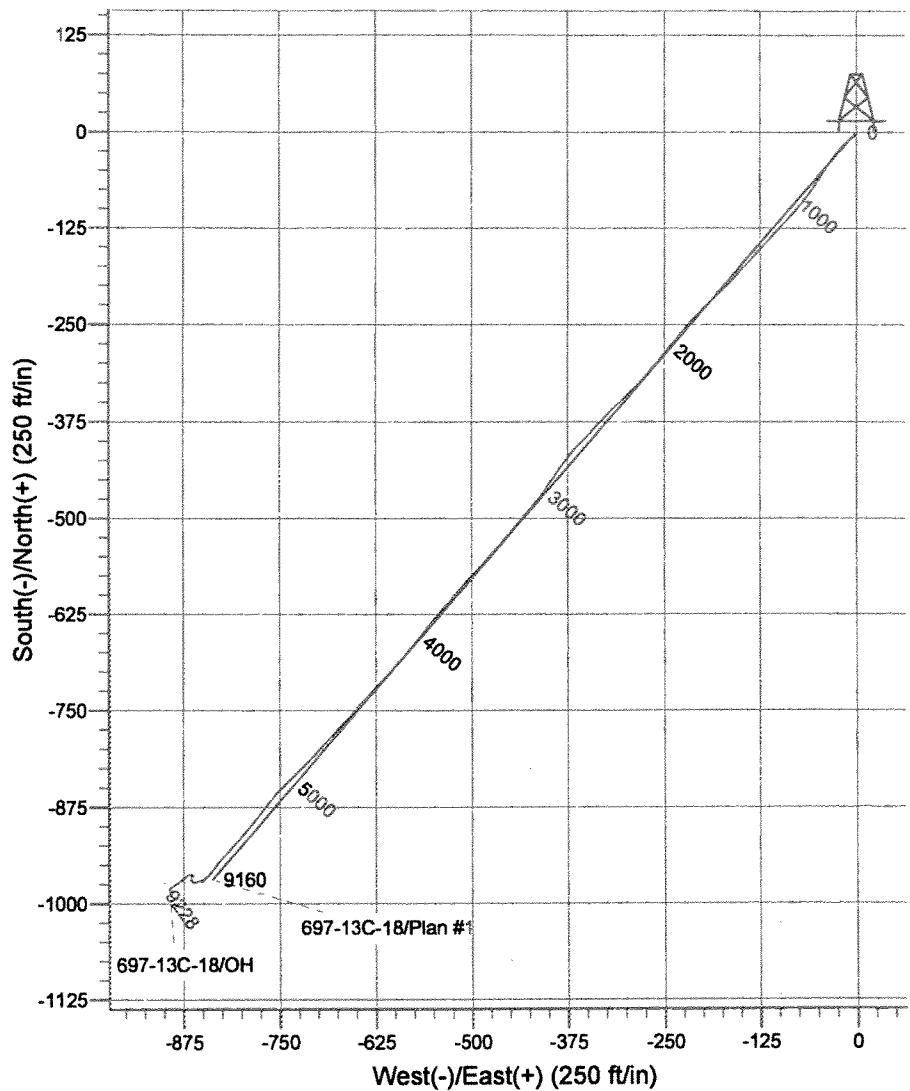
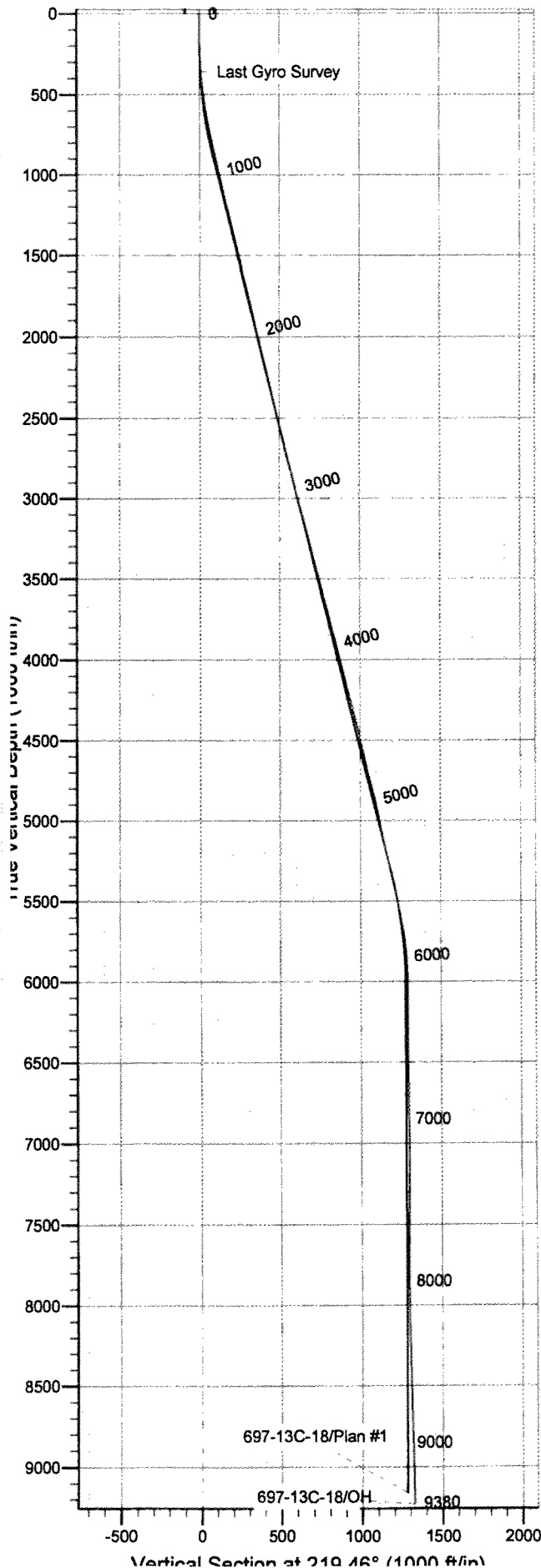
Survey Report

Company:	Marathon Oil Co.	Local Co-ordinate Reference:	Well 697-13C-18 - Slot D
Project:	Garfield County, CO	TVD Reference:	GL 8342' & RKB 24' @ 8366.00ft
Site:	697-13C Pad	MD Reference:	GL 8342' & RKB 24' @ 8366.00ft
Well:	697-13C-18	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 2003.16 Multi-User Db

Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N-S	+E-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
- Shape									
697-13C-18	0.00	0.00	9,160.00	-968.73	-837.39	1,624,040.52	2,245,233.83	39° 30' 58.484 N	108° 10' 32.688 W
- actual wellpath misses target center by 55.57ft at 9310.36ft MD (9158.65 TVD, -979.72 N, -891.85 E)									
- Circle (radius 50.00)									

Design Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N-S (ft)	+E-W (ft)	
359.00	358.77	-6.17	-5.08	Last Gyro Survey
373.00	372.72	-6.80	-6.07	First MWD Survey
9,380.00	9,228.27	-980.79	-893.35	Projection to TD

Checked By: _____ Approved By: _____ Date: _____



WELL DETAILS: 697-13C-18

+N/-S	+E/-W	Ground Level: GL 8342' & RKB 24' @ 8366.00ft	Northing	Easting	Latitude	Longitude	D
0.00	0.00		1624984.19	2246099.36	39° 31' 8.059 N	108° 10' 22.003 W	

REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well 697-13C-18 - Slot D, True North
Vertical (TVD) Reference: GL 8342' & RKB 24' @ 8366.00ft
Section (VS) Reference: Slot - D(0.00N, 0.00E)
Measured Depth Reference: GL 8342' & RKB 24' @ 8366.00ft
Calculation Method: Minimum Curvature
Local North: No north reference data is available
Location: Sec 13 T6S R97W

PROJECT DETAILS: Garfield County, CO

Design: OH (697-13C-18/OH)

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Colorado Central Zone

Created By: Julie Cruse Date: 2007-12-2