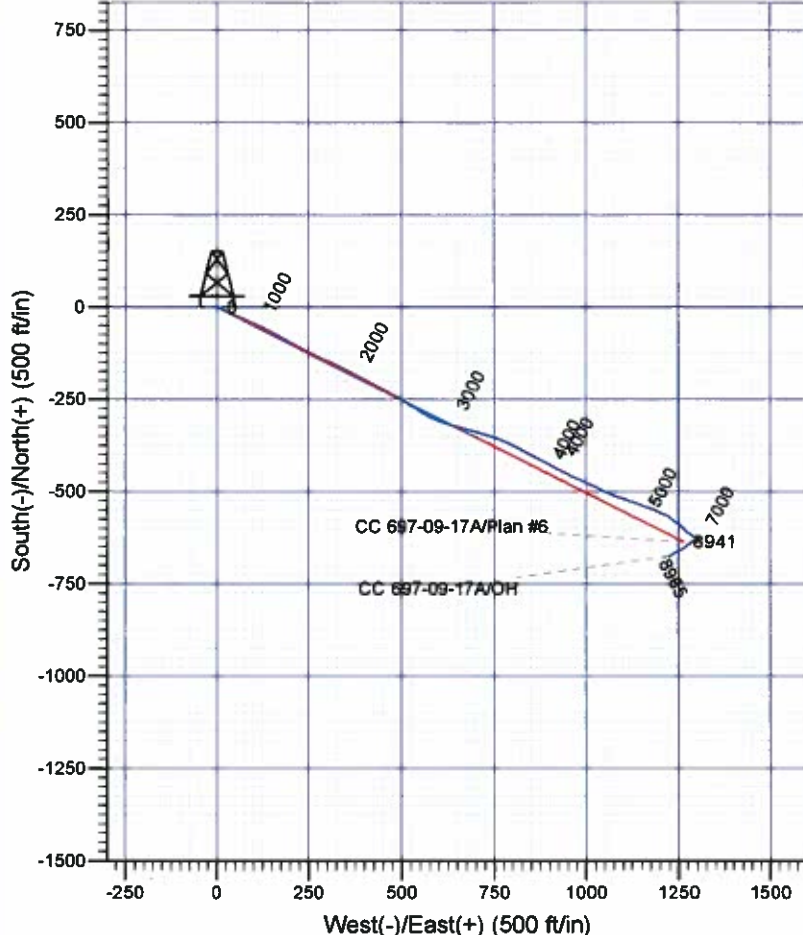
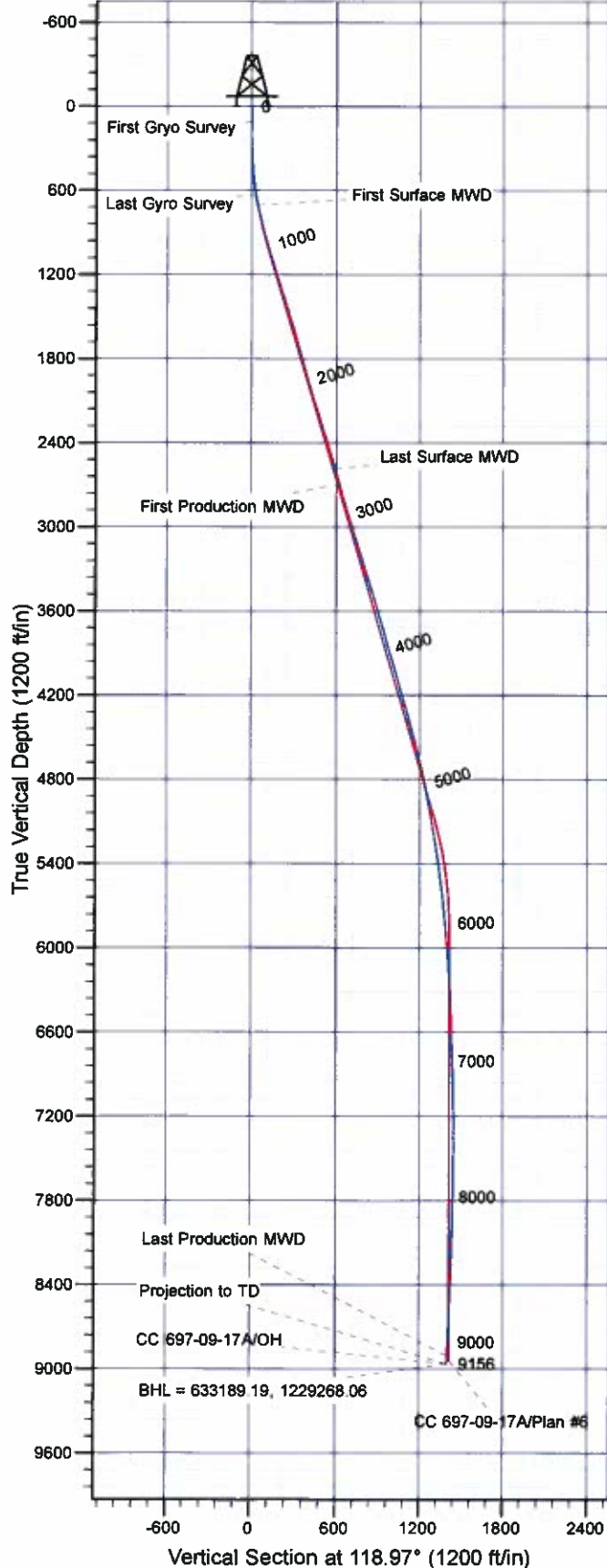




Scientific Drilling
Rocky Mountain Operations

Company: OXY USA RMAT
Project: Garfield County, CO NAD27
Site: Cascade Creek 608-41 Pad
Well: CC 697-09-17A
Wellbore: OH
Design: OH



Well Details: CC 697-09-17A

TVD Reference: GL 8407' & RKB 30' @ 8437.00ft (H&P)		Northing		Easting		Latitude		Longitude		Slot
+N/-S	+E/-W	633902.23	1228066.91	39° 32' 31.016 N	108° 14' 15.133 W					N

REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well CC 697-09-17A - Slot N, True North
Vertical (TVD) Reference: GL 8407' & RKB 30' @ 8437.00ft (H&P)
Section (VS) Reference: Slot - N(0.00N, 0.00E)
Measured Depth Reference: GL 8407' & RKB 30' @ 8437.00ft (H&P)
Calculation Method: Minimum Curvature

PROJECT DETAILS: Garfield County, CO NAD27

Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: Colorado Central 502

System Datum: Mean Sea Level

Plan: OH

10:22, April 25 2011
Created By: Janie Cooke

OXY USA RMAT

Garfield County, CO NAD27

Cascade Creek 608-41 Pad

CC 697-09-17A - Slot N

OH

Design: OH

Standard Survey Report

25 April, 2011

Scientific Drilling International, Inc.
Survey Report

Company:	OXY USA RMAT	Local Co-ordinate Reference:	Well CC 697-09-17A - Slot N
Project:	Garfield County, CO NAD27	TVD Reference:	GL 8407' & RKB 30' @ 8437.00ft (H&P)
Site:	Cascade Creek 608-41 Pad	MD Reference:	GL 8407' & RKB 30' @ 8437.00ft (H&P)
Well:	CC 697-09-17A	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM-R5000-JanieCooke-Local

Project	Garfield County, CO NAD27		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Colorado Central 502		

Site	Cascade Creek 608-41 Pad, Section 8 T6S R97W			
Site Position:		Northing:	633,966.95 usft	Latitude: 39° 32' 31.685 N
From:	Map	Easting:	1,228,168.67 usft	Longitude: 108° 14' 13.859 W
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence: -1.73 °

Well	CC 697-09-17A - Slot N,			
Well Position	+N/-S	0.00 ft	Northing:	633,902.23 usft
	+E/-W	0.00 ft	Easting:	1,228,066.91 usft
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft
			Ground Level:	8,407.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	10/15/2008	10.80	65.80	52,494

Design	OH				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	118.97	

Survey Program	Date	4/25/2011			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
113.00	633.00	Survey #1 - Gyro Survey (OH)	Gyro		
706.00	2,670.00	Survey #2 - Surface MWD (OH)	MWD-SDI	MWD - Standard SCWSA	
2,781.00	9,156.00	Survey #3 - Production MWD (OH)	MWD-SDI	MWD - Standard SCWSA	

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	
113.00	0.26	46.58	113.00	0.18	0.19	0.08	0.23	0.23	0.00	
First Gyro Survey										
174.00	0.18	52.03	174.00	0.33	0.36	0.16	0.14	-0.13	8.93	
266.00	0.56	124.28	266.00	0.17	0.85	0.66	0.58	0.41	78.53	
358.00	2.90	110.04	357.95	-0.88	3.41	3.41	2.57	2.54	-15.48	
450.00	3.96	118.04	449.78	-3.18	8.40	8.88	1.26	1.15	8.70	
541.00	5.98	122.96	540.44	-7.23	15.15	16.76	2.27	2.22	5.41	
633.00	9.94	114.52	631.54	-13.14	26.40	29.46	4.48	4.30	-9.17	

Scientific Drilling International, Inc.
Survey Report

Company:	OXY USA RMAT	Local Co-ordinate Reference:	Well CC 697-09-17A - Slot N
Project:	Garfield County, CO NAD27	TVD Reference:	GL 8407' & RKB 30' @ 8437.00ft (H&P)
Site:	Cascade Creek 608-41 Pad	MD Reference:	GL 8407' & RKB 30' @ 8437.00ft (H&P)
Well:	CC 697-09-17A	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM-R5000-JanieCooke-Local

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)
Last Gyro Survey									
706.00	11.87	112.89	703.21	-18.67	39.05	43.21	2.68	2.64	-2.23
First Surface MWD									
800.00	13.98	111.75	794.83	-26.64	58.50	64.09	2.26	2.24	-1.21
894.00	15.21	112.19	885.79	-35.51	80.47	87.60	1.31	1.31	0.47
989.00	15.30	116.15	977.45	-45.74	103.26	112.49	1.10	0.09	4.17
1,083.00	16.88	114.30	1,067.76	-56.82	126.83	138.48	1.77	1.68	-1.97
1,178.00	16.88	118.96	1,158.67	-69.17	151.47	166.02	1.42	0.00	4.91
1,273.00	17.41	119.49	1,249.45	-82.85	175.91	194.03	0.58	0.58	0.56
1,367.00	18.20	118.26	1,338.95	-96.72	201.08	222.77	0.93	0.84	-1.31
1,462.00	17.23	117.73	1,429.44	-110.29	226.60	251.67	1.04	-1.02	-0.56
1,556.00	16.27	116.32	1,519.46	-122.61	250.73	278.74	1.11	-1.02	-1.50
1,651.00	15.92	115.27	1,610.73	-134.07	274.44	305.04	0.48	-0.37	-1.11
1,745.00	14.86	113.81	1,701.36	-144.44	297.13	329.91	1.20	-1.13	-1.55
1,840.00	15.30	113.95	1,793.09	-154.45	319.73	354.53	0.46	0.46	0.15
1,934.00	15.83	117.73	1,883.64	-165.45	342.41	379.70	1.22	0.56	4.02
2,029.00	16.27	121.16	1,974.94	-178.37	365.27	405.95	1.10	0.46	3.61
2,124.00	16.97	118.26	2,065.97	-191.82	388.87	433.12	1.14	0.74	-3.05
2,218.00	16.28	117.20	2,156.04	-204.33	412.67	460.00	0.80	-0.73	-1.13
2,312.00	17.76	116.32	2,245.92	-216.71	437.24	487.49	1.60	1.57	-0.94
2,407.00	17.94	118.17	2,336.35	-230.04	463.12	516.60	0.63	0.19	1.95
2,501.00	17.50	120.37	2,425.89	-244.02	488.08	545.20	0.85	-0.47	2.34
2,596.00	16.36	123.09	2,516.78	-258.55	511.61	572.83	1.46	-1.20	2.86
2,670.00	15.74	123.44	2,587.89	-269.77	528.72	593.23	0.85	-0.84	0.47
Last Surface MWD									
2,781.00	14.68	121.77	2,695.00	-285.47	553.24	622.29	1.03	-0.95	-1.50
First Production MWD									
2,876.00	15.65	117.38	2,786.70	-297.71	574.86	647.12	1.58	1.02	-4.62
2,970.00	18.11	111.58	2,876.65	-308.91	599.71	674.29	3.17	2.62	-6.17
3,065.00	17.50	107.01	2,967.10	-318.52	627.10	702.91	1.60	-0.64	-4.81
3,160.00	17.50	104.54	3,057.70	-326.29	654.58	730.71	0.78	0.00	-2.60
3,254.00	18.03	106.21	3,147.22	-333.90	682.23	758.59	0.78	0.56	1.78
3,349.00	16.44	105.95	3,237.95	-341.70	709.28	786.03	1.68	-1.67	-0.27
3,443.00	17.41	106.48	3,327.88	-349.34	735.55	812.72	1.04	1.03	0.56
3,538.00	17.94	111.49	3,418.40	-358.73	762.79	841.10	1.69	0.56	5.27
3,632.00	16.97	114.65	3,508.07	-369.76	788.73	869.14	1.44	-1.03	3.36
3,727.00	16.80	118.26	3,598.98	-382.04	813.43	896.69	1.12	-0.18	3.80
3,821.00	16.88	118.08	3,688.95	-394.90	837.43	923.92	0.10	0.09	-0.19
3,916.00	15.30	118.85	3,780.23	-407.05	860.79	950.24	1.70	-1.66	-1.29
4,010.00	16.27	117.20	3,870.68	-418.67	883.56	975.79	1.04	1.03	0.37
4,105.00	17.23	118.43	3,961.65	-431.45	907.77	1,003.17	1.08	1.01	1.29
4,199.00	15.74	117.90	4,051.78	-444.05	931.29	1,029.84	1.59	-1.59	-0.56
4,294.00	15.12	116.06	4,143.36	-455.52	953.81	1,055.09	0.83	-0.65	-1.94
4,388.00	16.09	113.69	4,233.89	-466.14	976.75	1,080.31	1.23	1.03	-2.52

Scientific Drilling International, Inc.

Survey Report

Company:	OXY USA RMAT	Local Co-ordinate Reference:	Well CC 697-09-17A - Slot N
Project:	Garfield County, CO NAD27	TVD Reference:	GL 8407' & RKB 30' @ 8437.00ft (H&P)
Site:	Cascade Creek 608-41 Pad	MD Reference:	GL 8407' & RKB 30' @ 8437.00ft (H&P)
Well:	CC 697-09-17A	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM-R5000-JanieCooke-Local

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)
4,483.00	15.92	115.36	4,325.21	-477.01	1,000.58	1,106.42	0.52	-0.18	1.76
4,578.00	16.44	114.92	4,416.45	-488.25	1,024.54	1,132.83	0.56	0.55	-0.46
4,672.00	14.95	115.97	4,506.94	-499.17	1,047.51	1,158.21	1.61	-1.59	1.12
4,767.00	15.21	111.93	4,598.67	-509.19	1,070.08	1,182.82	1.14	0.27	-4.25
4,861.00	13.63	108.76	4,689.71	-517.36	1,092.01	1,205.96	1.88	-1.68	-3.37
4,956.00	11.87	107.36	4,782.36	-523.87	1,111.94	1,226.55	1.88	-1.85	-1.47
5,050.00	11.26	111.49	4,874.46	-530.12	1,129.70	1,245.12	1.09	-0.65	4.39
5,145.00	10.46	110.43	4,967.75	-536.53	1,146.42	1,262.84	0.87	-0.84	-1.12
5,239.00	9.50	108.06	5,060.33	-541.91	1,161.79	1,278.90	1.11	-1.02	-2.52
5,334.00	10.02	113.60	5,153.96	-547.65	1,176.81	1,294.82	1.13	0.55	5.83
5,428.00	9.15	114.04	5,246.64	-553.97	1,191.13	1,310.41	0.93	-0.93	0.47
5,523.00	8.44	114.13	5,340.53	-559.90	1,204.39	1,324.88	0.75	-0.75	0.09
5,617.00	7.65	114.04	5,433.60	-565.27	1,216.40	1,337.99	0.84	-0.84	-0.10
5,712.00	7.39	129.68	5,527.79	-571.74	1,226.88	1,350.30	2.17	-0.27	16.46
5,806.00	7.12	124.67	5,621.04	-578.92	1,236.33	1,362.03	0.73	-0.29	-5.33
5,901.00	5.98	128.63	5,715.42	-585.36	1,245.03	1,372.77	1.29	-1.20	4.17
5,995.00	5.54	127.31	5,808.95	-591.16	1,252.47	1,382.09	0.49	-0.47	-1.40
6,090.00	4.75	131.26	5,903.56	-596.54	1,259.07	1,390.47	0.91	-0.83	4.16
6,184.00	4.31	134.78	5,997.27	-601.59	1,264.51	1,397.67	0.55	-0.47	3.74
6,279.00	4.40	140.23	6,091.99	-606.91	1,269.37	1,404.50	0.45	0.09	5.74
6,373.00	4.22	119.84	6,185.73	-611.40	1,274.68	1,411.32	1.63	-0.19	-21.69
6,468.00	4.04	128.19	6,280.49	-615.21	1,280.34	1,418.12	0.66	-0.19	8.79
6,562.00	2.29	117.55	6,374.34	-618.12	1,284.61	1,423.26	1.96	-1.86	-11.32
6,657.00	1.32	126.34	6,469.29	-619.65	1,287.17	1,426.24	1.06	-1.02	9.25
6,751.00	1.58	148.49	6,563.26	-621.40	1,288.72	1,428.45	0.65	0.28	23.56
6,846.00	2.11	106.30	6,658.22	-623.00	1,291.09	1,431.29	1.49	0.56	-44.41
6,940.00	1.93	113.69	6,752.16	-624.13	1,294.20	1,434.56	0.34	-0.19	7.86
7,035.00	1.76	130.65	6,847.11	-625.72	1,296.77	1,437.58	0.60	-0.18	17.85
7,130.00	1.32	117.20	6,942.08	-627.17	1,298.85	1,440.10	0.60	-0.46	-14.16
7,224.00	1.23	117.29	7,036.06	-628.13	1,300.71	1,442.19	0.10	-0.10	0.10
7,319.00	1.06	125.90	7,131.04	-629.11	1,302.32	1,444.08	0.25	-0.18	9.06
7,413.00	0.70	157.10	7,225.03	-630.15	1,303.25	1,445.40	0.62	-0.38	33.19
7,508.00	0.44	215.64	7,320.02	-630.98	1,303.27	1,445.81	0.63	-0.27	61.62
7,602.00	0.44	271.27	7,414.02	-631.26	1,302.69	1,445.45	0.44	0.00	59.18
7,696.00	0.70	259.41	7,508.01	-631.36	1,301.77	1,444.69	0.30	0.28	-12.62
7,791.00	0.97	254.57	7,603.00	-631.68	1,300.42	1,443.67	0.29	0.28	-5.09
7,886.00	1.32	251.67	7,697.99	-632.24	1,298.61	1,442.35	0.37	0.37	-3.05
7,980.00	1.93	254.40	7,791.95	-633.01	1,296.06	1,440.49	0.65	0.65	2.90
8,075.00	2.29	241.74	7,886.88	-634.34	1,292.85	1,438.32	0.62	0.38	-13.33
8,169.00	2.64	241.04	7,980.80	-636.27	1,289.30	1,436.15	0.37	0.37	-0.74
8,263.00	2.99	235.77	8,074.68	-638.70	1,285.38	1,433.90	0.46	0.37	-5.61
8,358.00	3.61	235.15	8,169.52	-641.80	1,280.87	1,431.46	0.65	0.65	-0.65
8,452.00	4.31	236.73	8,263.30	-645.43	1,275.49	1,428.51	0.75	0.74	1.68

Scientific Drilling International, Inc.

Survey Report

Company:	OXY USA RMAT	Local Co-ordinate Reference:	Well CC 697-09-17A - Slot N
Project:	Garfield County, CO NAD27	TVD Reference:	GL 8407' & RKB 30' @ 8437.00ft (H&P)
Site:	Cascade Creek 608-41 Pad	MD Reference:	GL 8407' & RKB 30' @ 8437.00ft (H&P)
Well:	CC 697-09-17A	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM-R5000-JanieCooke-Local

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)
8,547.00	4.66	235.77	8,358.01	-649.56	1,269.32	1,425.11	0.38	0.37	-1.01
8,641.00	5.19	232.87	8,451.66	-654.28	1,262.77	1,421.66	0.62	0.56	-3.09
8,735.00	5.36	239.28	8,545.26	-659.09	1,255.60	1,417.73	0.65	0.18	6.82
8,830.00	5.36	241.04	8,639.85	-663.50	1,247.91	1,413.13	0.17	0.00	1.85
8,924.00	4.92	244.12	8,733.47	-667.39	1,240.44	1,408.48	0.55	-0.47	3.28
9,019.00	4.92	244.12	8,828.12	-670.94	1,233.11	1,403.79	0.00	0.00	0.00
9,101.00	5.28	242.71	8,909.80	-674.21	1,226.59	1,399.67	0.46	0.44	-1.72
Last Production MWD									
9,156.00	5.28	242.71	8,964.56	-676.53	1,222.09	1,396.86	0.00	0.00	0.00
Projection to TD - BHL = 633189.19, 1229268.06									

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
113.00	113.00	0.18	0.19	First Gyro Survey
633.00	631.54	-13.14	26.40	Last Gyro Survey
706.00	703.21	-18.67	39.05	First Surface MWD
2,670.00	2,587.89	-269.77	528.72	Last Surface MWD
2,781.00	2,695.00	-285.47	553.24	First Production MWD
9,101.00	8,909.80	-674.21	1,226.59	Last Production MWD
9,156.00	8,964.56	-676.53	1,222.09	Projection to TD
9,156.00	8,964.56	-676.53	1,222.09	BHL = 633189.19, 1229268.06

Checked By: _____ Approved By: _____ Date: _____