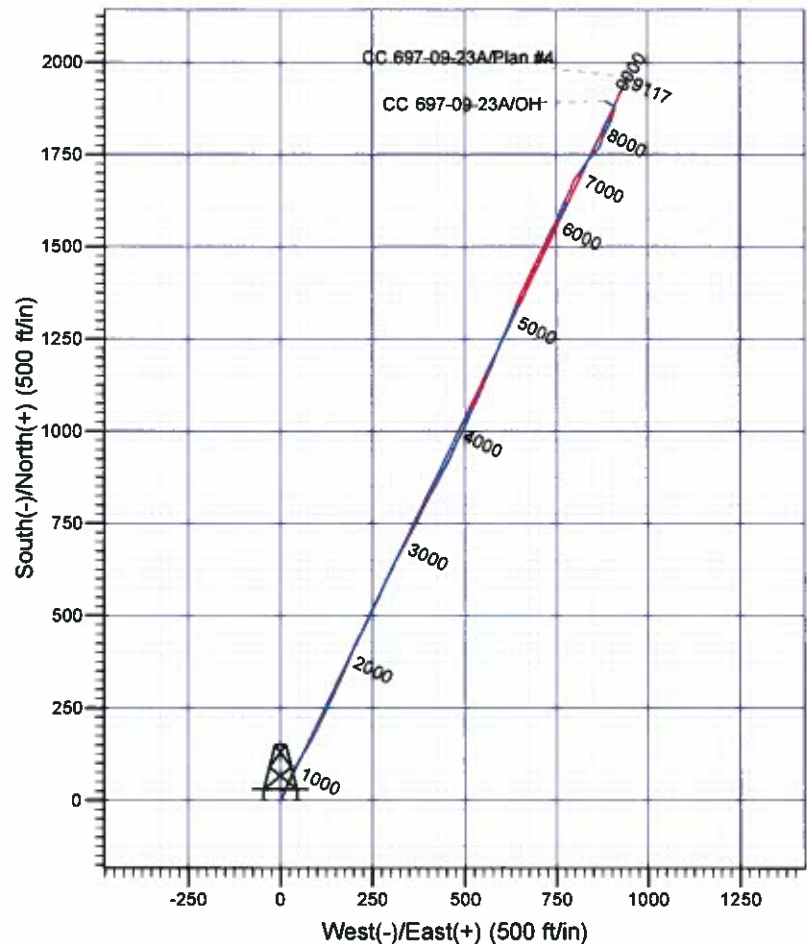
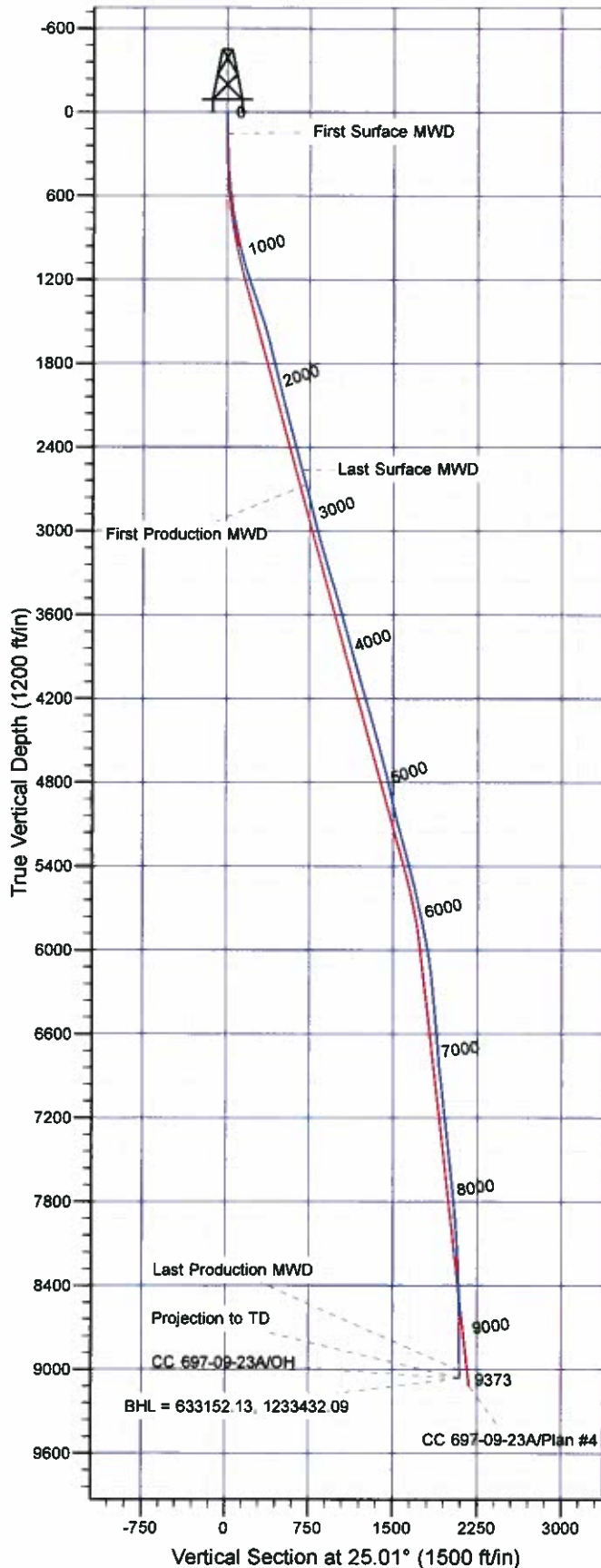




Scientific Drilling
Rocky Mountain Operations

Company: OXY USA RMA
Project: Garfield County, CO NAD27
Site: Cascade Creek 609-33 Pad
Well: CC 697-09-23A
Wellbore: OH
Design: OH



Well Details: CC 697-09-23A

TVD Reference: GL 8381' & RKB 30' @ 8411.00ft (H&P 353)		+N/-S		+E/-W		Northing		Easting		Latitude		Longitude		Slot
0.00	0.00	631284.08	1232491.30	39° 32'	6.464 N	108° 13'	17.680 W	F						

REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well CC 697-09-23A - Slot F, True North
Vertical (TVD) Reference: GL 8381' & RKB 30' @ 8411.00ft (H&P 353)
Section (VS) Reference: Slot - F(0.00N, 0.00E)
Measured Depth Reference: GL 8381' & RKB 30' @ 8411.00ft (H&P 353)
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

10:12, June 03 2011
Created By: Janie Cooke

OXY USA RMAT

Garfield County, CO NAD27

Cascade Creek 609-33 Pad

CC 697-09-23A - Slot F

OH

Design: OH

Standard Survey Report

03 June, 2011



Scientific Drilling International, Inc.
Survey Report



Company:	OXY USA RMAT	Local Co-ordinate Reference:	Well CC 697-09-23A - Slot F
Project:	Garfield County, CO NAD27	TVD Reference:	GL 8381' & RKB 30' @ 8411.00ft (H&P 353)
Site:	Cascade Creek 609-33 Pad	MD Reference:	GL 8381' & RKB 30' @ 8411.00ft (H&P 353)
Well:	CC 697-09-23A	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Rockies Compass Server

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 609-33 Pad, Sec 9 T6S R97W		
Site Position:		Northing:	631,314.66 usft
From:	Map	Easting:	1,232,383.54 usft
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in
		Latitude:	39° 32' 6.734 N
		Longitude:	108° 13' 19.067 W
		Grid Convergence:	-1.72 °

Well	CC 697-09-23A - Slot F		
Well Position	+N-S	0.00 ft	Northing: 631,284.09 usft
	+E-W	0.00 ft	Easting: 1,232,491.30 usft
Position Uncertainty	0.00 ft	Wellhead Elevation:	ft
		Latitude:	39° 32' 6.464 N
		Longitude:	108° 13' 17.880 W
		Ground Level:	8,381.00 ft

Wellbore	OH
-----------------	----

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2005-10	12/31/2009	10.62	65.78	52.397

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	25.01

Survey Program		Date	6/3/2011		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
156.00	2,676.00	Survey #1 - Surface MWD (OH)	MWD-SDI	MWD - Standard SCWSA	
2,785.00	9,373.00	Survey #2 - 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
	156.00	1.44	44.43	155.98	1.40	1.37	1.85	0.92	0.92	0.00
First Surface MWD										
	248.00	2.77	26.95	247.92	4.21	3.19	5.16	1.59	1.45	-19.00
	341.00	3.25	19.98	340.79	8.69	5.11	10.03	0.65	0.52	-7.49
	432.00	4.92	17.87	431.56	14.83	7.19	16.47	1.84	1.84	-2.32
	524.00	6.51	19.98	523.10	23.48	10.18	25.59	1.74	1.73	2.29
	616.00	8.97	23.40	614.25	34.97	14.81	37.95	2.72	2.67	3.72
	708.00	11.43	22.35	704.79	49.98	21.13	54.23	2.68	2.67	-1.14
	800.00	13.72	25.25	794.58	68.29	29.25	74.25	2.58	2.49	3.15

Scientific Drilling International, Inc.

Survey Report



Company:	OXY USA RMAT	Local Co-ordinate Reference:	Well CC 697-09-23A - Slot F
Project:	Garfield County, CO NAD27	TVD Reference:	GL 8381' & RKB 30' @ 8411.00ft (H&P 353)
Site:	Cascade Creek 609-33 Pad	MD Reference:	GL 8381' & RKB 30' @ 8411.00ft (H&P 353)
Well:	CC 697-09-23A	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Rockies Compass Server

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)
892.00	14.42	29.82	883.82	88.09	39.60	96.57	1.43	0.76	4.97
983.00	16.80	29.82	971.46	109.34	51.78	120.97	2.62	2.62	0.00
1,078.00	19.61	30.61	1,061.70	134.97	66.72	150.53	2.97	2.96	0.83
1,172.00	22.07	29.82	1,149.54	163.87	83.54	183.83	2.63	2.62	-0.84
1,267.00	23.13	27.10	1,237.25	195.97	100.92	220.26	1.57	1.12	-2.86
1,362.00	22.89	24.72	1,324.75	229.23	117.08	257.23	1.08	-0.46	-2.51
1,456.00	24.18	24.99	1,411.00	263.15	132.79	294.61	1.59	1.59	0.29
1,551.00	22.42	26.04	1,498.25	297.06	148.97	332.19	1.90	-1.85	1.11
1,645.00	19.52	24.11	1,586.01	327.51	163.26	365.82	3.17	-3.09	-2.05
1,740.00	16.97	21.91	1,676.23	354.86	174.91	395.54	2.78	-2.68	-2.32
1,835.00	16.97	22.35	1,767.09	380.55	185.36	423.23	0.14	0.00	0.46
1,929.00	17.06	26.57	1,856.98	405.57	196.74	450.72	1.32	0.10	4.49
2,024.00	17.59	25.78	1,947.67	430.96	209.22	479.00	0.61	0.56	-0.83
2,118.00	17.67	26.66	2,037.26	456.50	221.80	507.46	0.30	0.09	0.94
2,213.00	19.26	25.34	2,127.36	483.54	234.97	537.55	1.73	1.67	-1.39
2,308.00	18.03	25.34	2,217.38	510.99	247.97	567.92	1.29	-1.29	0.00
2,402.00	18.20	24.90	2,306.72	537.46	260.38	597.14	0.23	0.18	-0.47
2,497.00	19.08	24.90	2,396.73	565.00	273.16	627.51	0.93	0.93	0.00
2,592.00	18.38	24.99	2,486.70	592.66	286.03	658.01	0.74	-0.74	0.09
2,676.00	18.29	25.69	2,566.44	616.54	297.34	684.44	0.28	-0.11	0.83
Last Surface MWD									
2,785.00	17.85	26.91	2,670.06	646.85	312.31	718.24	0.53	-0.40	1.12
First Production MWD									
2,879.00	18.82	29.01	2,759.29	672.96	326.19	747.76	1.25	1.03	2.23
2,974.00	17.06	28.05	2,849.67	698.66	340.17	776.96	1.88	-1.85	-1.01
3,069.00	17.06	29.37	2,940.49	723.10	353.56	804.78	0.41	0.00	1.39
3,163.00	18.82	25.59	3,029.92	748.79	366.87	833.69	2.24	1.87	-4.02
3,258.00	19.35	25.15	3,119.69	776.86	380.18	864.75	0.58	0.56	-0.46
3,352.00	20.84	26.38	3,207.97	805.94	394.23	897.04	1.65	1.59	1.31
3,447.00	21.46	28.93	3,296.57	836.29	410.14	931.27	1.17	0.65	2.68
3,542.00	19.96	30.07	3,385.43	865.53	426.68	964.76	1.63	-1.58	1.20
3,637.00	20.93	25.68	3,474.45	894.86	442.15	997.89	1.91	1.02	-4.62
3,731.00	19.87	25.68	3,562.55	924.39	456.35	1,030.65	1.13	-1.13	0.00
3,826.00	18.55	26.47	3,652.26	952.47	470.09	1,061.90	1.42	-1.39	0.83
3,921.00	19.52	25.32	3,742.07	980.34	483.61	1,092.88	1.09	1.02	-1.21
4,016.00	18.38	25.59	3,831.92	1,008.20	496.87	1,123.73	1.20	-1.20	0.28
4,110.00	19.79	23.92	3,920.75	1,036.11	509.72	1,154.46	1.61	1.50	-1.78
4,205.00	19.61	24.09	4,010.19	1,065.36	522.75	1,186.48	0.20	-0.19	0.18
4,300.00	18.73	25.85	4,099.92	1,093.65	535.91	1,217.67	1.11	-0.93	1.85
4,394.00	20.14	22.86	4,188.56	1,122.14	548.77	1,248.93	1.84	1.50	-3.18
4,489.00	20.05	22.16	4,277.78	1,152.29	561.27	1,281.54	0.27	-0.09	-0.74
4,583.00	19.26	22.86	4,366.30	1,181.50	573.37	1,313.13	0.88	-0.84	0.74
4,678.00	18.55	22.42	4,456.18	1,209.91	585.22	1,343.88	0.76	-0.75	-0.46

Scientific Drilling International, Inc.

Survey Report



Company:	OXY USA RMAT	Local Co-ordinate Reference:	Well CC 697-09-23A - Slot F
Project:	Garfield County, CO NAD27	TVD Reference:	GL 8381' & RKB 30' @ 8411.00ft (H&P 353)
Site:	Cascade Creek 609-33 Pad	MD Reference:	GL 8381' & RKB 30' @ 8411.00ft (H&P 353)
Well:	CC 697-09-23A	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Rockies Compass Server

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)
4,773.00	16.80	22.77	4,546.69	1,236.54	596.30	1,372.70	1.85	-1.84	0.37
4,867.00	18.55	25.24	4,636.25	1,262.59	607.93	1,401.23	2.03	1.86	2.63
4,962.00	18.64	22.77	4,726.29	1,290.26	620.25	1,431.51	0.83	0.09	-2.60
5,057.00	16.00	19.61	4,816.98	1,316.60	630.53	1,459.72	2.95	-2.78	-3.33
5,152.00	15.04	21.02	4,908.51	1,340.44	639.34	1,485.05	1.09	-1.01	1.48
5,246.00	14.77	24.36	4,999.35	1,362.74	648.66	1,509.20	0.96	-0.29	3.55
5,341.00	17.32	26.82	5,090.65	1,386.39	660.04	1,535.45	2.78	2.68	2.59
5,436.00	19.43	25.15	5,180.80	1,413.32	673.13	1,565.38	2.29	2.22	-1.76
5,530.00	18.99	25.41	5,269.56	1,441.29	686.34	1,596.31	0.48	-0.47	0.28
5,625.00	18.03	26.82	5,359.65	1,468.37	699.61	1,626.47	1.11	-1.01	1.48
5,720.00	17.85	26.55	5,450.03	1,494.52	712.75	1,655.71	0.21	-0.19	-0.28
5,814.00	16.88	26.20	5,539.74	1,519.65	725.21	1,683.76	1.04	-1.03	-0.37
5,909.00	15.83	26.11	5,630.90	1,543.66	737.00	1,710.51	1.11	-1.11	-0.09
6,004.00	14.86	25.32	5,722.51	1,566.31	747.92	1,735.64	1.04	-1.02	-0.83
6,099.00	13.89	24.01	5,814.54	1,587.73	757.77	1,759.23	1.08	-1.02	-1.38
6,193.00	13.63	23.74	5,905.84	1,608.18	766.82	1,781.58	0.28	-0.28	-0.29
6,288.00	11.78	26.73	5,998.51	1,627.09	775.69	1,802.47	2.07	-1.95	3.15
6,383.00	9.85	26.11	6,091.82	1,643.05	783.62	1,820.29	2.04	-2.03	-0.65
6,478.00	7.83	23.83	6,185.68	1,656.27	789.82	1,834.88	2.16	-2.13	-2.40
6,572.00	6.86	17.33	6,278.91	1,667.48	794.08	1,846.85	1.36	-1.03	-6.91
6,667.00	6.77	25.50	6,373.24	1,677.95	798.18	1,858.07	1.02	-0.09	8.60
6,762.00	7.21	37.45	6,467.54	1,687.74	804.21	1,869.49	1.60	0.46	12.58
6,856.00	6.16	37.72	6,560.90	1,696.41	810.88	1,880.17	1.12	-1.12	0.29
6,951.00	5.28	36.93	6,655.43	1,703.94	816.63	1,889.42	0.93	-0.93	-0.83
7,045.00	5.54	33.15	6,749.01	1,711.19	821.71	1,898.14	0.47	0.28	-4.02
7,140.00	5.98	30.68	6,843.53	1,719.29	826.74	1,907.61	0.53	0.46	-2.60
7,235.00	7.91	34.20	6,937.83	1,728.95	832.94	1,918.99	2.08	2.03	3.71
7,329.00	9.15	40.88	7,030.79	1,739.95	841.47	1,932.56	1.69	1.32	7.11
7,424.00	8.71	46.15	7,124.64	1,750.65	851.60	1,946.54	0.98	-0.46	5.55
7,518.00	8.71	35.96	7,217.56	1,761.34	860.91	1,960.16	1.64	0.00	-10.84
7,613.00	7.83	25.06	7,311.58	1,773.03	867.88	1,973.70	1.89	-0.93	-11.47
7,707.00	7.12	19.17	7,404.78	1,784.33	872.50	1,985.90	1.11	-0.76	-6.27
7,802.00	7.03	20.67	7,499.06	1,795.33	876.49	1,997.55	0.22	-0.09	1.58
7,897.00	8.00	26.99	7,593.24	1,806.66	881.54	2,009.95	1.34	1.02	6.65
7,991.00	7.47	29.19	7,686.39	1,817.82	887.49	2,022.59	0.65	-0.56	2.34
8,086.00	5.98	23.65	7,780.73	1,827.75	892.49	2,033.69	1.71	-1.57	-5.83
8,181.00	6.51	24.62	7,875.17	1,837.18	896.72	2,044.03	0.57	0.56	1.02
8,275.00	5.98	22.69	7,968.61	1,846.54	900.83	2,054.25	0.61	-0.56	-2.05
8,370.00	4.92	20.49	8,063.18	1,854.92	904.16	2,063.25	1.14	-1.12	-2.32
8,465.00	4.04	17.06	8,157.89	1,861.94	906.57	2,070.63	0.97	-0.93	-3.61
8,559.00	3.43	15.83	8,251.69	1,867.81	908.31	2,076.68	0.65	-0.65	-1.31
8,654.00	2.29	12.40	8,346.57	1,872.40	909.49	2,081.34	1.21	-1.20	-3.61
8,748.00	1.85	346.48	8,440.51	1,875.71	909.54	2,084.36	1.09	-0.47	-27.57
8,843.00	2.29	324.33	8,535.45	1,878.74	908.07	2,086.49	0.95	0.46	-23.32

Scientific Drilling International, Inc.

Survey Report



Company:	OXY USA RMAT	Local Co-ordinate Reference:	Well CC 697-09-23A - Slot F
Project:	Garfield County, CO NAD27	TVD Reference:	GL 8381' & RKB 30' @ 8411.00ft (H&P 353)
Site:	Cascade Creek 609-33 Pad	MD Reference:	GL 8381' & RKB 30' @ 8411.00ft (H&P 353)
Well:	CC 697-09-23A	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Rockies Compass Server

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)
8,938.00	2.81	307.36	8,630.35	1,881.69	905.11	2,087.92	0.96	0.55	-17.86
9,032.00	3.25	303.67	8,724.22	1,884.57	901.07	2,088.81	0.51	0.47	-3.93
9,127.00	3.52	299.45	8,819.06	1,887.50	896.29	2,089.44	0.39	0.28	-4.44
9,221.00	3.61	307.72	8,912.88	1,890.72	891.43	2,090.32	0.55	0.10	8.80
9,316.00	2.99	301.39	9,007.72	1,893.85	886.95	2,091.25	0.76	-0.65	-6.66
Last Production MWD									
9,373.00	2.99	301.39	9,064.64	1,895.39	884.41	2,091.58	0.00	0.00	0.00
Projection to TD - BHL = 633162.13, 1233432.09									

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
156.00	155.98	1.40	1.37	First Surface MWD
2,676.00	2,566.44	616.54	297.34	Last Surface MWD
2,785.00	2,670.06	646.85	312.31	First Production MWD
9,316.00	9,007.72	1,893.85	886.95	Last Production MWD
9,373.00	9,064.64	1,895.39	884.41	Projection to TD
9,373.00	9,064.64	1,895.39	884.41	BHL = 633152.13, 1233432.09

Checked By: _____ Approved By: _____ Date: _____