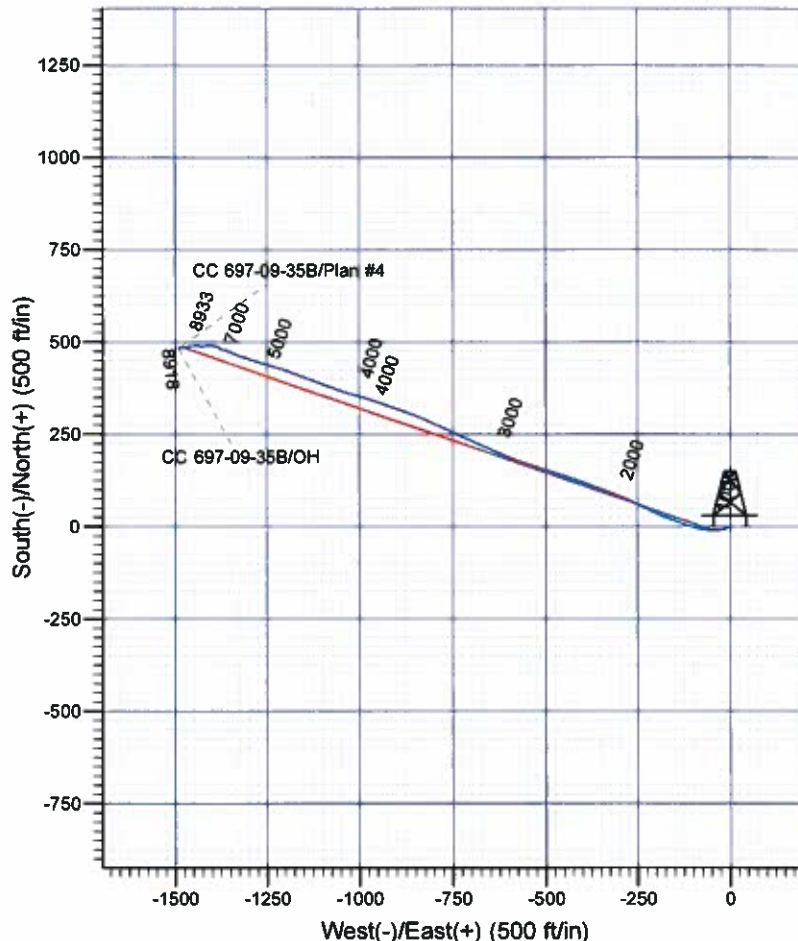
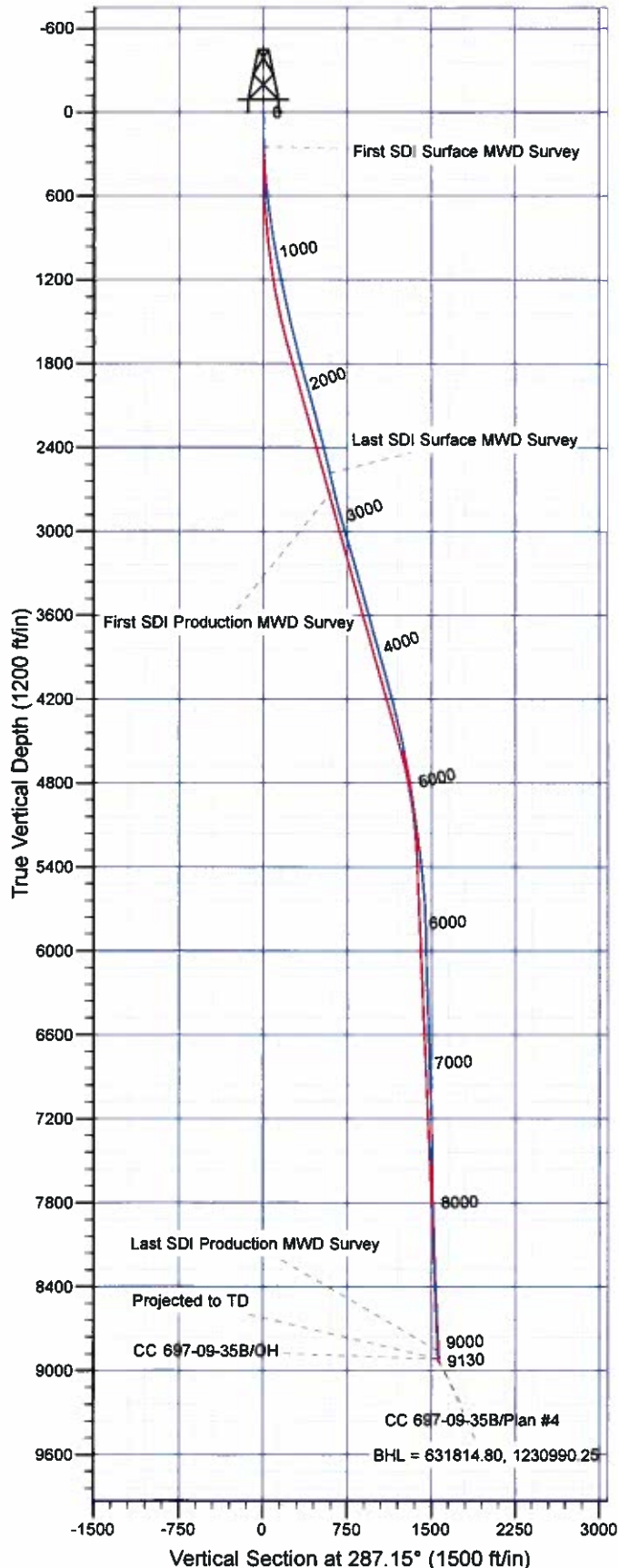




Scientific Drilling
Rocky Mountain Operations

Company: OXY USA RMAT
Project: Garfield County, CO NAD27
Site: Cascade Creek 609-33 Pad
Well: CC 697-09-35B
Wellbore: OH
Design: OH



Well Details: CC 697-09-35B

TVD Reference: GL 8381' & RKB 30' @ 8411.00ft (H&P 353)							
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot	
0.00	0.00	631286.51	1232466.81	39° 32' 6.481 N	108° 13' 17.994 W	N	

REFERENCE INFORMATION

Co-ordinate (NE) Reference: Well CC 697-09-35B - Slot N, True North
Vertical (TVD) Reference: GL 8381' & RKB 30' @ 8411.00ft (H&P 353)
Section (VS) Reference: Slot - N(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

13:36, June 17 2011
Created By: Janie Cooke

OXY USA RMAT

**Garfield County, CO NAD27
Cascade Creek 609-33 Pad
CC 697-09-35B - Slot N**

OH

Design: OH

Standard Survey Report

17 June, 2011



Scientific Drilling International, Inc.
Survey Report



Company:	OXY USA RMAT	Local Co-ordinate Reference:	Well CC 697-09-35B - Slot N
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 697-09-35B	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	Latitude:	39° 32' 6.734 N
From:	Map	Easting:	1,232,383.54 usft	Longitude:	108° 13' 19.067 W
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	-1.72 °

Well	CC 697-09-35B - Slot N					
Well Position	+N/-S	0.00 ft	Northing:	631,288.51 usft	Latitude:	39° 32' 6.481 N
	+E/-W	0.00 ft	Easting:	1,232,466.81 usft	Longitude:	108° 13' 17.994 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	8,381.00 ft

Wellbore	OH
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2005-10	12/31/2009	10.62	65.78	52,397

Design	OH
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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		287.15

Survey Program	Date	6/17/2011			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
248.00	2,667.00	Survey #1 - Surface MWD (OH)	MWD-SDI	MWD - Standard SCWSA	
2,784.00	9,130.00	Survey #2 - Production MWD (OH)	MWD-SDI	MWD - Standard SCWSA	

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Buidl 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
248.00	3.19	250.73	247.87	-2.28	-6.52	5.55	1.29	1.29	0.00
First SDI Surface MWD Survey									
340.00	4.75	236.80	339.65	-5.21	-12.12	10.05	1.98	1.70	-15.14
432.00	6.60	260.01	431.21	-8.21	-20.52	17.18	3.17	2.01	25.23
524.00	6.33	266.95	522.62	-9.40	-30.79	26.65	0.90	-0.29	7.54
616.00	8.27	270.46	613.87	-9.62	-42.47	37.75	2.16	2.11	3.82
708.00	9.76	268.79	704.74	-9.73	-56.88	51.49	1.64	1.62	-1.82
799.00	11.08	282.51	794.25	-8.00	-73.13	67.53	3.08	1.45	15.08
891.00	11.43	284.26	884.48	-3.84	-90.60	85.44	0.53	0.38	1.90

Scientific Drilling International, Inc.
Survey Report



Company:	OXY USA RMAT	Local Co-ordinate Reference:	Well CC 697-09-35B - Slot N
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 697-09-35B	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)
983.00	12.13	287.25	974.54	1.28	-108.67	104.21	1.01	0.76	3.25
1,077.00	13.81	290.42	1,066.14	8.12	-128.61	125.29	1.94	1.79	3.37
1,172.00	14.42	289.89	1,158.27	16.10	-150.36	148.43	0.66	0.64	-0.56
1,266.00	14.86	290.06	1,249.22	24.22	-172.69	172.15	0.47	0.47	0.18
1,361.00	15.48	294.37	1,340.91	33.63	-195.68	196.90	1.35	0.65	4.54
1,456.00	15.74	296.83	1,432.41	44.67	-218.73	222.18	0.75	0.27	2.59
1,550.00	16.27	296.48	1,522.76	56.30	-241.89	247.74	0.57	0.56	-0.37
1,645.00	16.09	293.84	1,614.00	67.55	-265.85	273.95	0.80	-0.19	-2.78
1,740.00	17.50	292.53	1,704.95	78.35	-291.08	301.24	1.54	1.48	-1.38
1,834.00	18.99	291.21	1,794.22	89.30	-318.40	330.57	1.64	1.59	-1.40
1,929.00	19.26	290.06	1,883.98	100.26	-347.53	361.64	0.49	0.28	-1.21
2,023.00	20.75	290.68	1,972.30	111.46	-377.67	393.74	1.60	1.59	0.66
2,118.00	18.55	289.54	2,061.77	122.46	-407.66	425.64	2.35	-2.32	-1.20
2,212.00	18.91	288.57	2,150.79	132.31	-436.19	455.81	0.51	0.38	-1.03
2,307.00	17.59	288.66	2,241.01	141.81	-464.38	485.55	1.39	-1.39	0.09
2,402.00	17.85	286.90	2,331.50	150.63	-491.91	514.46	0.63	0.27	-1.85
2,496.00	17.67	288.31	2,421.02	159.30	-519.24	543.13	0.50	-0.19	1.50
2,591.00	16.18	287.52	2,511.90	167.82	-545.55	570.78	1.59	-1.57	-0.83
2,687.00	16.88	289.36	2,584.76	174.66	-566.06	592.40	1.15	0.92	2.42
Last SDI Surface MWD Survey									
2,784.00	15.83	291.09	2,697.03	186.04	-596.98	625.29	0.99	-0.90	1.48
First SDI Production MWD Survey									
2,879.00	17.85	294.70	2,787.95	196.79	-622.30	652.66	2.39	2.13	3.80
2,973.00	19.43	293.73	2,877.02	209.10	-649.70	682.47	1.71	1.68	-1.03
3,068.00	20.84	294.17	2,966.21	222.38	-679.58	714.94	1.49	1.48	0.46
3,163.00	19.43	294.52	3,055.40	235.86	-709.38	747.39	1.49	-1.48	0.37
3,257.00	20.84	294.61	3,143.65	249.31	-738.81	779.47	1.50	1.50	0.10
3,352.00	20.68	296.22	3,232.49	263.76	-769.22	812.79	0.62	-0.17	1.69
3,447.00	19.52	294.43	3,321.70	277.73	-798.72	845.10	1.38	-1.22	-1.88
3,542.00	18.99	295.40	3,411.39	290.93	-827.13	876.14	0.65	-0.56	1.02
3,636.00	18.47	290.39	3,500.41	302.68	-854.91	906.15	1.80	-0.55	-5.33
3,731.00	18.64	289.34	3,590.48	312.95	-883.34	936.34	0.39	0.18	-1.11
3,826.00	19.35	289.95	3,680.30	323.34	-912.46	967.23	0.78	0.75	0.64
3,921.00	18.29	289.25	3,770.22	333.63	-941.33	997.85	1.14	-1.12	-0.74
4,015.00	20.13	288.43	3,858.98	343.61	-970.60	1,028.76	1.98	1.96	-0.87
4,110.00	19.70	285.47	3,948.31	353.05	-1,001.54	1,061.11	1.15	-0.45	-3.12
4,204.00	19.26	285.65	4,036.92	361.45	-1,031.74	1,092.45	0.47	-0.47	0.19
4,299.00	18.73	289.51	4,126.75	370.78	-1,061.21	1,123.35	1.44	-0.56	4.06
4,394.00	18.03	292.15	4,216.91	381.41	-1,089.20	1,153.24	1.14	-0.74	2.78
4,488.00	16.88	291.89	4,306.58	391.99	-1,115.34	1,181.33	1.23	-1.22	-0.28
4,583.00	16.09	290.13	4,397.67	401.66	-1,140.50	1,208.22	0.98	-0.83	-1.85
4,678.00	15.21	289.60	4,489.15	410.37	-1,164.60	1,233.82	0.94	-0.93	-0.56
4,772.00	14.42	291.18	4,580.03	418.74	-1,187.13	1,257.82	0.94	-0.84	1.68

Scientific Drilling International, Inc.
Survey Report



Company:	OXY USA RMAT	Local Co-ordinate Reference:	Well CC 697-09-35B - Slot N
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 697-09-35B	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)
4,867.00	13.01	287.67	4,672.32	426.26	-1,208.35	1,280.31	1.72	-1.48	-3.69
4,962.00	12.05	285.29	4,765.05	432.12	-1,228.10	1,300.92	1.15	-1.01	-2.51
5,057.00	10.73	284.06	4,858.18	436.88	-1,246.25	1,319.66	1.41	-1.39	-1.29
5,151.00	10.90	287.49	4,950.51	441.68	-1,263.21	1,337.28	0.71	0.18	3.65
5,246.00	10.29	289.42	5,043.89	447.20	-1,279.78	1,354.74	0.74	-0.64	2.03
5,340.00	9.76	288.99	5,136.46	452.58	-1,295.23	1,371.10	0.57	-0.56	-0.46
5,435.00	8.97	287.84	5,230.19	457.47	-1,309.90	1,386.55	0.85	-0.83	-1.21
5,530.00	8.35	286.79	5,324.11	461.73	-1,323.55	1,400.85	0.67	-0.65	-1.11
5,625.00	7.74	292.85	5,418.17	466.21	-1,336.05	1,414.12	1.10	-0.64	6.38
5,719.00	7.56	296.72	5,511.34	471.45	-1,347.41	1,426.51	0.58	-0.19	4.12
5,814.00	5.89	290.30	5,605.68	475.95	-1,357.56	1,437.54	1.93	-1.76	-6.76
5,909.00	2.99	284.68	5,700.39	478.27	-1,364.53	1,444.89	3.08	-3.05	-5.92
6,004.00	1.85	281.87	5,795.30	479.21	-1,368.43	1,448.89	1.21	-1.20	-2.96
6,098.00	1.41	276.94	5,889.26	479.66	-1,371.06	1,451.54	0.49	-0.47	-5.24
6,193.00	1.23	263.76	5,984.24	479.69	-1,373.24	1,453.63	0.37	-0.19	-13.87
6,288.00	1.85	300.94	6,079.20	480.37	-1,375.57	1,456.05	1.20	0.65	39.14
6,382.00	2.37	313.86	6,173.14	482.50	-1,378.27	1,459.26	0.75	0.55	13.74
6,477.00	2.11	303.22	6,268.07	484.82	-1,381.15	1,462.70	0.52	-0.27	-11.20
6,572.00	1.85	297.69	6,363.01	486.49	-1,383.97	1,465.88	0.34	-0.27	-5.82
6,667.00	2.20	286.61	6,457.95	487.72	-1,387.07	1,469.21	0.55	0.37	-11.66
6,761.00	2.81	281.87	6,551.86	488.71	-1,391.06	1,473.31	0.68	0.65	-5.04
6,856.00	2.46	276.42	6,646.76	489.42	-1,395.36	1,477.63	0.45	-0.37	-5.74
6,950.00	2.20	278.79	6,740.68	489.92	-1,399.15	1,481.40	0.29	-0.28	2.52
7,045.00	2.29	275.36	6,835.61	490.38	-1,402.84	1,485.06	0.17	0.08	-3.61
7,140.00	2.37	271.32	6,930.53	490.60	-1,406.70	1,488.81	0.19	0.08	-4.25
7,234.00	2.73	263.67	7,024.44	490.40	-1,410.86	1,492.73	0.53	0.38	-8.14
7,329.00	2.64	261.92	7,119.34	489.84	-1,415.28	1,496.79	0.13	-0.09	-1.84
7,423.00	2.29	264.38	7,213.25	489.35	-1,419.29	1,500.48	0.39	-0.37	2.62
7,518.00	1.85	269.21	7,308.19	489.14	-1,422.71	1,503.69	0.50	-0.46	5.08
7,612.00	1.58	264.11	7,402.14	488.99	-1,425.52	1,506.32	0.33	-0.29	-5.43
7,707.00	1.67	255.24	7,497.11	488.50	-1,428.16	1,508.70	0.28	0.09	-9.34
7,802.00	1.14	254.18	7,592.08	487.89	-1,430.41	1,510.67	0.56	-0.56	-1.12
7,896.00	0.70	274.04	7,686.07	487.68	-1,431.88	1,512.02	0.57	-0.47	21.13
7,991.00	1.49	311.22	7,781.05	488.53	-1,433.39	1,513.71	1.08	0.83	39.14
8,086.00	2.20	292.85	7,876.00	490.06	-1,436.00	1,516.65	0.96	0.75	-19.34
8,180.00	2.29	270.26	7,969.93	490.76	-1,439.54	1,520.24	0.94	0.10	-24.03
8,275.00	2.29	257.78	8,064.85	490.37	-1,443.29	1,523.71	0.52	0.00	-13.14
8,370.00	2.20	262.71	8,159.78	489.74	-1,446.96	1,527.03	0.22	-0.09	5.19
8,464.00	2.29	264.11	8,253.71	489.32	-1,450.61	1,530.40	0.11	0.10	1.49
8,559.00	2.73	262.35	8,348.62	488.82	-1,454.74	1,534.20	0.47	0.46	-1.85
8,653.00	3.34	258.66	8,442.48	487.98	-1,459.65	1,538.64	0.68	0.65	-3.93
8,748.00	3.25	263.41	8,537.33	487.13	-1,465.04	1,543.54	0.30	-0.09	5.00
8,843.00	3.61	266.05	8,632.18	486.62	-1,470.69	1,548.79	0.41	0.38	2.78
8,937.00	4.31	261.48	8,725.93	485.89	-1,477.14	1,554.74	0.82	0.74	-4.86

Scientific Drilling International, Inc.
Survey Report



Company:	OXY USA RMAT	Local Co-ordinate Reference:	Well CC 697-09-35B - Slot N
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 697-09-35B	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)
9,032.00	4.40	261.30	8,820.66	484.81	-1,484.27	1,561.23	0.10	0.09	-0.19
9,073.00	4.40	262.79	8,861.54	484.37	-1,487.39	1,564.08	0.28	0.00	3.63
Last SDI Production MWD Survey									
9,130.00	4.40	262.79	8,918.37	483.82	-1,491.73	1,568.06	0.00	0.00	0.00
Projected to TD - BHL = 831814.80, 1230990.25									

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
248.00	247.87	-2.28	-6.52	First SDI Surface MWD Survey
2,667.00	2,584.76	174.66	-566.06	Last SDI Surface MWD Survey
2,784.00	2,697.03	186.04	-596.98	First SDI Production MWD Survey
9,073.00	8,861.54	484.37	-1,487.39	Last SDI Production MWD Survey
9,130.00	8,918.37	483.82	-1,491.73	Projected to TD
9,130.00	8,918.37	483.82	-1,491.73	BHL = 631814.80, 1230990.25

Checked By: _____	Approved By: _____	Date: _____
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