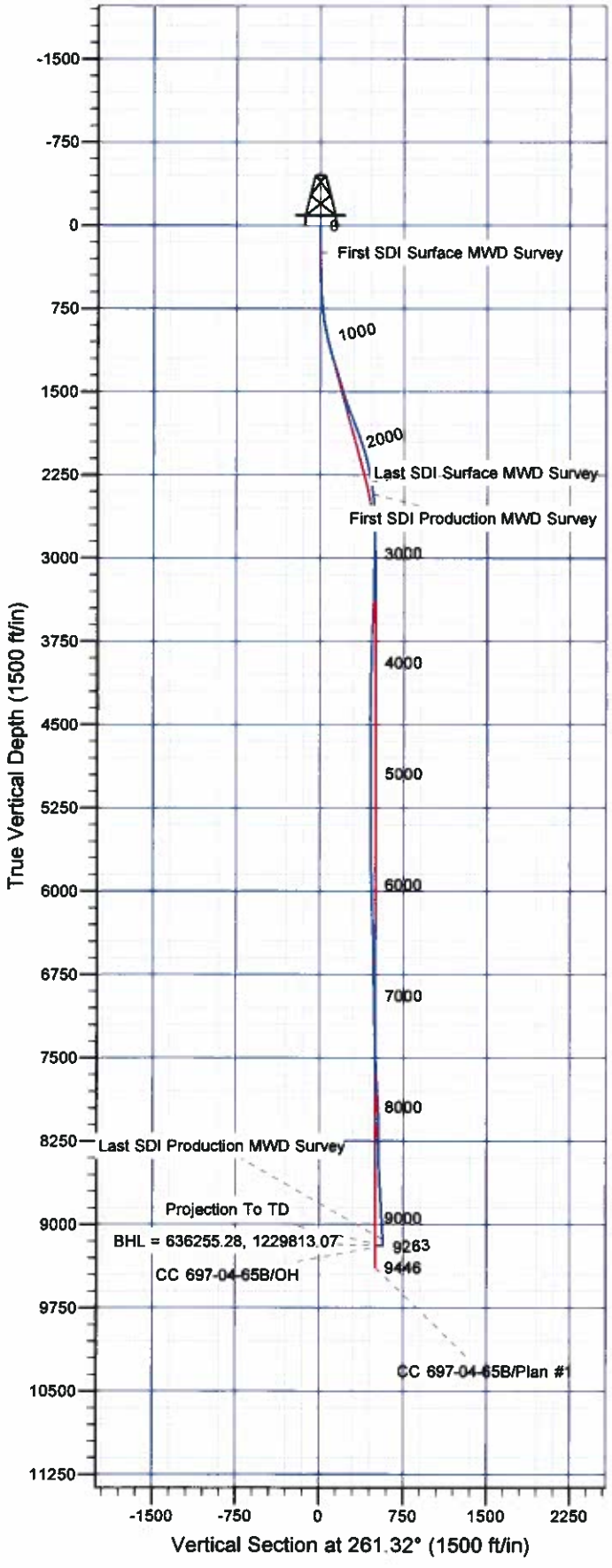
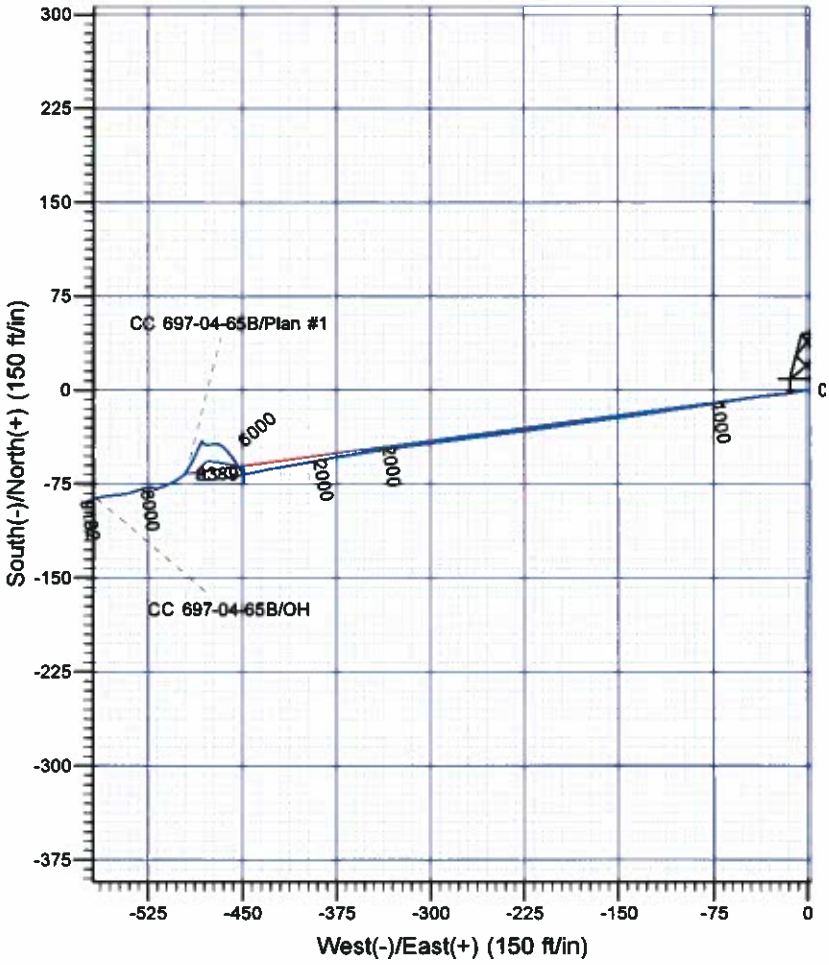
Scientific Drilling

Company:	OXY USA RMAT
Project:	Garfield County, CO NAD27
Site:	Cascade Creek 697-04D Pad
Well:	CC 697-04-65B
Wellbore:	OH
Design:	OH

OXY





Well Details: CC 697-04-65B

TVD Reference: GL 8629' & RKB 30' @ 8659.00ft (H&P) Ground Level: 8629.00

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	636324.58	1230381.24	39° 32' 55.635 N	108° 13' 46.533 W	R

REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well CC 697-04-65B - Slot R, True North
Vertical (TVD) Reference: GL 8629' & RKB 30' @ 8659.00ft (H&P)
Section (VS) Reference: Slot - R(0.00N, 0.00E)
Measured Depth Reference: GL 8629' & RKB 30' @ 8659.00ft (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

11:13, January 17 2012
Created By: Rex Hall

OXY USA RMAT

Garfield County, CO NAD27
Cascade Creek 697-04D Pad
CC 697-04-65B - Slot R

OH

Design: OH

Standard Survey Report

17 January, 2012

Scientific Drilling International

Survey Report

Company:	OXY USA RMAT	**Local Co-ordinate Reference:**	Well CC 697-04-65B - Slot R
Project:	Garfield County, CO NAD27	**TVD Reference:**	GL 8629' & RKB 30' @ 8659.00ft (H&P)
Site:	Cascade Creek 697-04D Pad	**MD Reference:**	GL 8629' & RKB 30' @ 8659.00ft (H&P)
Well:	CC 697-04-65B	**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 697-04D Pad

Site Position:		**Northing:**	635,530.62 usft	**Latitude:**	39° 32' 47.760 N
From:	Map	**Easting:**	1,230,276.10 usft	**Longitude:**	108° 13' 47.570 W
Position Uncertainty:	0.00 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	-1.72 °

Well CC 697-04-65B - Slot R

Well Position	**+N/-S**	0.00 ft	**Northing:**	636,324.58 usft	**Latitude:**	39° 32' 55.635 N
	+E/-W	0.00 ft	**Easting:**	1,230,381.24 usft	**Longitude:**	108° 13' 46.533 W
Position Uncertainty		0.00 ft	**Wellhead Elevation:**	ft	**Ground Level:**	8,629.00 ft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2005-10	03/23/11	10.47	65.76	52,283

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	261.32

Survey Program **Date** 01/17/12

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
247.00	2,376.00	Survey #1 - Surface MWD (OH)	MWD-SDI	MWD - Standard ISCWSA
2,491.00	9,263.00	Survey #2 - Production MWD (OH)	MWD-SDI	MWD - Standard ISCWSA

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
247.00	0.59	257.78	247.00	-0.27	-1.24	1.27	0.24	0.24	0.00
First SDI Surface MWD Survey									
339.00	1.02	261.60	338.99	-0.49	-2.52	2.56	0.47	0.47	4.15
430.00	1.34	256.89	429.97	-0.85	-4.35	4.43	0.37	0.35	-5.18
522.00	1.92	267.41	521.93	-1.16	-6.94	7.04	0.71	0.63	11.43
614.00	2.63	250.09	613.86	-1.95	-10.47	10.64	1.07	0.77	-18.83
703.00	3.55	262.14	702.73	-3.02	-15.11	15.40	1.26	1.03	13.54
792.00	5.80	265.90	791.43	-3.72	-22.33	22.64	2.55	2.53	4.22
883.00	9.41	262.91	881.61	-4.97	-34.30	34.66	3.99	3.97	-3.29

Scientific Drilling International

Survey Report

Company:	OXY USA RMAT	**Local Co-ordinate Reference:**	Well CC 697-04-65B - Slot R
Project:	Garfield County, CO NAD27	**TVD Reference:**	GL 8629' & RKB 30' @ 8659.00ft (H&P)
Site:	Cascade Creek 697-04D Pad	**MD Reference:**	GL 8629' & RKB 30' @ 8659.00ft (H&P)
Well:	CC 697-04-65B	**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)
973.00	12.31	260.62	969.99	-7.44	-51.07	51.61	3.26	3.22	-2.54
1,067.00	14.51	261.68	1,061.42	-10.78	-72.61	73.41	2.35	2.34	1.13
1,162.00	16.97	260.36	1,152.85	-14.82	-98.06	99.18	2.62	2.59	-1.39
1,257.00	17.67	262.21	1,243.55	-19.10	-126.02	127.46	0.94	0.74	1.95
1,352.00	16.71	262.47	1,334.30	-22.84	-153.84	155.53	1.01	-1.01	0.27
1,446.00	16.44	261.33	1,424.40	-26.62	-180.39	182.34	0.45	-0.29	-1.21
1,541.00	17.76	262.12	1,515.19	-30.63	-208.03	210.27	1.41	1.39	0.83
1,636.00	19.08	262.91	1,605.32	-34.54	-237.79	240.28	1.41	1.39	0.83
1,731.00	20.31	261.68	1,694.77	-38.84	-269.52	272.29	1.37	1.29	-1.29
1,825.00	20.93	263.53	1,782.74	-43.09	-302.34	305.38	0.96	0.66	1.97
1,920.00	21.19	261.42	1,871.40	-47.56	-336.18	339.51	0.84	0.27	-2.22
2,015.00	18.64	259.92	1,960.71	-52.78	-368.11	371.86	2.74	-2.68	-1.58
2,110.00	16.09	259.83	2,051.37	-57.77	-396.02	400.20	2.68	-2.68	-0.09
2,204.00	12.84	260.80	2,142.38	-61.74	-419.16	423.67	3.47	-3.46	1.03
2,299.00	10.73	257.64	2,235.38	-65.32	-438.22	443.06	2.32	-2.22	-3.33
2,376.00	10.20	259.48	2,311.10	-68.10	-451.92	457.03	0.81	-0.69	2.39
Last SDI Surface MWD Survey									
2,491.00	7.65	261.68	2,424.69	-71.06	-469.51	474.86	2.24	-2.22	1.91
First SDI Production MWD Survey									
2,586.00	4.22	274.78	2,519.17	-71.69	-479.26	484.59	3.86	-3.61	13.79
2,680.00	1.85	254.74	2,613.04	-71.80	-484.17	489.46	2.73	-2.52	-21.32
2,775.00	1.76	350.54	2,708.01	-70.76	-485.89	491.00	2.82	-0.09	100.84
2,870.00	2.02	23.14	2,802.96	-67.79	-485.47	490.14	1.15	0.27	34.32
2,965.00	1.06	20.51	2,897.92	-65.42	-484.50	488.83	1.01	-1.01	-2.77
3,059.00	1.32	7.50	2,991.90	-63.53	-484.06	488.10	0.40	0.28	-13.84
3,154.00	1.23	59.27	3,086.88	-61.93	-483.04	486.85	1.17	-0.09	54.49
3,249.00	1.58	47.58	3,181.85	-60.52	-481.19	484.82	0.47	0.37	-12.31
3,343.00	1.23	40.72	3,275.83	-58.89	-479.58	482.97	0.41	-0.37	-7.30
3,438.00	0.79	32.55	3,370.81	-57.56	-478.56	481.77	0.49	-0.46	-8.60
3,533.00	2.11	91.17	3,465.78	-57.04	-476.46	479.61	1.92	1.39	61.71
3,627.00	2.73	98.73	3,559.70	-57.42	-472.52	475.77	0.74	0.66	8.04
3,722.00	2.55	98.82	3,654.60	-58.09	-468.19	471.60	0.19	-0.19	0.09
3,817.00	2.46	100.22	3,749.51	-58.77	-464.10	467.65	0.11	-0.09	1.47
3,912.00	2.73	100.58	3,844.41	-59.55	-459.87	463.59	0.28	0.28	0.38
4,006.00	2.55	102.86	3,938.31	-60.43	-455.63	459.53	0.22	-0.19	2.43
4,101.00	1.49	104.71	4,033.25	-61.21	-452.37	456.43	1.12	-1.12	1.95
4,196.00	0.79	117.45	4,128.23	-61.83	-450.60	454.77	0.78	-0.74	13.41
4,291.00	0.88	122.55	4,223.22	-62.52	-449.40	453.69	0.12	0.09	5.37
4,385.00	0.79	146.10	4,317.21	-63.45	-448.43	452.87	0.37	-0.10	25.05
4,480.00	0.62	183.28	4,412.20	-64.50	-448.10	452.70	0.50	-0.18	39.14
4,574.00	0.79	197.34	4,506.20	-65.63	-448.32	453.09	0.26	0.18	14.96
4,669.00	0.70	202.79	4,601.19	-66.79	-448.74	453.68	0.12	-0.09	5.74
4,764.00	1.23	187.24	4,696.17	-68.34	-449.09	454.26	0.62	0.56	-16.37

Scientific Drilling International

Survey Report

Company:	OXY USA RMAT	**Local Co-ordinate Reference:**	Well CC 697-04-65B - Slot R
Project:	Garfield County, CO NAD27	**TVD Reference:**	GL 8629' & RKB 30' @ 8659.00ft (H&P)
Site:	Cascade Creek 697-04D Pad	**MD Reference:**	GL 8629' & RKB 30' @ 8659.00ft (H&P)
Well:	CC 697-04-65B	**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)
4,858.00	1.23	177.74	4,790.15	-70.34	-449.18	454.65	0.22	0.00	-10.11
4,953.00	0.97	182.23	4,885.14	-72.17	-449.17	454.92	0.29	-0.27	4.73
5,048.00	0.53	134.59	4,980.13	-73.28	-448.89	454.81	0.77	-0.46	-50.15
5,143.00	1.85	7.94	5,075.11	-72.07	-448.36	454.10	2.32	1.39	-133.32
5,238.00	1.58	341.92	5,170.07	-69.31	-448.56	453.88	0.86	-0.28	-27.39
5,332.00	1.41	336.39	5,264.04	-67.01	-449.42	454.39	0.24	-0.18	-5.88
5,427.00	1.32	323.91	5,359.01	-65.06	-450.54	455.19	0.33	-0.09	-13.14
5,521.00	1.23	323.99	5,452.99	-63.37	-451.77	456.16	0.10	-0.10	0.09
5,616.00	1.76	329.97	5,547.96	-61.28	-453.10	457.16	0.58	0.56	6.29
5,711.00	1.76	327.51	5,642.91	-58.79	-454.61	458.28	0.08	0.00	-2.59
5,805.00	1.76	330.50	5,736.87	-56.31	-456.10	459.37	0.10	0.00	3.18
5,900.00	2.37	320.39	5,831.81	-53.53	-458.07	460.90	0.75	0.64	-10.64
5,995.00	2.37	321.97	5,926.73	-50.47	-460.53	462.87	0.07	0.00	1.66
6,089.00	1.85	318.19	6,020.66	-47.81	-462.74	464.66	0.57	-0.55	-4.02
6,184.00	1.93	316.08	6,115.61	-45.51	-464.87	466.42	0.11	0.08	-2.22
6,278.00	2.11	292.70	6,209.55	-43.70	-467.57	468.81	0.89	0.19	-24.87
6,373.00	2.20	269.85	6,304.49	-43.03	-471.00	472.10	0.90	0.09	-24.05
6,467.00	2.73	260.19	6,398.40	-43.42	-475.01	476.13	0.71	0.56	-10.28
6,562.00	1.93	269.68	6,493.32	-43.81	-478.84	479.97	0.93	-0.84	9.99
6,656.00	1.06	335.16	6,587.29	-43.03	-480.79	481.78	1.89	-0.93	69.66
6,751.00	1.14	353.09	6,682.28	-41.30	-481.27	482.00	0.37	0.08	18.87
6,846.00	0.53	247.53	6,777.27	-40.53	-481.79	482.39	1.45	-0.64	-111.12
6,940.00	1.32	194.00	6,871.26	-41.74	-482.46	483.23	1.16	0.84	-56.95
7,034.00	2.20	200.24	6,965.21	-44.49	-483.34	484.52	0.96	0.94	6.64
7,129.00	2.81	210.44	7,060.12	-48.21	-485.15	486.87	0.79	0.64	10.74
7,223.00	2.90	205.25	7,154.01	-52.34	-487.33	489.65	0.29	0.10	-5.52
7,318.00	2.55	202.88	7,248.90	-56.46	-489.18	492.10	0.39	-0.37	-2.49
7,412.00	3.08	212.64	7,342.79	-60.52	-491.36	494.86	0.76	0.56	10.38
7,507.00	2.73	212.46	7,437.66	-64.58	-493.95	498.04	0.37	-0.37	-0.19
7,601.00	2.29	218.88	7,531.57	-67.93	-496.33	500.89	0.55	-0.47	6.83
7,696.00	2.90	240.23	7,626.48	-70.60	-499.60	504.54	1.19	0.64	22.47
7,790.00	3.69	241.46	7,720.32	-73.22	-504.33	509.60	0.84	0.84	1.31
7,885.00	3.69	244.19	7,815.12	-76.01	-509.76	515.40	0.18	0.00	2.87
7,980.00	2.81	252.45	7,909.97	-78.05	-514.74	520.62	1.05	-0.93	8.69
8,075.00	1.58	261.15	8,004.90	-78.95	-518.25	524.23	1.34	-1.29	9.16
8,169.00	0.18	298.24	8,098.89	-79.08	-519.66	525.64	1.53	-1.49	39.46
8,264.00	0.44	14.18	8,193.89	-78.66	-519.70	525.62	0.46	0.27	79.94
8,359.00	0.79	291.21	8,288.88	-78.07	-520.22	526.05	0.90	0.37	-87.34
8,454.00	1.41	269.33	8,383.86	-77.84	-522.00	527.77	0.78	0.65	-23.03
8,548.00	2.37	261.59	8,477.81	-78.14	-525.08	530.86	1.05	1.02	-8.23
8,643.00	2.90	255.53	8,572.71	-79.03	-529.35	535.22	0.63	0.56	-6.38
8,738.00	3.61	250.78	8,667.56	-80.61	-534.50	540.55	0.80	0.75	-5.00
8,832.00	3.96	255.26	8,761.35	-82.41	-540.44	546.69	0.49	0.37	4.77
8,927.00	2.99	262.82	8,856.18	-83.56	-546.07	552.42	1.13	-1.02	7.96

Scientific Drilling International

Survey Report

Company:	OXY USA RMAT	**Local Co-ordinate Reference:**	Well CC 697-04-65B - Slot R
Project:	Garfield County, CO NAD27	**TVD Reference:**	GL 8629' & RKB 30' @ 8659.00ft (H&P)
Site:	Cascade Creek 697-04D Pad	**MD Reference:**	GL 8629' & RKB 30' @ 8659.00ft (H&P)
Well:	CC 697-04-65B	**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)
9,022.00	2.90	264.76	8,951.05	-84.09	-550.92	557.30	0.14	-0.09	2.04
9,117.00	3.25	262.91	9,045.91	-84.64	-555.99	562.39	0.38	0.37	-1.95
9,206.00	4.22	259.31	9,134.72	-85.56	-561.71	568.19	1.12	1.09	-4.04
Last SDI Production MWD Survey									
9,263.00	4.22	259.31	9,191.57	-86.34	-565.83	572.38	0.00	0.00	0.00
Projection To TD - BHL = 636255.28, 1229813.07									

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
247.00	247.00	-0.27	-1.24	First SDI Surface MWD Survey
2,376.00	2,311.10	-68.10	-451.92	Last SDI Surface MWD Survey
2,491.00	2,424.69	-71.06	-469.51	First SDI Production MWD Survey
9,206.00	9,134.72	-85.56	-561.71	Last SDI Production MWD Survey
9,263.00	9,191.57	-86.34	-565.83	Projection To TD
9,263.00	9,191.57	-86.34	-565.83	BHL = 636255.28, 1229813.07

Checked By: _____ Approved By: _____ Date: _____