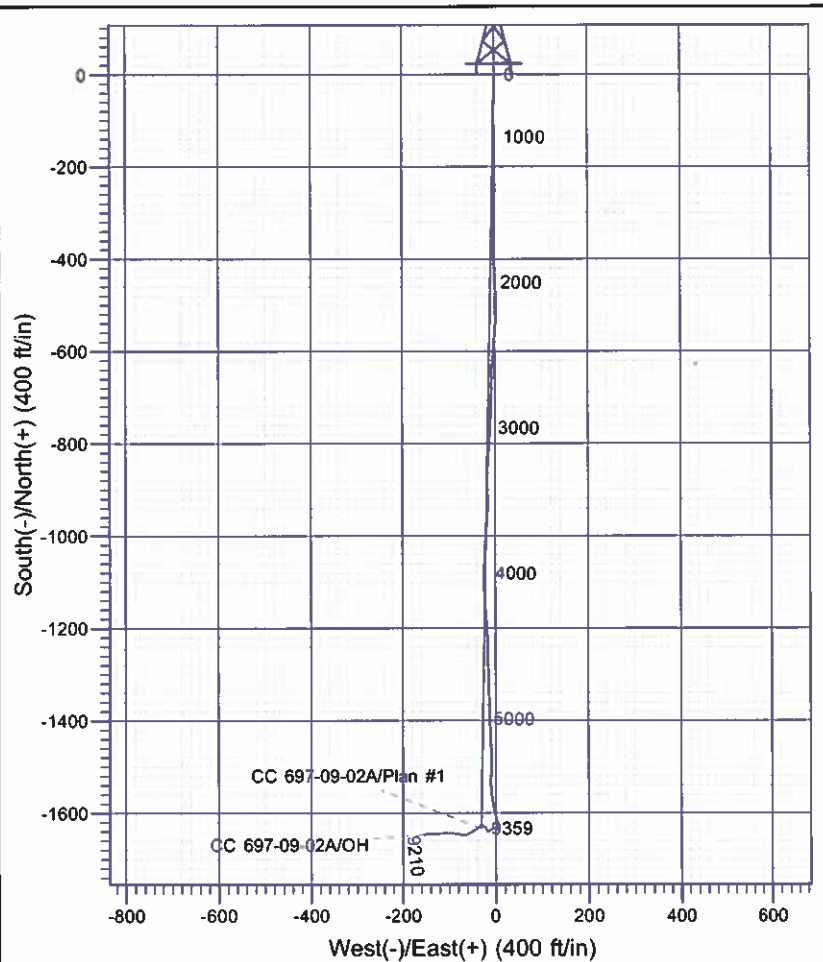
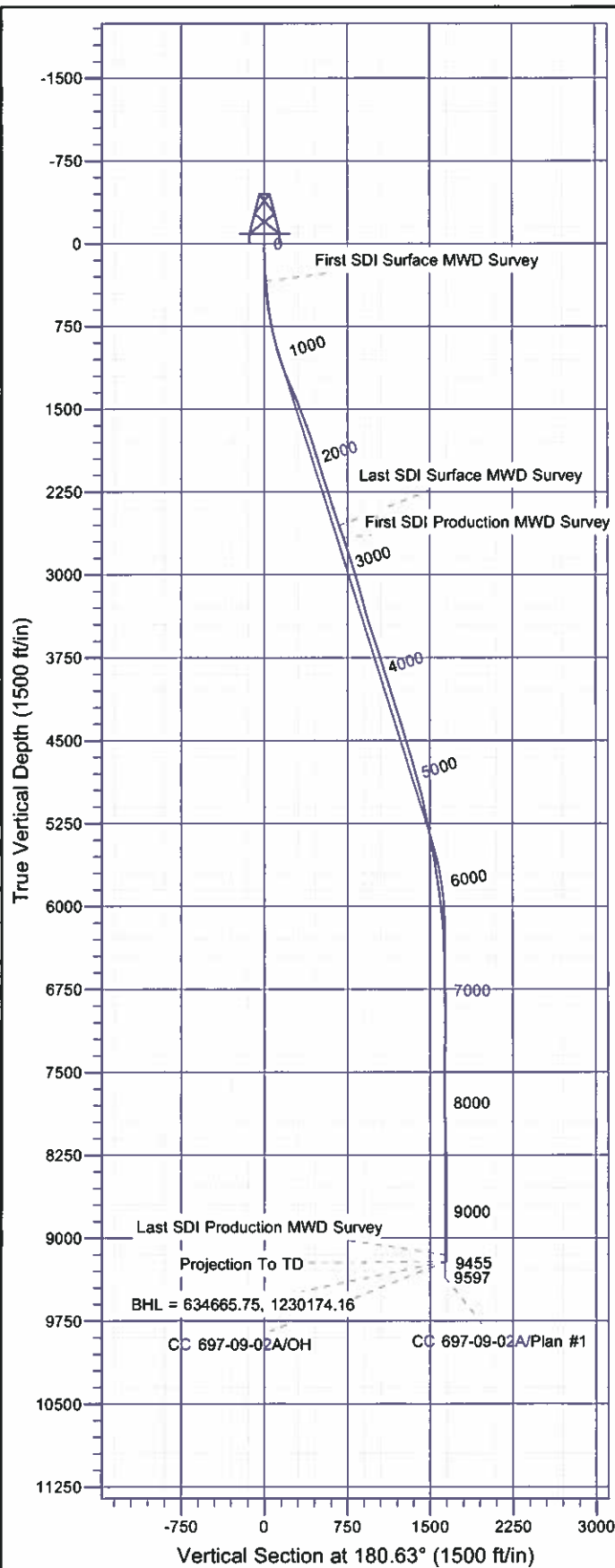




Scientific Drilling

Company: OXY USA RMAT
 Project: Garfield County, CO NAD27
 Site: Cascade Creek 697-04D Pad
 Well: CC 697-09-02A
 Wellbore: OH
 Design: OH



Well Details: CC 697-09-02A

TVD Reference: GL 8629' & 30' @ 8659.00ft (H&P)		MWD Level: 8629.00		Slot U	
+N/-S	+E/-W	North	East	Latitude	Longitude
0.00	0.00	636306.97	1230378.97	39° 32' 55.460 N	108° 13' 46.555 W

REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well CC 697-09-02A - Slot U, True North
 Vertical (TVD) Reference: GL 8629' & 30' @ 8659.00ft (H&P)
 Section (VS) Reference: Slot - U(0.00N, 0.00E)
 Measured Depth Reference: GL 8629' & 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

12:18, February 06 2012
 Created By: Rex Hall

OXY USA RMAT

**Garfield County, CO NAD27
Cascade Creek 697-04D Pad
CC 697-09-02A - Slot U**

OH

Design: OH

Standard Survey Report

06 February, 2012

Scientific Drilling International

Survey Report

Company:	OXY USA RMAT	Local Co-ordinate Reference:	Well CC 697-09-02A - Slot U
Project:	Garfield County, CO NAD27	TVD Reference:	GL 8629' & 30' @ 8659.00ft (H&P)
Site:	Cascade Creek 697-04D Pad	MD Reference:	GL 8629' & 30' @ 8659.00ft (H&P)
Well:	CC 697-09-02A	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 697-09-02A - Slot U					
Well Position	+N/-S	0.00 ft	Northing:	636,306.97 usft	Latitude:	39° 32' 55.460 N
	+E/-W	0.00 ft	Easting:	1,230,378.97 usft	Longitude:	108° 13' 46.555 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	03/22/11	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	180.63	

Survey Program	Date	02/06/12			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
339.00	2,660.00	Survey #1 - Surface MWD (OH)	MWD-SDI	MWD - Standard ISCWSA	
2,776.00	9,455.00	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
339.00	4.33	184.21	338.68	-12.77	-0.94	12.78	1.28	1.28	0.00
First SDI Surface MWD Survey									
430.00	5.28	180.91	429.36	-20.38	-1.26	20.39	1.09	1.04	-3.63
522.00	6.33	178.18	520.88	-29.68	-1.16	29.69	1.18	1.14	-2.97
614.00	8.44	180.82	612.12	-41.51	-1.10	41.51	2.32	2.29	2.87
703.00	10.20	183.02	699.94	-55.91	-1.61	55.92	2.02	1.98	2.47
792.00	10.82	182.40	787.44	-72.12	-2.37	72.14	0.71	0.70	-0.70
883.00	12.75	180.82	876.52	-90.70	-2.88	90.72	2.15	2.12	-1.74
973.00	16.44	179.85	963.60	-113.37	-2.98	113.40	4.11	4.10	-1.08

Scientific Drilling International

Survey Report

Company:	OXY USA RMAT	Local Co-ordinate Reference:	Well CC 697-09-02A - Slot U
Project:	Garfield County, CO NAD27	TVD Reference:	GL 8629' & 30' @ 8659.00ft (H&P)
Site:	Cascade Creek 697-04D Pad	MD Reference:	GL 8629' & 30' @ 8659.00ft (H&P)
Well:	CC 697-09-02A	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)
1,068.00	18.64	177.22	1,054.18	-141.98	-2.21	142.00	2.46	2.32	-2.77
1,162.00	20.84	178.89	1,142.65	-173.71	-1.16	173.71	2.42	2.34	1.78
1,257.00	22.16	179.50	1,231.04	-208.52	-0.68	208.52	1.41	1.39	0.64
1,352.00	24.18	179.94	1,318.37	-245.90	-0.50	245.89	2.13	2.13	0.46
1,446.00	23.21	181.17	1,404.45	-283.67	-0.86	283.66	1.16	-1.03	1.31
1,541.00	20.40	181.08	1,492.64	-318.95	-1.55	318.95	2.96	-2.96	-0.09
1,636.00	20.22	180.12	1,581.74	-351.92	-1.90	351.92	0.40	-0.19	-1.01
1,731.00	19.70	179.94	1,671.03	-384.35	-1.92	384.35	0.55	-0.55	-0.19
1,825.00	19.08	178.80	1,759.70	-415.55	-1.58	415.54	0.77	-0.66	-1.21
1,920.00	18.20	177.66	1,849.72	-445.90	-0.65	445.88	1.00	-0.93	-1.20
2,015.00	16.18	174.58	1,940.47	-473.90	1.21	473.86	2.33	-2.13	-3.24
2,110.00	17.32	179.77	2,031.44	-501.23	2.52	501.17	1.98	1.20	5.46
2,204.00	18.73	184.69	2,120.83	-530.26	1.34	530.21	2.21	1.50	5.23
2,299.00	17.06	183.02	2,211.23	-559.38	-0.64	559.35	1.84	-1.76	-1.76
2,394.00	18.99	185.39	2,301.57	-588.69	-2.83	588.68	2.17	2.03	2.49
2,488.00	16.71	183.46	2,391.04	-617.41	-5.08	617.43	2.51	-2.43	-2.05
2,583.00	19.08	182.14	2,481.43	-646.56	-6.49	646.59	2.53	2.49	-1.39
2,660.00	19.26	182.14	2,554.17	-671.83	-7.43	671.87	0.23	0.23	0.00
Last SDI Surface MWD Survey									
2,776.00	19.43	181.34	2,663.62	-710.24	-8.60	710.29	0.27	0.15	-0.69
First SDI Production MWD Survey									
2,870.00	19.61	181.95	2,752.21	-741.63	-9.50	741.69	0.29	0.19	0.65
2,965.00	18.29	183.80	2,842.06	-772.44	-11.03	772.51	1.53	-1.39	1.95
3,060.00	17.06	184.15	2,932.58	-801.21	-13.03	801.31	1.30	-1.29	0.37
3,155.00	16.53	183.45	3,023.52	-828.60	-14.85	828.72	0.60	-0.56	-0.74
3,249.00	14.77	182.13	3,114.04	-853.93	-16.10	854.05	1.91	-1.87	-1.40
3,344.00	14.33	180.81	3,205.99	-877.78	-16.71	877.91	0.58	-0.46	-1.39
3,438.00	15.74	176.42	3,296.77	-902.14	-16.08	902.26	1.93	1.50	-4.67
3,533.00	16.80	180.90	3,387.97	-928.73	-15.49	928.85	1.73	1.12	4.72
3,628.00	18.29	184.33	3,478.55	-957.33	-16.83	957.45	1.91	1.57	3.61
3,723.00	18.29	185.12	3,568.75	-987.04	-19.29	987.19	0.26	0.00	0.83
3,817.00	18.64	184.06	3,657.91	-1,016.71	-21.67	1,016.89	0.52	0.37	-1.13
3,912.00	18.29	181.78	3,748.02	-1,046.76	-23.21	1,046.95	0.84	-0.37	-2.40
4,007.00	17.50	182.13	3,838.43	-1,075.93	-24.20	1,076.13	0.84	-0.83	0.37
4,101.00	17.06	179.14	3,928.19	-1,103.84	-24.52	1,104.04	1.05	-0.47	-3.18
4,196.00	17.50	175.36	4,018.90	-1,132.01	-23.16	1,132.20	1.27	0.46	-3.98
4,291.00	17.50	175.54	4,109.50	-1,160.49	-20.89	1,160.65	0.06	0.00	0.19
4,386.00	17.85	176.42	4,200.02	-1,189.26	-18.87	1,189.40	0.46	0.37	0.93
4,480.00	16.62	178.00	4,289.80	-1,217.08	-17.50	1,217.20	1.40	-1.31	1.68
4,575.00	17.15	177.91	4,380.70	-1,244.65	-16.52	1,244.76	0.56	0.56	-0.09
4,670.00	18.03	177.47	4,471.26	-1,273.34	-15.36	1,273.43	0.94	0.93	-0.46
4,764.00	17.06	178.79	4,560.88	-1,301.66	-14.42	1,301.74	1.12	-1.03	1.40
4,859.00	16.18	181.16	4,651.92	-1,328.82	-14.40	1,328.90	1.17	-0.93	2.49

Scientific Drilling International

Survey Report

Company:	OXY USA RMAT	Local Co-ordinate Reference:	Well CC 697-09-02A - Slot U
Project:	Garfield County, CO NAD27	TVD Reference:	GL 8629' & 30' @ 8659.00ft (H&P)
Site:	Cascade Creek 697-04D Pad	MD Reference:	GL 8629' & 30' @ 8659.00ft (H&P)
Well:	CC 697-09-02A	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)
4,954.00	15.74	177.65	4,743.26	-1,354.93	-14.14	1,355.00	1.12	-0.46	-3.69
5,048.00	15.83	177.47	4,833.71	-1,380.48	-13.05	1,380.54	0.11	0.10	-0.19
5,143.00	14.86	177.47	4,925.32	-1,405.59	-11.94	1,405.64	1.02	-1.02	0.00
5,238.00	13.63	177.65	5,017.40	-1,428.95	-10.94	1,428.98	1.30	-1.29	0.19
5,333.00	12.57	177.29	5,109.93	-1,450.46	-9.99	1,450.48	1.12	-1.12	-0.38
5,427.00	11.52	178.35	5,201.86	-1,470.06	-9.24	1,470.07	1.14	-1.12	1.13
5,522.00	10.64	180.37	5,295.08	-1,488.31	-9.02	1,488.32	1.01	-0.93	2.13
5,617.00	9.67	184.50	5,388.60	-1,505.04	-9.70	1,505.05	1.28	-1.02	4.35
5,711.00	9.32	181.69	5,481.31	-1,520.52	-10.55	1,520.54	0.62	-0.37	-2.99
5,806.00	9.50	180.11	5,575.03	-1,536.05	-10.79	1,536.07	0.33	0.19	-1.66
5,900.00	9.23	175.10	5,667.78	-1,551.31	-10.16	1,551.33	0.91	-0.29	-5.33
5,995.00	9.15	171.05	5,761.56	-1,566.37	-8.34	1,566.36	0.69	-0.08	-4.26
6,090.00	8.44	170.61	5,855.44	-1,580.71	-6.02	1,580.68	0.75	-0.75	-0.46
6,184.00	7.39	170.00	5,948.55	-1,593.47	-3.85	1,593.41	1.12	-1.12	-0.65
6,279.00	6.42	165.87	6,042.86	-1,604.63	-1.49	1,604.55	1.15	-1.02	-4.35
6,373.00	5.28	161.21	6,136.37	-1,613.83	1.19	1,613.71	1.31	-1.21	-4.96
6,468.00	3.61	163.85	6,231.08	-1,620.84	3.43	1,620.70	1.77	-1.76	2.78
6,562.00	1.93	174.92	6,324.96	-1,625.26	4.39	1,625.11	1.87	-1.79	11.78
6,657.00	0.79	203.57	6,419.94	-1,627.45	4.27	1,627.30	1.36	-1.20	30.16
6,752.00	1.32	227.39	6,514.92	-1,628.79	3.20	1,628.66	0.71	0.56	25.07
6,846.00	2.73	246.46	6,608.86	-1,630.42	0.35	1,630.31	1.64	1.50	20.29
6,940.00	3.78	244.18	6,702.71	-1,632.66	-4.49	1,632.61	1.13	1.12	-2.43
7,035.00	3.25	239.87	6,797.53	-1,635.38	-9.64	1,635.38	0.62	-0.56	-4.54
7,129.00	2.73	235.21	6,891.40	-1,637.99	-13.78	1,638.04	0.61	-0.55	-4.96
7,224.00	1.14	223.09	6,986.34	-1,639.97	-16.28	1,640.05	1.72	-1.67	-12.76
7,318.00	0.79	339.98	7,080.34	-1,640.05	-17.14	1,640.14	1.76	-0.37	124.35
7,413.00	2.11	334.18	7,175.30	-1,637.86	-18.13	1,637.96	1.40	1.39	-6.11
7,507.00	2.81	321.61	7,269.22	-1,634.49	-20.31	1,634.62	0.94	0.74	-13.37
7,602.00	3.34	309.75	7,364.08	-1,630.90	-23.89	1,631.06	0.87	0.56	-12.48
7,696.00	2.73	298.41	7,457.95	-1,628.08	-27.96	1,628.29	0.91	-0.65	-12.06
7,791.00	1.41	275.56	7,552.89	-1,626.89	-31.12	1,627.14	1.61	-1.39	-24.05
7,886.00	0.88	215.09	7,647.87	-1,627.38	-32.70	1,627.64	1.31	-0.56	-63.65
7,980.00	1.49	225.46	7,741.85	-1,628.83	-33.99	1,629.10	0.69	0.65	11.03
8,075.00	2.29	234.69	7,836.80	-1,630.79	-36.41	1,631.09	0.90	0.84	9.72
8,170.00	2.73	235.83	7,931.71	-1,633.16	-39.84	1,633.50	0.47	0.46	1.20
8,265.00	2.99	235.39	8,026.59	-1,635.83	-43.75	1,636.22	0.27	0.27	-0.46
8,359.00	3.52	236.27	8,120.44	-1,638.83	-48.16	1,639.26	0.57	0.56	0.94
8,454.00	4.13	237.85	8,215.23	-1,642.27	-53.49	1,642.76	0.65	0.64	1.66
8,549.00	3.96	247.08	8,309.99	-1,645.37	-59.40	1,645.92	0.71	-0.18	9.72
8,643.00	3.78	261.32	8,403.78	-1,647.10	-65.46	1,647.72	1.04	-0.19	15.15
8,738.00	4.31	275.82	8,498.54	-1,647.21	-72.10	1,647.91	1.21	0.56	15.26
8,833.00	5.10	283.11	8,593.22	-1,645.89	-79.77	1,646.67	1.04	0.83	7.67
8,928.00	5.36	276.35	8,687.83	-1,644.44	-88.29	1,645.32	0.70	0.27	-7.12
9,022.00	6.07	270.72	8,781.36	-1,643.89	-97.62	1,644.87	0.96	0.76	-5.99

Scientific Drilling International

Survey Report

Company:	OXY USA RMAT	Local Co-ordinate Reference:	Well CC 697-09-02A - Slot U
Project:	Garfield County, CO NAD27	TVD Reference:	GL 8629' & 30' @ 8659.00ft (H&P)
Site:	Cascade Creek 697-04D Pad	MD Reference:	GL 8629' & 30' @ 8659.00ft (H&P)
Well:	CC 697-09-02A	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)
9,117.00	7.21	267.91	8,875.72	-1,644.05	-108.60	1,645.15	1.25	1.20	-2.96
9,212.00	7.65	268.26	8,969.92	-1,644.46	-120.88	1,645.69	0.47	0.46	0.37
9,306.00	8.00	268.79	9,063.05	-1,644.78	-133.67	1,646.16	0.38	0.37	0.56
9,399.00	8.62	263.60	9,155.07	-1,645.70	-147.07	1,647.22	1.05	0.67	-5.58
Last SDI Production MWD Survey									
9,455.00	8.62	263.60	9,210.44	-1,646.63	-155.41	1,648.25	0.00	0.00	0.00
Projection To TD - BHL = 634665.75, 1230174.16									

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
339.00	338.68	-12.77	-0.94	First SDI Surface MWD Survey
2,660.00	2,554.17	-671.83	-7.43	Last SDI Surface MWD Survey
2,776.00	2,663.62	-710.24	-8.60	First SDI Production MWD Survey
9,399.00	9,155.07	-1,645.70	-147.07	Last SDI Production MWD Survey
9,455.00	9,210.44	-1,646.63	-155.41	Projection To TD
9,455.00	9,210.44	-1,646.63	-155.41	BHL = 634665.75, 1230174.16

Checked By: _____ Approved By: _____ Date: _____