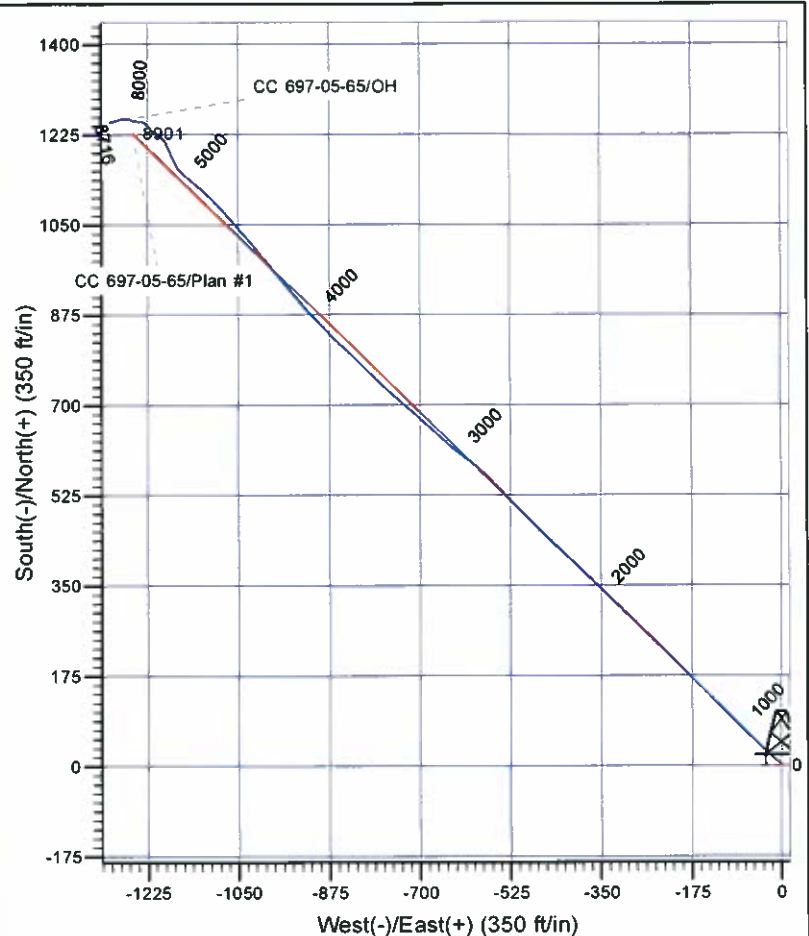
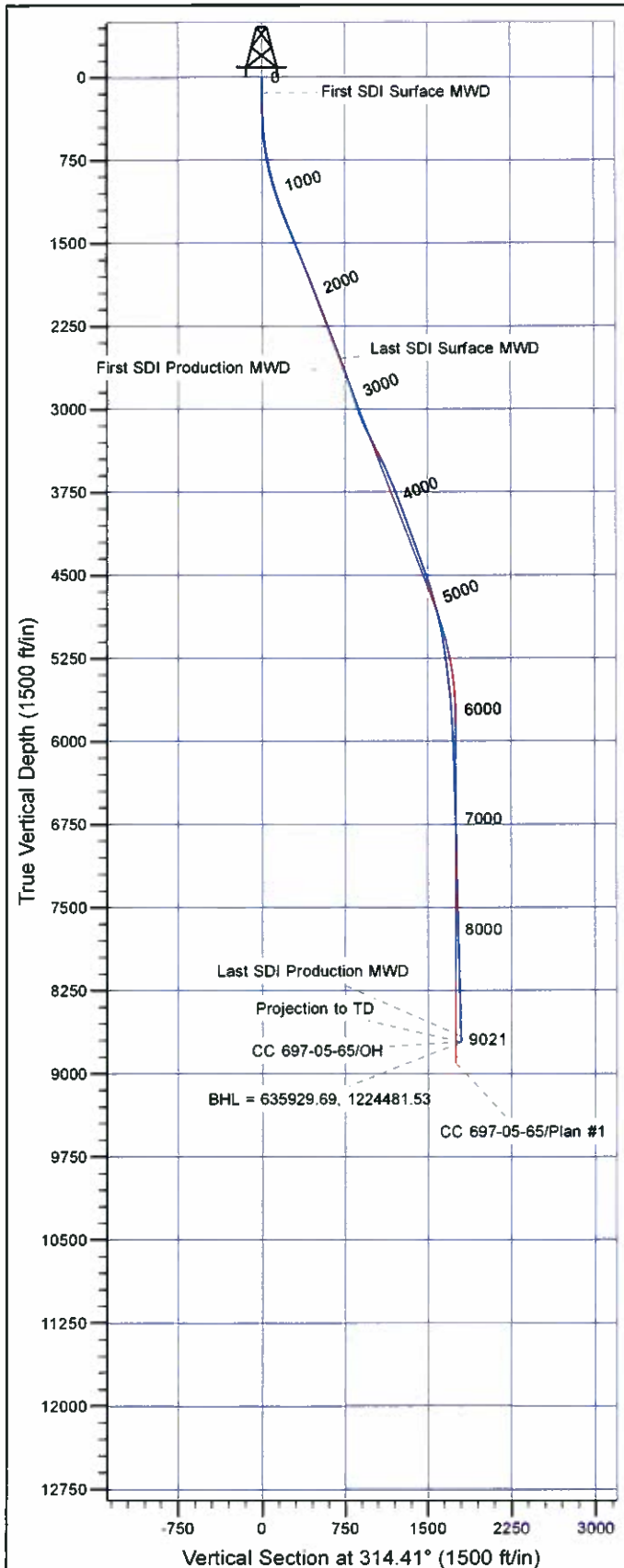




Scientific Drilling

Company: OXY USA RMA
 Project: Garfield County, CO NAD27
 Site: Cascade Creek 697-08A Pad
 Well: CC 697-05-65
 Wellbore: OH
 Design: OH



Well Details: CC 697-05-65

TVD Reference: GL 8401' & RKB 30' @ 8431.00ft (H&P Rig) Level: 8401.00
 +N/-S +E/-W Northing Easting Latitude Longitude Slot
 0.00 0.00 634642.89 1225742.16 39° 32' 37.639 N 108° 14' 45.080 W D

REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well CC 697-05-65 - Slot D, True North
 Vertical (TVD) Reference: GL 8401' & RKB 30' @ 8431.00ft (H&P Rig)
 Section (VS) Reference: Slot - D(0.00N, 0.00E)
 Measured Depth Reference: GL 8401' & RKB 30' @ 8431.00ft (H&P Rig)
 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

13:41, July 05 2012
 Created By: Janie Collins

OXY USA RMAT

**Garfield County, CO NAD27
Cascade Creek 697-08A Pad
CC 697-05-65 - Slot D**

OH

Design: OH

Standard Survey Report

05 July, 2012

Scientific Drilling International

Survey Report

Company:	OXY USA RMAT	Local Co-ordinate Reference:	Well CC 697-05-65 - Slot D
Project:	Garfield County, CO NAD27	TVD Reference:	GL 8401' & RKB 30' @ 8431.00ft (H&P Rig)
Site:	Cascade Creek 697-08A Pad	MD Reference:	GL 8401' & RKB 30' @ 8431.00ft (H&P Rig)
Well:	CC 697-05-65	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 697-08A Pad, Sec 8 T6S R97W				
Site Position:		Northing:	635,765.16 usft	Latitude:	39° 32' 48.728 N
From:	Lat/Long	Easting:	1,225,748.33 usft	Longitude:	108° 14' 45.434 W
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	-1.73 °

Well	CC 697-05-65 - Slot D					
Well Position	+N/-S	0.00 ft	Northing:	634,642.89 usft	Latitude:	39° 32' 37.639 N
	+E/-W	0.00 ft	Easting:	1,225,742.16 usft	Longitude:	108° 14' 45.080 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	8,401.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2011/05/24	10.48	65.73	52,230

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	314.41	

Survey Program	Date	2012/07/05			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
144.00	2,664.00	Survey #1 - Surface MWD (OH)	MWD-SDI	MWD - Standard ISCWSA	
2,773.00	9,021.00	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	
144.00	0.98	349.55	143.99	1.21	-0.22	1.01	0.68	0.68	0.00	
First SDI Surface MWD										
235.00	1.47	341.46	234.97	3.08	-0.74	2.68	0.57	0.54	-8.89	
327.00	2.24	326.72	326.92	5.70	-2.10	5.49	0.98	0.84	-16.02	
419.00	2.55	298.99	418.85	8.20	-4.87	9.22	1.29	0.34	-30.14	
510.00	3.96	301.70	509.70	10.83	-9.32	14.24	1.56	1.55	2.98	
600.00	5.89	311.63	599.36	15.53	-15.42	21.88	2.34	2.14	11.03	
691.00	8.35	313.56	689.65	23.19	-23.69	33.15	2.72	2.70	2.12	
782.00	11.43	313.12	779.29	33.91	-35.07	48.78	3.39	3.38	-0.48	

Scientific Drilling International

Survey Report

Company:	OXY USA RMAT	Local Co-ordinate Reference:	Well CC 697-05-65 - Slot D
Project:	Garfield County, CO NAD27	TVD Reference:	GL 8401' & RKB 30' @ 8431.00ft (H&P Rig)
Site:	Cascade Creek 697-08A Pad	MD Reference:	GL 8401' & RKB 30' @ 8431.00ft (H&P Rig)
Well:	CC 697-05-65	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)
873.00	13.72	311.19	868.10	47.18	-49.77	68.57	2.56	2.52	-2.12
963.00	14.86	312.24	955.32	61.97	-66.35	90.76	1.30	1.27	1.17
1,058.00	16.71	314.44	1,046.73	79.72	-85.12	116.59	2.05	1.95	2.32
1,152.00	19.87	316.02	1,135.97	100.68	-105.87	146.08	3.40	3.36	1.68
1,247.00	22.07	316.02	1,224.67	125.15	-129.47	180.07	2.32	2.32	0.00
1,342.00	21.54	315.32	1,312.88	150.39	-154.13	215.34	0.62	-0.56	-0.74
1,436.00	22.60	313.91	1,399.99	175.19	-179.28	250.66	1.26	1.13	-1.50
1,531.00	21.90	315.32	1,487.91	200.45	-204.89	286.63	0.93	-0.74	1.48
1,625.00	22.25	315.67	1,575.02	225.64	-229.65	321.95	0.40	0.37	0.37
1,720.00	22.95	314.97	1,662.73	251.60	-255.32	358.45	0.79	0.74	-0.74
1,815.00	23.48	314.00	1,750.04	277.83	-282.04	395.90	0.69	0.56	-1.02
1,909.00	21.28	313.39	1,836.95	302.56	-307.91	431.68	2.35	-2.34	-0.65
2,004.00	21.54	314.62	1,925.40	326.66	-332.85	466.36	0.55	0.27	1.29
2,098.00	21.72	315.32	2,012.78	351.14	-357.36	501.01	0.33	0.19	0.74
2,193.00	21.37	312.95	2,101.14	375.44	-382.39	535.89	0.99	-0.37	-2.49
2,287.00	20.93	312.68	2,188.81	398.49	-407.27	569.79	0.48	-0.47	-0.29
2,382.00	21.28	313.30	2,277.44	421.81	-432.29	603.99	0.44	0.37	0.65
2,476.00	21.63	314.27	2,364.92	445.60	-457.11	638.37	0.53	0.37	1.03
2,571.00	21.63	316.11	2,453.23	470.45	-481.79	673.38	0.71	0.00	1.94
2,664.00	20.05	316.64	2,540.15	494.39	-504.62	706.44	1.71	-1.70	0.57
Last SDI Surface MWD									
2,773.00	19.43	315.43	2,642.74	520.89	-530.17	743.24	0.68	-0.57	-1.11
First SDI Production MWD									
2,867.00	20.05	316.22	2,731.22	543.66	-552.29	774.98	0.72	0.66	0.84
2,962.00	19.17	313.58	2,820.71	566.17	-574.86	806.85	1.31	-0.93	-2.78
3,056.00	18.47	308.57	2,909.69	586.10	-597.68	837.10	1.87	-0.74	-5.33
3,151.00	18.03	306.73	2,999.91	604.27	-621.23	866.64	0.76	-0.46	-1.94
3,245.00	21.98	311.56	3,088.23	624.65	-646.06	898.64	4.55	4.20	5.14
3,340.00	26.64	312.88	3,174.78	650.95	-674.99	937.71	4.94	4.91	1.39
3,435.00	27.79	311.71	3,259.26	680.18	-707.13	981.12	1.34	1.21	-1.23
3,529.00	26.73	310.86	3,342.82	708.59	-739.48	1,024.11	1.20	-1.13	-0.90
3,624.00	26.64	312.18	3,427.70	736.87	-771.42	1,066.72	0.63	-0.09	1.39
3,718.00	24.89	315.87	3,512.36	765.23	-800.81	1,107.56	2.52	-1.86	3.93
3,812.00	23.92	314.20	3,597.96	792.71	-828.25	1,146.39	1.27	-1.03	-1.78
3,907.00	22.16	312.44	3,685.38	818.23	-855.28	1,183.56	1.99	-1.85	-1.85
4,001.00	21.90	317.45	3,772.53	843.11	-880.22	1,218.78	2.02	-0.28	5.33
4,096.00	20.49	315.78	3,861.10	868.08	-903.80	1,253.10	1.61	-1.48	-1.76
4,190.00	20.40	321.49	3,949.19	892.69	-925.48	1,285.81	2.12	-0.10	6.07
4,285.00	19.96	320.44	4,038.35	918.15	-946.11	1,318.37	0.60	-0.46	-1.11
4,379.00	21.98	320.70	4,126.12	944.13	-967.48	1,351.81	2.15	2.15	0.28
4,473.00	20.40	320.17	4,213.77	970.33	-989.11	1,385.60	1.69	-1.68	-0.56
4,568.00	18.73	320.18	4,303.28	994.76	-1,009.49	1,417.25	1.76	-1.76	0.01
4,662.00	19.35	318.59	4,392.13	1,018.03	-1,029.45	1,447.80	0.86	0.66	-1.69

Scientific Drilling International

Survey Report

Company:	OXY USA RMAT	Local Co-ordinate Reference:	Well CC 697-05-65 - Slot D
Project:	Garfield County, CO NAD27	TVD Reference:	GL 8401' & RKB 30' @ 8431.00ft (H&P Rig)
Site:	Cascade Creek 697-08A Pad	MD Reference:	GL 8401' & RKB 30' @ 8431.00ft (H&P Rig)
Well:	CC 697-05-65	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)
4,757.00	20.84	321.05	4,481.35	1,042.98	-1,050.49	1,480.28	1.80	1.57	2.59
4,851.00	18.91	318.77	4,569.75	1,067.44	-1,071.04	1,512.08	2.21	-2.05	-2.43
4,946.00	17.23	316.22	4,660.06	1,089.18	-1,090.92	1,541.50	1.95	-1.77	-2.68
5,041.00	15.12	312.62	4,751.30	1,107.73	-1,109.78	1,567.95	2.46	-2.22	-3.79
5,135.00	13.63	311.30	4,842.35	1,123.34	-1,127.12	1,591.26	1.62	-1.59	-1.40
5,229.00	12.22	310.68	4,933.97	1,137.14	-1,142.99	1,612.25	1.51	-1.50	-0.66
5,324.00	11.17	311.74	5,027.00	1,149.82	-1,157.48	1,631.47	1.13	-1.11	1.12
5,419.00	8.71	328.96	5,120.58	1,162.11	-1,168.06	1,647.63	4.03	-2.59	18.13
5,513.00	8.18	336.96	5,213.57	1,174.37	-1,174.34	1,660.70	1.37	-0.56	8.51
5,608.00	7.74	337.05	5,307.65	1,186.48	-1,179.48	1,672.85	0.46	-0.46	0.09
5,702.00	7.47	333.97	5,400.82	1,197.80	-1,184.63	1,684.45	0.52	-0.29	-3.28
5,797.00	7.47	334.50	5,495.02	1,208.92	-1,190.00	1,696.07	0.07	0.00	0.56
5,892.00	4.66	309.80	5,589.49	1,216.96	-1,195.63	1,705.72	3.97	-2.96	-26.00
5,986.00	4.13	299.87	5,683.22	1,221.09	-1,201.50	1,712.80	0.98	-0.56	-10.56
6,081.00	3.87	305.41	5,777.99	1,224.66	-1,207.07	1,719.28	0.49	-0.27	5.83
6,175.00	4.13	300.05	5,871.76	1,228.19	-1,212.59	1,725.69	0.48	0.28	-5.70
6,270.00	2.46	325.98	5,966.60	1,231.59	-1,216.69	1,731.00	2.31	-1.76	27.29
6,364.00	2.20	322.99	6,060.52	1,234.71	-1,218.91	1,734.76	0.31	-0.28	-3.18
6,459.00	1.93	322.64	6,155.46	1,237.43	-1,220.98	1,738.15	0.28	-0.28	-0.37
6,553.00	2.02	324.48	6,249.41	1,240.04	-1,222.90	1,741.34	0.12	0.10	1.96
6,648.00	1.85	318.42	6,344.35	1,242.55	-1,224.89	1,744.52	0.28	-0.18	-6.38
6,743.00	1.85	314.02	6,439.30	1,244.76	-1,227.01	1,747.59	0.15	0.00	-4.63
6,837.00	1.49	314.11	6,533.26	1,246.67	-1,228.98	1,750.33	0.38	-0.38	0.10
6,932.00	1.23	300.75	6,628.24	1,248.05	-1,230.74	1,752.55	0.43	-0.27	-14.06
7,026.00	1.49	301.54	6,722.21	1,249.20	-1,232.65	1,754.72	0.28	0.28	0.84
7,121.00	1.23	279.22	6,817.18	1,250.01	-1,234.71	1,756.76	0.62	-0.27	-23.49
7,215.00	1.41	262.52	6,911.16	1,250.02	-1,236.85	1,758.30	0.45	0.19	-17.77
7,310.00	1.49	266.65	7,006.13	1,249.80	-1,239.24	1,759.85	0.14	0.08	4.35
7,404.00	1.58	271.40	7,100.09	1,249.76	-1,241.76	1,761.62	0.17	0.10	5.05
7,499.00	1.76	281.42	7,195.05	1,250.08	-1,244.50	1,763.80	0.36	0.19	10.55
7,594.00	1.41	283.17	7,290.02	1,250.64	-1,247.07	1,766.02	0.37	-0.37	1.84
7,688.00	1.58	279.75	7,383.99	1,251.12	-1,249.47	1,768.08	0.20	0.18	-3.64
7,783.00	1.67	289.33	7,478.95	1,251.80	-1,252.07	1,770.41	0.30	0.09	10.08
7,877.00	1.49	279.92	7,572.91	1,252.46	-1,254.56	1,772.66	0.34	-0.19	-10.01
7,972.00	1.58	287.57	7,667.88	1,253.07	-1,257.03	1,774.84	0.24	0.09	8.05
8,066.00	1.49	297.94	7,761.84	1,254.03	-1,259.34	1,777.17	0.31	-0.10	11.03
8,159.66	1.76	288.73	7,855.47	1,255.07	-1,261.78	1,779.63	0.40	0.28	-9.83
CC 697-05-65 Target									
8,161.00	1.76	288.62	7,856.81	1,255.08	-1,261.82	1,779.67	0.40	0.30	-8.29
8,255.00	1.93	281.50	7,950.76	1,255.86	-1,264.74	1,782.30	0.30	0.18	-7.57
8,350.00	2.29	267.27	8,045.69	1,256.08	-1,268.20	1,784.93	0.67	0.38	-14.98
8,445.00	2.46	256.28	8,140.61	1,255.51	-1,272.08	1,787.30	0.51	0.18	-11.57
8,539.00	2.73	256.81	8,234.52	1,254.52	-1,276.22	1,789.56	0.29	0.29	0.56
8,634.00	2.20	253.82	8,329.43	1,253.50	-1,280.17	1,791.67	0.57	-0.56	-3.15

Scientific Drilling International

Survey Report

Company:	OXY USA RMAT	Local Co-ordinate Reference:	Well CC 697-05-65 - Slot D
Project:	Garfield County, CO NAD27	TVD Reference:	GL 8401' & RKB 30' @ 8431.00ft (H&P Rig)
Site:	Cascade Creek 697-08A Pad	MD Reference:	GL 8401' & RKB 30' @ 8431.00ft (H&P Rig)
Well:	CC 697-05-65	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)
8,728.00	2.11	246.79	8,423.36	1,252.31	-1,283.49	1,793.22	0.30	-0.10	-7.48
8,823.00	3.34	252.15	8,518.25	1,250.77	-1,287.73	1,795.17	1.32	1.29	5.64
8,917.00	3.34	259.36	8,612.09	1,249.43	-1,293.03	1,798.01	0.45	0.00	7.67
8,966.00	3.34	256.98	8,661.01	1,248.84	-1,295.83	1,799.60	0.28	0.00	-4.86
Last SDI Production MWD									
9,021.00	3.34	256.98	8,715.92	1,248.12	-1,298.95	1,801.32	0.00	0.00	0.00
Projection to TD - BHL = 635929.69, 1224481.53									

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
144.00	143.99	1.21	-0.22	First SDI Surface MWD
2,664.00	2,540.15	494.39	-504.62	Last SDI Surface MWD
2,773.00	2,642.74	520.89	-530.17	First SDI Production MWD
8,966.00	8,661.01	1,248.84	-1,295.83	Last SDI Production MWD
9,021.00	8,715.92	1,248.12	-1,298.95	Projection to TD
9,021.00	8,715.92	1,248.12	-1,298.95	BHL = 635929.69, 1224481.53

Checked By: _____ Approved By: _____ Date: _____