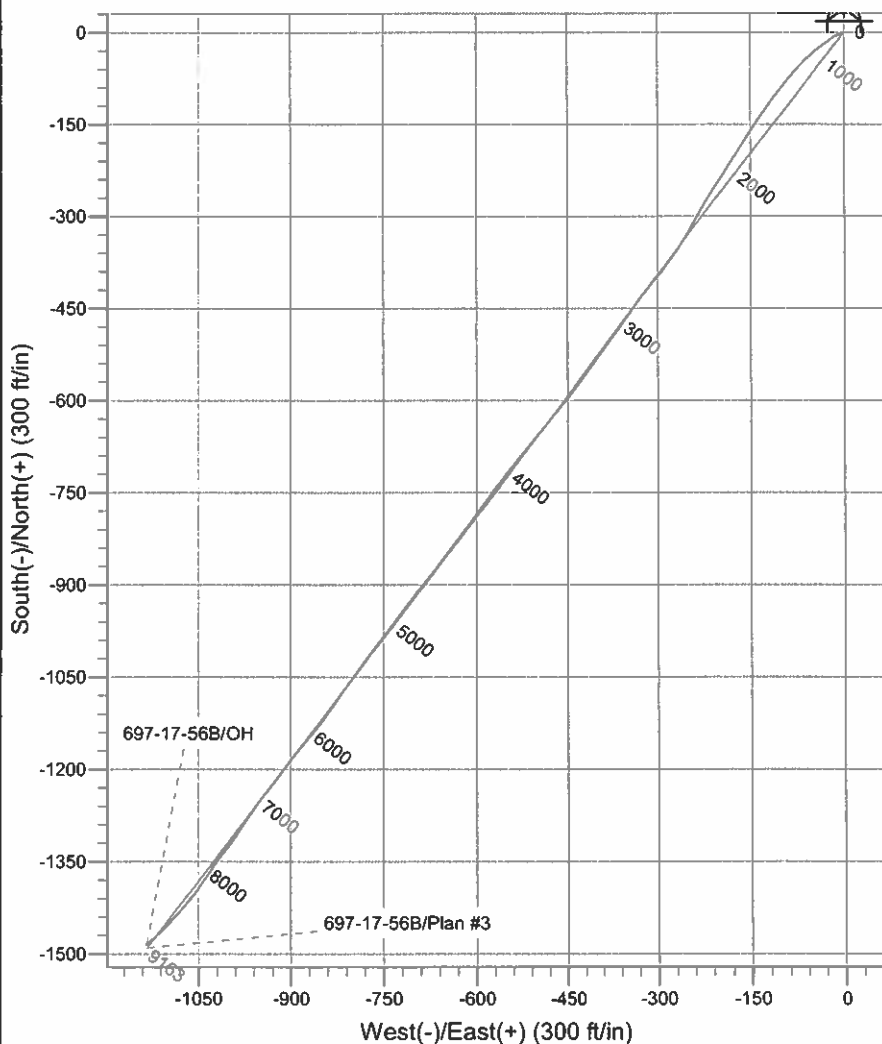
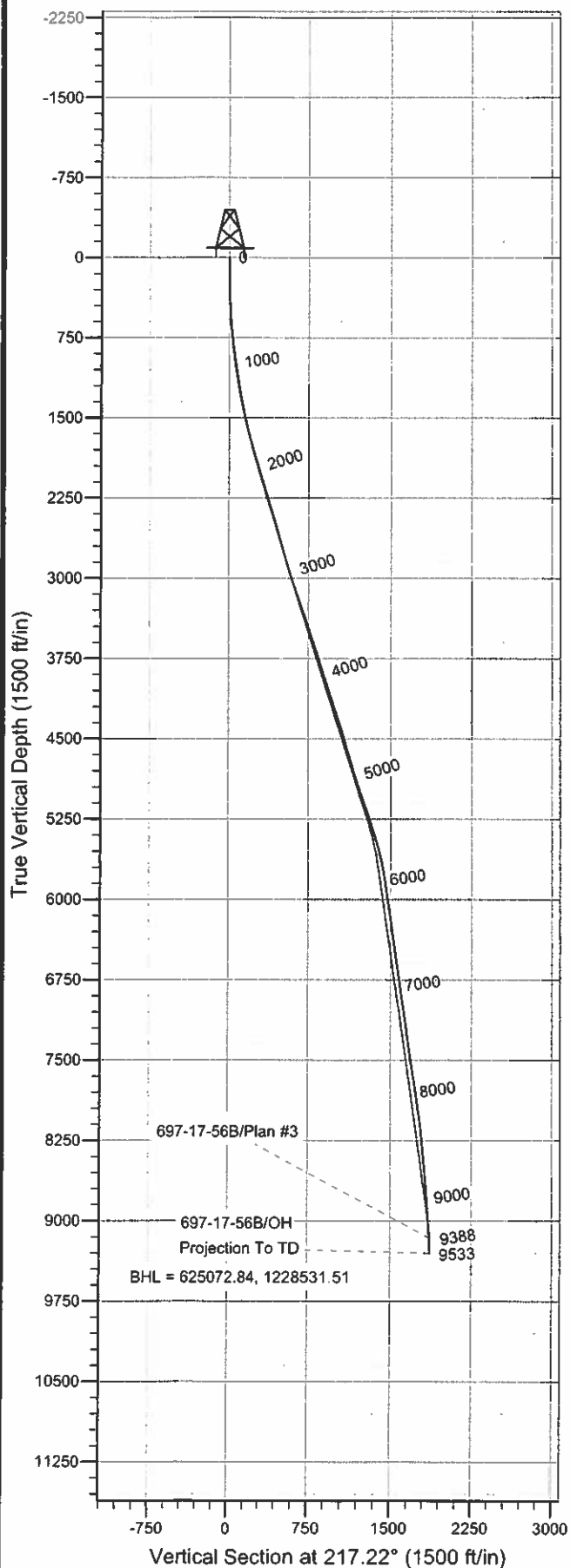




Scientific Drilling
Rocky Mountain Operations

Project: Garfield County, CO NAD27
Site: Cascade Creek 697-16A II Pad
Well: 697-17-56B
Wellbore: OH
Design: OH

OXY USA RMAT



WELL DETAILS: 697-17-56B

+N/-S	+E/-W	Ground Level:	GL 8312' & RKB 30' @ 8342.00ft
0.00	0.00	North	East
626522.66	1229708.99	Latitude	Longitude
		39° 31' 18.600 N	108° 13' 51.350 W

REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well 697-17-56B, True North
Vertical (TVD) Reference: GL 8312' & RKB 30' @ 8342.00ft
Section (VS) Reference: Slot - (0.00N, 0.00E)
Measured Depth Reference: GL 8312' & RKB 30' @ 8342.00ft
Calculation Method: Minimum Curvature
Local North: True
Location: Sec 16 T6S R97W

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

Design: OH (697-17-56B/OH)

Created By: Rex Hall Date: 2010-04-12



Scientific Drilling
Rocky Mountain Operations

OXY USA RMAT

Garfield County, CO NAD27
Cascade Creek 697-16A II Pad
697-17-56B
OH

Design: OH

Standard Survey Report

12 April, 2010



Company: OXY USA RMAT
Project: Garfield County, CO NAD27
Site: Cascade Creek 697-16A II Pad
Well: 697-17-56B
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well 697-17-56B
TVD Reference: GL 8312' & RKB 30' @ 8342.00ft
MD Reference: GL 8312' & RKB 30' @ 8342.00ft
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM 2003.16 Multi-User Db

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 697-16A II Pad, Sec 16 T6S R97W

Site Position:		Northing:	626,314.75 ft	Latitude:	39° 31' 16.584 N
From:	Map	Easting:	1,229,837.54 ft	Longitude:	108° 13' 49.631 W
Position Uncertainty:	0.00 ft	Slot Radius:	in	Grid Convergence:	-1.72 °

Well 697-17-56B

Well Position	+N/-S	0.00 ft	Northing:	626,522.66 ft	Latitude:	39° 31' 18.600 N
	+E/-W	0.00 ft	Easting:	1,229,708.99 ft	Longitude:	108° 13' 51.350 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	8,312.00 ft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2005-10	11/5/2009	10.64	65.77	52,403

Design OH

Audit Notes:

Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
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Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	217.22

Survey Program Date 4/12/2010

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
156.00	2,694.00	Survey #1 - Surface (OH)	MWD-SDI	MWD - Standard ISCWSA
2,786.00	9,533.00	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
156.00	0.41	227.84	156.00	-0.37	-0.41	0.55	0.26	0.26	0.00
First SDI Surface MWD Survey									
248.00	0.60	258.85	248.00	-0.69	-1.13	1.23	0.35	0.21	33.71
350.00	1.77	244.20	349.97	-1.48	-3.07	3.04	1.18	1.15	-14.36
443.00	2.77	251.12	442.90	-2.83	-6.49	6.18	1.11	1.08	7.44
535.00	4.64	245.39	534.70	-5.10	-11.98	11.31	2.07	2.03	-6.23
627.00	5.48	235.28	626.34	-9.15	-18.97	18.76	1.33	0.91	-10.99
720.00	6.11	229.67	718.87	-14.88	-26.40	27.82	0.91	0.68	-6.03
812.00	7.31	232.93	810.24	-21.58	-34.80	38.23	1.37	1.30	3.54
905.00	7.78	230.38	902.43	-29.16	-44.37	50.06	0.62	0.51	-2.74
998.00	8.68	230.12	994.47	-37.67	-54.60	63.03	0.97	0.97	-0.28

Company: OXY USA RMAT
Project: Garfield County, CO NAD27
Site: Cascade Creek 697-16A II Pad
Well: 697-17-56B
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well 697-17-56B
TVD Reference: GL 8312' & RKB 30' @ 8342.00ft
MD Reference: GL 8312' & RKB 30' @ 8342.00ft
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM 2003.16 Multi-User Db

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)
1,090.00	8.84	224.89	1,085.40	-47.13	-64.92	76.80	0.88	0.17	-5.68
1,182.00	9.70	223.67	1,176.20	-57.75	-75.26	91.51	0.96	0.93	-1.33
1,277.00	10.93	218.58	1,269.66	-70.58	-86.40	108.47	1.61	1.29	-5.36
1,371.00	11.02	217.20	1,361.95	-84.70	-97.39	126.36	0.30	0.10	-1.47
1,465.00	12.24	215.84	1,454.01	-99.94	-108.66	145.31	1.33	1.30	-1.45
1,560.00	12.76	214.54	1,546.76	-116.74	-120.50	165.85	0.62	0.55	-1.37
1,654.00	14.54	214.48	1,638.10	-135.02	-133.07	188.01	1.89	1.89	-0.06
1,749.00	15.53	213.26	1,729.85	-155.49	-146.80	212.61	1.09	1.04	-1.28
1,843.00	17.12	211.73	1,820.06	-177.78	-160.98	238.94	1.75	1.69	-1.63
1,938.00	18.98	211.81	1,910.38	-202.80	-176.47	268.24	1.96	1.96	0.08
2,033.00	17.72	211.59	2,000.55	-228.25	-192.19	298.01	1.33	-1.33	-0.23
2,127.00	16.28	212.31	2,090.44	-251.57	-206.73	325.37	1.55	-1.53	0.77
2,221.00	17.08	211.11	2,180.48	-274.52	-220.90	352.23	0.93	0.85	-1.28
2,316.00	17.38	209.13	2,271.22	-298.86	-235.02	380.15	0.69	0.32	-2.08
2,411.00	16.84	209.90	2,362.01	-323.19	-248.79	407.84	0.62	-0.57	0.81
2,505.00	17.11	213.47	2,451.92	-346.52	-263.20	435.15	1.15	0.29	3.80
2,600.00	16.46	215.32	2,542.87	-369.16	-278.69	462.54	0.89	-0.68	1.95
2,694.00	16.18	218.17	2,633.09	-390.33	-294.48	488.95	0.90	-0.30	3.03
Last SDI Surface MWD Survey									
2,786.00	14.60	219.54	2,721.79	-409.35	-309.79	513.35	1.76	-1.72	1.49
First SDI Production MWD Survey									
2,881.00	14.77	216.64	2,813.68	-428.30	-324.64	537.43	0.79	0.18	-3.05
2,976.00	16.71	216.90	2,905.12	-448.94	-340.06	563.20	2.04	2.04	0.27
3,070.00	17.94	214.71	2,994.85	-471.65	-356.42	591.17	1.48	1.31	-2.33
3,165.00	20.31	216.90	3,084.60	-496.86	-374.66	622.28	2.61	2.49	2.31
3,259.00	19.17	216.82	3,173.08	-522.26	-393.70	654.03	1.21	-1.21	-0.09
3,354.00	18.03	216.20	3,263.11	-546.62	-411.73	684.33	1.22	-1.20	-0.65
3,448.00	18.64	218.05	3,352.34	-570.18	-429.58	713.89	0.90	0.65	1.97
3,543.00	17.15	217.78	3,442.74	-593.21	-447.52	743.08	1.57	-1.57	-0.28
3,637.00	18.64	220.86	3,532.20	-615.53	-465.84	771.93	1.88	1.59	3.28
3,732.00	17.94	219.45	3,622.40	-638.31	-485.07	801.71	0.87	-0.74	-1.48
3,826.00	16.97	218.84	3,712.07	-660.17	-502.87	829.88	1.05	-1.03	-0.65
3,921.00	15.92	221.74	3,803.18	-680.69	-520.24	856.73	1.40	-1.11	3.05
4,015.00	18.38	217.78	3,893.00	-702.03	-537.91	884.41	2.90	2.62	-4.21
4,110.00	17.59	217.43	3,983.36	-725.27	-555.81	913.74	0.84	-0.83	-0.37
4,204.00	18.11	216.55	4,072.83	-748.28	-573.14	942.55	0.62	0.55	-0.94
4,299.00	16.88	216.20	4,163.43	-771.28	-590.08	971.11	1.30	-1.29	-0.37
4,393.00	18.20	215.94	4,253.06	-794.18	-606.76	999.43	1.41	1.40	-0.28
4,488.00	16.62	216.99	4,343.71	-817.04	-623.64	1,027.85	1.70	-1.66	1.11
4,583.00	16.97	216.90	4,434.65	-838.98	-640.14	1,055.30	0.37	0.37	-0.09
4,678.00	15.74	216.29	4,525.81	-860.45	-656.09	1,082.05	1.31	-1.29	-0.64
4,772.00	15.32	218.04	4,616.38	-880.51	-671.29	1,107.21	0.67	-0.45	1.86
4,867.00	14.95	218.84	4,708.08	-899.94	-686.71	1,132.01	0.45	-0.39	0.84
4,961.00	16.88	216.82	4,798.48	-920.31	-702.49	1,157.78	2.14	2.05	-2.15
5,056.00	18.73	217.43	4,888.92	-943.47	-720.03	1,186.83	1.96	1.95	0.64
5,150.00	18.20	215.67	4,978.08	-967.38	-737.76	1,216.60	0.82	-0.56	-1.87
5,245.00	16.97	216.90	5,068.64	-990.52	-754.74	1,245.29	1.35	-1.29	1.29
5,339.00	18.47	216.29	5,158.18	-1,013.49	-771.79	1,273.90	1.61	1.60	-0.65
5,434.00	18.29	216.55	5,248.33	-1,037.59	-789.57	1,303.85	0.21	-0.19	0.27
5,529.00	17.23	214.36	5,338.80	-1,061.18	-806.39	1,332.81	1.32	-1.12	-2.31
5,623.00	16.62	214.88	5,428.73	-1,083.71	-821.94	1,360.15	0.67	-0.65	0.55
5,718.00	15.48	214.88	5,520.03	-1,105.25	-836.96	1,386.39	1.20	-1.20	0.00
5,812.00	12.66	217.70	5,611.20	-1,123.70	-850.43	1,409.23	3.09	-3.00	3.00
5,907.00	9.94	218.84	5,704.35	-1,138.32	-861.94	1,427.84	2.87	-2.86	1.20

Company: OXY USA RMAT
Project: Garfield County, CO NAD27
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North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM 2003.16 Multi-User Db

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)
6,002.00	8.97	219.89	5,798.06	-1,150.39	-871.84	1,443.43	1.04	-1.02	1.11
6,097.00	8.62	218.84	5,891.94	-1,161.62	-881.05	1,457.95	0.41	-0.37	-1.11
6,192.00	7.56	218.66	5,985.99	-1,172.05	-889.42	1,471.31	1.12	-1.12	-0.19
6,286.00	8.44	217.87	6,079.08	-1,182.32	-897.52	1,484.39	0.94	0.94	-0.84
6,381.00	8.00	217.17	6,173.10	-1,193.09	-905.79	1,497.97	0.47	-0.46	-0.74
6,476.00	7.47	216.46	6,267.24	-1,203.33	-913.46	1,510.76	0.57	-0.56	-0.75
6,571.00	6.95	216.29	6,361.49	-1,212.92	-920.53	1,522.68	0.55	-0.55	-0.18
6,665.00	8.44	217.08	6,454.64	-1,223.01	-928.05	1,535.27	1.59	1.59	0.84
6,760.00	8.09	218.84	6,548.65	-1,233.78	-936.45	1,548.92	0.45	-0.37	1.85
6,854.00	7.74	219.98	6,641.76	-1,243.78	-944.66	1,561.85	0.41	-0.37	1.21
6,949.00	6.60	215.85	6,736.01	-1,253.11	-951.97	1,573.70	1.32	-1.20	-4.35
7,044.00	7.83	212.07	6,830.26	-1,263.02	-958.61	1,585.61	1.39	1.29	-3.98
7,138.00	9.06	215.67	6,923.24	-1,274.46	-966.32	1,599.38	1.42	1.31	3.83
7,233.00	8.79	213.04	7,017.09	-1,286.62	-974.64	1,614.10	0.51	-0.28	-2.77
7,328.00	7.91	213.21	7,111.08	-1,298.18	-982.18	1,627.86	0.93	-0.93	0.18
7,423.00	7.47	213.04	7,205.23	-1,308.82	-989.13	1,640.54	0.46	-0.46	-0.18
7,517.00	7.39	215.67	7,298.44	-1,318.85	-995.98	1,652.68	0.37	-0.09	2.80
7,612.00	8.09	220.07	7,392.57	-1,328.93	-1,003.85	1,665.46	0.96	0.74	4.63
7,707.00	9.06	217.17	7,486.51	-1,340.01	-1,012.67	1,679.62	1.12	1.02	-3.05
7,802.00	9.06	214.27	7,580.32	-1,352.15	-1,021.40	1,694.57	0.48	0.00	-3.05
7,896.00	8.18	214.36	7,673.26	-1,363.79	-1,029.34	1,708.64	0.94	-0.94	0.10
7,991.00	8.18	216.64	7,767.29	-1,374.79	-1,037.19	1,722.14	0.34	0.00	2.40
8,086.00	8.97	211.72	7,861.23	-1,386.51	-1,045.12	1,736.28	1.13	0.83	-5.18
8,181.00	8.44	215.67	7,955.14	-1,398.48	-1,053.08	1,750.62	0.84	-0.56	4.16
8,275.00	7.74	219.01	8,048.20	-1,409.00	-1,061.09	1,763.84	0.90	-0.74	3.55
8,370.00	6.95	218.13	8,142.42	-1,418.49	-1,068.66	1,775.98	0.84	-0.83	-0.93
8,465.00	6.24	221.12	8,236.79	-1,426.90	-1,075.61	1,786.88	0.83	-0.75	3.15
8,560.00	5.63	222.79	8,331.28	-1,434.21	-1,082.17	1,796.67	0.67	-0.64	1.76
8,655.00	5.19	220.24	8,425.86	-1,440.91	-1,088.11	1,805.60	0.53	-0.46	-2.68
8,749.00	5.01	221.21	8,519.49	-1,447.24	-1,093.56	1,813.94	0.21	-0.19	1.03
8,844.00	4.66	224.38	8,614.15	-1,453.12	-1,098.99	1,821.90	0.46	-0.37	3.34
8,939.00	4.57	224.55	8,708.84	-1,458.58	-1,104.34	1,829.49	0.10	-0.09	0.18
9,033.00	4.40	221.56	8,802.56	-1,463.95	-1,109.36	1,836.80	0.31	-0.18	-3.18
9,128.00	4.04	226.31	8,897.30	-1,468.98	-1,114.20	1,843.73	0.53	-0.38	5.00
9,223.00	3.96	231.58	8,992.07	-1,473.33	-1,119.19	1,850.22	0.40	-0.08	5.55
9,318.00	3.52	229.65	9,086.86	-1,477.26	-1,123.98	1,856.24	0.48	-0.46	-2.03
9,413.00	3.17	233.69	9,181.70	-1,480.70	-1,128.32	1,861.61	0.44	-0.37	4.25
9,476.00	2.99	232.29	9,244.61	-1,482.74	-1,131.03	1,864.87	0.31	-0.29	-2.22
Last SDI Production MWD Survey									
9,533.00	2.99	232.29	9,301.53	-1,484.56	-1,133.38	1,867.74	0.00	0.00	0.00
Projection To TD - BHL = 625072.84, 1228531.51									

Company: OXY USA RMAT
Project: Garfield County, CO NAD27
Site: Cascade Creek 697-16A II Pad
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Local Co-ordinate Reference: Well 697-17-56B
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North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM 2003.16 Multi-User Db

Targets
Target Name

- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- Shape									
697-17-56B WF Target	-8.00	217.22	7,756.00	-1,332.83	-1,012.37	625,220.86	1,228,657.02	39° 31' 5.426 N	108° 14' 4.268 W
- actual wellpath misses target center by 46.66ft at 7972.91ft MD (7749.39 TVD, -1372.72 N, -1035.66 E)									
- Circle (radius 50.00)									

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
156.00	156.00	-0.37	-0.41	First SDI Surface MWD Survey
2,694.00	2,633.09	-390.33	-294.48	Last SDI Surface MWD Survey
2,786.00	2,721.79	-409.35	-309.79	First SDI Production MWD Survey
9,476.00	9,244.61	-1,482.74	-1,131.03	Last SDI Production MWD Survey
9,533.00	9,301.53	-1,484.56	-1,133.38	Projection To TD
9,533.00	9,301.53	-1,484.56	-1,133.38	BHL = 625072.84, 1228531.51

Checked By: _____ Approved By: _____ Date: _____