

Well Name: Dettterer FD 25-6D

Surface Location: Dettterer FD 25-6D Pad Sec.25-T6N-R67W
 North American Datum 1983 US State Plane 1983 Colorado Northern Zone
 Ground Elevation: 4744.0
 Easting 3183271.14 Latitude 40.464972 Longitude -104.841322
 Original Well Elev WELL @ 4758.0ft (Original Well Elev)

+N/-S +E/-W
 0.0 0.0

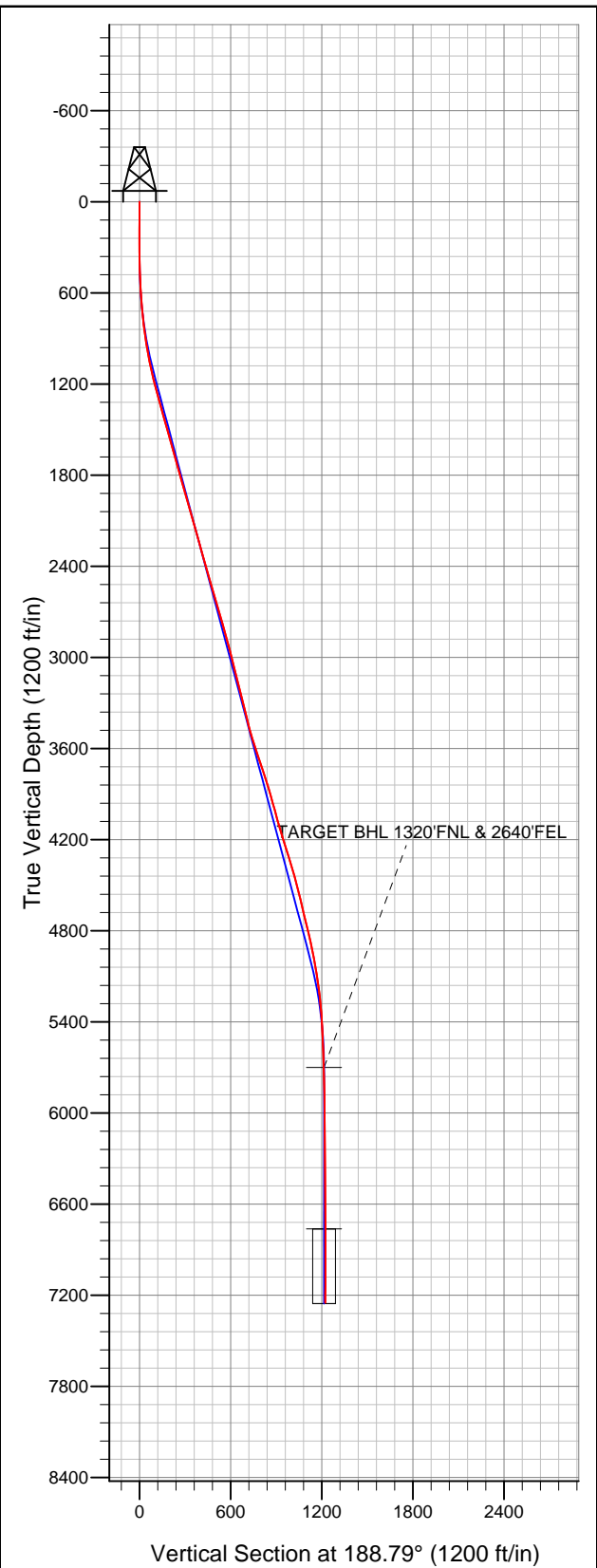
Northing
 1412910.32

Easting
 3183271.14

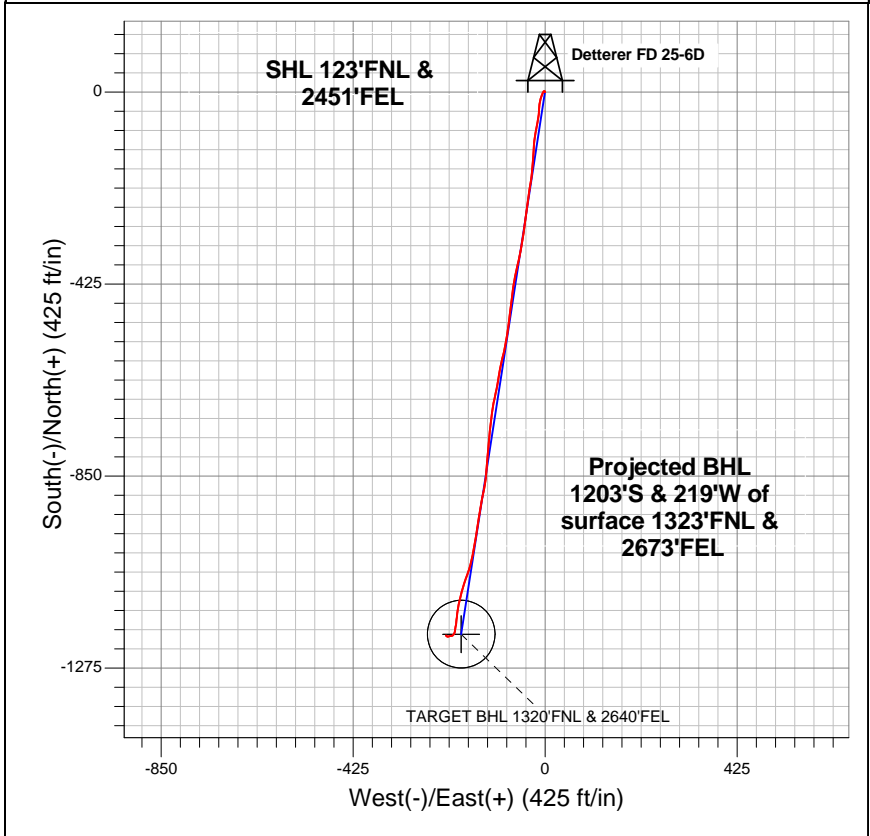
Latitude
 40.464972

Longitude
 -104.841322

Slot



Great Western



LEGEND

- Dettterer FD 25-6D, Wellbore #1, Plan #1 (10-23-12) V0
- Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
 7406'MD & 7249'TVD @ 1222'VS
 1.10 deg Inc 316.90 deg AZ

Project: SEC.25-T6N-R67W
 Site: Dettterer FD 25-6D Pad Sec.25-T6N-R67W
 Well: Dettterer FD 25-6D
 Plan: Wellbore #1



Directional

Great Western

SEC.25-T6N-R67W

Detterer FD 25-6D Pad Sec.25-T6N-R67W

Detterer FD 25-6D

Wellbore #1

Survey: Survey #1

Standard Survey Report

05 November, 2012

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)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
88.0	0.70	330.00	88.0	0.5	-0.3	-0.4	0.80	0.80	0.00
180.0	0.80	338.30	180.0	1.5	-0.8	-1.4	0.16	0.11	9.02
271.0	0.50	275.90	271.0	2.2	-1.4	-1.9	0.79	-0.33	-68.57
362.0	1.00	240.90	362.0	1.8	-2.5	-1.4	0.72	0.55	-38.46
453.0	2.50	210.90	452.9	-0.3	-4.2	0.9	1.88	1.65	-32.97
544.0	3.70	198.70	543.8	-4.7	-6.2	5.6	1.50	1.32	-13.41
604.0	3.70	199.80	603.7	-8.4	-7.5	9.4	0.12	0.00	1.83
666.0	4.00	199.10	665.5	-12.3	-8.8	13.5	0.49	0.48	-1.13
761.0	5.70	195.20	760.2	-20.0	-11.2	21.5	1.82	1.79	-4.11
856.0	7.50	182.40	854.6	-30.8	-12.7	32.3	2.44	1.89	-13.47
951.0	9.30	183.80	948.5	-44.6	-13.4	46.1	1.91	1.89	1.47
1,046.0	11.20	192.10	1,042.0	-61.3	-15.9	63.0	2.53	2.00	8.74

Company:	Great Western	Local Co-ordinate Reference:	Well Detteler FD 25-6D
Project:	SEC.25-T6N-R67W	TVD Reference:	WELL @ 4758.0ft (Original Well Elev)
Site:	Detteler FD 25-6D Pad Sec.25-T6N-R67W	MD Reference:	WELL @ 4758.0ft (Original Well Elev)
Well:	Detteler FD 25-6D	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

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)	
1,141.0	13.30	190.10	1,134.9	-81.1	-19.7	83.1	2.25	2.21	-2.11	
1,236.0	15.50	187.10	1,226.9	-104.4	-23.2	106.8	2.44	2.32	-3.16	
1,331.0	15.60	183.10	1,318.4	-129.8	-25.5	132.1	1.13	0.11	-4.21	
1,426.0	14.90	185.20	1,410.0	-154.7	-27.3	157.1	0.94	-0.74	2.21	
1,521.0	15.70	183.80	1,501.7	-179.7	-29.2	182.0	0.93	0.84	-1.47	
1,616.0	15.70	189.10	1,593.1	-205.2	-32.1	207.7	1.51	0.00	5.58	
1,711.0	16.40	189.30	1,684.4	-231.1	-36.3	234.0	0.74	0.74	0.21	
1,806.0	16.10	188.00	1,775.6	-257.4	-40.3	260.6	0.50	-0.32	-1.37	
1,901.0	14.90	187.50	1,867.2	-282.6	-43.7	285.9	1.27	-1.26	-0.53	
1,993.0	15.40	188.20	1,956.0	-306.4	-47.0	310.0	0.58	0.54	0.76	
2,088.0	15.60	187.90	2,047.5	-331.5	-50.6	335.4	0.23	0.21	-0.32	
2,183.0	17.10	192.10	2,138.7	-357.8	-55.3	362.1	2.01	1.58	4.42	
2,278.0	15.60	192.80	2,229.8	-384.0	-61.0	388.8	1.59	-1.58	0.74	
2,372.0	14.90	191.40	2,320.5	-408.1	-66.2	413.4	0.84	-0.74	-1.49	
2,467.0	15.70	188.00	2,412.2	-432.8	-70.4	438.5	1.26	0.84	-3.58	
2,562.0	16.60	188.00	2,503.4	-459.0	-74.1	464.9	0.95	0.95	0.00	
2,657.0	17.10	186.30	2,594.3	-486.3	-77.5	492.4	0.74	0.53	-1.79	
2,752.0	15.70	187.10	2,685.5	-513.0	-80.6	519.2	1.49	-1.47	0.84	
2,846.0	15.50	189.10	2,776.0	-538.0	-84.2	544.5	0.61	-0.21	2.13	
2,941.0	16.20	191.20	2,867.4	-563.5	-88.8	570.5	0.95	0.74	2.21	
3,036.0	14.60	193.80	2,959.0	-588.1	-94.2	595.6	1.83	-1.68	2.74	
3,131.0	14.20	191.70	3,051.0	-611.2	-99.4	619.2	0.69	-0.42	-2.21	
3,226.0	13.60	187.90	3,143.2	-633.7	-103.3	642.0	1.15	-0.63	-4.00	
3,320.0	14.40	191.20	3,234.4	-656.1	-107.1	664.7	1.20	0.85	3.51	
3,414.0	13.50	193.50	3,325.7	-678.2	-111.9	687.3	1.12	-0.96	2.45	
3,508.0	14.20	188.00	3,416.9	-700.3	-116.1	709.8	1.59	0.74	-5.85	
3,602.0	16.50	186.80	3,507.6	-725.0	-119.3	734.7	2.47	2.45	-1.28	
3,697.0	17.90	185.90	3,598.3	-752.9	-122.4	762.7	1.50	1.47	-0.95	
3,792.0	18.60	185.20	3,688.5	-782.5	-125.3	792.4	0.77	0.74	-0.74	
3,887.0	18.90	184.30	3,778.5	-812.9	-127.8	822.9	0.44	0.32	-0.95	
3,982.0	16.60	185.00	3,869.0	-841.8	-130.1	851.8	2.43	-2.42	0.74	
4,076.0	14.90	188.40	3,959.4	-867.1	-133.1	877.3	2.06	-1.81	3.62	
4,171.0	16.00	191.00	4,051.0	-892.1	-137.3	902.6	1.37	1.16	2.74	
4,266.0	16.00	191.40	4,142.3	-917.7	-142.4	928.7	0.12	0.00	0.42	
4,361.0	16.90	189.10	4,233.4	-944.2	-147.2	955.6	1.17	0.95	-2.42	
4,456.0	18.60	188.40	4,323.9	-972.8	-151.6	984.6	1.80	1.79	-0.74	
4,550.0	15.30	188.40	4,413.8	-999.9	-155.6	1,012.0	3.51	-3.51	0.00	
4,645.0	14.60	191.50	4,505.6	-1,024.1	-159.8	1,036.5	1.12	-0.74	3.26	
4,737.0	14.20	195.60	4,594.7	-1,046.3	-165.2	1,059.3	1.19	-0.43	4.46	
4,832.0	13.20	200.50	4,687.0	-1,067.7	-172.1	1,081.5	1.61	-1.05	5.16	
4,927.0	14.20	197.20	4,779.3	-1,089.0	-179.3	1,103.6	1.34	1.05	-3.47	
5,021.0	12.40	195.40	4,870.8	-1,109.7	-185.4	1,125.0	1.96	-1.91	-1.91	
5,116.0	11.00	192.10	4,963.8	-1,128.4	-190.0	1,144.2	1.63	-1.47	-3.47	
5,211.0	9.50	189.40	5,057.3	-1,145.0	-193.2	1,161.1	1.66	-1.58	-2.84	
5,306.0	8.20	185.20	5,151.2	-1,159.5	-195.1	1,175.7	1.53	-1.37	-4.42	
5,401.0	5.80	186.80	5,245.4	-1,171.0	-196.3	1,187.3	2.53	-2.53	1.68	
5,495.0	4.70	187.50	5,339.1	-1,179.6	-197.4	1,195.9	1.17	-1.17	0.74	
5,590.0	2.90	194.70	5,433.8	-1,185.7	-198.5	1,202.1	1.96	-1.89	7.58	
5,685.0	2.60	181.70	5,528.7	-1,190.2	-199.2	1,206.7	0.73	-0.32	-13.68	
5,780.0	1.80	193.10	5,623.7	-1,193.8	-199.6	1,210.3	0.96	-0.84	12.00	
5,856.4	1.51	197.57	5,700.0	-1,196.0	-200.1	1,212.5	0.42	-0.39	5.85	
TARGET BHL 1320'FNL & 2640'FEL										
5,969.0	1.10	208.40	5,812.6	-1,198.3	-201.1	1,215.0	0.42	-0.36	9.62	
6,159.0	1.00	215.40	6,002.6	-1,201.3	-202.9	1,218.2	0.09	-0.05	3.68	

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Well:	Dettterer FD 25-6D	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

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)	
6,348.0	0.70	243.40	6,191.5	-1,203.1	-204.9	1,220.3	0.27	-0.16	14.81	
6,538.0	0.70	259.90	6,381.5	-1,203.9	-207.1	1,221.4	0.11	0.00	8.68	
6,728.0	1.20	266.10	6,571.5	-1,204.2	-210.2	1,222.2	0.27	0.26	3.26	
6,917.0	0.60	233.00	6,760.5	-1,204.9	-213.0	1,223.3	0.41	-0.32	-17.51	
6,919.1	0.60	233.62	6,762.6	-1,204.9	-213.0	1,223.3	0.33	0.11	29.00	
TARGET CIRCLE 1320'FNL &2640'FEL										
7,107.0	1.00	268.40	6,950.5	-1,205.6	-215.4	1,224.3	0.33	0.21	18.51	
7,296.0	0.80	328.10	7,139.4	-1,204.5	-217.8	1,223.6	0.48	-0.11	31.59	
7,356.0	1.10	316.90	7,199.4	-1,203.7	-218.4	1,223.0	0.59	0.50	-18.67	
7,406.0	1.10	316.90	7,249.4	-1,203.0	-219.1	1,222.4	0.00	0.00	0.00	

Wellbore Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude		Longitude
- hit/miss target										
- Shape										
TARGET BHL 1320'F	0.00	0.00	5,700.0	-1,200.0	-185.6	1,411,708.98	3,183,094.47	40.461678		-104.841989
- survey misses target center by 15.1ft at 5856.4ft MD (5700.0 TVD, -1196.0 N, -200.1 E)										
- Point										
TARGET CIRCLE 1320'F	0.00	0.00	6,763.0	-1,200.0	-185.6	1,411,708.98	3,183,094.47	40.461678		-104.841989
- survey misses target center by 27.8ft at 6919.1ft MD (6762.6 TVD, -1204.9 N, -213.0 E)										
- Circle (radius 75.0)										

Checked By: _____ Approved By: _____ Date: _____