

Well Name: **Detterer FD 25-7D**

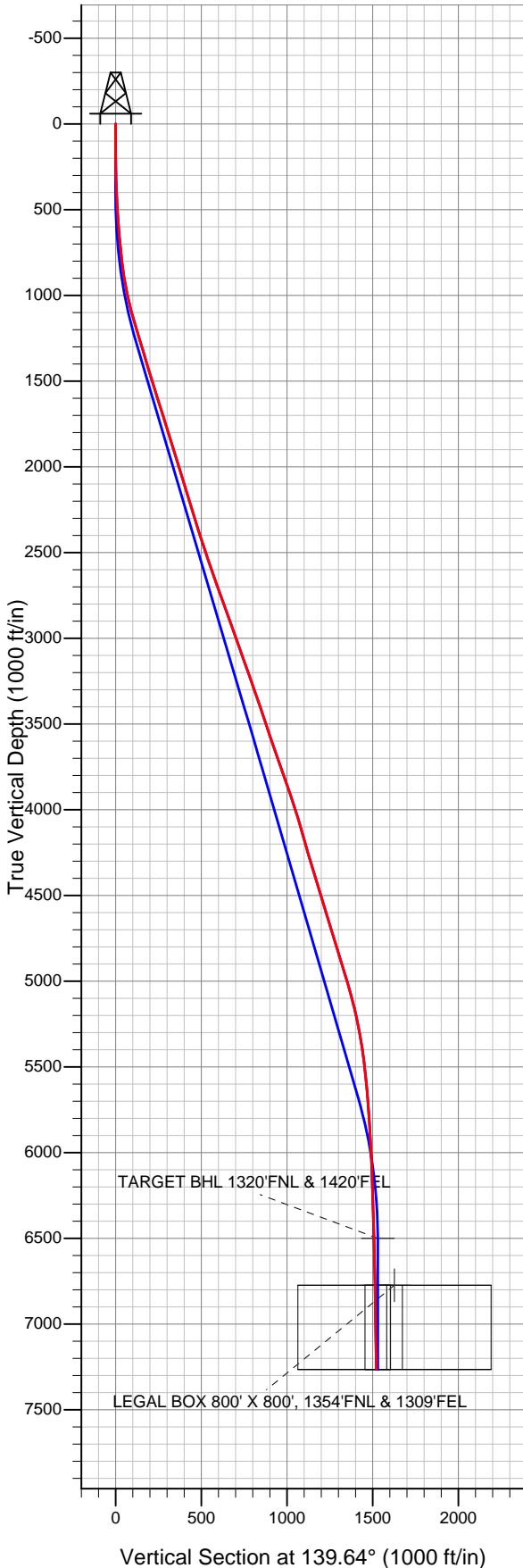
Surface Location: Detterer FD 25-6D Pad Sec.25-T6N-R67W
 North American Datum 1983 US State Plane 1983 Colorado Northern Zone

Ground Elevation: 4744.0

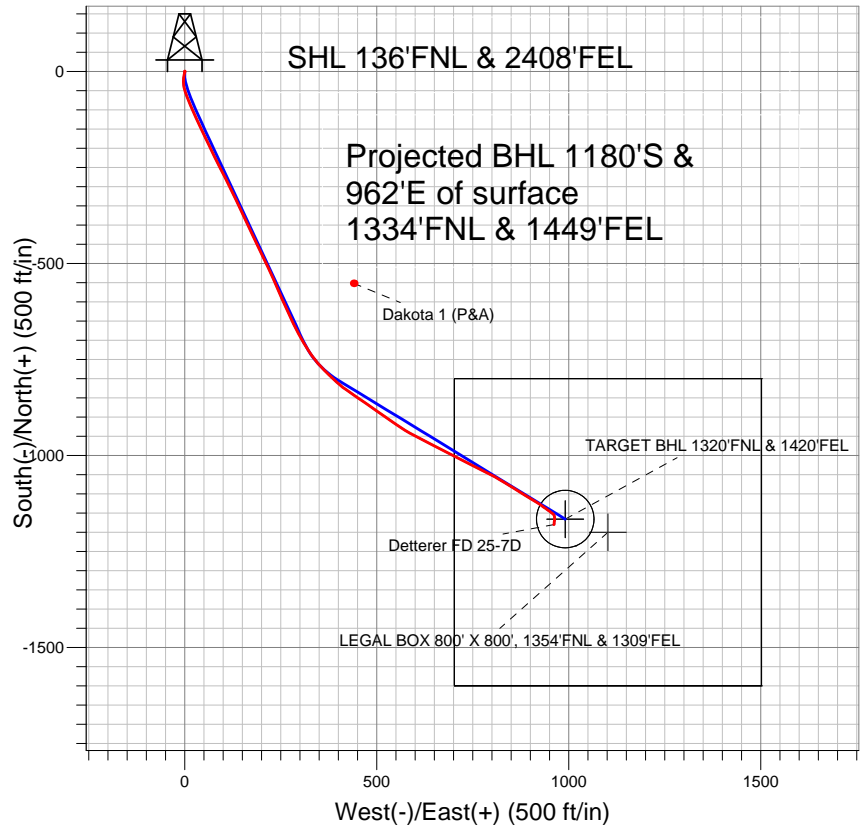
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	1412898.62	3183313.80	40.464939	-104.841169

Original Well Elev WELL @ 4758.0ft (Original Well Elev)

Slot



Great Western



LEGEND

- Detterer FD 25-7D, Wellbore #1, Plan #1 (11-12-12)R V0
- ◇ Dakota 1 (P&A), Wellbore #1, Wellbore #1 V0
- Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
 7500'MD & 7263'TVD @ 1522'VS
 1.1 deg Inc 190.1 deg AZ

Project: SEC.25-T6N-R67W
 Site: Detterer FD 25-6D Pad Sec.25-T6N-R67W
 Well: Detterer FD 25-7D
 Plan: Wellbore #1



Directional

Great Western

SEC.25-T6N-R67W

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

Detterer FD 25-7D

Wellbore #1

Survey: Survey #1

Standard Survey Report

19 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
57.0	1.00	38.10	57.0	0.4	0.3	-0.1	1.75	1.75	0.00
149.0	0.40	204.00	149.0	0.7	0.7	-0.1	1.51	-0.65	180.33
241.0	2.20	188.00	241.0	-1.3	0.3	1.2	1.98	1.96	-17.39
332.0	3.10	198.40	331.9	-5.4	-0.7	3.6	1.12	0.99	11.43
423.0	4.00	190.50	422.7	-10.8	-2.1	6.9	1.12	0.99	-8.68
513.0	5.00	185.20	512.4	-17.8	-3.0	11.6	1.20	1.11	-5.89
605.0	5.60	180.00	604.0	-26.3	-3.4	17.9	0.83	0.65	-5.65
693.0	6.40	173.10	691.5	-35.5	-2.8	25.2	1.22	0.91	-7.84
788.0	7.40	163.40	785.9	-46.6	-0.4	35.2	1.61	1.05	-10.21
883.0	9.10	161.50	879.9	-59.6	3.7	47.8	1.81	1.79	-2.00
978.0	12.00	157.30	973.3	-75.8	9.9	64.2	3.16	3.05	-4.42
1,073.0	14.50	156.70	1,065.7	-95.9	18.4	85.0	2.64	2.63	-0.63

Company:	Great Western	Local Co-ordinate Reference:	Well Dettterer FD 25-7D
Project:	SEC.25-T6N-R67W	TVD Reference:	WELL @ 4758.0ft (Original Well Elev)
Site:	Dettterer FD 25-6D Pad Sec.25-T6N-R67W	MD Reference:	WELL @ 4758.0ft (Original Well Elev)
Well:	Dettterer FD 25-7D	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)	
1,167.0	17.40	154.80	1,156.1	-119.4	29.1	109.8	3.13	3.09	-2.02	
1,262.0	17.50	155.70	1,246.7	-145.3	41.0	137.2	0.30	0.11	0.95	
1,357.0	17.10	154.80	1,337.4	-170.9	52.8	164.4	0.51	-0.42	-0.95	
1,452.0	17.20	153.70	1,428.2	-196.1	65.0	191.6	0.36	0.11	-1.16	
1,547.0	17.90	153.60	1,518.8	-221.8	77.7	219.3	0.74	0.74	-0.11	
1,641.0	18.00	153.60	1,608.2	-247.8	90.6	247.5	0.11	0.11	0.00	
1,736.0	18.00	152.70	1,698.5	-273.9	103.9	276.0	0.29	0.00	-0.95	
1,831.0	17.80	153.60	1,789.0	-300.0	117.1	304.4	0.36	-0.21	0.95	
1,926.0	17.60	154.40	1,879.5	-326.0	129.7	332.4	0.33	-0.21	0.84	
2,020.0	17.90	155.50	1,969.0	-351.9	141.8	360.0	0.48	0.32	1.17	
2,115.0	17.70	155.10	2,059.4	-378.3	154.0	388.0	0.25	-0.21	-0.42	
2,210.0	17.20	153.00	2,150.1	-403.9	166.4	415.6	0.85	-0.53	-2.21	
2,305.0	17.80	155.10	2,240.7	-429.6	178.9	443.2	0.92	0.63	2.21	
2,399.0	17.50	155.10	2,330.2	-455.5	190.9	470.7	0.32	-0.32	0.00	
2,494.0	18.70	154.80	2,420.5	-482.2	203.4	499.2	1.27	1.26	-0.32	
2,589.0	19.80	154.40	2,510.2	-510.5	216.9	529.4	1.17	1.16	-0.42	
2,684.0	19.70	155.30	2,599.6	-539.5	230.5	560.4	0.34	-0.11	0.95	
2,779.0	19.70	157.40	2,689.1	-568.9	243.4	591.1	0.75	0.00	2.21	
2,873.0	21.40	155.70	2,777.1	-599.1	256.5	622.6	1.92	1.81	-1.81	
2,968.0	21.00	155.80	2,865.7	-630.5	270.6	655.6	0.42	-0.42	0.11	
3,063.0	19.50	153.70	2,954.8	-660.2	284.6	687.4	1.75	-1.58	-2.21	
3,158.0	19.70	151.10	3,044.3	-688.4	299.4	718.4	0.94	0.21	-2.74	
3,253.0	20.00	148.50	3,133.6	-716.3	315.6	750.2	0.98	0.32	-2.74	
3,345.0	20.00	143.70	3,220.1	-742.4	333.1	781.4	1.78	0.00	-5.22	
3,439.0	19.10	137.60	3,308.7	-766.7	353.0	812.8	2.37	-0.96	-6.49	
3,534.0	18.80	134.40	3,398.5	-788.9	374.4	843.6	1.14	-0.32	-3.37	
3,629.0	18.20	132.60	3,488.6	-809.7	396.3	873.6	0.87	-0.63	-1.89	
3,724.0	19.10	124.60	3,578.7	-828.5	420.0	903.3	2.85	0.95	-8.42	
3,819.0	20.00	124.40	3,668.2	-846.5	446.2	934.0	0.95	0.95	-0.21	
3,913.0	20.50	124.60	3,756.4	-865.0	473.0	965.4	0.54	0.53	0.21	
4,008.0	20.20	125.10	3,845.4	-883.8	500.1	997.3	0.36	-0.32	0.53	
4,103.0	18.80	125.40	3,935.0	-902.1	526.0	1,028.1	1.48	-1.47	0.32	
4,198.0	17.60	123.90	4,025.2	-919.0	550.4	1,056.7	1.36	-1.26	-1.58	
4,293.0	17.10	121.70	4,115.9	-934.4	574.3	1,083.8	0.87	-0.53	-2.32	
4,387.0	16.90	117.70	4,205.8	-948.0	598.1	1,109.7	1.26	-0.21	-4.26	
4,482.0	18.10	117.40	4,296.4	-961.2	623.4	1,136.1	1.27	1.26	-0.32	
4,577.0	18.60	117.40	4,386.6	-975.0	650.0	1,163.8	0.53	0.53	0.00	
4,672.0	17.90	117.90	4,476.8	-988.8	676.3	1,191.4	0.76	-0.74	0.53	
4,762.0	18.00	116.80	4,562.4	-1,001.5	701.0	1,217.1	0.39	0.11	-1.22	
4,856.0	18.10	116.10	4,651.8	-1,014.5	727.1	1,243.8	0.25	0.11	-0.74	
4,951.0	18.90	117.40	4,741.9	-1,028.0	754.0	1,271.6	0.95	0.84	1.37	
5,046.0	18.90	117.00	4,831.8	-1,042.1	781.3	1,300.1	0.14	0.00	-0.42	
5,141.0	17.90	118.90	4,921.9	-1,056.1	807.8	1,327.9	1.23	-1.05	2.00	
5,236.0	17.20	121.40	5,012.5	-1,070.5	832.6	1,354.9	1.08	-0.74	2.63	
5,330.0	15.30	121.00	5,102.7	-1,084.2	855.1	1,379.9	2.02	-2.02	-0.43	
5,425.0	13.20	123.00	5,194.8	-1,096.5	874.9	1,402.1	2.27	-2.21	2.11	
5,520.0	11.10	120.90	5,287.7	-1,107.1	891.9	1,421.2	2.26	-2.21	-2.21	
5,615.0	9.20	122.10	5,381.2	-1,115.9	906.2	1,437.1	2.01	-2.00	1.26	
5,710.0	7.50	122.30	5,475.2	-1,123.2	917.8	1,450.2	1.79	-1.79	0.21	
5,804.0	6.20	122.50	5,568.5	-1,129.2	927.3	1,461.0	1.38	-1.38	0.21	
5,899.0	4.70	126.70	5,663.1	-1,134.3	934.8	1,469.7	1.63	-1.58	4.42	
5,994.0	4.10	125.60	5,757.8	-1,138.6	940.6	1,476.7	0.64	-0.63	-1.16	
6,089.0	3.60	125.40	5,852.6	-1,142.3	945.8	1,482.9	0.53	-0.53	-0.21	
6,184.0	3.20	128.10	5,947.4	-1,145.7	950.3	1,488.4	0.45	-0.42	2.84	

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6,279.0	2.60	124.60	6,042.3	-1,148.5	954.2	1,493.1	0.66	-0.63	-3.68	
6,468.0	1.80	132.30	6,231.1	-1,153.0	959.9	1,500.2	0.45	-0.42	4.07	
6,658.0	1.70	168.30	6,421.1	-1,157.7	962.7	1,505.6	0.57	-0.05	18.95	
6,737.2	1.73	173.30	6,500.3	-1,160.1	963.1	1,507.6	0.19	0.04	6.31	
TARGET BHL 1320'FNL & 1420'FEL										
6,848.0	1.80	179.90	6,611.0	-1,163.5	963.3	1,510.4	0.19	0.06	5.96	
7,010.0	1.54	189.91	6,772.9	-1,168.2	962.9	1,513.7	0.24	-0.16	6.18	
TARGET CIRCLE 1320'FNL & 1420'FEL										
7,010.2	1.54	189.91	6,773.1	-1,168.2	962.9	1,513.7	0.00	0.00	0.00	
LEGAL BOX 800' X 800', 1354'FNL & 1309'FEL										
7,037.0	1.50	191.90	6,799.9	-1,168.9	962.8	1,514.1	0.24	-0.14	7.45	
7,227.0	1.50	181.50	6,989.8	-1,173.8	962.2	1,517.5	0.14	0.00	-5.47	
7,416.0	1.20	185.40	7,178.8	-1,178.2	962.0	1,520.7	0.17	-0.16	2.06	
7,450.0	1.10	190.10	7,212.8	-1,178.9	961.9	1,521.2	0.40	-0.29	13.82	
7,500.0	1.10	190.10	7,262.8	-1,179.8	961.7	1,521.8	0.00	0.00	0.00	

Checked By: _____ Approved By: _____ Date: _____