

Well Name: **Great Western 25-22-18**

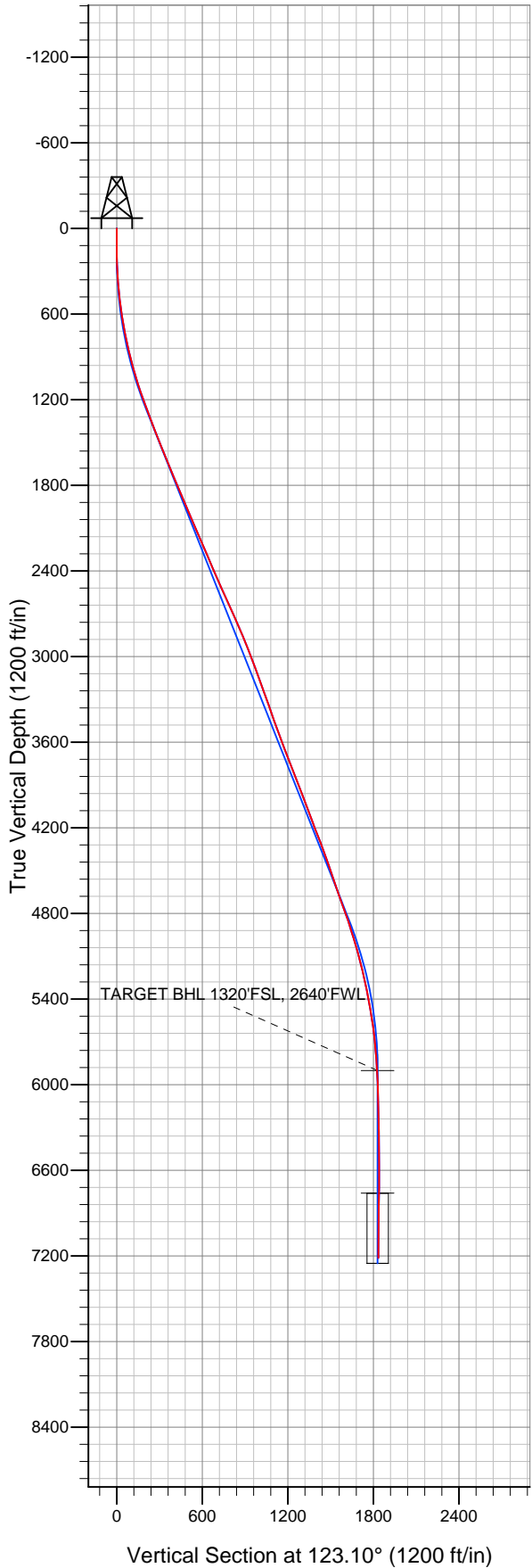
Surface Location: Great Western 25-12-15 Pad Sec.25-T6N-R67W
North American Datum 1983 US State Plane 1983 Colorado Northern Zone

Ground Elevation: 4751.0

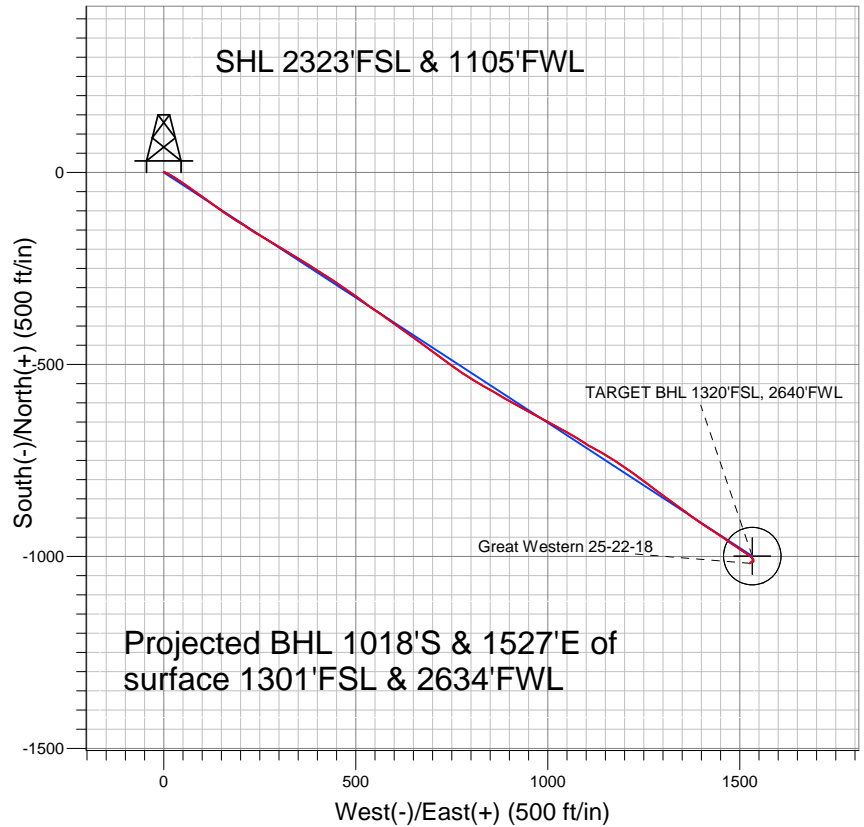
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	1410017.97	3181586.47	40.457067	-104.847453

Original Well Elev WELL @ 4765.0ft (Original Well Elev)

Slot



Great Western



LEGEND

- Great Western 25-22-18, Wellbore #1, Plan #2 (8-24-12) R V0
- Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
7533'MD & 7214'TVD @ 1835'VS
1.8 deg Inc 222.2 deg AZ

Project: SEC.25-T6N-R67W
Site: Great Western 25-12-15 Pad Sec.25-T6N-R67W
Well: Great Western 25-22-18
Plan: Wellbore #1



Directional

Great Western

SEC.25-T6N-R67W

Great Western 25-12-15 Pad Sec.25-T6N-R67W

Great Western 25-22-18

Wellbore #1

Survey: Survey #1

Standard Survey Report

30 August, 2012

Company:	Great Western	Local Co-ordinate Reference:	Well Great Western 25-22-18
Project:	SEC.25-T6N-R67W	TVD Reference:	WELL @ 4765.0ft (Original Well Elev)
Site:	Great Western 25-12-15 Pad Sec.25-T6N-R67W	MD Reference:	WELL @ 4765.0ft (Original Well Elev)
Well:	Great Western 25-22-18	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.25-T6N-R67W, Weld County, Colorado		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		Using Well Reference Point
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site	Great Western 25-12-15 Pad Sec.25-T6N-R67W				
Site Position:		Northing:	1,410,085.03ft	Latitude:	40.457253
From:	Lat/Long	Easting:	3,181,487.19ft	Longitude:	-104.847808
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.42 °

Well	Great Western 25-22-18					
Well Position	+N/-S	0.0 ft	Northing:	1,410,017.97 ft	Latitude:	40.457067
	+E/-W	0.0 ft	Easting:	3,181,586.47 ft	Longitude:	-104.847453
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,751.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	8/24/2012	8.75	67.04	53,027

Design	Wellbore #1				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.0	0.0	0.0	123.10	

Survey Program	Date	8/30/2012			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
58.0	7,533.0	Survey #1 (Wellbore #1)	MWD	MWD - Standard	

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	
58.0	0.60	331.00	58.0	0.3	-0.1	-0.3	1.03	1.03	0.00	
148.0	0.40	42.60	148.0	0.9	-0.2	-0.6	0.67	-0.22	79.56	
239.0	1.80	99.90	239.0	0.9	1.5	0.7	1.78	1.54	62.97	
331.0	3.50	118.30	330.9	-0.7	5.4	4.9	2.04	1.85	20.00	
421.0	5.30	115.90	420.6	-3.8	11.5	11.7	2.01	2.00	-2.67	
512.0	6.90	120.30	511.1	-8.4	20.0	21.4	1.83	1.76	4.84	
603.0	9.10	123.90	601.2	-15.2	30.7	34.0	2.48	2.42	3.96	
694.0	11.10	124.00	690.8	-24.1	43.9	50.0	2.20	2.20	0.11	
789.0	11.50	125.00	783.9	-34.6	59.3	68.6	0.47	0.42	1.05	
883.0	12.80	123.60	875.8	-45.8	75.6	88.4	1.42	1.38	-1.49	
977.0	15.20	126.20	967.0	-58.8	94.3	111.1	2.64	2.55	2.77	
1,071.0	17.20	125.90	1,057.3	-74.2	115.5	137.3	2.13	2.13	-0.32	

Company:	Great Western	Local Co-ordinate Reference:	Well Great Western 25-22-18
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Site:	Great Western 25-12-15 Pad Sec.25-T6N-R67W	MD Reference:	WELL @ 4765.0ft (Original Well Elev)
Well:	Great Western 25-22-18	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)
1,165.0	19.50	126.60	1,146.5	-91.7	139.3	166.8	2.46	2.45	0.74
1,258.0	20.40	122.90	1,233.9	-109.8	165.4	198.5	1.67	0.97	-3.98
1,352.0	20.60	122.50	1,322.0	-127.6	193.1	231.4	0.26	0.21	-0.43
1,446.0	21.50	123.80	1,409.7	-146.1	221.4	265.2	1.08	0.96	1.38
1,543.0	21.90	120.40	1,499.8	-165.1	251.7	301.0	1.36	0.41	-3.51
1,640.0	22.30	119.90	1,589.7	-183.4	283.3	337.5	0.46	0.41	-0.52
1,738.0	22.20	122.90	1,680.4	-202.7	314.9	374.6	1.16	-0.10	3.06
1,832.0	22.30	120.80	1,767.4	-221.5	345.2	410.1	0.85	0.11	-2.23
1,927.0	22.30	121.50	1,855.3	-240.2	376.0	446.2	0.28	0.00	0.74
2,022.0	23.70	122.50	1,942.8	-259.9	407.5	483.3	1.53	1.47	1.05
2,115.0	24.20	123.40	2,027.8	-280.4	439.2	521.0	0.67	0.54	0.97
2,212.0	23.70	125.40	2,116.4	-302.6	471.7	560.4	0.98	-0.52	2.06
2,307.0	23.00	126.60	2,203.6	-324.8	502.1	598.0	0.89	-0.74	1.26
2,402.0	23.10	125.20	2,291.0	-346.6	532.3	635.1	0.59	0.11	-1.47
2,497.0	22.00	123.40	2,378.8	-367.1	562.3	671.6	1.37	-1.16	-1.89
2,591.0	24.40	126.20	2,465.2	-388.3	592.7	708.6	2.81	2.55	2.98
2,686.0	25.20	126.40	2,551.4	-411.9	624.8	748.3	0.85	0.84	0.21
2,781.0	23.70	125.40	2,637.9	-434.9	656.7	787.6	1.64	-1.58	-1.05
2,875.0	23.40	127.10	2,724.1	-457.1	687.0	825.1	0.79	-0.32	1.81
2,970.0	24.10	125.70	2,811.0	-479.8	717.8	863.3	0.95	0.74	-1.47
3,063.0	22.50	125.90	2,896.4	-501.3	747.6	900.1	1.72	-1.72	0.22
3,158.0	20.40	124.50	2,984.8	-521.4	776.0	934.8	2.28	-2.21	-1.47
3,253.0	20.40	120.80	3,073.9	-539.2	803.8	967.9	1.36	0.00	-3.89
3,347.0	20.30	120.10	3,162.0	-555.8	832.0	1,000.5	0.28	-0.11	-0.74
3,442.0	20.00	119.00	3,251.2	-571.9	860.5	1,033.2	0.51	-0.32	-1.16
3,537.0	20.00	121.50	3,340.5	-588.3	888.5	1,065.6	0.90	0.00	2.63
3,631.0	19.50	118.80	3,429.0	-604.3	916.0	1,097.3	1.11	-0.53	-2.87
3,728.0	19.20	118.30	3,520.5	-619.6	944.2	1,129.4	0.35	-0.31	-0.52
3,823.0	20.80	118.70	3,609.7	-635.1	972.8	1,161.8	1.69	1.68	0.42
3,916.0	21.40	118.00	3,696.5	-651.0	1,002.2	1,195.1	0.70	0.65	-0.75
4,011.0	21.60	118.00	3,784.9	-667.4	1,033.0	1,229.8	0.21	0.21	0.00
4,105.0	21.10	120.30	3,872.4	-684.0	1,062.9	1,263.9	1.04	-0.53	2.45
4,200.0	20.80	123.10	3,961.2	-701.9	1,091.8	1,297.9	1.10	-0.32	2.95
4,295.0	20.70	119.60	4,050.0	-719.4	1,120.5	1,331.5	1.31	-0.11	-3.68
4,390.0	20.50	118.70	4,138.9	-735.7	1,149.7	1,364.9	0.39	-0.21	-0.95
4,485.0	21.50	124.50	4,227.6	-753.5	1,178.6	1,398.9	2.43	1.05	6.11
4,580.0	21.30	125.00	4,316.1	-773.3	1,207.1	1,433.5	0.28	-0.21	0.53
4,675.0	19.30	125.70	4,405.2	-792.3	1,234.0	1,466.4	2.12	-2.11	0.74
4,770.0	18.90	126.60	4,495.0	-810.7	1,259.1	1,497.5	0.52	-0.42	0.95
4,864.0	18.40	127.30	4,584.0	-828.7	1,283.1	1,527.5	0.58	-0.53	0.74
4,959.0	19.60	125.40	4,673.8	-847.0	1,308.0	1,558.3	1.42	1.26	-2.00
5,053.0	20.40	126.60	4,762.2	-865.9	1,334.0	1,590.4	0.96	0.85	1.28
5,148.0	18.20	126.60	4,851.8	-884.7	1,359.2	1,621.8	2.32	-2.32	0.00
5,240.0	18.00	124.60	4,939.3	-901.3	1,382.5	1,650.3	0.71	-0.22	-2.17
5,335.0	15.70	125.40	5,030.2	-917.1	1,405.0	1,677.9	2.43	-2.42	0.84
5,430.0	14.80	121.80	5,121.8	-930.9	1,425.8	1,702.8	1.37	-0.95	-3.79
5,523.0	13.20	123.90	5,212.1	-943.1	1,444.7	1,725.3	1.80	-1.72	2.26
5,621.0	11.80	125.70	5,307.8	-955.2	1,462.2	1,746.5	1.48	-1.43	1.84
5,716.0	11.20	124.10	5,400.8	-966.0	1,477.7	1,765.5	0.72	-0.63	-1.68
5,811.0	9.20	123.80	5,494.3	-975.4	1,491.7	1,782.3	2.11	-2.11	-0.32
5,905.0	7.70	122.50	5,587.3	-983.0	1,503.2	1,796.1	1.61	-1.60	-1.38
6,001.0	5.90	125.00	5,682.6	-989.3	1,512.7	1,807.4	1.90	-1.88	2.60
6,095.0	4.70	124.60	5,776.2	-994.2	1,519.8	1,816.1	1.28	-1.28	-0.43
6,190.0	4.00	128.00	5,871.0	-998.5	1,525.6	1,823.3	0.78	-0.74	3.58

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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)
6,219.3	3.47	126.88	5,900.2	-999.7	1,527.1	1,825.2	1.82	-1.80	-3.83
TARGET BHL 1320'FSL, 2640'FWL									
6,285.0	2.30	122.50	5,965.8	-1,001.6	1,529.8	1,828.5	1.82	-1.79	-6.66
6,379.0	1.80	139.10	6,059.8	-1,003.7	1,532.4	1,831.8	0.82	-0.53	17.66
6,472.0	1.40	148.00	6,152.7	-1,005.8	1,534.0	1,834.3	0.51	-0.43	9.57
6,567.0	1.20	155.10	6,247.7	-1,007.6	1,535.0	1,836.2	0.27	-0.21	7.47
6,726.0	1.10	186.20	6,406.7	-1,010.7	1,535.5	1,838.3	0.39	-0.06	19.56
6,884.0	0.60	192.00	6,564.6	-1,013.0	1,535.2	1,839.2	0.32	-0.32	3.67
7,041.0	0.50	332.10	6,721.6	-1,013.2	1,534.7	1,838.9	0.66	-0.06	89.24
7,079.4	0.51	304.89	6,760.1	-1,012.9	1,534.5	1,838.6	0.62	0.02	-70.85
TARGET CIRCLE 1320'FSL & 2640'FWL									
7,199.0	1.00	259.50	6,879.6	-1,012.8	1,533.0	1,837.3	0.62	0.41	-37.95
7,483.0	1.80	222.20	7,163.5	-1,016.6	1,527.6	1,834.8	0.41	0.28	-13.13
7,533.0	1.80	222.20	7,213.5	-1,017.7	1,526.5	1,834.6	0.00	0.00	0.00

Checked By: _____ Approved By: _____ Date: _____