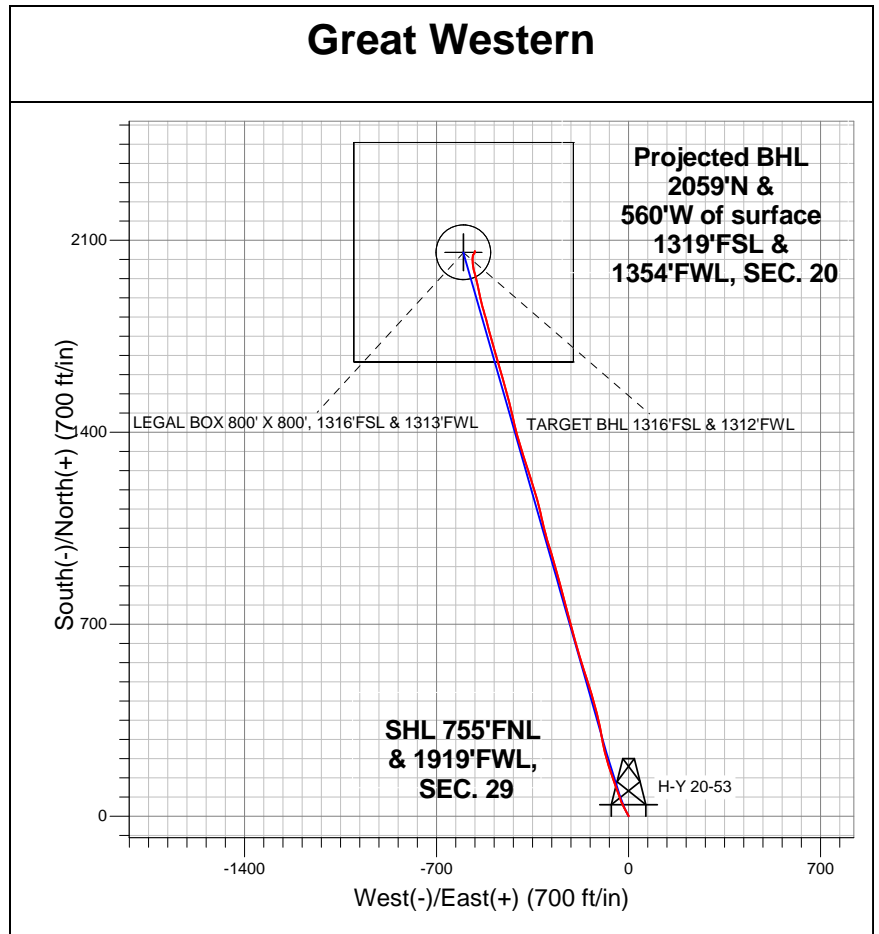
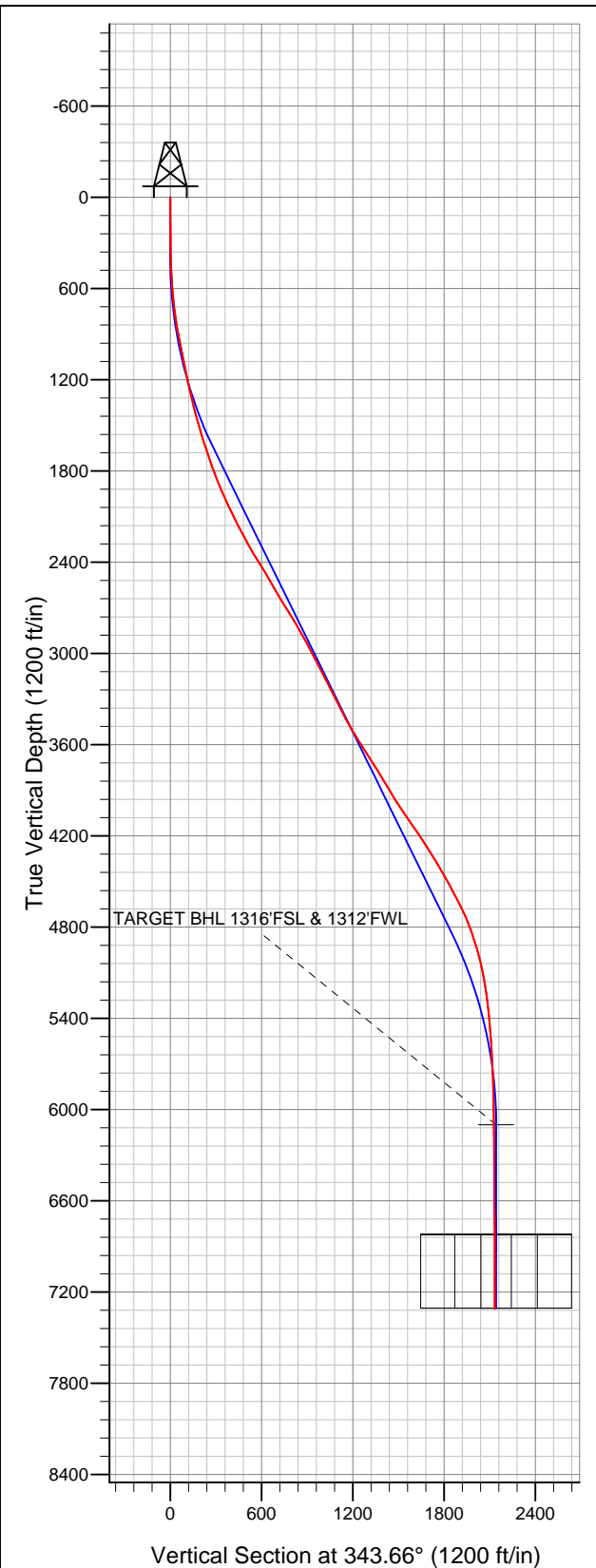


**Well Name: H-Y 20-53**

Surface Location: H-Y (West) Pad Sec.29-T6N-R67W  
North American Datum 1983 US State Plane 1983 Colorado Northern Zone  
Ground Elevation: 4783.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1412059.14	3161505.93	40.463053	-104.919564	
Original Well Elev			WELL @ 4797.0ft (Original Well Elev)			



- LEGEND
- Wellbore #1
  - H-Y 20-53, Wellbore #1, Plan #3 (5-22-12) R V0
  - Survey #1

## Final Survey Plot

Projected Final Survey -  
7807'MD & 7311'TVD @ 2133'VS  
0.20 deg Inc 84.10 deg AZ

Project: SEC.29-T6N-R67W  
Site: H-Y (West) Pad Sec.29-T6N-R67W  
Well: H-Y 20-53  
Plan: Wellbore #1



## **Great Western**

**SEC.29-T6N-R67W**

**H-Y (West) Pad Sec.29-T6N-R67W**

**H-Y 20-53**

**Wellbore #1**

**Survey: Survey #1**

## **Standard Survey Report**

**30 May, 2012**

<b>Company:</b>	Great Western	<b>Local Co-ordinate Reference:</b>	Well H-Y 20-53
<b>Project:</b>	SEC.29-T6N-R67W	<b>TVD Reference:</b>	WELL @ 4797.0ft (Original Well Elev)
<b>Site:</b>	H-Y (West) Pad Sec.29-T6N-R67W	<b>MD Reference:</b>	WELL @ 4797.0ft (Original Well Elev)
<b>Well:</b>	H-Y 20-53	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	Landmark

<b>Project</b>	SEC.29-T6N-R67W, Weld County, CO		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		Using Well Reference Point
<b>Map Zone:</b>	Colorado Northern Zone		Using geodetic scale factor

<b>Site</b>	H-Y (West) Pad Sec.29-T6N-R67W				
<b>Site Position:</b>		<b>Northing:</b>	1,412,089.37 ft	<b>Latitude:</b>	40.463136
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,161,502.67 ft	<b>Longitude:</b>	-104.919575
<b>Position Uncertainty:</b>	0.0 ft	<b>Slot Radius:</b>	"	<b>Grid Convergence:</b>	0.38 °

Well	H-Y 20-53					
Well Position	+N/-S	0.0 ft	Northing:	1,412,059.14 ft	Latitude:	40.463053
	+E/-W	0.0 ft	Easting:	3,161,505.93 ft	Longitude:	-104.919564
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,783.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	5/23/2012	8.83	67.04	53,049

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 (°)	
	6,100.0	0.0	0.0	343.66	

Survey Program		Date	5/30/2012		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
114.0	7,807.0	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
114.0	0.50	351.10	114.0	0.5	-0.1	0.5	0.44	0.44	0.00
205.0	0.70	338.40	205.0	1.4	-0.3	1.4	0.26	0.22	-13.96
298.0	0.80	326.60	298.0	2.5	-0.9	2.6	0.20	0.11	-12.69
389.0	0.90	334.60	389.0	3.6	-1.6	3.9	0.17	0.11	8.79
480.0	2.50	330.50	479.9	6.0	-2.8	6.6	1.76	1.76	-4.51
571.0	4.00	331.60	570.8	10.5	-5.3	11.6	1.65	1.65	1.21
662.0	5.70	328.60	661.5	17.2	-9.2	19.1	1.89	1.87	-3.30
754.0	7.70	332.80	752.8	26.6	-14.4	29.5	2.24	2.17	4.57
858.0	9.80	334.20	855.6	40.7	-21.4	45.1	2.03	2.02	1.35
918.0	10.90	335.60	914.6	50.5	-26.0	55.8	1.88	1.83	2.33
1,045.0	11.60	342.80	1,039.2	73.6	-34.7	80.4	1.23	0.55	5.67
1,140.0	11.90	339.50	1,132.2	91.9	-41.0	99.8	0.77	0.32	-3.47

<b>Company:</b>	Great Western	<b>Local Co-ordinate Reference:</b>	Well H-Y 20-53
<b>Project:</b>	SEC.29-T6N-R67W	<b>TVD Reference:</b>	WELL @ 4797.0ft (Original Well Elev)
<b>Site:</b>	H-Y (West) Pad Sec.29-T6N-R67W	<b>MD Reference:</b>	WELL @ 4797.0ft (Original Well Elev)
<b>Well:</b>	H-Y 20-53	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	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)	
1,234.0	11.60	339.30	1,224.2	109.9	-47.7	118.8	0.32	-0.32	-0.21	
1,329.0	13.50	341.40	1,317.0	129.3	-54.6	139.5	2.06	2.00	2.21	
1,424.0	14.30	340.40	1,409.2	150.9	-62.1	162.2	0.88	0.84	-1.05	
1,519.0	16.20	342.30	1,500.8	174.5	-70.1	187.2	2.07	2.00	2.00	
1,614.0	17.90	343.90	1,591.7	201.2	-78.2	215.1	1.86	1.79	1.68	
1,709.0	18.50	346.50	1,681.9	229.9	-85.7	244.7	1.06	0.63	2.74	
1,803.0	19.90	347.00	1,770.7	260.0	-92.8	275.6	1.50	1.49	0.53	
1,898.0	21.70	351.10	1,859.5	293.1	-99.2	309.1	2.44	1.89	4.32	
1,993.0	23.80	348.80	1,947.1	329.2	-105.6	345.7	2.40	2.21	-2.42	
2,088.0	25.00	344.70	2,033.6	367.4	-114.6	384.8	2.18	1.26	-4.32	
2,183.0	27.00	346.00	2,119.0	407.7	-125.1	426.4	2.19	2.11	1.37	
2,278.0	27.30	343.30	2,203.5	449.5	-136.6	469.8	1.33	0.32	-2.84	
2,372.0	29.00	341.90	2,286.4	491.8	-149.9	514.1	1.94	1.81	-1.49	
2,467.0	31.90	342.60	2,368.3	537.7	-164.6	562.2	3.08	3.05	0.74	
2,562.0	31.10	342.80	2,449.3	585.0	-179.3	611.9	0.85	-0.84	0.21	
2,657.0	30.20	345.60	2,531.0	631.6	-192.5	660.3	1.78	-0.95	2.95	
2,752.0	29.90	344.40	2,613.3	677.6	-204.8	707.8	0.71	-0.32	-1.26	
2,847.0	32.00	344.00	2,694.7	724.6	-218.1	756.7	2.22	2.21	-0.42	
2,941.0	31.60	345.30	2,774.6	772.3	-231.2	806.2	0.84	-0.43	1.38	
3,036.0	29.80	345.10	2,856.3	819.2	-243.6	854.7	1.90	-1.89	-0.21	
3,131.0	29.00	345.10	2,939.1	864.3	-255.6	901.3	0.84	-0.84	0.00	
3,226.0	28.10	345.10	3,022.5	908.2	-267.3	946.7	0.95	-0.95	0.00	
3,321.0	26.40	342.50	3,107.0	950.0	-279.4	990.2	2.18	-1.79	-2.74	
3,414.0	26.30	343.00	3,190.3	989.4	-291.6	1,031.5	0.26	-0.11	0.54	
3,508.0	27.60	345.10	3,274.1	1,030.3	-303.3	1,074.1	1.71	1.38	2.23	
3,603.0	26.50	346.50	3,358.7	1,072.2	-313.9	1,117.2	1.34	-1.16	1.47	
3,698.0	28.70	347.90	3,442.9	1,115.1	-323.7	1,161.1	2.41	2.32	1.47	
3,793.0	31.10	342.80	3,525.2	1,160.9	-335.7	1,208.4	3.68	2.53	-5.37	
3,888.0	32.20	342.50	3,606.1	1,208.5	-350.6	1,258.3	1.17	1.16	-0.32	
3,982.0	32.90	342.60	3,685.4	1,256.7	-365.7	1,308.8	0.75	0.74	0.11	
4,077.0	32.20	342.30	3,765.4	1,305.4	-381.2	1,360.0	0.76	-0.74	-0.32	
4,172.0	30.50	343.00	3,846.6	1,352.6	-395.9	1,409.4	1.83	-1.79	0.74	
4,267.0	31.60	344.90	3,927.9	1,399.7	-409.4	1,458.4	1.55	1.16	2.00	
4,362.0	33.20	348.10	4,008.2	1,449.2	-421.3	1,509.2	2.47	1.68	3.37	
4,457.0	35.00	345.60	4,086.8	1,501.0	-433.4	1,562.3	2.40	1.89	-2.63	
4,551.0	33.30	345.10	4,164.6	1,552.1	-446.8	1,615.1	1.83	-1.81	-0.53	
4,646.0	34.20	342.80	4,243.6	1,602.8	-461.4	1,667.9	1.65	0.95	-2.42	
4,739.0	32.00	344.20	4,321.5	1,651.5	-475.8	1,718.6	2.50	-2.37	1.51	
4,833.0	30.30	344.70	4,402.0	1,698.3	-488.8	1,767.3	1.83	-1.81	0.53	
4,928.0	28.70	344.60	4,484.6	1,743.4	-501.2	1,814.0	1.69	-1.68	-0.11	
5,023.0	28.80	344.70	4,567.9	1,787.5	-513.3	1,859.7	0.12	0.11	0.11	
5,118.0	26.50	343.70	4,652.1	1,829.9	-525.3	1,903.8	2.47	-2.42	-1.05	
5,213.0	23.30	345.80	4,738.2	1,868.5	-535.9	1,943.8	3.49	-3.37	2.21	
5,307.0	19.30	348.60	4,825.8	1,901.8	-543.5	1,977.8	4.39	-4.26	2.98	
5,402.0	17.90	347.60	4,915.8	1,931.4	-549.7	2,008.1	1.51	-1.47	-1.05	
5,497.0	14.00	346.90	5,007.2	1,956.9	-555.5	2,034.1	4.11	-4.11	-0.74	
5,592.0	11.50	344.00	5,099.8	1,977.2	-560.7	2,055.0	2.72	-2.63	-3.05	
5,687.0	8.80	346.30	5,193.3	1,993.3	-565.0	2,071.8	2.87	-2.84	2.42	
5,781.0	7.60	354.10	5,286.4	2,006.5	-567.4	2,085.1	1.74	-1.28	8.30	
5,876.0	6.00	355.00	5,380.7	2,017.7	-568.5	2,096.1	1.69	-1.68	0.95	
5,971.0	4.60	353.50	5,475.3	2,026.4	-569.3	2,104.7	1.48	-1.47	-1.58	
6,066.0	3.40	2.90	5,570.0	2,033.0	-569.6	2,111.2	1.44	-1.26	9.89	
6,165.0	3.00	9.40	5,668.9	2,038.5	-569.0	2,116.3	0.54	-0.40	6.57	
6,259.0	2.60	10.10	5,762.8	2,043.0	-568.3	2,120.4	0.43	-0.43	0.74	

<b>Company:</b>	Great Western	<b>Local Co-ordinate Reference:</b>	Well H-Y 20-53
<b>Project:</b>	SEC.29-T6N-R67W	<b>TVD Reference:</b>	WELL @ 4797.0ft (Original Well Elev)
<b>Site:</b>	H-Y (West) Pad Sec.29-T6N-R67W	<b>MD Reference:</b>	WELL @ 4797.0ft (Original Well Elev)
<b>Well:</b>	H-Y 20-53	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	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)	
6,354.0	1.70	29.20	5,857.7	2,046.4	-567.2	2,123.3	1.20	-0.95	20.11	
6,449.0	1.80	40.10	5,952.7	2,048.8	-565.5	2,125.1	0.37	0.11	11.47	
6,544.0	1.50	30.80	6,047.6	2,051.0	-563.9	2,126.8	0.42	-0.32	-9.79	
6,596.0	1.36	31.04	6,099.6	2,052.1	-563.3	2,127.7	0.26	-0.26	0.47	
TARGET BHL 1316'FSL & 1312'FWL										
6,733.0	1.00	32.00	6,236.6	2,054.5	-561.8	2,129.6	0.26	-0.26	0.70	
6,923.0	0.40	4.30	6,426.6	2,056.6	-560.9	2,131.3	0.35	-0.32	-14.58	
7,106.0	0.30	9.40	6,609.6	2,057.7	-560.8	2,132.3	0.06	-0.05	2.79	
7,293.0	0.40	324.70	6,796.6	2,058.7	-561.1	2,133.4	0.15	0.05	-23.90	
7,317.5	0.34	326.58	6,821.0	2,058.8	-561.1	2,133.5	0.24	-0.24	7.69	
TARGET CIRCLE 1316'FSL & 1312'FWL - LEGAL BOX 800' X 800', 1316'FSL & 1313'FWL										
7,482.0	0.10	84.60	6,985.6	2,059.2	-561.3	2,134.0	0.24	-0.15	71.74	
7,639.0	0.20	141.30	7,142.6	2,059.0	-561.0	2,133.7	0.11	0.06	36.11	
7,757.0	0.20	84.10	7,260.6	2,058.9	-560.6	2,133.5	0.16	0.00	-48.47	
7,807.0	0.20	84.10	7,310.6	2,058.9	-560.5	2,133.4	0.00	0.00	0.00	

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_