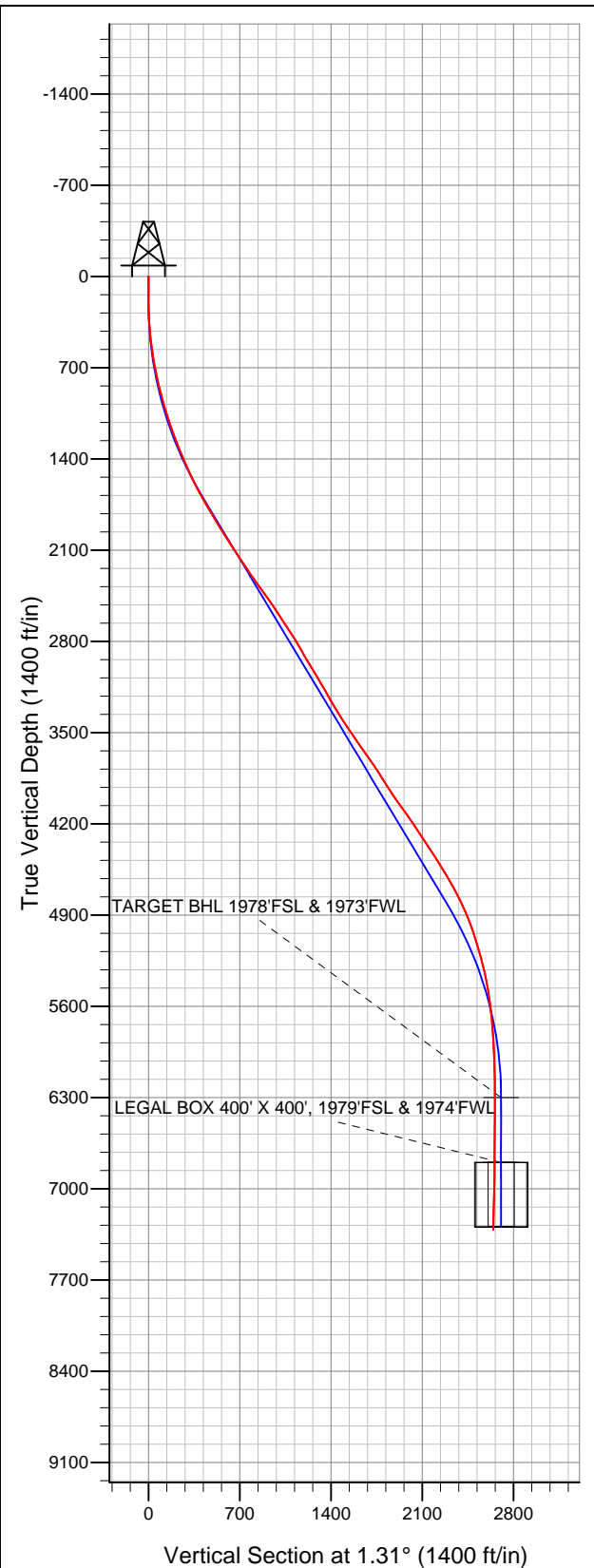


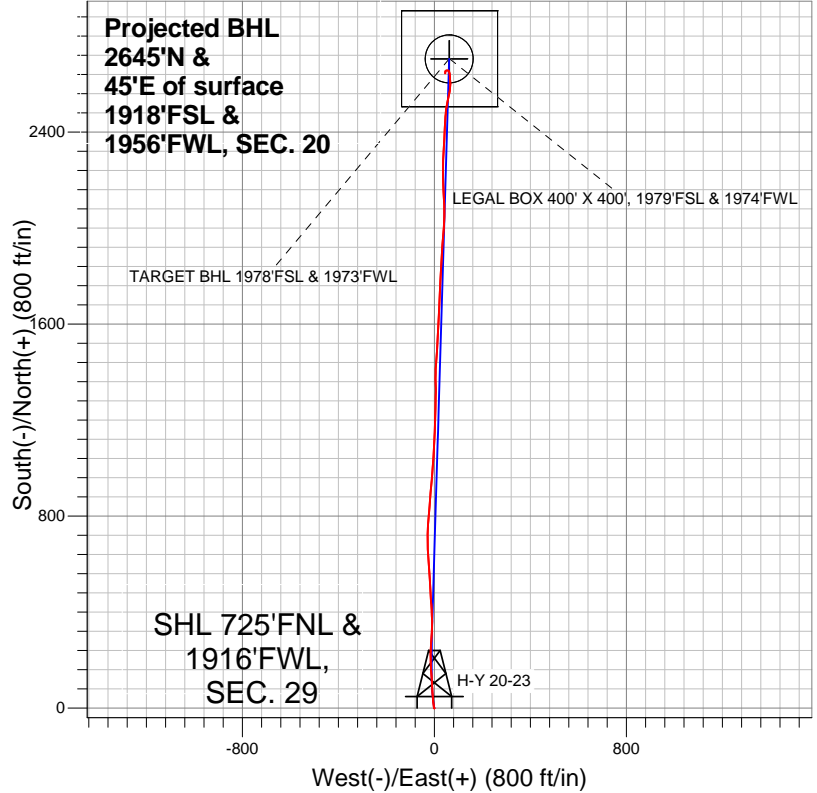
Well Name: H-Y 20-23

Surface Location: H-Y (West) Pad Sec.29-T6N-R67W
North American Datum 1983 US State Plane 1983Colorado Northern Zone
Ground Elevation: 4785.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1412089.36	3161502.67	40.463136	-104.919575	
		Original Well Elev				WELL @ 4799.0ft (Original Well Elev)



Great Western



- LEGEND
- Wellbore #1
 - H-Y 20-23, Wellbore #1, Plan #1 (5-2-12) V0
 - Survey #1

Final Survey Plot

Projected Final Survey -
8006'MD & 7314'TVD @ 2645'VS
0.90 deg Inc 190.40 deg AZ

Project: SEC.29-T6N-R67W
Site: H-Y (West) Pad Sec.29-T6N-R67W
Well: H-Y 20-23
Plan: Wellbore #1



Great Western

SEC.29-T6N-R67W

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

H-Y 20-23

Wellbore #1

Survey: Survey #1

Standard Survey Report

15 May, 2012

Company:	Great Western	Local Co-ordinate Reference:	Well H-Y 20-23
Project:	SEC.29-T6N-R67W	TVD Reference:	WELL @ 4799.0ft (Original Well Elev)
Site:	H-Y (West) Pad Sec.29-T6N-R67W	MD Reference:	WELL @ 4799.0ft (Original Well Elev)
Well:	H-Y 20-23	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

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

Well	H-Y 20-23					
Well Position	+N/-S	0.0 ft	Northing:	1,412,089.36 ft	Latitude:	40.463136
	+E/-W	0.0 ft	Easting:	3,161,502.67 ft	Longitude:	-104.919575
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,785.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	5/7/2012	8.83	67.05	53,054

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 (°)	
	6,300.0	0.0	0.0	1.31	

Survey Program		Date	5/15/2012		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
87.0	8,006.0	Survey #1 (Wellbore #1)	MWD	MWD - Standard	

Survey	Survey Data									
	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
	87.0	0.50	228.60	87.0	-0.3	-0.3	-0.3	0.57	0.57	0.00
	178.0	0.10	168.10	178.0	-0.6	-0.6	-0.6	0.50	-0.44	-66.48
	269.0	1.80	342.50	269.0	0.7	-1.0	0.7	2.09	1.87	191.65
	360.0	4.00	351.30	359.9	5.2	-1.9	5.2	2.46	2.42	9.67
	451.0	6.20	349.10	450.5	13.2	-3.3	13.1	2.43	2.42	-2.42
	542.0	8.10	354.10	540.8	24.4	-4.9	24.2	2.20	2.09	5.49
	635.0	9.70	355.80	632.7	38.7	-6.1	38.5	1.74	1.72	1.83
	729.0	11.40	357.20	725.1	55.9	-7.2	55.7	1.83	1.81	1.49
	825.0	13.10	357.40	818.9	76.2	-8.1	76.0	1.77	1.77	0.21
	950.0	14.70	354.80	940.2	106.2	-10.2	105.9	1.37	1.28	-2.08
	1,045.0	16.90	356.30	1,031.6	132.0	-12.2	131.6	2.36	2.32	1.58
	1,140.0	19.10	357.10	1,122.0	161.3	-13.9	160.9	2.33	2.32	0.84

Company:	Great Western	Local Co-ordinate Reference:	Well H-Y 20-23
Project:	SEC.29-T6N-R67W	TVD Reference:	WELL @ 4799.0ft (Original Well Elev)
Site:	H-Y (West) Pad Sec.29-T6N-R67W	MD Reference:	WELL @ 4799.0ft (Original Well Elev)
Well:	H-Y 20-23	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)	
1,235.0	19.60	357.90	1,211.6	192.7	-15.2	192.3	0.60	0.53	0.84	
1,331.0	22.20	359.90	1,301.3	226.9	-15.9	226.5	2.81	2.71	2.08	
1,426.0	22.20	5.40	1,389.2	262.8	-14.2	262.4	2.19	0.00	5.79	
1,521.0	24.70	3.60	1,476.4	300.4	-11.3	300.1	2.74	2.63	-1.89	
1,617.0	26.60	0.70	1,562.9	342.0	-9.7	341.6	2.37	1.98	-3.02	
1,712.0	28.30	358.10	1,647.2	385.7	-10.2	385.4	2.19	1.79	-2.74	
1,807.0	28.90	355.30	1,730.6	431.1	-12.9	430.7	1.55	0.63	-2.95	
1,902.0	31.70	358.30	1,812.7	479.0	-15.5	478.5	3.35	2.95	3.16	
1,997.0	32.60	355.30	1,893.1	529.4	-18.3	528.9	1.93	0.95	-3.16	
2,092.0	32.20	354.90	1,973.3	580.1	-22.7	579.5	0.48	-0.42	-0.42	
2,187.0	32.60	358.10	2,053.5	630.9	-25.8	630.2	1.85	0.42	3.37	
2,282.0	33.20	357.40	2,133.3	682.5	-27.8	681.7	0.75	0.63	-0.74	
2,377.0	32.70	2.50	2,213.0	734.1	-27.9	733.3	2.97	-0.53	5.37	
2,472.0	35.30	4.30	2,291.8	787.1	-24.7	786.4	2.93	2.74	1.89	
2,567.0	36.30	4.80	2,368.8	842.5	-20.3	841.9	1.10	1.05	0.53	
2,662.0	35.90	4.40	2,445.6	898.3	-15.8	897.7	0.49	-0.42	-0.42	
2,757.0	34.10	5.50	2,523.4	952.6	-11.1	952.1	2.01	-1.89	1.16	
2,852.0	33.00	3.90	2,602.6	1,004.9	-6.8	1,004.5	1.49	-1.16	-1.68	
2,947.0	33.90	3.90	2,681.8	1,057.2	-3.2	1,056.8	0.95	0.95	0.00	
3,042.0	32.40	3.00	2,761.4	1,109.0	-0.1	1,108.7	1.66	-1.58	-0.95	
3,137.0	30.00	1.60	2,842.6	1,158.2	1.9	1,157.9	2.64	-2.53	-1.47	
3,232.0	30.00	1.60	2,924.9	1,205.7	3.2	1,205.4	0.00	0.00	0.00	
3,327.0	31.40	0.20	3,006.6	1,254.2	4.0	1,253.9	1.65	1.47	-1.47	
3,420.0	30.70	3.20	3,086.3	1,302.1	5.4	1,301.9	1.83	-0.75	3.23	
3,515.0	29.70	357.60	3,168.4	1,349.8	5.8	1,349.6	3.15	-1.05	-5.89	
3,610.0	29.80	1.40	3,250.9	1,397.0	5.4	1,396.7	1.99	0.11	4.00	
3,705.0	31.70	3.70	3,332.5	1,445.5	7.6	1,445.3	2.35	2.00	2.42	
3,800.0	32.80	4.30	3,412.9	1,496.0	11.1	1,495.9	1.21	1.16	0.63	
3,895.0	34.10	2.20	3,492.1	1,548.3	14.0	1,548.2	1.83	1.37	-2.21	
3,990.0	34.60	3.40	3,570.6	1,601.8	16.7	1,601.8	0.89	0.53	1.26	
4,085.0	35.20	3.00	3,648.5	1,656.1	19.7	1,656.1	0.68	0.63	-0.42	
4,180.0	35.50	2.30	3,726.0	1,711.0	22.2	1,711.1	0.53	0.32	-0.74	
4,275.0	32.60	2.00	3,804.7	1,764.2	24.2	1,764.3	3.06	-3.05	-0.32	
4,370.0	32.20	3.20	3,884.9	1,815.0	26.5	1,815.1	0.80	-0.42	1.26	
4,465.0	33.10	3.70	3,964.9	1,866.2	29.6	1,866.4	0.99	0.95	0.53	
4,560.0	36.30	4.40	4,043.0	1,920.1	33.5	1,920.4	3.39	3.37	0.74	
4,655.0	35.10	4.30	4,120.1	1,975.4	37.7	1,975.7	1.26	-1.26	-0.11	
4,751.0	34.50	2.70	4,198.9	2,030.1	41.0	2,030.5	1.14	-0.63	-1.67	
4,846.0	33.60	358.10	4,277.7	2,083.2	41.4	2,083.6	2.87	-0.95	-4.84	
4,941.0	32.80	356.30	4,357.2	2,135.2	38.9	2,135.5	1.34	-0.84	-1.89	
5,035.0	33.40	358.80	4,435.9	2,186.5	36.7	2,186.7	1.59	0.64	2.66	
5,130.0	31.60	0.00	4,516.0	2,237.5	36.2	2,237.7	2.01	-1.89	1.26	
5,225.0	31.00	2.20	4,597.2	2,286.8	37.1	2,287.1	1.36	-0.63	2.32	
5,319.0	29.30	2.70	4,678.5	2,334.0	39.1	2,334.3	1.83	-1.81	0.53	
5,414.0	26.60	3.00	4,762.4	2,378.5	41.3	2,378.8	2.85	-2.84	0.32	
5,507.0	23.80	3.60	4,846.5	2,418.0	43.6	2,418.4	3.02	-3.01	0.65	
5,599.0	21.90	2.70	4,931.3	2,453.7	45.6	2,454.1	2.10	-2.07	-0.98	
5,694.0	19.40	6.40	5,020.2	2,487.0	48.1	2,487.5	2.97	-2.63	3.89	
5,787.0	16.70	11.30	5,108.6	2,515.5	52.5	2,516.0	3.33	-2.90	5.27	
5,882.0	16.30	12.20	5,199.7	2,541.9	58.0	2,542.6	0.50	-0.42	0.95	
5,976.0	14.20	10.80	5,290.4	2,566.1	62.9	2,566.9	2.27	-2.23	-1.49	
6,070.0	11.60	5.70	5,382.0	2,586.9	66.0	2,587.7	3.02	-2.77	-5.43	
6,165.0	9.40	355.30	5,475.4	2,604.1	66.3	2,604.9	3.05	-2.32	-10.95	
6,259.0	7.30	356.00	5,568.4	2,617.7	65.3	2,618.5	2.24	-2.23	0.74	

Company:	Great Western	Local Co-ordinate Reference:	Well H-Y 20-23
Project:	SEC.29-T6N-R67W	TVD Reference:	WELL @ 4799.0ft (Original Well Elev)
Site:	H-Y (West) Pad Sec.29-T6N-R67W	MD Reference:	WELL @ 4799.0ft (Original Well Elev)
Well:	H-Y 20-23	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)	
6,354.0	6.20	359.50	5,662.8	2,628.9	64.8	2,629.7	1.24	-1.16	3.68	
6,448.0	5.10	353.40	5,756.3	2,638.1	64.3	2,638.9	1.33	-1.17	-6.49	
6,540.0	3.70	349.50	5,848.0	2,645.1	63.3	2,645.8	1.56	-1.52	-4.24	
6,635.0	2.20	347.40	5,942.9	2,649.9	62.3	2,650.6	1.58	-1.58	-2.21	
6,730.0	1.10	334.60	6,037.9	2,652.5	61.6	2,653.2	1.21	-1.16	-13.47	
6,822.0	1.00	329.10	6,129.9	2,654.0	60.8	2,654.7	0.15	-0.11	-5.98	
6,948.0	1.20	301.90	6,255.8	2,655.6	59.1	2,656.3	0.44	0.16	-21.59	
6,992.5	1.22	295.19	6,300.3	2,656.1	58.3	2,656.7	0.32	0.05	-15.08	
TARGET BHL 1978'FSL & 1973'FWL										
7,074.0	1.30	283.80	6,381.8	2,656.6	56.6	2,657.2	0.32	0.10	-13.98	
7,200.0	1.30	278.00	6,507.8	2,657.2	53.8	2,657.7	0.10	0.00	-4.60	
7,326.0	1.20	252.30	6,633.7	2,657.0	51.1	2,657.5	0.45	-0.08	-20.40	
7,452.0	1.20	249.80	6,759.7	2,656.1	48.6	2,656.5	0.04	0.00	-1.98	
7,490.4	1.20	240.83	6,798.2	2,655.8	47.9	2,656.2	0.49	0.00	-23.33	
TARGET CIRCLE 1978'FSL & 1973'FWL - LEGAL BOX 400' X 400', 1979'FSL & 1974'FWL										
7,578.0	1.30	221.70	6,885.7	2,654.6	46.4	2,655.0	0.49	0.12	-21.85	
7,704.0	1.50	183.70	7,011.7	2,651.9	45.3	2,652.2	0.74	0.16	-30.16	
7,830.0	1.60	177.10	7,137.6	2,648.5	45.3	2,648.8	0.16	0.08	-5.24	
7,956.0	0.90	190.40	7,263.6	2,645.8	45.2	2,646.1	0.60	-0.56	10.56	
8,006.0	0.90	190.40	7,313.6	2,645.0	45.1	2,645.3	0.00	0.00	0.00	

Checked By: _____	Approved By: _____	Date: _____
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