



Bill Barrett Corporation

Bill Barrett Corp. (II)

Weld Co., CO

Sec.27-T5N-R63W

70 Ranch 5-63-27-32H

Wellbore #1

Design: OH

Standard Survey Report

07 September, 2012





Bill Barrett Corp. (II)
Project: Weld Co., CO
Site: Sec.27-T5N-R63W
Well: 70 Ranch 5-63-27-32H
Wellbore: Wellbore #1
Design: OH
Lat: 40° 22' 7.25 N
Long: 104° 24' 47.41 W
Pad GL: 4596.01
KB: WELL @ 4614.01ft



PROJECT DETAILS: Weld Co., CO

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Colorado Northern Zone
System Datum: Mean Sea Level



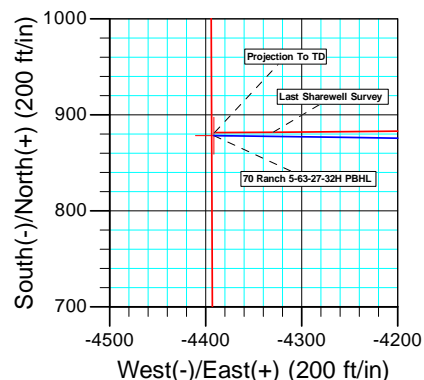
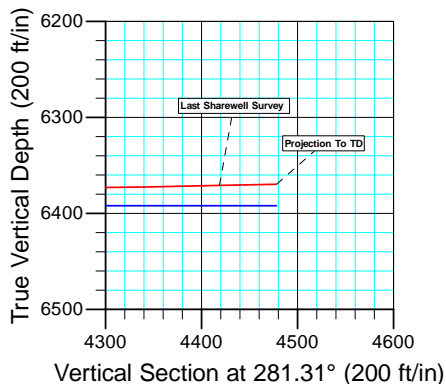
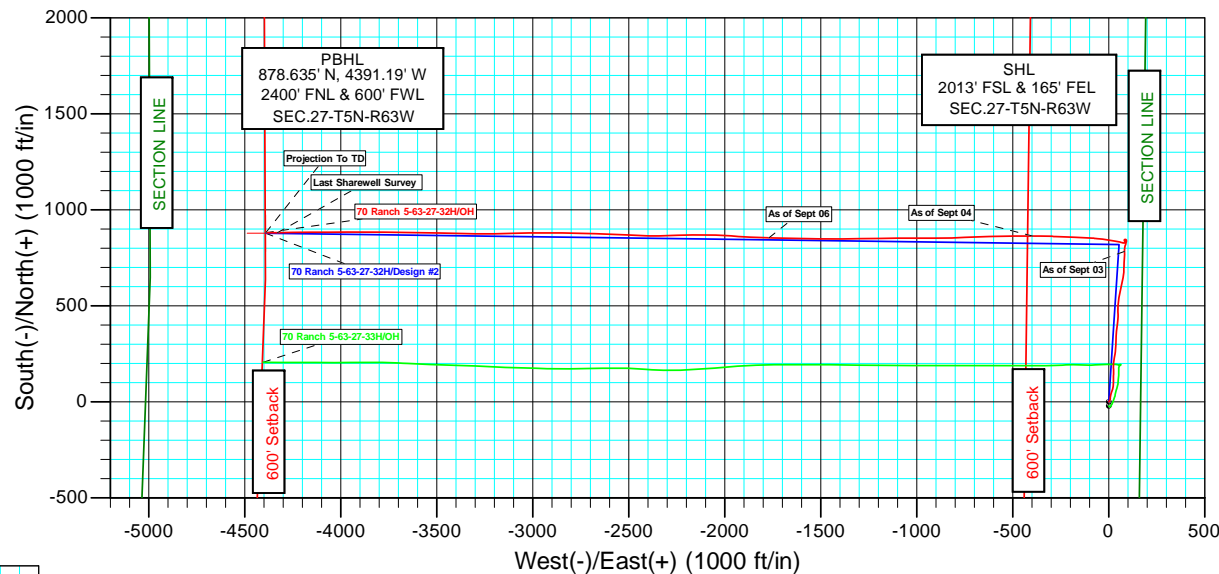
Azimuths to True North
Magnetic North: 8.53°
Magnetic Field
Strength: 53043.0snT
Dip Angle: 67.05°
Date: 07/04/2012
Model: IGRF2010

WELL DETAILS: 70 Ranch 5-63-27-32H

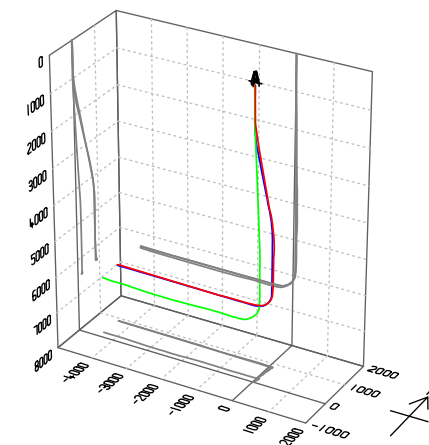
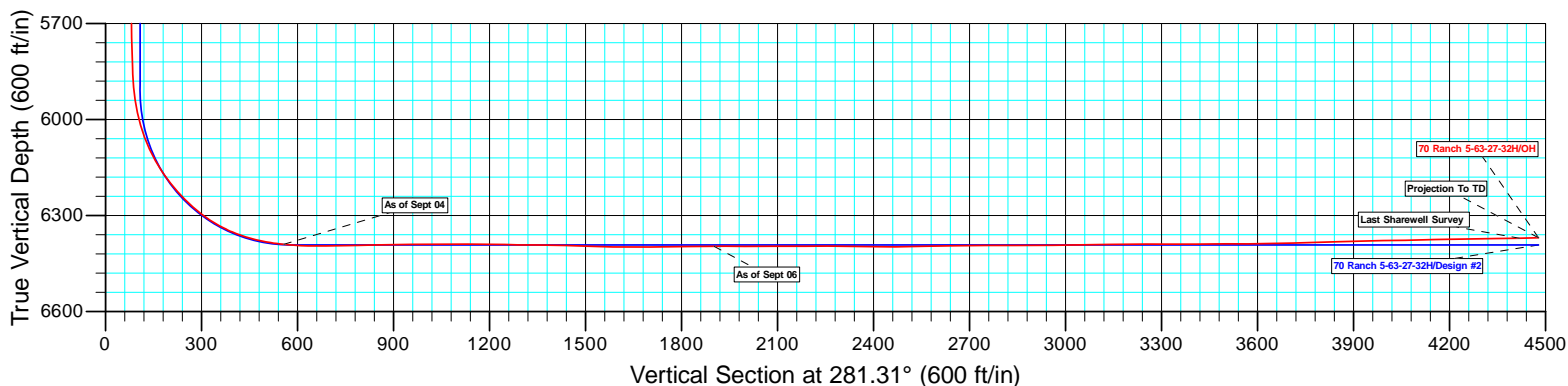
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	1379006.44	3302825.67	40° 22' 7.25 N	104° 24' 47.41 W

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape Point
PBHL	6392.01	878.35	-4391.20	40° 22' 15.92 N	104° 25' 44.15 W	



ANNOTATIONS											
TVD	MD	Inc	Azi	+N/-S	+E/-W	Vsect	Departure	Annotation			
872.87	873.00	1.700	28.00	11.43	6.08	-3.72	12.95	First Sharewell Survey			
4087.20	4185.00	9.500	358.40	783.31	81.52	73.70	792.03	As of Sept 03			
6390.20	6747.00	84.700	270.80	863.82	-395.63	557.38	1364.69	As of Sept 04			
6396.69	8121.00	90.100	271.50	854.37	-1769.02	1902.23	2738.34	As of Sept 06			
6370.87	10683.00	91.100	269.70	881.89	-4329.78	4418.65	5300.04	Last Sharewell Survey			
6369.70	10744.00	91.100	269.70	881.57	-4390.77	4478.39	5361.03	Projection To TD			



Company:	Bill Barrett Corp. (II)	Local Co-ordinate Reference:	Well 70 Ranch 5-63-27-32H
Project:	Weld Co., CO	TVD Reference:	WELL @ 4614.01ft
Site:	Sec.27-T5N-R63W	MD Reference:	WELL @ 4614.01ft
Well:	70 Ranch 5-63-27-32H	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	CompassVM

Project	Weld Co., CO		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site		Sec.27-T5N-R63W			
Site Position:		Northing:	1,378,940.88 usft	Latitude:	40° 22' 6.60 N
From:	Lat/Long	Easting:	3,302,826.48 usft	Longitude:	104° 24' 47.41 W
Position Uncertainty:	0.00 ft	Slot Radius:	1.10 ft	Grid Convergence:	0.70 °

Well	70 Ranch 5-63-27-32H					
Well Position	+N/-S	0.00 ft	Northing:	1,379,006.44 usft	Latitude:	40° 22' 7.25 N
	+E/-W	0.00 ft	Easting:	3,302,825.67 usft	Longitude:	104° 24' 47.41 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,596.01 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	07/04/12	8.53	67.05	53,043

Design	OH				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	281.31	

Survey Program	Date	09/07/12			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
873.00	10,744.00	MWD (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)
0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
873.00	1.700	28.00	872.87	11.43	6.08	-3.72	0.19	0.19	0.00
First Sharewell Survey									
965.00	4.100	6.50	964.75	15.91	7.09	-3.84	2.82	2.61	-23.37
1,060.00	6.300	9.50	1,059.35	24.42	8.34	-3.39	2.33	2.32	3.16
1,155.00	9.000	12.00	1,153.50	36.84	10.74	-3.31	2.86	2.84	2.63
1,250.00	11.400	19.40	1,246.99	52.96	15.41	-4.72	2.87	2.53	7.79
1,345.00	14.000	13.50	1,339.67	73.00	21.21	-6.48	3.06	2.74	-6.21
1,440.00	14.800	1.50	1,431.70	96.31	24.21	-4.85	3.25	0.84	-12.63
1,535.00	13.600	0.40	1,523.80	119.60	24.61	-0.67	1.29	-1.26	-1.16
1,631.00	15.600	2.20	1,616.69	143.79	25.18	3.51	2.14	2.08	1.88

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Site:	Sec.27-T5N-R63W	MD Reference:	WELL @ 4614.01ft
Well:	70 Ranch 5-63-27-32H	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	CompassVM

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)
1,726.00	14.800	359.10	1,708.37	168.69	25.48	8.10	1.20	-0.84	-3.26
1,821.00	13.400	357.30	1,800.51	191.82	24.77	13.33	1.54	-1.47	-1.89
1,916.00	13.500	9.10	1,892.92	213.77	26.01	16.43	2.89	0.11	12.42
2,009.00	15.700	11.20	1,982.91	236.83	30.17	16.87	2.43	2.37	2.26
2,104.00	14.800	6.90	2,074.57	261.49	34.12	17.83	1.52	-0.95	-4.53
2,198.00	13.800	1.80	2,165.66	284.61	35.92	20.60	1.71	-1.06	-5.43
2,290.00	15.100	4.40	2,254.75	307.53	37.18	23.86	1.58	1.41	2.83
2,385.00	15.300	359.70	2,346.43	332.40	38.07	27.87	1.31	0.21	-4.95
2,480.00	14.500	4.50	2,438.24	356.79	38.93	31.80	1.55	-0.84	5.05
2,575.00	15.900	9.20	2,529.91	381.50	41.95	33.69	1.96	1.47	4.95
2,670.00	15.300	6.90	2,621.41	406.79	45.53	35.14	0.91	-0.63	-2.42
2,764.00	14.900	4.40	2,712.17	431.15	47.95	37.55	0.81	-0.43	-2.66
2,857.00	14.600	0.40	2,802.11	454.79	48.95	41.20	1.14	-0.32	-4.30
2,952.00	14.100	357.60	2,894.14	478.33	48.55	46.21	0.90	-0.53	-2.95
3,047.00	13.500	2.60	2,986.40	500.97	48.57	50.64	1.40	-0.63	5.26
3,142.00	12.900	6.90	3,078.90	522.57	50.34	53.13	1.21	-0.63	4.53
3,237.00	14.300	9.60	3,171.23	544.67	53.58	54.30	1.62	1.47	2.84
3,332.00	14.500	9.70	3,263.25	567.96	57.54	54.98	0.21	0.21	0.11
3,426.00	12.800	9.70	3,354.59	589.83	61.27	55.61	1.81	-1.81	0.00
3,521.00	13.900	17.80	3,447.03	611.07	66.53	54.61	2.28	1.16	8.53
3,616.00	17.400	12.70	3,538.50	635.80	73.15	52.98	3.96	3.68	-5.37
3,711.00	19.500	4.40	3,628.62	665.47	77.49	54.54	3.53	2.21	-8.74
3,806.00	17.500	1.00	3,718.71	695.57	78.95	59.01	2.39	-2.11	-3.58
3,901.00	14.200	3.50	3,810.09	721.49	79.92	63.15	3.55	-3.47	2.63
3,996.00	13.300	3.20	3,902.37	744.03	81.24	66.27	0.95	-0.95	-0.32
4,091.00	12.600	359.70	3,994.95	765.30	81.79	69.90	1.11	-0.74	-3.68
4,185.00	9.500	358.40	4,087.20	783.31	81.52	73.70	3.31	-3.30	-1.38
As of Sept 03									
4,280.00	8.700	9.80	4,181.01	798.23	82.53	75.64	2.07	-0.84	12.00
4,375.00	9.800	15.50	4,274.77	813.10	85.91	75.24	1.51	1.16	6.00
4,470.00	7.400	16.50	4,368.70	826.76	89.81	74.10	2.53	-2.53	1.05
4,565.00	5.100	2.90	4,463.13	836.84	91.76	74.16	2.86	-2.42	-14.32
4,660.00	2.500	336.60	4,557.92	842.96	91.15	75.96	3.23	-2.74	-27.68
4,755.00	1.300	293.70	4,652.87	845.30	89.34	78.19	1.88	-1.26	-45.16
4,850.00	1.600	302.10	4,747.84	846.44	87.23	80.48	0.39	0.32	8.84
4,945.00	1.800	248.00	4,842.80	846.58	84.72	82.97	1.64	0.21	-56.95
5,039.00	2.000	234.80	4,936.75	845.08	82.01	85.33	0.51	0.21	-14.04
5,134.00	2.000	171.40	5,031.71	842.49	80.91	85.91	2.21	0.00	-66.74
5,230.00	1.800	156.20	5,127.65	839.45	81.77	84.47	0.56	-0.21	-15.83
5,325.00	1.500	155.50	5,222.61	836.96	82.88	82.89	0.32	-0.32	-0.74
5,419.00	1.400	181.90	5,316.59	834.69	83.36	81.98	0.71	-0.11	28.09
5,514.00	1.400	184.80	5,411.56	832.37	83.22	81.66	0.07	0.00	3.05
5,610.00	1.100	177.00	5,507.53	830.28	83.17	81.30	0.36	-0.31	-8.13

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Site:	Sec.27-T5N-R63W	MD Reference:	WELL @ 4614.01ft
Well:	70 Ranch 5-63-27-32H	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	CompassVM

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)
5,704.00	1.100	187.50	5,601.52	828.49	83.10	81.01	0.21	0.00	11.17
5,799.00	0.700	240.10	5,696.51	827.30	82.48	81.39	0.92	-0.42	55.37
5,894.00	1.800	271.10	5,791.48	827.04	80.48	83.29	1.32	1.16	32.63
5,988.00	3.200	276.10	5,885.39	827.34	76.40	87.36	1.51	1.49	5.32
6,020.00	5.700	285.50	5,917.29	827.86	73.98	89.83	8.11	7.81	29.38
6,051.00	9.500	288.30	5,948.02	829.08	70.07	93.91	12.31	12.26	9.03
6,083.00	11.900	286.80	5,979.46	830.86	64.40	99.82	7.55	7.50	-4.69
6,114.00	15.600	282.90	6,009.56	832.72	57.27	107.17	12.30	11.94	-12.58
6,146.00	18.800	280.90	6,040.13	834.65	48.01	116.63	10.17	10.00	-6.25
6,177.00	21.600	280.90	6,069.22	836.68	37.50	127.33	9.03	9.03	0.00
6,209.00	25.200	279.80	6,098.58	838.95	25.00	140.03	11.33	11.25	-3.44
6,240.00	29.300	278.90	6,126.14	841.25	11.00	154.22	13.29	13.23	-2.90
6,272.00	32.600	278.30	6,153.58	843.70	-5.27	170.65	10.36	10.31	-1.88
6,303.00	35.900	277.70	6,179.20	846.13	-22.55	188.07	10.70	10.65	-1.94
6,335.00	39.200	276.70	6,204.56	848.57	-41.89	207.52	10.49	10.31	-3.13
6,367.00	41.900	276.10	6,228.88	850.88	-62.57	228.24	8.53	8.44	-1.88
6,399.00	45.500	273.70	6,252.01	852.75	-84.59	250.20	12.38	11.25	-7.50
6,430.00	49.000	273.00	6,273.05	854.08	-107.31	272.74	11.41	11.29	-2.26
6,462.00	52.100	272.60	6,293.38	855.28	-131.99	297.18	9.74	9.69	-1.25
6,493.00	56.500	272.50	6,311.47	856.40	-157.13	322.05	14.20	14.19	-0.32
6,525.00	60.300	272.20	6,328.23	857.52	-184.36	348.97	11.90	11.88	-0.94
6,557.00	64.100	272.20	6,343.15	858.61	-212.64	376.91	11.88	11.88	0.00
6,588.00	69.400	272.50	6,355.38	859.78	-241.09	405.04	17.12	17.10	0.97
6,620.00	72.200	272.70	6,365.91	861.15	-271.27	434.91	8.77	8.75	0.63
6,652.00	75.900	271.60	6,374.70	862.30	-302.01	465.28	12.03	11.56	-3.44
6,683.00	79.300	270.60	6,381.36	862.88	-332.28	495.07	11.41	10.97	-3.23
6,715.00	82.100	271.00	6,386.53	863.32	-363.85	526.11	8.84	8.75	1.25
6,747.00	84.700	270.80	6,390.20	863.82	-395.63	557.38	8.15	8.13	-0.63
As of Sept 04									
6,882.00	90.900	269.00	6,395.38	863.58	-530.46	689.54	4.78	4.59	-1.33
6,978.00	90.900	268.00	6,393.88	861.07	-626.42	783.14	1.04	0.00	-1.04
7,073.00	91.500	267.30	6,391.89	857.17	-721.31	875.43	0.97	0.63	-0.74
7,168.00	90.800	268.70	6,389.98	853.86	-816.23	967.85	1.65	-0.74	1.47
7,264.00	89.200	269.80	6,389.98	852.60	-912.22	1,061.73	2.02	-1.67	1.15
7,360.00	90.400	269.90	6,390.31	852.35	-1,008.22	1,155.81	1.25	1.25	0.10
7,455.00	88.600	269.90	6,391.14	852.18	-1,103.21	1,248.93	1.89	-1.89	0.00
7,550.00	90.000	269.10	6,392.30	851.35	-1,198.20	1,341.91	1.70	1.47	-0.84
7,644.00	88.000	269.40	6,393.94	850.12	-1,292.17	1,433.81	2.15	-2.13	0.32
7,739.00	88.500	269.20	6,396.85	848.96	-1,387.12	1,526.69	0.57	0.53	-0.21
7,835.00	89.100	270.50	6,398.86	848.71	-1,483.09	1,620.75	1.49	0.63	1.35
7,930.00	91.300	271.70	6,398.52	850.54	-1,578.07	1,714.24	2.64	2.32	1.26
8,026.00	90.400	270.70	6,397.10	852.55	-1,674.03	1,808.74	1.40	-0.94	-1.04
8,121.00	90.100	271.50	6,396.69	854.37	-1,769.02	1,902.23	0.90	-0.32	0.84
As of Sept 06									

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Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	CompassVM

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)	
8,217.00	89.900	272.70	6,396.69	857.89	-1,864.95	1,996.99	1.27	-0.21	1.25	
8,313.00	90.700	274.80	6,396.18	864.17	-1,960.74	2,092.15	2.34	0.83	2.19	
8,408.00	89.300	271.00	6,396.18	868.97	-2,055.59	2,186.11	4.26	-1.47	-4.00	
8,504.00	90.300	270.10	6,396.52	869.89	-2,151.59	2,280.42	1.40	1.04	-0.94	
8,599.00	88.900	267.50	6,397.18	867.90	-2,246.55	2,373.15	3.11	-1.47	-2.74	
8,695.00	90.000	269.00	6,398.10	864.97	-2,342.50	2,466.65	1.94	1.15	1.56	
8,791.00	91.800	272.30	6,396.60	866.06	-2,438.47	2,560.97	3.92	1.88	3.44	
8,887.00	90.500	272.70	6,394.67	870.25	-2,534.35	2,655.81	1.42	-1.35	0.42	
8,982.00	90.200	272.30	6,394.09	874.39	-2,629.26	2,749.69	0.53	-0.32	-0.42	
9,078.00	90.300	271.30	6,393.67	877.41	-2,725.21	2,844.37	1.05	0.10	-1.04	
9,174.00	90.200	271.00	6,393.25	879.33	-2,821.19	2,938.86	0.33	-0.10	-0.31	
9,269.00	91.000	270.40	6,392.26	880.49	-2,916.18	3,032.23	1.05	0.84	-0.63	
9,365.00	90.900	268.70	6,390.66	879.74	-3,012.16	3,126.20	1.77	-0.10	-1.77	
9,460.00	90.000	268.50	6,389.92	877.42	-3,107.12	3,218.87	0.97	-0.95	-0.21	
9,556.00	90.300	268.90	6,389.67	875.24	-3,203.10	3,312.55	0.52	0.31	0.42	
9,651.00	90.000	271.10	6,389.42	875.24	-3,298.09	3,405.70	2.34	-0.32	2.32	
9,747.00	90.800	271.20	6,388.75	877.17	-3,394.07	3,500.19	0.84	0.83	0.10	
9,842.00	90.100	271.40	6,388.00	879.32	-3,489.04	3,593.74	0.77	-0.74	0.21	
9,938.00	90.900	270.90	6,387.16	881.25	-3,585.02	3,688.23	0.98	0.83	-0.52	
10,034.00	91.600	270.70	6,385.07	882.59	-3,680.99	3,782.60	0.76	0.73	-0.21	
10,129.00	92.600	270.50	6,381.59	883.58	-3,775.92	3,875.88	1.07	1.05	-0.21	
10,224.00	90.800	270.40	6,378.77	884.33	-3,870.87	3,969.13	1.90	-1.89	-0.11	
10,319.00	90.800	269.70	6,377.44	884.41	-3,965.86	4,062.29	0.74	0.00	-0.74	
10,415.00	91.800	269.60	6,375.27	883.83	-4,061.83	4,156.28	1.05	1.04	-0.10	
10,511.00	90.200	269.70	6,373.59	883.24	-4,157.81	4,250.29	1.67	-1.67	0.10	
10,604.00	91.200	269.40	6,372.45	882.51	-4,250.80	4,341.33	1.12	1.08	-0.32	
10,683.00	91.100	269.70	6,370.87	881.89	-4,329.78	4,418.65	0.40	-0.13	0.38	
Last Sharewell Survey										
10,744.00	91.100	269.70	6,369.70	881.57	-4,390.77	4,478.39	0.00	0.00	0.00	
Projection To TD										

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
873.00	872.87	11.43	6.08	First Sharewell Survey	
4,185.00	4,087.20	783.31	81.52	As of Sept 03	
6,747.00	6,390.20	863.82	-395.63	As of Sept 04	
8,121.00	6,396.69	854.37	-1,769.02	As of Sept 06	
10,683.00	6,370.87	881.89	-4,329.78	Last Sharewell Survey	
10,744.00	6,369.70	881.57	-4,390.77	Projection To TD	

Company:	Bill Barrett Corp. (II)	Local Co-ordinate Reference:	Well 70 Ranch 5-63-27-32H
Project:	Weld Co., CO	TVD Reference:	WELL @ 4614.01ft
Site:	Sec.27-T5N-R63W	MD Reference:	WELL @ 4614.01ft
Well:	70 Ranch 5-63-27-32H	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	CompassVM

Checked By: _____ Approved By: _____ Date: _____