



PROJECT DETAILS: Weld County, CO NAD 83

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

Project: Weld County, CO NAD 83  
Site: Ruh 6-62-11 14 NWNE Pad  
Well: Ruh 6-62-11-0857B2  
Wellbore: OH  
Design: Plan 1



Azimuths to True North  
Magnetic North: 8.18°



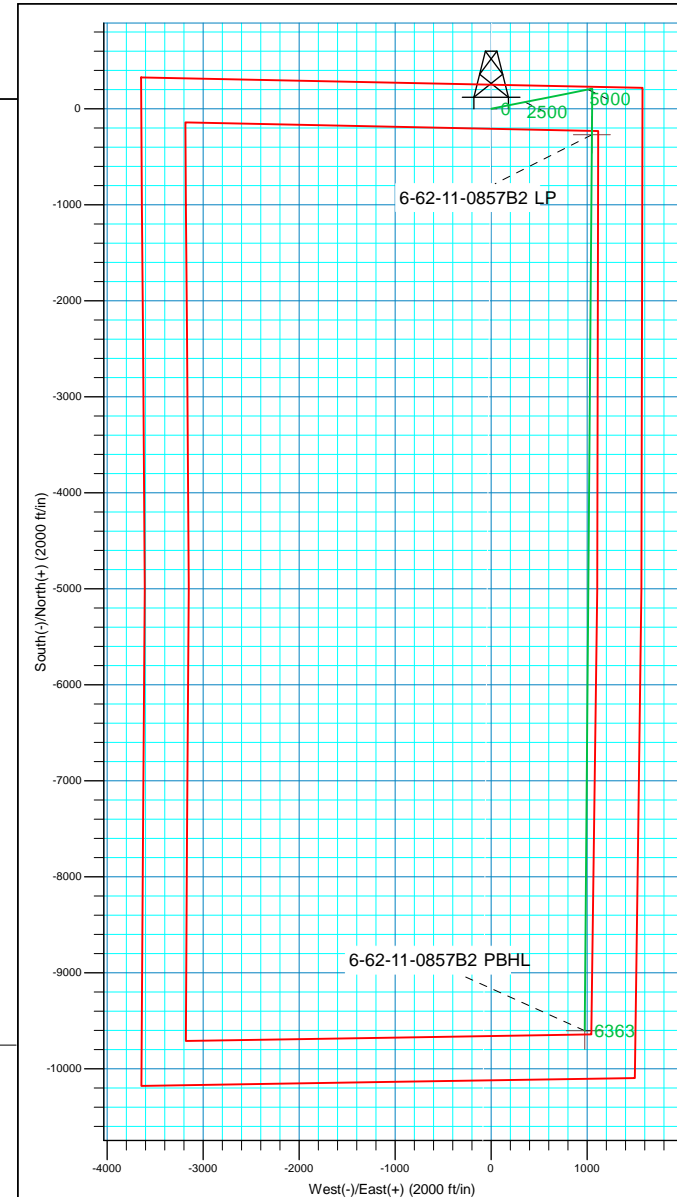
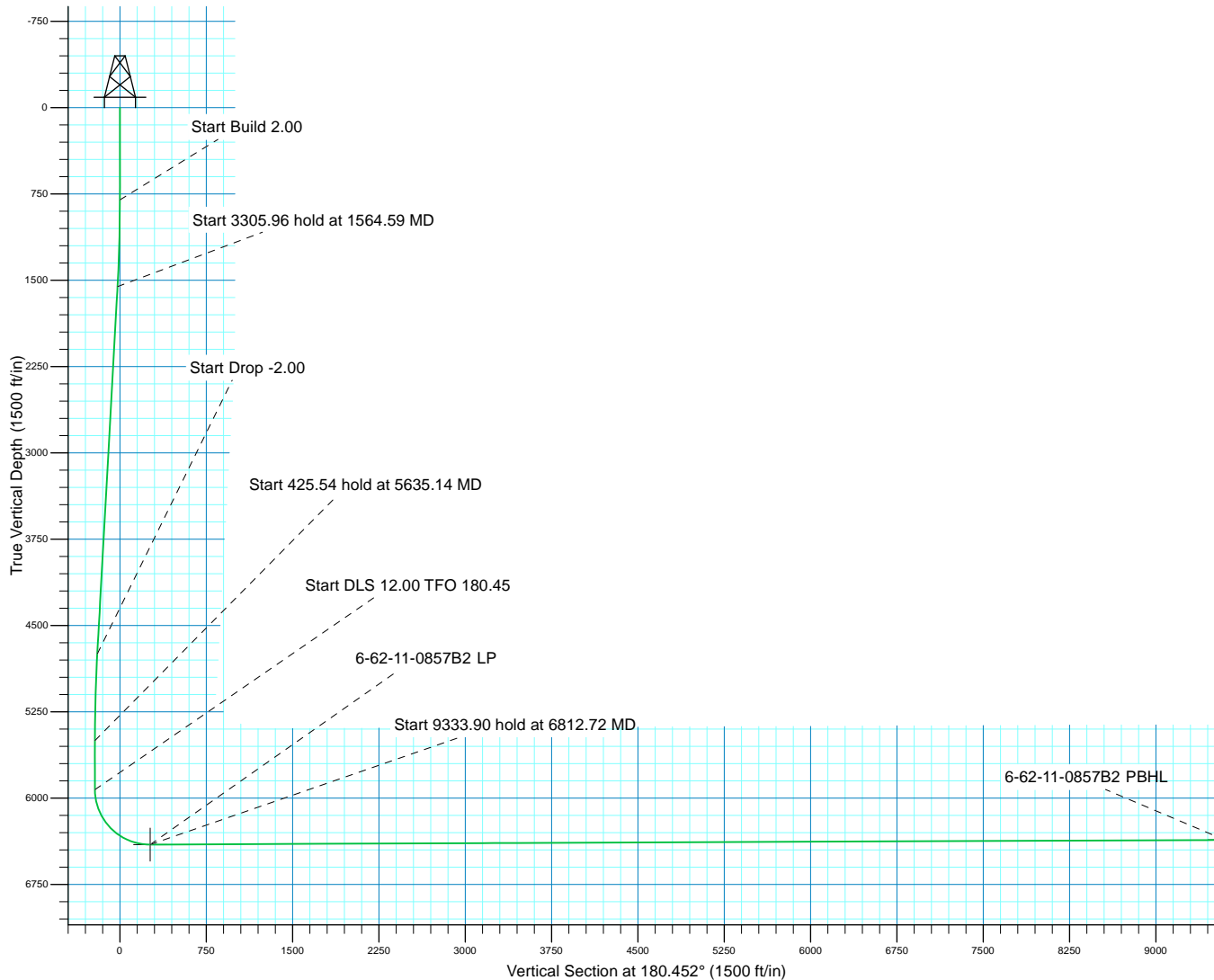
Magnetic Field  
Strength: 52608.9nT  
Dip Angle: 67.07°  
Date: 9/12/2016  
Model: BGGM2016

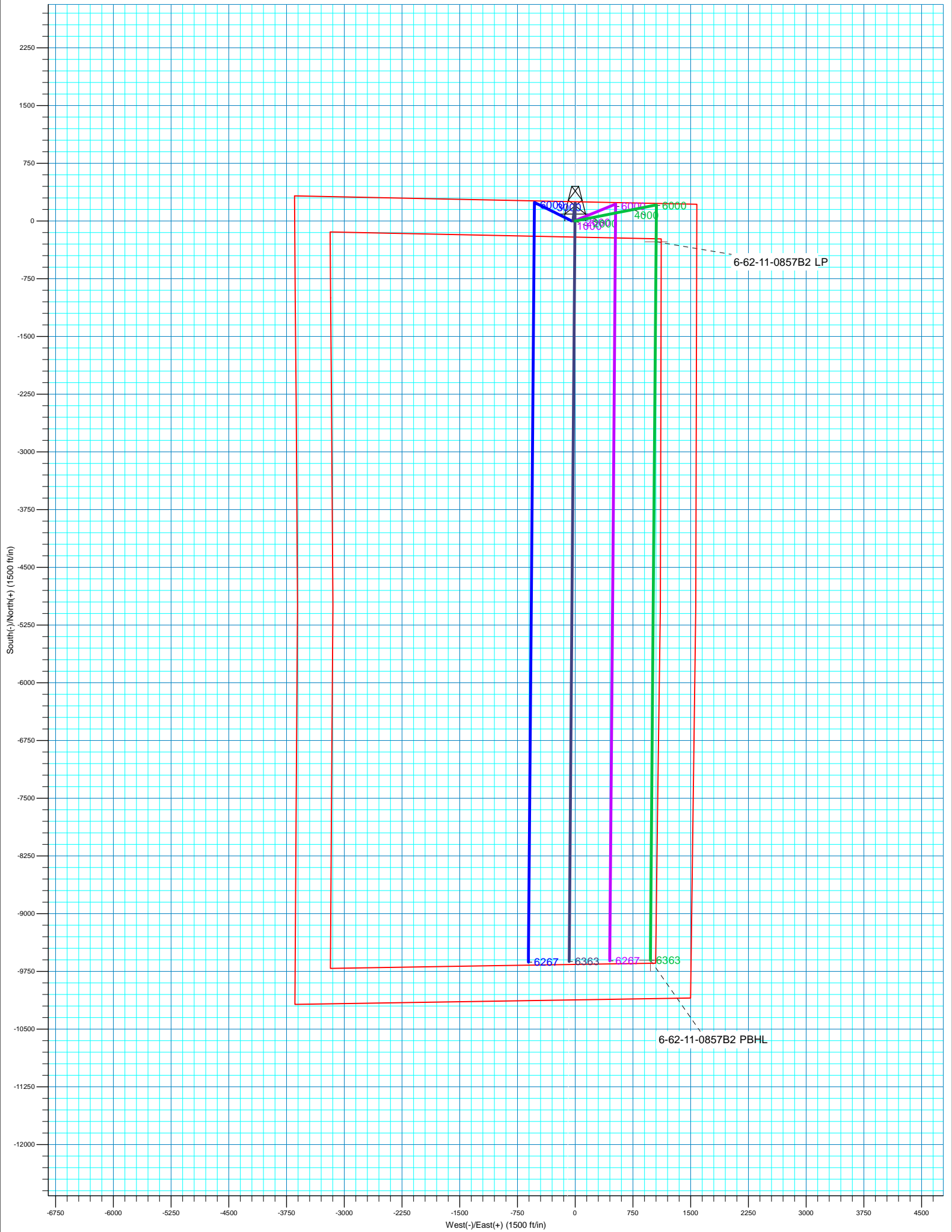
SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.000	800.00	0.00	0.00	0.00	0.00	0.00
1564.59	15.29	78.814	1555.54	19.68	99.50	2.00	78.81	-20.46
4870.55	15.29	78.814	4744.46	188.81	954.83	0.00	0.00	-196.34
5635.14	0.00	0.000	5500.00	208.49	1054.33	2.00	180.00	-216.80
6060.68	0.00	0.000	5925.54	208.49	1054.33	0.00	0.00	-216.80
6812.72	90.25	180.452	6403.00	-271.01	1050.55	12.00	180.45	262.71
16146.62	90.25	180.452	6363.00	-9604.53	976.95	0.00	0.00	9596.52

WELL DETAILS: Ruh 6-62-11-0857B2

		GL 4749' & KB 20' @ 4769.00ft		4749.00	Longitude
+N/-S	+E/-W	Northing	Easting	Latitude	
0.00	0.00	1430276.19	3337698.93	40° 30' 29.379 N	104° 17' 7.822 W







## **Bill Barrett Corp.**

Weld County, CO NAD 83  
Ruh 6-62-11 14 NWNE Pad  
Ruh 6-62-11-0857B2

OH

Plan: Plan 1

## **Standard Planning Report**

13 September, 2016



<b>Database:</b>	Casper District	<b>Local Co-ordinate Reference:</b>	Well Ruh 6-62-11-0857B2
<b>Company:</b>	Bill Barrett Corp.	<b>TVD Reference:</b>	GL 4749' & KB 20' @ 4769.00ft
<b>Project:</b>	Weld County, CO NAD 83	<b>MD Reference:</b>	GL 4749' & KB 20' @ 4769.00ft
<b>Site:</b>	Ruh 6-62-11 14 NWNE Pad	<b>North Reference:</b>	True
<b>Well:</b>	Ruh 6-62-11-0857B2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan 1		

<b>Project</b>	Weld County, CO NAD 83		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Colorado Northern Zone		

<b>Site</b>	Ruh 6-62-11 14 NWNE Pad, Site Center: Ruh 6-62-11-0857B2			
<b>Site Position:</b>		<b>Northing:</b>	1,430,276.20 usft	<b>Latitude:</b> 40° 30' 29.380 N
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,337,698.94 usft	<b>Longitude:</b> 104° 17' 7.822 W
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b> 0.78 °

<b>Well</b>	Ruh 6-62-11-0857B2, 250' FNL 1579' FEL Sec 11 T6N R62W			
<b>Well Position</b>	<b>+N/-S</b>	-0.01 ft	<b>Northing:</b>	1,430,276.19 usft
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b>	3,337,698.94 usft
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>	0.00 ft
			<b>Ground Level:</b>	4,749.00 ft

<b>Wellbore</b>	OH				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	BGGM2016	9/12/2016	8.18	67.07	52,609

<b>Design</b>	Plan 1			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	180.452

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
800.00	0.00	0.000	800.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,564.59	15.29	78.814	1,555.54	19.68	99.50	2.00	2.00	0.00	78.81	
4,870.55	15.29	78.814	4,744.46	188.81	954.83	0.00	0.00	0.00	0.00	
5,635.14	0.00	0.000	5,500.00	208.49	1,054.33	2.00	-2.00	0.00	180.00	
6,060.68	0.00	0.000	5,925.54	208.49	1,054.33	0.00	0.00	0.00	0.00	
6,812.72	90.25	180.452	6,403.00	-271.01	1,050.55	12.00	12.00	-23.87	180.45	
16,146.62	90.25	180.452	6,363.00	-9,604.52	976.95	0.00	0.00	0.00	0.00	6-62-11-0857B2 PBHI

<b>Database:</b>	Casper District	<b>Local Co-ordinate Reference:</b>	Well Ruh 6-62-11-0857B2
<b>Company:</b>	Bill Barrett Corp.	<b>TVD Reference:</b>	GL 4749' & KB 20' @ 4769.00ft
<b>Project:</b>	Weld County, CO NAD 83	<b>MD Reference:</b>	GL 4749' & KB 20' @ 4769.00ft
<b>Site:</b>	Ruh 6-62-11 14 NWNE Pad	<b>North Reference:</b>	True
<b>Well:</b>	Ruh 6-62-11-0857B2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan 1		

Planned 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	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.000	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.000	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.000	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.000	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.000	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.000	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.000	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.000	800.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Start Build 2.00</b>									
900.00	2.00	78.814	899.98	0.34	1.71	-0.35	2.00	2.00	0.00
1,000.00	4.00	78.814	999.84	1.35	6.85	-1.41	2.00	2.00	0.00
1,100.00	6.00	78.814	1,099.45	3.04	15.40	-3.17	2.00	2.00	0.00
1,200.00	8.00	78.814	1,198.70	5.41	27.35	-5.62	2.00	2.00	0.00
1,300.00	10.00	78.814	1,297.47	8.44	42.70	-8.78	2.00	2.00	0.00
1,400.00	12.00	78.814	1,395.62	12.14	61.41	-12.63	2.00	2.00	0.00
1,500.00	14.00	78.814	1,493.06	16.51	83.48	-17.17	2.00	2.00	0.00
1,564.59	15.29	78.814	1,555.54	19.68	99.50	-20.46	2.00	2.00	0.00
<b>Start 3305.96 hold at 1564.59 MD</b>									
1,600.00	15.29	78.814	1,589.70	21.49	108.66	-22.34	0.00	0.00	0.00
1,700.00	15.29	78.814	1,686.16	26.60	134.53	-27.66	0.00	0.00	0.00
1,800.00	15.29	78.814	1,782.62	31.72	160.41	-32.98	0.00	0.00	0.00
1,900.00	15.29	78.814	1,879.08	36.84	186.28	-38.30	0.00	0.00	0.00
2,000.00	15.29	78.814	1,975.54	41.95	212.15	-43.62	0.00	0.00	0.00
2,100.00	15.29	78.814	2,072.00	47.07	238.02	-48.94	0.00	0.00	0.00
2,200.00	15.29	78.814	2,168.46	52.18	263.90	-54.26	0.00	0.00	0.00
2,300.00	15.29	78.814	2,264.92	57.30	289.77	-59.58	0.00	0.00	0.00
2,400.00	15.29	78.814	2,361.38	62.42	315.64	-64.90	0.00	0.00	0.00
2,500.00	15.29	78.814	2,457.84	67.53	341.51	-70.23	0.00	0.00	0.00
2,600.00	15.29	78.814	2,554.30	72.65	367.39	-75.55	0.00	0.00	0.00
2,700.00	15.29	78.814	2,650.76	77.77	393.26	-80.87	0.00	0.00	0.00
2,800.00	15.29	78.814	2,747.22	82.88	419.13	-86.19	0.00	0.00	0.00
2,900.00	15.29	78.814	2,843.68	88.00	445.00	-91.51	0.00	0.00	0.00
3,000.00	15.29	78.814	2,940.14	93.11	470.88	-96.83	0.00	0.00	0.00
3,100.00	15.29	78.814	3,036.59	98.23	496.75	-102.15	0.00	0.00	0.00
3,200.00	15.29	78.814	3,133.05	103.35	522.62	-107.47	0.00	0.00	0.00
3,300.00	15.29	78.814	3,229.51	108.46	548.49	-112.79	0.00	0.00	0.00
3,400.00	15.29	78.814	3,325.97	113.58	574.36	-118.11	0.00	0.00	0.00
3,500.00	15.29	78.814	3,422.43	118.69	600.24	-123.43	0.00	0.00	0.00
3,600.00	15.29	78.814	3,518.89	123.81	626.11	-128.75	0.00	0.00	0.00
3,700.00	15.29	78.814	3,615.35	128.93	651.98	-134.07	0.00	0.00	0.00
3,800.00	15.29	78.814	3,711.81	134.04	677.85	-139.39	0.00	0.00	0.00
3,900.00	15.29	78.814	3,808.27	139.16	703.73	-144.71	0.00	0.00	0.00
4,000.00	15.29	78.814	3,904.73	144.28	729.60	-150.03	0.00	0.00	0.00
4,100.00	15.29	78.814	4,001.19	149.39	755.47	-155.35	0.00	0.00	0.00
4,200.00	15.29	78.814	4,097.65	154.51	781.34	-160.67	0.00	0.00	0.00
4,300.00	15.29	78.814	4,194.11	159.62	807.22	-165.99	0.00	0.00	0.00
4,400.00	15.29	78.814	4,290.57	164.74	833.09	-171.31	0.00	0.00	0.00
4,500.00	15.29	78.814	4,387.03	169.86	858.96	-176.63	0.00	0.00	0.00
4,600.00	15.29	78.814	4,483.49	174.97	884.83	-181.95	0.00	0.00	0.00
4,700.00	15.29	78.814	4,579.95	180.09	910.71	-187.27	0.00	0.00	0.00
4,800.00	15.29	78.814	4,676.41	185.20	936.58	-192.59	0.00	0.00	0.00
4,870.55	15.29	78.814	4,744.46	188.81	954.83	-196.34	0.00	0.00	0.00

<b>Database:</b>	Casper District	<b>Local Co-ordinate Reference:</b>	Well Ruh 6-62-11-0857B2
<b>Company:</b>	Bill Barrett Corp.	<b>TVD Reference:</b>	GL 4749' & KB 20' @ 4769.00ft
<b>Project:</b>	Weld County, CO NAD 83	<b>MD Reference:</b>	GL 4749' & KB 20' @ 4769.00ft
<b>Site:</b>	Ruh 6-62-11 14 NWNE Pad	<b>North Reference:</b>	True
<b>Well:</b>	Ruh 6-62-11-0857B2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan 1		

Planned 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)
<b>Start Drop -2.00</b>									
4,900.00	14.70	78.814	4,772.91	190.29	962.31	-197.88	2.00	-2.00	0.00
5,000.00	12.70	78.814	4,870.06	194.89	985.54	-202.66	2.00	-2.00	0.00
5,100.00	10.70	78.814	4,967.97	198.82	1,005.44	-206.75	2.00	-2.00	0.00
5,200.00	8.70	78.814	5,066.54	202.09	1,021.97	-210.15	2.00	-2.00	0.00
5,300.00	6.70	78.814	5,165.63	204.69	1,035.12	-212.85	2.00	-2.00	0.00
5,400.00	4.70	78.814	5,265.13	206.62	1,044.87	-214.86	2.00	-2.00	0.00
5,500.00	2.70	78.814	5,364.91	207.87	1,051.20	-216.16	2.00	-2.00	0.00
5,600.00	0.70	78.814	5,464.87	208.45	1,054.12	-216.76	2.00	-2.00	0.00
5,635.14	0.00	0.000	5,500.00	208.49	1,054.33	-216.80	2.00	-2.00	0.00
<b>Start 425.54 hold at 5635.14 MD</b>									
5,700.00	0.00	0.000	5,564.86	208.49	1,054.33	-216.80	0.00	0.00	0.00
5,800.00	0.00	0.000	5,664.86	208.49	1,054.33	-216.80	0.00	0.00	0.00
5,900.00	0.00	0.000	5,764.86	208.49	1,054.33	-216.80	0.00	0.00	0.00
6,000.00	0.00	0.000	5,864.86	208.49	1,054.33	-216.80	0.00	0.00	0.00
6,060.68	0.00	0.000	5,925.54	208.49	1,054.33	-216.80	0.00	0.00	0.00
<b>Start DLS 12.00 TFO 180.45</b>									
6,100.00	4.72	180.452	5,964.82	206.87	1,054.32	-215.18	12.00	12.00	0.00
6,200.00	16.72	180.452	6,062.90	188.31	1,054.17	-196.62	12.00	12.00	0.00
6,300.00	28.72	180.452	6,154.97	149.76	1,053.87	-158.07	12.00	12.00	0.00
6,400.00	40.72	180.452	6,237.01	92.91	1,053.42	-101.22	12.00	12.00	0.00
6,500.00	52.72	180.452	6,305.45	20.24	1,052.85	-28.55	12.00	12.00	0.00
6,600.00	64.72	180.452	6,357.28	-65.06	1,052.17	56.76	12.00	12.00	0.00
6,700.00	76.72	180.452	6,390.24	-159.28	1,051.43	150.98	12.00	12.00	0.00
6,800.00	88.72	180.452	6,402.89	-258.29	1,050.65	249.99	12.00	12.00	0.00
6,812.72	90.25	180.452	6,403.00	-271.01	1,050.55	262.71	12.00	12.00	0.00
<b>Start 9333.90 hold at 6812.72 MD</b>									
6,900.00	90.25	180.452	6,402.63	-358.28	1,049.86	349.99	0.00	0.00	0.00
7,000.00	90.25	180.452	6,402.20	-458.28	1,049.07	449.99	0.00	0.00	0.00
7,100.00	90.25	180.452	6,401.77	-558.27	1,048.28	549.99	0.00	0.00	0.00
7,200.00	90.25	180.452	6,401.34	-658.27	1,047.50	649.99	0.00	0.00	0.00
7,300.00	90.25	180.452	6,400.91	-758.26	1,046.71	749.98	0.00	0.00	0.00
7,400.00	90.25	180.452	6,400.48	-858.26	1,045.92	849.98	0.00	0.00	0.00
7,500.00	90.25	180.452	6,400.06	-958.26	1,045.13	949.98	0.00	0.00	0.00
7,600.00	90.25	180.452	6,399.63	-1,058.25	1,044.34	1,049.98	0.00	0.00	0.00
7,700.00	90.25	180.452	6,399.20	-1,158.25	1,043.55	1,149.98	0.00	0.00	0.00
7,800.00	90.25	180.452	6,398.77	-1,258.24	1,042.76	1,249.98	0.00	0.00	0.00
7,900.00	90.25	180.452	6,398.34	-1,358.24	1,041.98	1,349.98	0.00	0.00	0.00
8,000.00	90.25	180.452	6,397.91	-1,458.24	1,041.19	1,449.98	0.00	0.00	0.00
8,100.00	90.25	180.452	6,397.48	-1,558.23	1,040.40	1,549.98	0.00	0.00	0.00
8,200.00	90.25	180.452	6,397.06	-1,658.23	1,039.61	1,649.98	0.00	0.00	0.00
8,300.00	90.25	180.452	6,396.63	-1,758.22	1,038.82	1,749.97	0.00	0.00	0.00
8,400.00	90.25	180.452	6,396.20	-1,858.22	1,038.03	1,849.97	0.00	0.00	0.00
8,500.00	90.25	180.452	6,395.77	-1,958.22	1,037.24	1,949.97	0.00	0.00	0.00
8,600.00	90.25	180.452	6,395.34	-2,058.21	1,036.46	2,049.97	0.00	0.00	0.00
8,700.00	90.25	180.452	6,394.91	-2,158.21	1,035.67	2,149.97	0.00	0.00	0.00
8,800.00	90.25	180.452	6,394.48	-2,258.20	1,034.88	2,249.97	0.00	0.00	0.00
8,900.00	90.25	180.452	6,394.06	-2,358.20	1,034.09	2,349.97	0.00	0.00	0.00
9,000.00	90.25	180.452	6,393.63	-2,458.20	1,033.30	2,449.97	0.00	0.00	0.00
9,100.00	90.25	180.452	6,393.20	-2,558.19	1,032.51	2,549.97	0.00	0.00	0.00
9,200.00	90.25	180.452	6,392.77	-2,658.19	1,031.73	2,649.97	0.00	0.00	0.00
9,300.00	90.25	180.452	6,392.34	-2,758.18	1,030.94	2,749.97	0.00	0.00	0.00
9,400.00	90.25	180.452	6,391.91	-2,858.18	1,030.15	2,849.96	0.00	0.00	0.00

<b>Database:</b>	Casper District	<b>Local Co-ordinate Reference:</b>	Well Ruh 6-62-11-0857B2
<b>Company:</b>	Bill Barrett Corp.	<b>TVD Reference:</b>	GL 4749' & KB 20' @ 4769.00ft
<b>Project:</b>	Weld County, CO NAD 83	<b>MD Reference:</b>	GL 4749' & KB 20' @ 4769.00ft
<b>Site:</b>	Ruh 6-62-11 14 NWNE Pad	<b>North Reference:</b>	True
<b>Well:</b>	Ruh 6-62-11-0857B2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan 1		

Planned 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)	
9,500.00	90.25	180.452	6,391.48	-2,958.18	1,029.36	2,949.96	0.00	0.00	0.00	
9,600.00	90.25	180.452	6,391.06	-3,058.17	1,028.57	3,049.96	0.00	0.00	0.00	
9,700.00	90.25	180.452	6,390.63	-3,158.17	1,027.78	3,149.96	0.00	0.00	0.00	
9,800.00	90.25	180.452	6,390.20	-3,258.16	1,026.99	3,249.96	0.00	0.00	0.00	
9,900.00	90.25	180.452	6,389.77	-3,358.16	1,026.21	3,349.96	0.00	0.00	0.00	
10,000.00	90.25	180.452	6,389.34	-3,458.16	1,025.42	3,449.96	0.00	0.00	0.00	
10,100.00	90.25	180.452	6,388.91	-3,558.15	1,024.63	3,549.96	0.00	0.00	0.00	
10,200.00	90.25	180.452	6,388.48	-3,658.15	1,023.84	3,649.96	0.00	0.00	0.00	
10,300.00	90.25	180.452	6,388.06	-3,758.14	1,023.05	3,749.96	0.00	0.00	0.00	
10,400.00	90.25	180.452	6,387.63	-3,858.14	1,022.26	3,849.96	0.00	0.00	0.00	
10,500.00	90.25	180.452	6,387.20	-3,958.14	1,021.47	3,949.95	0.00	0.00	0.00	
10,600.00	90.25	180.452	6,386.77	-4,058.13	1,020.69	4,049.95	0.00	0.00	0.00	
10,700.00	90.25	180.452	6,386.34	-4,158.13	1,019.90	4,149.95	0.00	0.00	0.00	
10,800.00	90.25	180.452	6,385.91	-4,258.12	1,019.11	4,249.95	0.00	0.00	0.00	
10,900.00	90.25	180.452	6,385.48	-4,358.12	1,018.32	4,349.95	0.00	0.00	0.00	
11,000.00	90.25	180.452	6,385.06	-4,458.12	1,017.53	4,449.95	0.00	0.00	0.00	
11,100.00	90.25	180.452	6,384.63	-4,558.11	1,016.74	4,549.95	0.00	0.00	0.00	
11,200.00	90.25	180.452	6,384.20	-4,658.11	1,015.95	4,649.95	0.00	0.00	0.00	
11,300.00	90.25	180.452	6,383.77	-4,758.10	1,015.17	4,749.95	0.00	0.00	0.00	
11,400.00	90.25	180.452	6,383.34	-4,858.10	1,014.38	4,849.95	0.00	0.00	0.00	
11,500.00	90.25	180.452	6,382.91	-4,958.10	1,013.59	4,949.95	0.00	0.00	0.00	
11,600.00	90.25	180.452	6,382.48	-5,058.09	1,012.80	5,049.94	0.00	0.00	0.00	
11,700.00	90.25	180.452	6,382.06	-5,158.09	1,012.01	5,149.94	0.00	0.00	0.00	
11,800.00	90.25	180.452	6,381.63	-5,258.08	1,011.22	5,249.94	0.00	0.00	0.00	
11,900.00	90.25	180.452	6,381.20	-5,358.08	1,010.44	5,349.94	0.00	0.00	0.00	
12,000.00	90.25	180.452	6,380.77	-5,458.08	1,009.65	5,449.94	0.00	0.00	0.00	
12,100.00	90.25	180.452	6,380.34	-5,558.07	1,008.86	5,549.94	0.00	0.00	0.00	
12,200.00	90.25	180.452	6,379.91	-5,658.07	1,008.07	5,649.94	0.00	0.00	0.00	
12,300.00	90.25	180.452	6,379.48	-5,758.06	1,007.28	5,749.94	0.00	0.00	0.00	
12,400.00	90.25	180.452	6,379.06	-5,858.06	1,006.49	5,849.94	0.00	0.00	0.00	
12,500.00	90.25	180.452	6,378.63	-5,958.06	1,005.70	5,949.94	0.00	0.00	0.00	
12,600.00	90.25	180.452	6,378.20	-6,058.05	1,004.92	6,049.94	0.00	0.00	0.00	
12,700.00	90.25	180.452	6,377.77	-6,158.05	1,004.13	6,149.93	0.00	0.00	0.00	
12,800.00	90.25	180.452	6,377.34	-6,258.04	1,003.34	6,249.93	0.00	0.00	0.00	
12,900.00	90.25	180.452	6,376.91	-6,358.04	1,002.55	6,349.93	0.00	0.00	0.00	
13,000.00	90.25	180.452	6,376.48	-6,458.04	1,001.76	6,449.93	0.00	0.00	0.00	
13,100.00	90.25	180.452	6,376.06	-6,558.03	1,000.97	6,549.93	0.00	0.00	0.00	
13,200.00	90.25	180.452	6,375.63	-6,658.03	1,000.18	6,649.93	0.00	0.00	0.00	
13,300.00	90.25	180.452	6,375.20	-6,758.02	999.40	6,749.93	0.00	0.00	0.00	
13,400.00	90.25	180.452	6,374.77	-6,858.02	998.61	6,849.93	0.00	0.00	0.00	
13,500.00	90.25	180.452	6,374.34	-6,958.02	997.82	6,949.93	0.00	0.00	0.00	
13,600.00	90.25	180.452	6,373.91	-7,058.01	997.03	7,049.93	0.00	0.00	0.00	
13,700.00	90.25	180.452	6,373.49	-7,158.01	996.24	7,149.93	0.00	0.00	0.00	
13,800.00	90.25	180.452	6,373.06	-7,258.00	995.45	7,249.92	0.00	0.00	0.00	
13,900.00	90.25	180.452	6,372.63	-7,358.00	994.66	7,349.92	0.00	0.00	0.00	
14,000.00	90.25	180.452	6,372.20	-7,458.00	993.88	7,449.92	0.00	0.00	0.00	
14,100.00	90.25	180.452	6,371.77	-7,557.99	993.09	7,549.92	0.00	0.00	0.00	
14,200.00	90.25	180.452	6,371.34	-7,657.99	992.30	7,649.92	0.00	0.00	0.00	
14,300.00	90.25	180.452	6,370.91	-7,757.98	991.51	7,749.92	0.00	0.00	0.00	
14,400.00	90.25	180.452	6,370.49	-7,857.98	990.72	7,849.92	0.00	0.00	0.00	
14,500.00	90.25	180.452	6,370.06	-7,957.98	989.93	7,949.92	0.00	0.00	0.00	
14,600.00	90.25	180.452	6,369.63	-8,057.97	989.15	8,049.92	0.00	0.00	0.00	
14,700.00	90.25	180.452	6,369.20	-8,157.97	988.36	8,149.92	0.00	0.00	0.00	
14,800.00	90.25	180.452	6,368.77	-8,257.96	987.57	8,249.92	0.00	0.00	0.00	

<b>Database:</b>	Casper District	<b>Local Co-ordinate Reference:</b>	Well Ruh 6-62-11-0857B2
<b>Company:</b>	Bill Barrett Corp.	<b>TVD Reference:</b>	GL 4749' & KB 20' @ 4769.00ft
<b>Project:</b>	Weld County, CO NAD 83	<b>MD Reference:</b>	GL 4749' & KB 20' @ 4769.00ft
<b>Site:</b>	Ruh 6-62-11 14 NWNE Pad	<b>North Reference:</b>	True
<b>Well:</b>	Ruh 6-62-11-0857B2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan 1		

Planned 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)
14,900.00	90.25	180.452	6,368.34	-8,357.96	986.78	8,349.91	0.00	0.00	0.00
15,000.00	90.25	180.452	6,367.91	-8,457.96	985.99	8,449.91	0.00	0.00	0.00
15,100.00	90.25	180.452	6,367.49	-8,557.95	985.20	8,549.91	0.00	0.00	0.00
15,200.00	90.25	180.452	6,367.06	-8,657.95	984.41	8,649.91	0.00	0.00	0.00
15,300.00	90.25	180.452	6,366.63	-8,757.94	983.63	8,749.91	0.00	0.00	0.00
15,400.00	90.25	180.452	6,366.20	-8,857.94	982.84	8,849.91	0.00	0.00	0.00
15,500.00	90.25	180.452	6,365.77	-8,957.93	982.05	8,949.91	0.00	0.00	0.00
15,600.00	90.25	180.452	6,365.34	-9,057.93	981.26	9,049.91	0.00	0.00	0.00
15,700.00	90.25	180.452	6,364.91	-9,157.93	980.47	9,149.91	0.00	0.00	0.00
15,800.00	90.25	180.452	6,364.49	-9,257.92	979.68	9,249.91	0.00	0.00	0.00
15,900.00	90.25	180.452	6,364.06	-9,357.92	978.89	9,349.91	0.00	0.00	0.00
16,000.00	90.25	180.452	6,363.63	-9,457.91	978.11	9,449.90	0.00	0.00	0.00
16,100.00	90.25	180.452	6,363.20	-9,557.91	977.32	9,549.90	0.00	0.00	0.00
16,146.62	90.25	180.452	6,363.00	-9,604.52	976.95	9,596.52	0.00	0.00	0.00
TD at 16146.62									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
6-62-11-0857B2 PBHL	0.00	0.000	6,363.00	-9,604.52	976.95	1,420,685.97	3,338,807.33	40° 28' 54.469 N	104° 16' 55.178 W
- plan hits target center									
- Point									
6-62-11-0857B2 LP	0.00	0.000	6,403.00	-271.01	1,050.55	1,430,019.60	3,338,753.09	40° 30' 26.701 N	104° 16' 54.221 W
- plan hits target center									
- Point									

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
800.00	800.00	0.00	0.00	Start Build 2.00
1,564.59	1,555.54	19.68	99.50	Start 3305.96 hold at 1564.59 MD
4,870.55	4,744.46	188.81	954.83	Start Drop -2.00
5,635.14	5,500.00	208.49	1,054.33	Start 425.54 hold at 5635.14 MD
6,060.68	5,925.54	208.49	1,054.33	Start DLS 12.00 TFO 180.45
6,812.72	6,403.00	-271.01	1,050.55	Start 9333.90 hold at 6812.72 MD
16,146.62	6,363.00	-9,604.52	976.95	TD at 16146.62