



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 6-62-11-0659B2
Wellbore: OH
Design: Plan 1



Azimuths to True North
Magnetic North: 8.18°



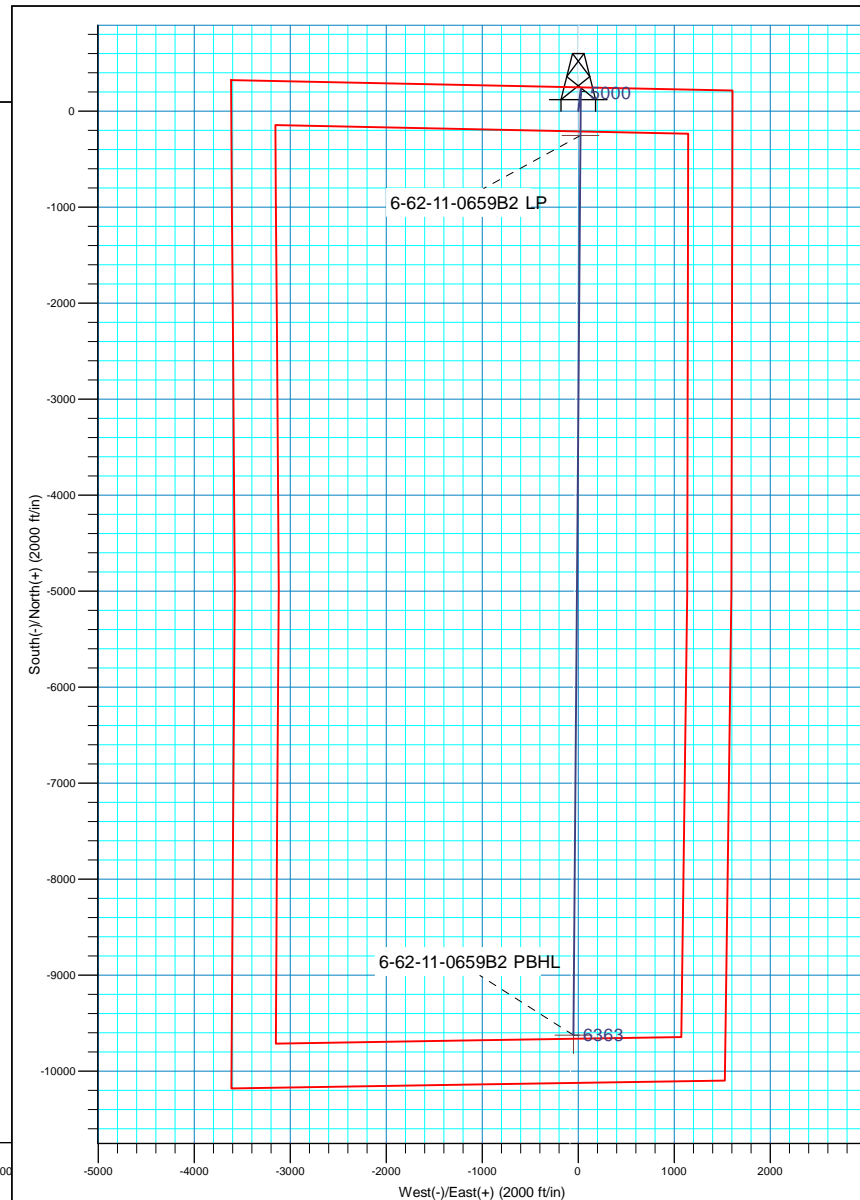
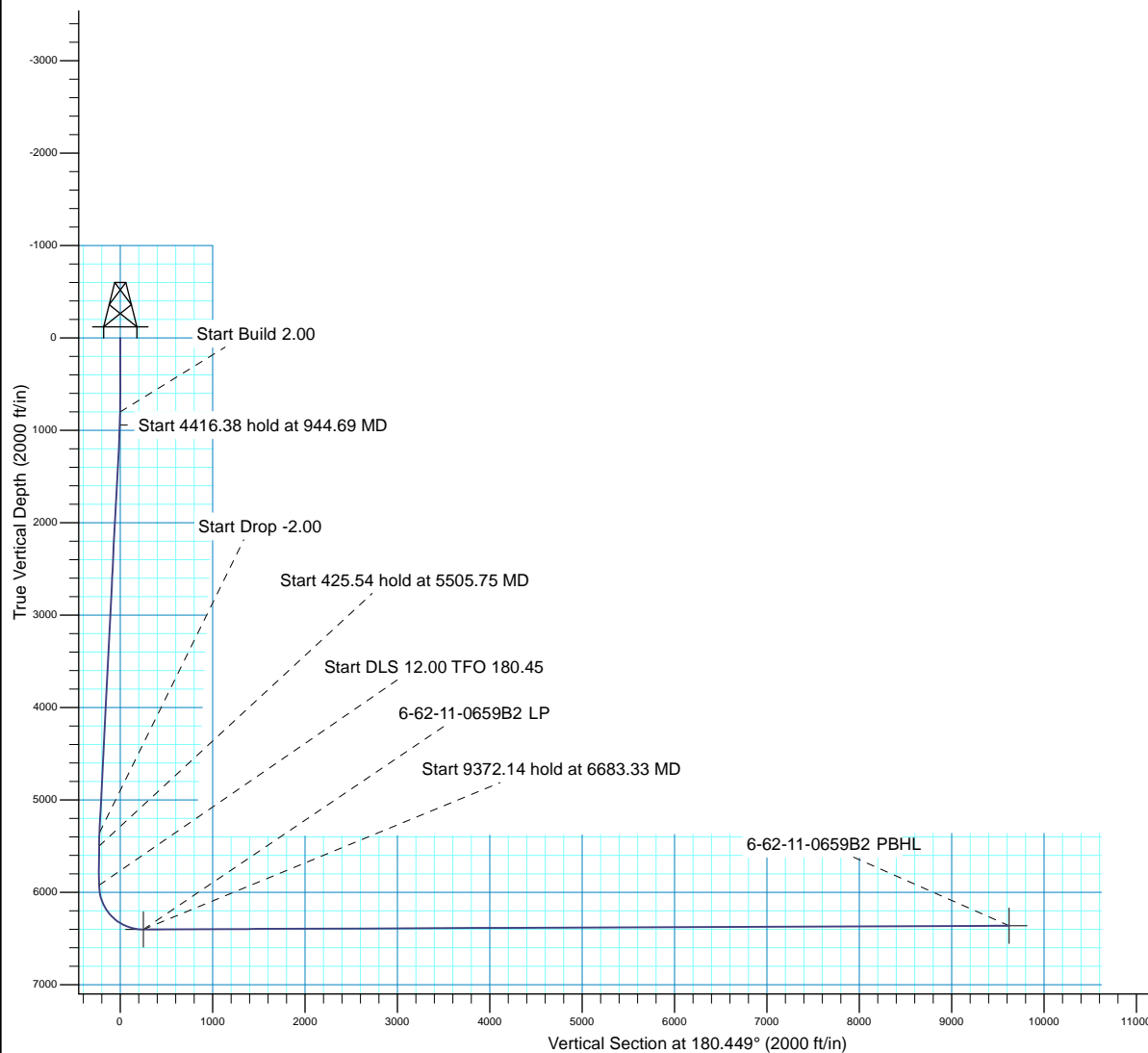
Magnetic Field
Strength: 52608.6snT
Dip Angle: 67.07°
Date: 9/13/2016
Model: BGGM2016

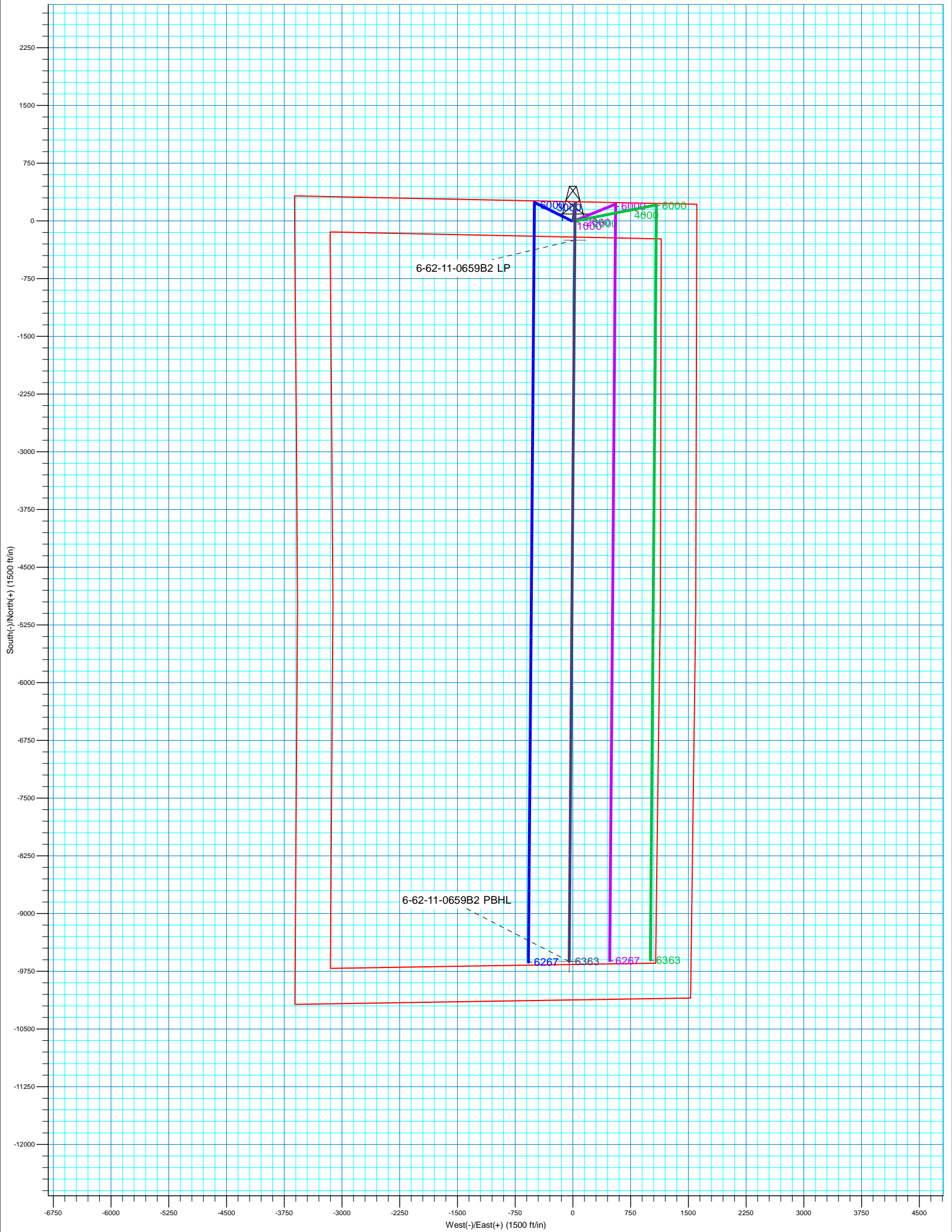
SECTION DETAILS

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
944.69	2.89	7.112	944.63	3.62	0.45	2.00	7.11	-3.63
5361.07	2.89	7.112	5355.37	224.87	28.06	0.00	0.00	-225.08
5505.75	0.00	0.000	5500.00	228.49	28.51	2.00	180.00	-228.71
5931.29	0.00	0.000	5925.54	228.49	28.51	0.00	0.00	-228.71
6683.33	90.24	180.449	6403.00	-251.00	24.75	12.00	180.45	250.80
16055.47	90.24	180.449	6363.00	-9622.76	-48.68	0.00	0.00	9622.84

WELL DETAILS: Ruh 6-62-11-0659B2

		GL 4749' & KB 20' @ 4769.00ft		4749.00	Longitude
+N/-S	+E/-W	Northing	Easting	Latitude	
0.00	0.00	1430276.87	3337668.89	40° 30' 29.390 N	104° 17' 8.210 W







Bill Barrett Corp.

Weld County, CO NAD 83
Ruh 6-62-11 14 NWNE Pad
Ruh 6-62-11-0659B2

OH

Plan: Plan 1

Standard Planning Report

13 September, 2016



Database:	Casper District	Local Co-ordinate Reference:	Well Ruh 6-62-11-0659B2
Company:	Bill Barrett Corp.	TVD Reference:	GL 4749' & KB 20' @ 4769.00ft
Project:	Weld County, CO NAD 83	MD Reference:	GL 4749' & KB 20' @ 4769.00ft
Site:	Ruh 6-62-11 14 NWNE Pad	North Reference:	True
Well:	Ruh 6-62-11-0659B2	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1		

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

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

Well	Ruh 6-62-11-0659B2, 250' FNL 1609' FEL Sec 11 T6N R62W					
Well Position	+N/-S	1.08 ft	Northing:	1,430,276.87 usft	Latitude:	40° 30' 29.390 N
	+E/-W	-30.03 ft	Easting:	3,337,668.89 usft	Longitude:	104° 17' 8.210 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft	Ground Level:	4,749.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2016	9/13/2016	8.18	67.07	52,609

Design	Plan 1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.00	0.00	0.00	180.449

Plan Sections										
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	
944.69	2.89	7.112	944.63	3.62	0.45	2.00	2.00	0.00	7.11	
5,361.07	2.89	7.112	5,355.37	224.87	28.06	0.00	0.00	0.00	0.00	
5,505.75	0.00	0.000	5,500.00	228.49	28.51	2.00	-2.00	0.00	180.00	
5,931.29	0.00	0.000	5,925.54	228.49	28.51	0.00	0.00	0.00	0.00	
6,683.33	90.24	180.449	6,403.00	-251.00	24.75	12.00	12.00	-23.88	180.45	
16,055.46	90.24	180.449	6,363.00	-9,622.75	-48.68	0.00	0.00	0.00	0.00	6-62-11-0659B2 PBHI

Database:	Casper District	Local Co-ordinate Reference:	Well Ruh 6-62-11-0659B2
Company:	Bill Barrett Corp.	TVD Reference:	GL 4749' & KB 20' @ 4769.00ft
Project:	Weld County, CO NAD 83	MD Reference:	GL 4749' & KB 20' @ 4769.00ft
Site:	Ruh 6-62-11 14 NWNE Pad	North Reference:	True
Well:	Ruh 6-62-11-0659B2	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	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
Start Build 2.00									
900.00	2.00	7.112	899.98	1.73	0.22	-1.73	2.00	2.00	0.00
944.69	2.89	7.112	944.63	3.62	0.45	-3.63	2.00	2.00	0.00
Start 4416.38 hold at 944.69 MD									
1,000.00	2.89	7.112	999.87	6.40	0.80	-6.40	0.00	0.00	0.00
1,100.00	2.89	7.112	1,099.74	11.41	1.42	-11.42	0.00	0.00	0.00
1,200.00	2.89	7.112	1,199.61	16.41	2.05	-16.43	0.00	0.00	0.00
1,300.00	2.89	7.112	1,299.49	21.42	2.67	-21.44	0.00	0.00	0.00
1,400.00	2.89	7.112	1,399.36	26.43	3.30	-26.46	0.00	0.00	0.00
1,500.00	2.89	7.112	1,499.23	31.44	3.92	-31.47	0.00	0.00	0.00
1,600.00	2.89	7.112	1,599.10	36.45	4.55	-36.49	0.00	0.00	0.00
1,700.00	2.89	7.112	1,698.98	41.46	5.17	-41.50	0.00	0.00	0.00
1,800.00	2.89	7.112	1,798.85	46.47	5.80	-46.52	0.00	0.00	0.00
1,900.00	2.89	7.112	1,898.72	51.48	6.42	-51.53	0.00	0.00	0.00
2,000.00	2.89	7.112	1,998.59	56.49	7.05	-56.54	0.00	0.00	0.00
2,100.00	2.89	7.112	2,098.47	61.50	7.67	-61.56	0.00	0.00	0.00
2,200.00	2.89	7.112	2,198.34	66.51	8.30	-66.57	0.00	0.00	0.00
2,300.00	2.89	7.112	2,298.21	71.52	8.92	-71.59	0.00	0.00	0.00
2,400.00	2.89	7.112	2,398.08	76.53	9.55	-76.60	0.00	0.00	0.00
2,500.00	2.89	7.112	2,497.96	81.54	10.17	-81.62	0.00	0.00	0.00
2,600.00	2.89	7.112	2,597.83	86.55	10.80	-86.63	0.00	0.00	0.00
2,700.00	2.89	7.112	2,697.70	91.56	11.42	-91.64	0.00	0.00	0.00
2,800.00	2.89	7.112	2,797.57	96.57	12.05	-96.66	0.00	0.00	0.00
2,900.00	2.89	7.112	2,897.45	101.58	12.67	-101.67	0.00	0.00	0.00
3,000.00	2.89	7.112	2,997.32	106.59	13.30	-106.69	0.00	0.00	0.00
3,100.00	2.89	7.112	3,097.19	111.60	13.92	-111.70	0.00	0.00	0.00
3,200.00	2.89	7.112	3,197.06	116.61	14.55	-116.72	0.00	0.00	0.00
3,300.00	2.89	7.112	3,296.94	121.62	15.17	-121.73	0.00	0.00	0.00
3,400.00	2.89	7.112	3,396.81	126.62	15.80	-126.74	0.00	0.00	0.00
3,500.00	2.89	7.112	3,496.68	131.63	16.42	-131.76	0.00	0.00	0.00
3,600.00	2.89	7.112	3,596.55	136.64	17.05	-136.77	0.00	0.00	0.00
3,700.00	2.89	7.112	3,696.43	141.65	17.67	-141.79	0.00	0.00	0.00
3,800.00	2.89	7.112	3,796.30	146.66	18.30	-146.80	0.00	0.00	0.00
3,900.00	2.89	7.112	3,896.17	151.67	18.93	-151.82	0.00	0.00	0.00
4,000.00	2.89	7.112	3,996.04	156.68	19.55	-156.83	0.00	0.00	0.00
4,100.00	2.89	7.112	4,095.92	161.69	20.18	-161.84	0.00	0.00	0.00
4,200.00	2.89	7.112	4,195.79	166.70	20.80	-166.86	0.00	0.00	0.00
4,300.00	2.89	7.112	4,295.66	171.71	21.43	-171.87	0.00	0.00	0.00
4,400.00	2.89	7.112	4,395.53	176.72	22.05	-176.89	0.00	0.00	0.00
4,500.00	2.89	7.112	4,495.41	181.73	22.68	-181.90	0.00	0.00	0.00
4,600.00	2.89	7.112	4,595.28	186.74	23.30	-186.92	0.00	0.00	0.00
4,700.00	2.89	7.112	4,695.15	191.75	23.93	-191.93	0.00	0.00	0.00
4,800.00	2.89	7.112	4,795.02	196.76	24.55	-196.94	0.00	0.00	0.00
4,900.00	2.89	7.112	4,894.90	201.77	25.18	-201.96	0.00	0.00	0.00
5,000.00	2.89	7.112	4,994.77	206.78	25.80	-206.97	0.00	0.00	0.00

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Company:	Bill Barrett Corp.	TVD Reference:	GL 4749' & KB 20' @ 4769.00ft
Project:	Weld County, CO NAD 83	MD Reference:	GL 4749' & KB 20' @ 4769.00ft
Site:	Ruh 6-62-11 14 NWNE Pad	North Reference:	True
Well:	Ruh 6-62-11-0659B2	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	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)
5,100.00	2.89	7.112	5,094.64	211.79	26.43	-211.99	0.00	0.00	0.00
5,200.00	2.89	7.112	5,194.51	216.80	27.05	-217.00	0.00	0.00	0.00
5,300.00	2.89	7.112	5,294.39	221.81	27.68	-222.02	0.00	0.00	0.00
5,361.07	2.89	7.112	5,355.37	224.87	28.06	-225.08	0.00	0.00	0.00
Start Drop -2.00									
5,400.00	2.12	7.112	5,394.27	226.55	28.27	-226.77	2.00	-2.00	0.00
5,500.00	0.12	7.112	5,494.25	228.48	28.51	-228.70	2.00	-2.00	0.00
5,505.75	0.00	0.000	5,500.00	228.49	28.51	-228.71	2.00	-2.00	0.00
Start 425.54 hold at 5505.75 MD									
5,600.00	0.00	0.000	5,594.25	228.49	28.51	-228.71	0.00	0.00	0.00
5,700.00	0.00	0.000	5,694.25	228.49	28.51	-228.71	0.00	0.00	0.00
5,800.00	0.00	0.000	5,794.25	228.49	28.51	-228.71	0.00	0.00	0.00
5,900.00	0.00	0.000	5,894.25	228.49	28.51	-228.71	0.00	0.00	0.00
5,931.29	0.00	0.000	5,925.54	228.49	28.51	-228.71	0.00	0.00	0.00
Start DLS 12.00 TFO 180.45									
6,000.00	8.24	180.449	5,994.01	223.56	28.47	-223.77	12.00	12.00	0.00
6,100.00	20.24	180.449	6,090.76	198.99	28.28	-199.21	12.00	12.00	0.00
6,200.00	32.24	180.449	6,180.28	154.86	27.93	-155.07	12.00	12.00	0.00
6,300.00	44.24	180.449	6,258.68	93.07	27.45	-93.28	12.00	12.00	0.00
6,400.00	56.24	180.449	6,322.51	16.33	26.85	-16.54	12.00	12.00	0.00
6,500.00	68.24	180.449	6,369.00	-72.00	26.16	71.79	12.00	12.00	0.00
6,600.00	80.24	180.449	6,396.10	-168.06	25.40	167.86	12.00	12.00	0.00
6,683.33	90.24	180.449	6,403.00	-251.00	24.75	250.80	12.00	12.00	0.00
Start 9372.14 hold at 6683.33 MD									
6,700.00	90.24	180.449	6,402.93	-267.67	24.62	267.46	0.00	0.00	0.00
6,800.00	90.24	180.449	6,402.50	-367.66	23.84	367.46	0.00	0.00	0.00
6,900.00	90.24	180.449	6,402.08	-467.66	23.06	467.46	0.00	0.00	0.00
7,000.00	90.24	180.449	6,401.65	-567.65	22.27	567.46	0.00	0.00	0.00
7,100.00	90.24	180.449	6,401.22	-667.65	21.49	667.46	0.00	0.00	0.00
7,200.00	90.24	180.449	6,400.80	-767.65	20.70	767.46	0.00	0.00	0.00
7,300.00	90.24	180.449	6,400.37	-867.64	19.92	867.46	0.00	0.00	0.00
7,400.00	90.24	180.449	6,399.94	-967.64	19.14	967.46	0.00	0.00	0.00
7,500.00	90.24	180.449	6,399.52	-1,067.63	18.35	1,067.46	0.00	0.00	0.00
7,600.00	90.24	180.449	6,399.09	-1,167.63	17.57	1,167.46	0.00	0.00	0.00
7,700.00	90.24	180.449	6,398.66	-1,267.63	16.79	1,267.45	0.00	0.00	0.00
7,800.00	90.24	180.449	6,398.23	-1,367.62	16.00	1,367.45	0.00	0.00	0.00
7,900.00	90.24	180.449	6,397.81	-1,467.62	15.22	1,467.45	0.00	0.00	0.00
8,000.00	90.24	180.449	6,397.38	-1,567.61	14.44	1,567.45	0.00	0.00	0.00
8,100.00	90.24	180.449	6,396.95	-1,667.61	13.65	1,667.45	0.00	0.00	0.00
8,200.00	90.24	180.449	6,396.53	-1,767.61	12.87	1,767.45	0.00	0.00	0.00
8,300.00	90.24	180.449	6,396.10	-1,867.60	12.09	1,867.45	0.00	0.00	0.00
8,400.00	90.24	180.449	6,395.67	-1,967.60	11.30	1,967.45	0.00	0.00	0.00
8,500.00	90.24	180.449	6,395.25	-2,067.59	10.52	2,067.45	0.00	0.00	0.00
8,600.00	90.24	180.449	6,394.82	-2,167.59	9.74	2,167.45	0.00	0.00	0.00
8,700.00	90.24	180.449	6,394.39	-2,267.59	8.95	2,267.45	0.00	0.00	0.00
8,800.00	90.24	180.449	6,393.97	-2,367.58	8.17	2,367.44	0.00	0.00	0.00
8,900.00	90.24	180.449	6,393.54	-2,467.58	7.38	2,467.44	0.00	0.00	0.00
9,000.00	90.24	180.449	6,393.11	-2,567.57	6.60	2,567.44	0.00	0.00	0.00
9,100.00	90.24	180.449	6,392.69	-2,667.57	5.82	2,667.44	0.00	0.00	0.00
9,200.00	90.24	180.449	6,392.26	-2,767.57	5.03	2,767.44	0.00	0.00	0.00
9,300.00	90.24	180.449	6,391.83	-2,867.56	4.25	2,867.44	0.00	0.00	0.00
9,400.00	90.24	180.449	6,391.41	-2,967.56	3.47	2,967.44	0.00	0.00	0.00
9,500.00	90.24	180.449	6,390.98	-3,067.55	2.68	3,067.44	0.00	0.00	0.00

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Company:	Bill Barrett Corp.	TVD Reference:	GL 4749' & KB 20' @ 4769.00ft
Project:	Weld County, CO NAD 83	MD Reference:	GL 4749' & KB 20' @ 4769.00ft
Site:	Ruh 6-62-11 14 NWNE Pad	North Reference:	True
Well:	Ruh 6-62-11-0659B2	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	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)
9,600.00	90.24	180.449	6,390.55	-3,167.55	1.90	3,167.44	0.00	0.00	0.00
9,700.00	90.24	180.449	6,390.13	-3,267.55	1.12	3,267.44	0.00	0.00	0.00
9,800.00	90.24	180.449	6,389.70	-3,367.54	0.33	3,367.44	0.00	0.00	0.00
9,900.00	90.24	180.449	6,389.27	-3,467.54	-0.45	3,467.43	0.00	0.00	0.00
10,000.00	90.24	180.449	6,388.85	-3,567.53	-1.23	3,567.43	0.00	0.00	0.00
10,100.00	90.24	180.449	6,388.42	-3,667.53	-2.02	3,667.43	0.00	0.00	0.00
10,200.00	90.24	180.449	6,387.99	-3,767.53	-2.80	3,767.43	0.00	0.00	0.00
10,300.00	90.24	180.449	6,387.56	-3,867.52	-3.58	3,867.43	0.00	0.00	0.00
10,400.00	90.24	180.449	6,387.14	-3,967.52	-4.37	3,967.43	0.00	0.00	0.00
10,500.00	90.24	180.449	6,386.71	-4,067.51	-5.15	4,067.43	0.00	0.00	0.00
10,600.00	90.24	180.449	6,386.28	-4,167.51	-5.94	4,167.43	0.00	0.00	0.00
10,700.00	90.24	180.449	6,385.86	-4,267.51	-6.72	4,267.43	0.00	0.00	0.00
10,800.00	90.24	180.449	6,385.43	-4,367.50	-7.50	4,367.43	0.00	0.00	0.00
10,900.00	90.24	180.449	6,385.00	-4,467.50	-8.29	4,467.43	0.00	0.00	0.00
11,000.00	90.24	180.449	6,384.58	-4,567.49	-9.07	4,567.42	0.00	0.00	0.00
11,100.00	90.24	180.449	6,384.15	-4,667.49	-9.85	4,667.42	0.00	0.00	0.00
11,200.00	90.24	180.449	6,383.72	-4,767.49	-10.64	4,767.42	0.00	0.00	0.00
11,300.00	90.24	180.449	6,383.30	-4,867.48	-11.42	4,867.42	0.00	0.00	0.00
11,400.00	90.24	180.449	6,382.87	-4,967.48	-12.20	4,967.42	0.00	0.00	0.00
11,500.00	90.24	180.449	6,382.44	-5,067.47	-12.99	5,067.42	0.00	0.00	0.00
11,600.00	90.24	180.449	6,382.02	-5,167.47	-13.77	5,167.42	0.00	0.00	0.00
11,700.00	90.24	180.449	6,381.59	-5,267.47	-14.55	5,267.42	0.00	0.00	0.00
11,800.00	90.24	180.449	6,381.16	-5,367.46	-15.34	5,367.42	0.00	0.00	0.00
11,900.00	90.24	180.449	6,380.74	-5,467.46	-16.12	5,467.42	0.00	0.00	0.00
12,000.00	90.24	180.449	6,380.31	-5,567.45	-16.90	5,567.42	0.00	0.00	0.00
12,100.00	90.24	180.449	6,379.88	-5,667.45	-17.69	5,667.41	0.00	0.00	0.00
12,200.00	90.24	180.449	6,379.46	-5,767.45	-18.47	5,767.41	0.00	0.00	0.00
12,300.00	90.24	180.449	6,379.03	-5,867.44	-19.26	5,867.41	0.00	0.00	0.00
12,400.00	90.24	180.449	6,378.60	-5,967.44	-20.04	5,967.41	0.00	0.00	0.00
12,500.00	90.24	180.449	6,378.17	-6,067.43	-20.82	6,067.41	0.00	0.00	0.00
12,600.00	90.24	180.449	6,377.75	-6,167.43	-21.61	6,167.41	0.00	0.00	0.00
12,700.00	90.24	180.449	6,377.32	-6,267.43	-22.39	6,267.41	0.00	0.00	0.00
12,800.00	90.24	180.449	6,376.89	-6,367.42	-23.17	6,367.41	0.00	0.00	0.00
12,900.00	90.24	180.449	6,376.47	-6,467.42	-23.96	6,467.41	0.00	0.00	0.00
13,000.00	90.24	180.449	6,376.04	-6,567.41	-24.74	6,567.41	0.00	0.00	0.00
13,100.00	90.24	180.449	6,375.61	-6,667.41	-25.52	6,667.41	0.00	0.00	0.00
13,200.00	90.24	180.449	6,375.19	-6,767.41	-26.31	6,767.40	0.00	0.00	0.00
13,300.00	90.24	180.449	6,374.76	-6,867.40	-27.09	6,867.40	0.00	0.00	0.00
13,400.00	90.24	180.449	6,374.33	-6,967.40	-27.87	6,967.40	0.00	0.00	0.00
13,500.00	90.24	180.449	6,373.91	-7,067.39	-28.66	7,067.40	0.00	0.00	0.00
13,600.00	90.24	180.449	6,373.48	-7,167.39	-29.44	7,167.40	0.00	0.00	0.00
13,700.00	90.24	180.449	6,373.05	-7,267.39	-30.22	7,267.40	0.00	0.00	0.00
13,800.00	90.24	180.449	6,372.63	-7,367.38	-31.01	7,367.40	0.00	0.00	0.00
13,900.00	90.24	180.449	6,372.20	-7,467.38	-31.79	7,467.40	0.00	0.00	0.00
14,000.00	90.24	180.449	6,371.77	-7,567.37	-32.58	7,567.40	0.00	0.00	0.00
14,100.00	90.24	180.449	6,371.35	-7,667.37	-33.36	7,667.40	0.00	0.00	0.00
14,200.00	90.24	180.449	6,370.92	-7,767.37	-34.14	7,767.40	0.00	0.00	0.00
14,300.00	90.24	180.449	6,370.49	-7,867.36	-34.93	7,867.39	0.00	0.00	0.00
14,400.00	90.24	180.449	6,370.07	-7,967.36	-35.71	7,967.39	0.00	0.00	0.00
14,500.00	90.24	180.449	6,369.64	-8,067.35	-36.49	8,067.39	0.00	0.00	0.00
14,600.00	90.24	180.449	6,369.21	-8,167.35	-37.28	8,167.39	0.00	0.00	0.00
14,700.00	90.24	180.449	6,368.79	-8,267.35	-38.06	8,267.39	0.00	0.00	0.00
14,800.00	90.24	180.449	6,368.36	-8,367.34	-38.84	8,367.39	0.00	0.00	0.00
14,900.00	90.24	180.449	6,367.93	-8,467.34	-39.63	8,467.39	0.00	0.00	0.00

Database:	Casper District	Local Co-ordinate Reference:	Well Ruh 6-62-11-0659B2
Company:	Bill Barrett Corp.	TVD Reference:	GL 4749' & KB 20' @ 4769.00ft
Project:	Weld County, CO NAD 83	MD Reference:	GL 4749' & KB 20' @ 4769.00ft
Site:	Ruh 6-62-11 14 NWNE Pad	North Reference:	True
Well:	Ruh 6-62-11-0659B2	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	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)
15,000.00	90.24	180.449	6,367.50	-8,567.33	-40.41	8,567.39	0.00	0.00	0.00
15,100.00	90.24	180.449	6,367.08	-8,667.33	-41.19	8,667.39	0.00	0.00	0.00
15,200.00	90.24	180.449	6,366.65	-8,767.33	-41.98	8,767.39	0.00	0.00	0.00
15,300.00	90.24	180.449	6,366.22	-8,867.32	-42.76	8,867.39	0.00	0.00	0.00
15,400.00	90.24	180.449	6,365.80	-8,967.32	-43.54	8,967.38	0.00	0.00	0.00
15,500.00	90.24	180.449	6,365.37	-9,067.31	-44.33	9,067.38	0.00	0.00	0.00
15,600.00	90.24	180.449	6,364.94	-9,167.31	-45.11	9,167.38	0.00	0.00	0.00
15,700.00	90.24	180.449	6,364.52	-9,267.31	-45.90	9,267.38	0.00	0.00	0.00
15,800.00	90.24	180.449	6,364.09	-9,367.30	-46.68	9,367.38	0.00	0.00	0.00
15,900.00	90.24	180.449	6,363.66	-9,467.30	-47.46	9,467.38	0.00	0.00	0.00
16,000.00	90.24	180.449	6,363.24	-9,567.30	-48.25	9,567.38	0.00	0.00	0.00
16,055.46	90.24	180.449	6,363.00	-9,622.75	-48.68	9,622.84	0.00	0.00	0.00
TD at 16055.47									

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									
6-62-11-0659B2 PBHL	0.00	0.000	6,363.00	-9,622.75	-48.68	1,420,654.37	3,337,751.99	40° 28' 54.300 N	104° 17' 8.840 W
- plan hits target center									
- Point									
6-62-11-0659B2 LP	0.00	0.000	6,403.00	-250.99	24.75	1,430,026.24	3,337,697.08	40° 30' 26.910 N	104° 17' 7.890 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
944.69	944.63	3.62	0.45	Start 4416.38 hold at 944.69 MD
5,361.07	5,355.37	224.87	28.06	Start Drop -2.00
5,505.75	5,500.00	228.49	28.51	Start 425.54 hold at 5505.75 MD
5,931.29	5,925.54	228.49	28.51	Start DLS 12.00 TFO 180.45
6,683.33	6,403.00	-251.00	24.75	Start 9372.14 hold at 6683.33 MD
16,055.46	6,363.00	-9,622.75	-48.68	TD at 16055.47