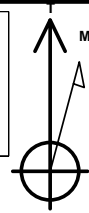
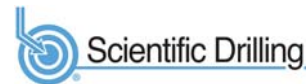


Geodetic System: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Zone: Colorado Northern Zone
 System Datum: Mean Sea Level
 Local North: True

Project: Weld County, CO NAD 83
 Site: Anschutz-Williams 5-61-27 CW2 Pad
 Well: Anschutz-Williams 5-61-27-3340B
 Wellbore: OH
 Design: Plan 1



Azimuths to True North
 Magnetic North: 8.25°



Magnetic Field
 Strength: 52359.6nT
 Dip Angle: 67.07°
 Date: 7/24/2017
 Model: HDGM

Plan: Plan 1 (Anschutz-Williams 5-61-27-3340B/OH)

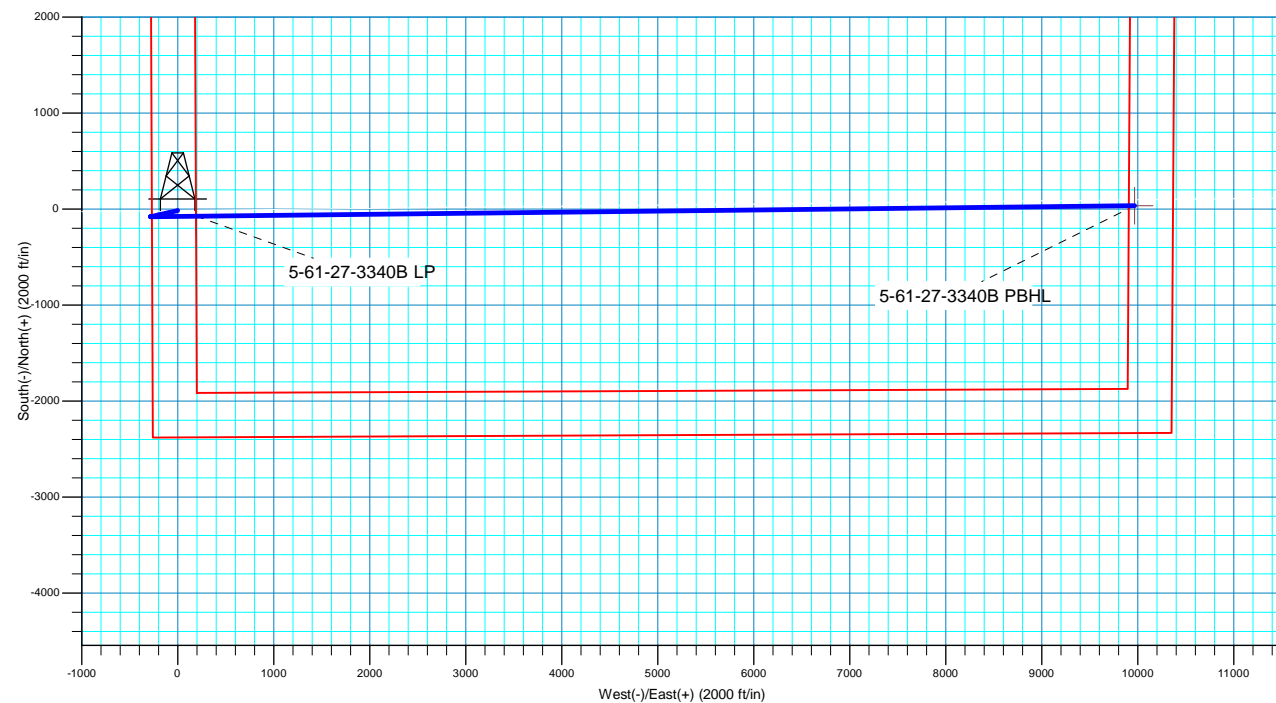
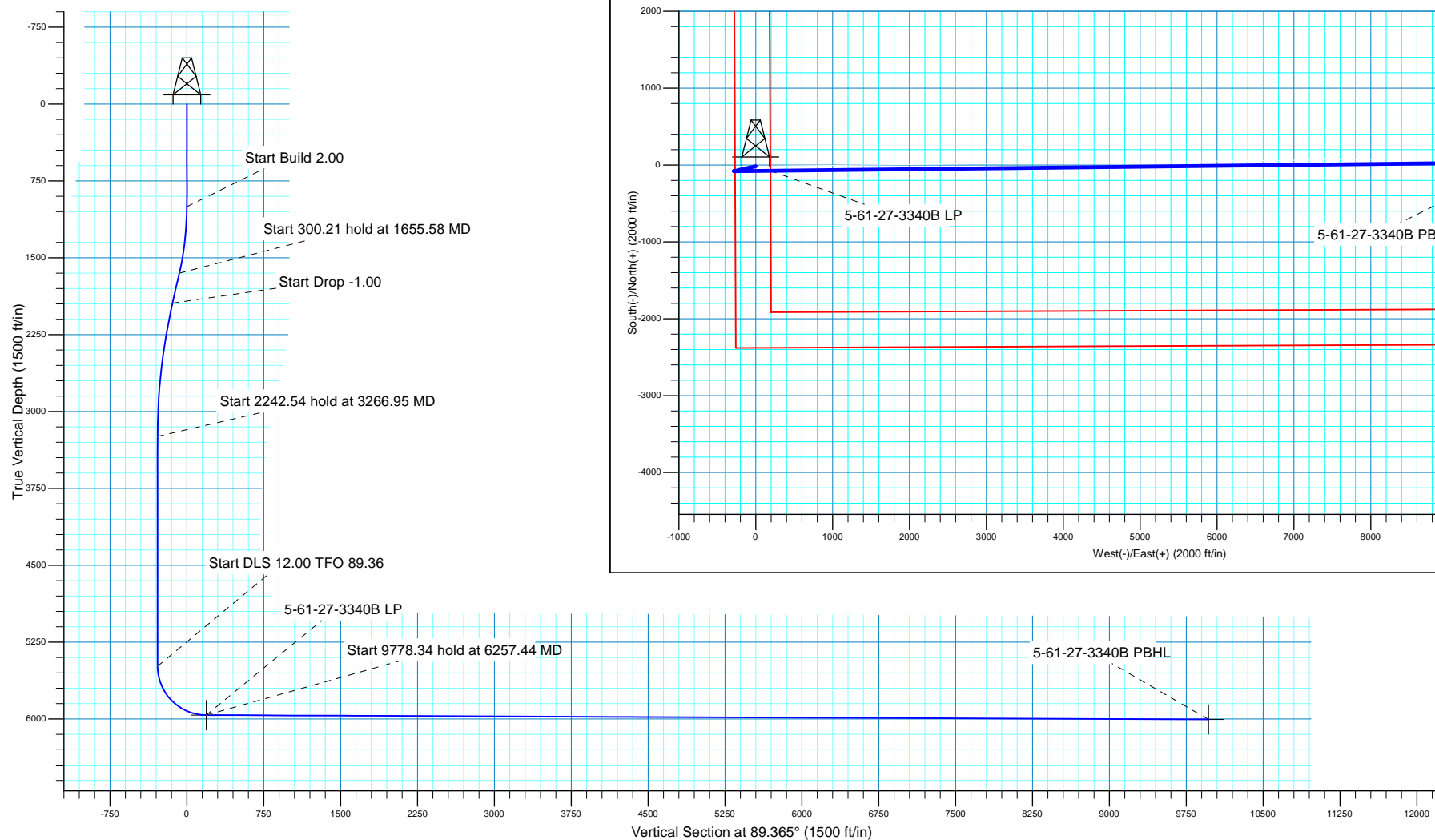
Created By: Seth Burstad Date: 7-20-2017

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
0.00	0.00	0.000	0.00	-15.31	0.00	0.00	0.00	0.00
1000.00	0.00	0.000	1000.00	-15.31	0.00	0.00	0.00	0.00
1655.58	13.11	257.364	1649.87	-31.65	-72.88	2.00	257.36	-73.05
1955.79	13.11	257.364	1942.26	-46.55	-139.33	0.00	0.00	-139.67
3266.95	0.00	0.000	3242.00	-79.22	-285.08	1.00	180.00	-285.77
5509.49	0.00	0.000	5484.54	-79.22	-285.08	0.00	0.00	-285.77
6257.44	89.75	89.365	5962.00	-73.95	190.30	12.00	89.36	189.64
16035.77	89.75	89.365	6004.00	34.43	9967.95	0.00	0.00	9967.89

WELL DETAILS: Anschutz-Williams 5-61-27-3340B

		GL 4601' & KB 20' @ 4621.00ft		4601.00	Longitude
+N/-S	+E/-W	Northing	Easting	Latitude	
-15.31	0.00	1380688.75	3361209.44	40° 22' 16.118 N	104° 12' 12.859 W





Bill Barrett Corporation

Bill Barrett Corp.

Weld County, CO NAD 83

Anschutz-Willaims 5-61-27 CW2 Pad

Anschutz-Williams 5-61-27-3340B

OH

Plan: Plan 1

Standard Planning Report

24 July, 2017



Scientific Drilling

www.scientificdrilling.com



Database:	Casper District	Local Co-ordinate Reference:	Site Anschutz-Williams 5-61-27 CW2 Pad
Company:	Bill Barrett Corp.	TVD Reference:	GL 4601' & KB 20' @ 4621.00ft
Project:	Weld County, CO NAD 83	MD Reference:	GL 4601' & KB 20' @ 4621.00ft
Site:	Anschutz-Williams 5-61-27 CW2 Pad	North Reference:	True
Well:	Anschutz-Williams 5-61-27-3340B	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						Anschutz-Williams 5-61-27 CW2 Pad, Site Center : Anschutz-Williams 5-61-27-3225B					
Site Position:				Northing:		1,380,704.06 usft		Latitude:		40° 22' 16.270 N	
From:		Lat/Long		Easting:		3,361,209.22 usft		Longitude:		104° 12' 12.859 W	
Position Uncertainty:		0.00 ft		Slot Radius:		13.200 in		Grid Convergence:		0.84	

Well	Anschutz-Williams 5-61-27-3340B, 2363' FSL 270' FWL Sec 27 T5N R61W					
Well Position	+N/-S	-15.32 ft	Northing:	1,380,688.75 usft	Latitude:	40° 22' 16.118 N
	+E/-W	0.00 ft	Easting:	3,361,209.44 usft	Longitude:	104° 12' 12.859 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft	Ground Level:	4,601.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	7/24/2017	8.25	67.07	52,360

Design	Plan 1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	-15.32	0.00	89.365

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	-15.32	0.00	0.00	0.00	0.00	0.00	
1,000.00	0.00	0.000	1,000.00	-15.32	0.00	0.00	0.00	0.00	0.00	
1,655.58	13.11	257.364	1,649.87	-31.65	-72.88	2.00	2.00	0.00	257.36	
1,955.79	13.11	257.364	1,942.26	-46.55	-139.33	0.00	0.00	0.00	0.00	
3,266.95	0.00	0.000	3,242.00	-79.23	-285.08	1.00	-1.00	0.00	180.00	
5,509.49	0.00	0.000	5,484.54	-79.23	-285.08	0.00	0.00	0.00	0.00	
6,257.44	89.75	89.365	5,962.00	-73.96	190.30	12.00	12.00	11.95	89.36	
16,035.77	89.75	89.365	6,004.00	34.43	9,967.95	0.00	0.00	0.00	0.00	5-61-27-3340B PBHL

Database:	Casper District	Local Co-ordinate Reference:	Site Anschutz-Williams 5-61-27 CW2 Pad
Company:	Bill Barrett Corp.	TVD Reference:	GL 4601' & KB 20' @ 4621.00ft
Project:	Weld County, CO NAD 83	MD Reference:	GL 4601' & KB 20' @ 4621.00ft
Site:	Anschutz-Williams 5-61-27 CW2 Pad	North Reference:	True
Well:	Anschutz-Williams 5-61-27-3340B	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	-15.32	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.000	100.00	-15.32	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.000	200.00	-15.32	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.000	300.00	-15.32	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.000	400.00	-15.32	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.000	500.00	-15.32	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.000	600.00	-15.32	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.000	700.00	-15.32	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.000	800.00	-15.32	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.000	900.00	-15.32	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.000	1,000.00	-15.32	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
1,100.00	2.00	257.364	1,099.98	-15.70	-1.70	-1.71	2.00	2.00	0.00
1,200.00	4.00	257.364	1,199.84	-16.84	-6.81	-6.83	2.00	2.00	0.00
1,300.00	6.00	257.364	1,299.45	-18.75	-15.31	-15.35	2.00	2.00	0.00
1,400.00	8.00	257.364	1,398.70	-21.42	-27.20	-27.27	2.00	2.00	0.00
1,500.00	10.00	257.364	1,497.47	-24.84	-42.47	-42.57	2.00	2.00	0.00
1,600.00	12.00	257.364	1,595.62	-29.01	-61.09	-61.23	2.00	2.00	0.00
1,655.58	13.11	257.364	1,649.87	-31.65	-72.88	-73.05	2.00	2.00	0.00
Start 300.21 hold at 1655.58 MD									
1,700.00	13.11	257.364	1,693.14	-33.86	-82.71	-82.91	0.00	0.00	0.00
1,800.00	13.11	257.364	1,790.53	-38.82	-104.84	-105.10	0.00	0.00	0.00
1,900.00	13.11	257.364	1,887.92	-43.78	-126.98	-127.29	0.00	0.00	0.00
1,955.79	13.11	257.364	1,942.26	-46.55	-139.33	-139.67	0.00	0.00	0.00
Start Drop -1.00									
2,000.00	12.67	257.364	1,985.35	-48.71	-148.95	-149.31	1.00	-1.00	0.00
2,100.00	11.67	257.364	2,083.10	-53.32	-169.52	-169.93	1.00	-1.00	0.00
2,200.00	10.67	257.364	2,181.21	-57.56	-188.42	-188.88	1.00	-1.00	0.00
2,300.00	9.67	257.364	2,279.64	-61.42	-205.65	-206.15	1.00	-1.00	0.00
2,400.00	8.67	257.364	2,378.36	-64.91	-221.20	-221.74	1.00	-1.00	0.00
2,500.00	7.67	257.364	2,477.34	-68.01	-235.07	-235.64	1.00	-1.00	0.00
2,600.00	6.67	257.364	2,576.56	-70.74	-247.25	-247.84	1.00	-1.00	0.00
2,700.00	5.67	257.364	2,675.98	-73.10	-257.73	-258.36	1.00	-1.00	0.00
2,800.00	4.67	257.364	2,775.57	-75.07	-266.52	-267.17	1.00	-1.00	0.00
2,900.00	3.67	257.364	2,875.30	-76.66	-273.62	-274.28	1.00	-1.00	0.00
3,000.00	2.67	257.364	2,975.15	-77.87	-279.01	-279.69	1.00	-1.00	0.00
3,100.00	1.67	257.364	3,075.08	-78.69	-282.71	-283.39	1.00	-1.00	0.00
3,200.00	0.67	257.364	3,175.05	-79.14	-284.70	-285.39	1.00	-1.00	0.00
3,266.95	0.00	0.000	3,242.00	-79.23	-285.08	-285.77	1.00	-1.00	0.00
Start 2242.54 hold at 3266.95 MD									
3,300.00	0.00	0.000	3,275.05	-79.23	-285.08	-285.77	0.00	0.00	0.00
3,400.00	0.00	0.000	3,375.05	-79.23	-285.08	-285.77	0.00	0.00	0.00
3,500.00	0.00	0.000	3,475.05	-79.23	-285.08	-285.77	0.00	0.00	0.00
3,600.00	0.00	0.000	3,575.05	-79.23	-285.08	-285.77	0.00	0.00	0.00
3,700.00	0.00	0.000	3,675.05	-79.23	-285.08	-285.77	0.00	0.00	0.00
3,800.00	0.00	0.000	3,775.05	-79.23	-285.08	-285.77	0.00	0.00	0.00
3,900.00	0.00	0.000	3,875.05	-79.23	-285.08	-285.77	0.00	0.00	0.00
4,000.00	0.00	0.000	3,975.05	-79.23	-285.08	-285.77	0.00	0.00	0.00
4,100.00	0.00	0.000	4,075.05	-79.23	-285.08	-285.77	0.00	0.00	0.00
4,200.00	0.00	0.000	4,175.05	-79.23	-285.08	-285.77	0.00	0.00	0.00
4,300.00	0.00	0.000	4,275.05	-79.23	-285.08	-285.77	0.00	0.00	0.00
4,400.00	0.00	0.000	4,375.05	-79.23	-285.08	-285.77	0.00	0.00	0.00
4,500.00	0.00	0.000	4,475.05	-79.23	-285.08	-285.77	0.00	0.00	0.00
4,600.00	0.00	0.000	4,575.05	-79.23	-285.08	-285.77	0.00	0.00	0.00

Database:	Casper District	Local Co-ordinate Reference:	Site Anschutz-Williams 5-61-27 CW2 Pad
Company:	Bill Barrett Corp.	TVD Reference:	GL 4601' & KB 20' @ 4621.00ft
Project:	Weld County, CO NAD 83	MD Reference:	GL 4601' & KB 20' @ 4621.00ft
Site:	Anschutz-Williams 5-61-27 CW2 Pad	North Reference:	True
Well:	Anschutz-Williams 5-61-27-3340B	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)
4,700.00	0.00	0.000	4,675.05	-79.23	-285.08	-285.77	0.00	0.00	0.00
4,800.00	0.00	0.000	4,775.05	-79.23	-285.08	-285.77	0.00	0.00	0.00
4,900.00	0.00	0.000	4,875.05	-79.23	-285.08	-285.77	0.00	0.00	0.00
5,000.00	0.00	0.000	4,975.05	-79.23	-285.08	-285.77	0.00	0.00	0.00
5,100.00	0.00	0.000	5,075.05	-79.23	-285.08	-285.77	0.00	0.00	0.00
5,200.00	0.00	0.000	5,175.05	-79.23	-285.08	-285.77	0.00	0.00	0.00
5,300.00	0.00	0.000	5,275.05	-79.23	-285.08	-285.77	0.00	0.00	0.00
5,400.00	0.00	0.000	5,375.05	-79.23	-285.08	-285.77	0.00	0.00	0.00
5,500.00	0.00	0.000	5,475.05	-79.23	-285.08	-285.77	0.00	0.00	0.00
5,509.49	0.00	0.000	5,484.54	-79.23	-285.08	-285.77	0.00	0.00	0.00
Start DLS 12.00 TFO 89.36									
5,600.00	10.86	89.365	5,574.51	-79.13	-276.53	-277.22	12.00	12.00	0.00
5,700.00	22.86	89.365	5,670.04	-78.81	-247.58	-248.26	12.00	12.00	0.00
5,800.00	34.86	89.365	5,757.46	-78.28	-199.40	-200.08	12.00	12.00	0.00
5,900.00	46.86	89.365	5,832.95	-77.55	-134.10	-134.78	12.00	12.00	0.00
6,000.00	58.86	89.365	5,893.21	-76.67	-54.53	-55.21	12.00	12.00	0.00
6,100.00	70.86	89.365	5,935.62	-75.67	35.83	35.16	12.00	12.00	0.00
6,200.00	82.86	89.365	5,958.30	-74.59	133.03	132.36	12.00	12.00	0.00
6,257.44	89.75	89.365	5,962.00	-73.96	190.30	189.64	12.00	12.00	0.00
Start 9778.34 hold at 6257.44 MD									
6,300.00	89.75	89.365	5,962.18	-73.49	232.87	232.21	0.00	0.00	0.00
6,400.00	89.75	89.365	5,962.61	-72.38	332.86	332.21	0.00	0.00	0.00
6,500.00	89.75	89.365	5,963.04	-71.27	432.85	432.20	0.00	0.00	0.00
6,600.00	89.75	89.365	5,963.47	-70.16	532.84	532.20	0.00	0.00	0.00
6,700.00	89.75	89.365	5,963.90	-69.05	632.84	632.20	0.00	0.00	0.00
6,800.00	89.75	89.365	5,964.33	-67.94	732.83	732.20	0.00	0.00	0.00
6,900.00	89.75	89.365	5,964.76	-66.83	832.82	832.20	0.00	0.00	0.00
7,000.00	89.75	89.365	5,965.19	-65.73	932.82	932.20	0.00	0.00	0.00
7,100.00	89.75	89.365	5,965.62	-64.62	1,032.81	1,032.20	0.00	0.00	0.00
7,200.00	89.75	89.365	5,966.05	-63.51	1,132.80	1,132.20	0.00	0.00	0.00
7,300.00	89.75	89.365	5,966.48	-62.40	1,232.79	1,232.20	0.00	0.00	0.00
7,400.00	89.75	89.365	5,966.91	-61.29	1,332.79	1,332.20	0.00	0.00	0.00
7,500.00	89.75	89.365	5,967.34	-60.18	1,432.78	1,432.20	0.00	0.00	0.00
7,600.00	89.75	89.365	5,967.77	-59.07	1,532.77	1,532.19	0.00	0.00	0.00
7,700.00	89.75	89.365	5,968.20	-57.97	1,632.77	1,632.19	0.00	0.00	0.00
7,800.00	89.75	89.365	5,968.63	-56.86	1,732.76	1,732.19	0.00	0.00	0.00
7,900.00	89.75	89.365	5,969.06	-55.75	1,832.75	1,832.19	0.00	0.00	0.00
8,000.00	89.75	89.365	5,969.49	-54.64	1,932.75	1,932.19	0.00	0.00	0.00
8,100.00	89.75	89.365	5,969.91	-53.53	2,032.74	2,032.19	0.00	0.00	0.00
8,200.00	89.75	89.365	5,970.34	-52.42	2,132.73	2,132.19	0.00	0.00	0.00
8,300.00	89.75	89.365	5,970.77	-51.32	2,232.72	2,232.19	0.00	0.00	0.00
8,400.00	89.75	89.365	5,971.20	-50.21	2,332.72	2,332.19	0.00	0.00	0.00
8,500.00	89.75	89.365	5,971.63	-49.10	2,432.71	2,432.19	0.00	0.00	0.00
8,600.00	89.75	89.365	5,972.06	-47.99	2,532.70	2,532.19	0.00	0.00	0.00
8,700.00	89.75	89.365	5,972.49	-46.88	2,632.70	2,632.18	0.00	0.00	0.00
8,800.00	89.75	89.365	5,972.92	-45.77	2,732.69	2,732.18	0.00	0.00	0.00
8,900.00	89.75	89.365	5,973.35	-44.66	2,832.68	2,832.18	0.00	0.00	0.00
9,000.00	89.75	89.365	5,973.78	-43.56	2,932.67	2,932.18	0.00	0.00	0.00
9,100.00	89.75	89.365	5,974.21	-42.45	3,032.67	3,032.18	0.00	0.00	0.00
9,200.00	89.75	89.365	5,974.64	-41.34	3,132.66	3,132.18	0.00	0.00	0.00
9,300.00	89.75	89.365	5,975.07	-40.23	3,232.65	3,232.18	0.00	0.00	0.00
9,400.00	89.75	89.365	5,975.50	-39.12	3,332.65	3,332.18	0.00	0.00	0.00
9,500.00	89.75	89.365	5,975.93	-38.01	3,432.64	3,432.18	0.00	0.00	0.00

Database:	Casper District	Local Co-ordinate Reference:	Site Anschutz-Williams 5-61-27 CW2 Pad
Company:	Bill Barrett Corp.	TVD Reference:	GL 4601' & KB 20' @ 4621.00ft
Project:	Weld County, CO NAD 83	MD Reference:	GL 4601' & KB 20' @ 4621.00ft
Site:	Anschutz-Williams 5-61-27 CW2 Pad	North Reference:	True
Well:	Anschutz-Williams 5-61-27-3340B	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	89.75	89.365	5,976.36	-36.91	3,532.63	3,532.18	0.00	0.00	0.00	
9,700.00	89.75	89.365	5,976.79	-35.80	3,632.63	3,632.18	0.00	0.00	0.00	
9,800.00	89.75	89.365	5,977.22	-34.69	3,732.62	3,732.17	0.00	0.00	0.00	
9,900.00	89.75	89.365	5,977.65	-33.58	3,832.61	3,832.17	0.00	0.00	0.00	
10,000.00	89.75	89.365	5,978.08	-32.47	3,932.60	3,932.17	0.00	0.00	0.00	
10,100.00	89.75	89.365	5,978.51	-31.36	4,032.60	4,032.17	0.00	0.00	0.00	
10,200.00	89.75	89.365	5,978.93	-30.25	4,132.59	4,132.17	0.00	0.00	0.00	
10,300.00	89.75	89.365	5,979.36	-29.15	4,232.58	4,232.17	0.00	0.00	0.00	
10,400.00	89.75	89.365	5,979.79	-28.04	4,332.58	4,332.17	0.00	0.00	0.00	
10,500.00	89.75	89.365	5,980.22	-26.93	4,432.57	4,432.17	0.00	0.00	0.00	
10,600.00	89.75	89.365	5,980.65	-25.82	4,532.56	4,532.17	0.00	0.00	0.00	
10,700.00	89.75	89.365	5,981.08	-24.71	4,632.55	4,632.17	0.00	0.00	0.00	
10,800.00	89.75	89.365	5,981.51	-23.60	4,732.55	4,732.17	0.00	0.00	0.00	
10,900.00	89.75	89.365	5,981.94	-22.50	4,832.54	4,832.16	0.00	0.00	0.00	
11,000.00	89.75	89.365	5,982.37	-21.39	4,932.53	4,932.16	0.00	0.00	0.00	
11,100.00	89.75	89.365	5,982.80	-20.28	5,032.53	5,032.16	0.00	0.00	0.00	
11,200.00	89.75	89.365	5,983.23	-19.17	5,132.52	5,132.16	0.00	0.00	0.00	
11,300.00	89.75	89.365	5,983.66	-18.06	5,232.51	5,232.16	0.00	0.00	0.00	
11,400.00	89.75	89.365	5,984.09	-16.95	5,332.51	5,332.16	0.00	0.00	0.00	
11,500.00	89.75	89.365	5,984.52	-15.84	5,432.50	5,432.16	0.00	0.00	0.00	
11,600.00	89.75	89.365	5,984.95	-14.74	5,532.49	5,532.16	0.00	0.00	0.00	
11,700.00	89.75	89.365	5,985.38	-13.63	5,632.48	5,632.16	0.00	0.00	0.00	
11,800.00	89.75	89.365	5,985.81	-12.52	5,732.48	5,732.16	0.00	0.00	0.00	
11,900.00	89.75	89.365	5,986.24	-11.41	5,832.47	5,832.15	0.00	0.00	0.00	
12,000.00	89.75	89.365	5,986.67	-10.30	5,932.46	5,932.15	0.00	0.00	0.00	
12,100.00	89.75	89.365	5,987.10	-9.19	6,032.46	6,032.15	0.00	0.00	0.00	
12,200.00	89.75	89.365	5,987.52	-8.09	6,132.45	6,132.15	0.00	0.00	0.00	
12,300.00	89.75	89.365	5,987.95	-6.98	6,232.44	6,232.15	0.00	0.00	0.00	
12,400.00	89.75	89.365	5,988.38	-5.87	6,332.43	6,332.15	0.00	0.00	0.00	
12,500.00	89.75	89.365	5,988.81	-4.76	6,432.43	6,432.15	0.00	0.00	0.00	
12,600.00	89.75	89.365	5,989.24	-3.65	6,532.42	6,532.15	0.00	0.00	0.00	
12,700.00	89.75	89.365	5,989.67	-2.54	6,632.41	6,632.15	0.00	0.00	0.00	
12,800.00	89.75	89.365	5,990.10	-1.43	6,732.41	6,732.15	0.00	0.00	0.00	
12,900.00	89.75	89.365	5,990.53	-0.33	6,832.40	6,832.15	0.00	0.00	0.00	
13,000.00	89.75	89.365	5,990.96	0.78	6,932.39	6,932.14	0.00	0.00	0.00	
13,100.00	89.75	89.365	5,991.39	1.89	7,032.39	7,032.14	0.00	0.00	0.00	
13,200.00	89.75	89.365	5,991.82	3.00	7,132.38	7,132.14	0.00	0.00	0.00	
13,300.00	89.75	89.365	5,992.25	4.11	7,232.37	7,232.14	0.00	0.00	0.00	
13,400.00	89.75	89.365	5,992.68	5.22	7,332.36	7,332.14	0.00	0.00	0.00	
13,500.00	89.75	89.365	5,993.11	6.32	7,432.36	7,432.14	0.00	0.00	0.00	
13,600.00	89.75	89.365	5,993.54	7.43	7,532.35	7,532.14	0.00	0.00	0.00	
13,700.00	89.75	89.365	5,993.97	8.54	7,632.34	7,632.14	0.00	0.00	0.00	
13,800.00	89.75	89.365	5,994.40	9.65	7,732.34	7,732.14	0.00	0.00	0.00	
13,900.00	89.75	89.365	5,994.83	10.76	7,832.33	7,832.14	0.00	0.00	0.00	
14,000.00	89.75	89.365	5,995.26	11.87	7,932.32	7,932.14	0.00	0.00	0.00	
14,100.00	89.75	89.365	5,995.69	12.98	8,032.31	8,032.13	0.00	0.00	0.00	
14,200.00	89.75	89.365	5,996.12	14.08	8,132.31	8,132.13	0.00	0.00	0.00	
14,300.00	89.75	89.365	5,996.54	15.19	8,232.30	8,232.13	0.00	0.00	0.00	
14,400.00	89.75	89.365	5,996.97	16.30	8,332.29	8,332.13	0.00	0.00	0.00	
14,500.00	89.75	89.365	5,997.40	17.41	8,432.29	8,432.13	0.00	0.00	0.00	
14,600.00	89.75	89.365	5,997.83	18.52	8,532.28	8,532.13	0.00	0.00	0.00	
14,700.00	89.75	89.365	5,998.26	19.63	8,632.27	8,632.13	0.00	0.00	0.00	
14,800.00	89.75	89.365	5,998.69	20.73	8,732.26	8,732.13	0.00	0.00	0.00	
14,900.00	89.75	89.365	5,999.12	21.84	8,832.26	8,832.13	0.00	0.00	0.00	

Database:	Casper District	Local Co-ordinate Reference:	Site Anschutz-Williams 5-61-27 CW2 Pad
Company:	Bill Barrett Corp.	TVD Reference:	GL 4601' & KB 20' @ 4621.00ft
Project:	Weld County, CO NAD 83	MD Reference:	GL 4601' & KB 20' @ 4621.00ft
Site:	Anschutz-Williams 5-61-27 CW2 Pad	North Reference:	True
Well:	Anschutz-Williams 5-61-27-3340B	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	89.75	89.365	5,999.55	22.95	8,932.25	8,932.13	0.00	0.00	0.00
15,100.00	89.75	89.365	5,999.98	24.06	9,032.24	9,032.13	0.00	0.00	0.00
15,200.00	89.75	89.365	6,000.41	25.17	9,132.24	9,132.12	0.00	0.00	0.00
15,300.00	89.75	89.365	6,000.84	26.28	9,232.23	9,232.12	0.00	0.00	0.00
15,400.00	89.75	89.365	6,001.27	27.39	9,332.22	9,332.12	0.00	0.00	0.00
15,500.00	89.75	89.365	6,001.70	28.49	9,432.22	9,432.12	0.00	0.00	0.00
15,600.00	89.75	89.365	6,002.13	29.60	9,532.21	9,532.12	0.00	0.00	0.00
15,700.00	89.75	89.365	6,002.56	30.71	9,632.20	9,632.12	0.00	0.00	0.00
15,800.00	89.75	89.365	6,002.99	31.82	9,732.19	9,732.12	0.00	0.00	0.00
15,900.00	89.75	89.365	6,003.42	32.93	9,832.19	9,832.12	0.00	0.00	0.00
16,000.00	89.75	89.365	6,003.85	34.04	9,932.18	9,932.12	0.00	0.00	0.00
16,035.77	89.75	89.365	6,004.00	34.43	9,967.95	9,967.89	0.00	0.00	0.00
TD at 16035.77									

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									
5-61-27-3340B LP	0.00	0.000	5,962.00	-73.95	190.30	1,380,632.90	3,361,400.58	40° 22' 15.539 N	104° 12' 10.400 W
- plan misses target center by 0.01ft at 6257.44ft MD (5962.00 TVD, -73.96 N, 190.30 E)									
- Point									
5-61-27-3340B PBHL	0.00	0.000	6,004.00	34.43	9,967.95	1,380,884.22	3,371,175.58	40° 22' 16.590 N	104° 10' 4.069 W
- plan hits target center									
- Point									

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
1,000.00	1,000.00	-15.32	0.00	Start Build 2.00
1,655.58	1,649.87	-31.65	-72.88	Start 300.21 hold at 1655.58 MD
1,955.79	1,942.26	-46.55	-139.33	Start Drop -1.00
3,266.95	3,242.00	-79.23	-285.08	Start 2242.54 hold at 3266.95 MD
5,509.49	5,484.54	-79.23	-285.08	Start DLS 12.00 TFO 89.36
6,257.44	5,962.00	-73.96	190.30	Start 9778.34 hold at 6257.44 MD
16,035.77	6,004.00	34.43	9,967.95	TD at 16035.77