

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: Anschutz-Williams 5-61-27 SWSW Pad
 Well: Anschutz-Williams 5-61-27-6457BN
 Wellbore: OH
 Design: Plan 1



Azimuths to True North
 Magnetic North: 8.25°

Magnetic Field
 Strength: 52361.9nT
 Dip Angle: 67.07°
 Date: 7/24/2017
 Model: HDGM

Plan: Plan 1 (Anschutz-Williams 5-61-27-6457BN/OH)

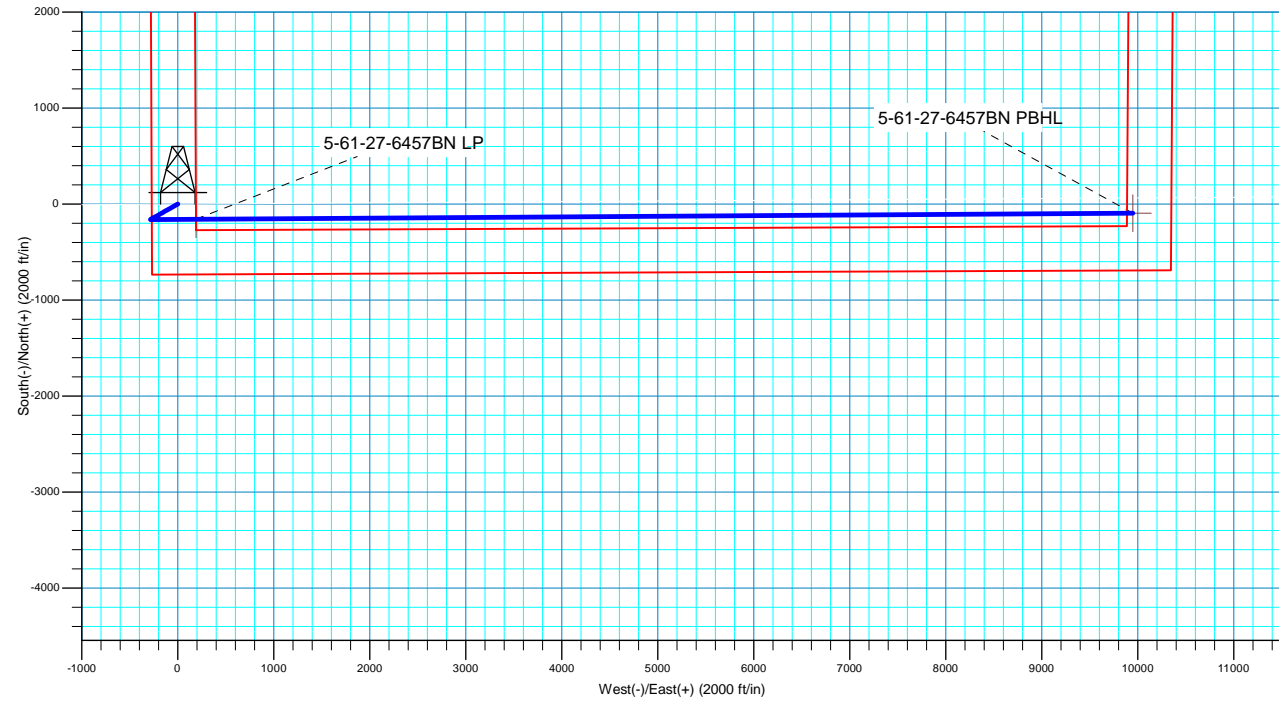
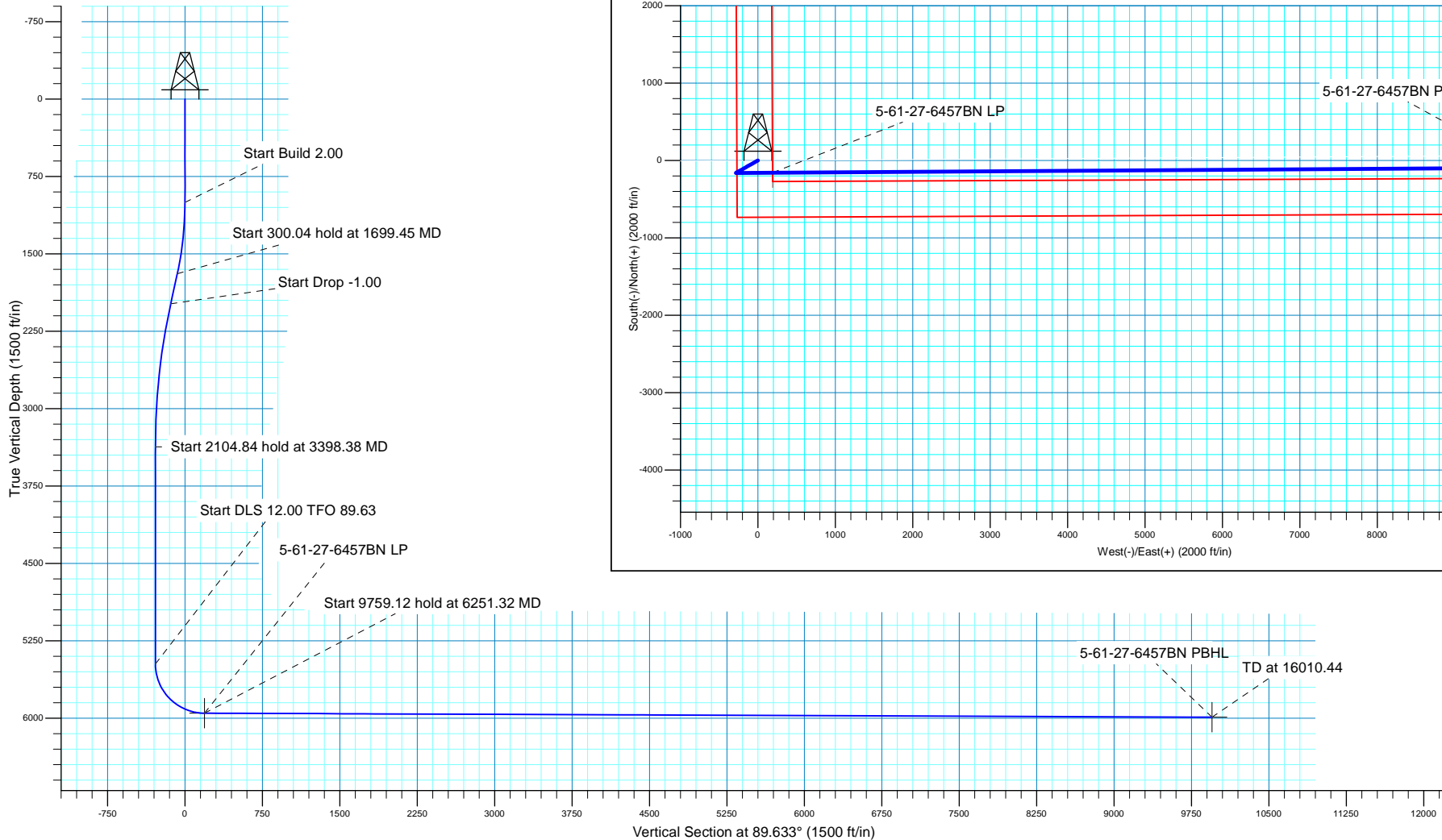
Created By: Seth Burstad Date: 7-24-2017

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
1000.00	0.00	0.000	1000.00	0.00	0.00	0.00	0.00	0.00
1699.45	13.99	240.592	1692.52	-41.72	-74.01	2.00	240.59	-74.28
1999.49	13.99	240.592	1983.66	-77.33	-137.20	0.00	0.00	-137.69
3398.38	0.00	0.000	3368.70	-160.77	-285.23	1.00	180.00	-286.25
5503.22	0.00	0.000	5473.54	-160.77	-285.23	0.00	0.00	-286.25
6251.32	89.77	89.633	5951.00	-157.73	190.32	12.00	89.63	189.30
16010.44	89.77	89.633	5990.00	-95.24	9949.16	0.00	0.00	9948.35

WELL DETAILS: Anschutz-Williams 5-61-27-6457BN

		GL 4593' & KB 20' @ 4613.00ft		4593.00	Longitude
+N/-S	+E/-W	Northing	Easting	Latitude	
0.00	0.00	1379060.99	3361240.21	40° 22' 0.030 N	104° 12' 12.769 W





Bill Barrett Corporation

Bill Barrett Corp.

Weld County, CO NAD 83

Anschutz-Williams 5-61-27 SWSW Pad

Anschutz-Williams 5-61-27-6457BN

OH

Plan: Plan 1

Standard Planning Report

24 July, 2017



Scientific Drilling

www.scientificdrilling.com



Database:	Casper District	Local Co-ordinate Reference:	Well Anschutz-Williams 5-61-27-6457BN
Company:	Bill Barrett Corp.	TVD Reference:	GL 4593' & KB 20' @ 4613.00ft
Project:	Weld County, CO NAD 83	MD Reference:	GL 4593' & KB 20' @ 4613.00ft
Site:	Anschutz-Williams 5-61-27 SWSW Pad	North Reference:	True
Well:	Anschutz-Williams 5-61-27-6457BN	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 SWSW Pad, Site Center : Anschutz-Williams 5-61-27-4956B			
Site Position:		Northing:	1,379,076.31 usft	Latitude: 40° 22' 0.181 N
From:	Lat/Long	Easting:	3,361,239.98 usft	Longitude: 104° 12' 12.769 W
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence: 0.84 °

Well	Anschutz-Williams 5-61-27-6457BN, 735' FSL 270' FWL Sec 27 T5N R61W			
Well Position	+N/-S	-15.32 ft	Northing:	1,379,060.99 usft
	+E/-W	0.00 ft	Easting:	3,361,240.21 usft
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft
			Ground Level:	4,593.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	7/24/2017	8.25	67.07	52,362

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	0.00	0.00	89.633

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	
1,000.00	0.00	0.000	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,699.45	13.99	240.592	1,692.52	-41.72	-74.01	2.00	2.00	0.00	240.59	
1,999.49	13.99	240.592	1,983.66	-77.33	-137.20	0.00	0.00	0.00	0.00	
3,398.38	0.00	0.000	3,368.70	-160.77	-285.23	1.00	-1.00	0.00	180.00	
5,503.22	0.00	0.000	5,473.54	-160.77	-285.23	0.00	0.00	0.00	0.00	
6,251.32	89.77	89.633	5,951.00	-157.73	190.32	12.00	12.00	11.98	89.63	
16,010.44	89.77	89.633	5,990.00	-95.25	9,949.16	0.00	0.00	0.00	0.00	5-61-27-6457BN PBH

Database:	Casper District	Local Co-ordinate Reference:	Well Anschutz-Williams 5-61-27-6457BN
Company:	Bill Barrett Corp.	TVD Reference:	GL 4593' & KB 20' @ 4613.00ft
Project:	Weld County, CO NAD 83	MD Reference:	GL 4593' & KB 20' @ 4613.00ft
Site:	Anschutz-Williams 5-61-27 SWSW Pad	North Reference:	True
Well:	Anschutz-Williams 5-61-27-6457BN	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
900.00	0.00	0.000	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.000	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
1,100.00	2.00	240.592	1,099.98	-0.86	-1.52	-1.53	2.00	2.00	0.00
1,200.00	4.00	240.592	1,199.84	-3.43	-6.08	-6.10	2.00	2.00	0.00
1,300.00	6.00	240.592	1,299.45	-7.71	-13.67	-13.72	2.00	2.00	0.00
1,400.00	8.00	240.592	1,398.70	-13.69	-24.29	-24.37	2.00	2.00	0.00
1,500.00	10.00	240.592	1,497.47	-21.37	-37.91	-38.05	2.00	2.00	0.00
1,600.00	12.00	240.592	1,595.62	-30.74	-54.54	-54.73	2.00	2.00	0.00
1,699.45	13.99	240.592	1,692.52	-41.72	-74.01	-74.28	2.00	2.00	0.00
Start 300.04 hold at 1699.45 MD									
1,700.00	13.99	240.592	1,693.06	-41.78	-74.13	-74.40	0.00	0.00	0.00
1,800.00	13.99	240.592	1,790.09	-53.65	-95.19	-95.53	0.00	0.00	0.00
1,900.00	13.99	240.592	1,887.12	-65.52	-116.25	-116.67	0.00	0.00	0.00
1,999.49	13.99	240.592	1,983.66	-77.33	-137.20	-137.69	0.00	0.00	0.00
Start Drop -1.00									
2,000.00	13.98	240.592	1,984.16	-77.39	-137.31	-137.80	1.00	-1.00	0.00
2,100.00	12.98	240.592	2,081.40	-88.84	-157.62	-158.19	1.00	-1.00	0.00
2,200.00	11.98	240.592	2,179.03	-99.46	-176.45	-177.08	1.00	-1.00	0.00
2,300.00	10.98	240.592	2,277.03	-109.23	-193.79	-194.49	1.00	-1.00	0.00
2,400.00	9.98	240.592	2,375.36	-118.17	-209.65	-210.40	1.00	-1.00	0.00
2,500.00	8.98	240.592	2,473.99	-126.26	-224.00	-224.80	1.00	-1.00	0.00
2,600.00	7.98	240.592	2,572.90	-133.50	-236.85	-237.70	1.00	-1.00	0.00
2,700.00	6.98	240.592	2,672.04	-139.90	-248.20	-249.09	1.00	-1.00	0.00
2,800.00	5.98	240.592	2,771.40	-145.44	-258.03	-258.96	1.00	-1.00	0.00
2,900.00	4.98	240.592	2,870.94	-150.13	-266.36	-267.32	1.00	-1.00	0.00
3,000.00	3.98	240.592	2,970.64	-153.97	-273.17	-274.15	1.00	-1.00	0.00
3,100.00	2.98	240.592	3,070.45	-156.96	-278.46	-279.46	1.00	-1.00	0.00
3,200.00	1.98	240.592	3,170.36	-159.08	-282.24	-283.25	1.00	-1.00	0.00
3,300.00	0.98	240.592	3,270.32	-160.36	-284.49	-285.52	1.00	-1.00	0.00
3,398.38	0.00	0.000	3,368.70	-160.77	-285.23	-286.25	1.00	-1.00	0.00
Start 2104.84 hold at 3398.38 MD									
3,400.00	0.00	0.000	3,370.32	-160.77	-285.23	-286.25	0.00	0.00	0.00
3,500.00	0.00	0.000	3,470.32	-160.77	-285.23	-286.25	0.00	0.00	0.00
3,600.00	0.00	0.000	3,570.32	-160.77	-285.23	-286.25	0.00	0.00	0.00
3,700.00	0.00	0.000	3,670.32	-160.77	-285.23	-286.25	0.00	0.00	0.00
3,800.00	0.00	0.000	3,770.32	-160.77	-285.23	-286.25	0.00	0.00	0.00
3,900.00	0.00	0.000	3,870.32	-160.77	-285.23	-286.25	0.00	0.00	0.00
4,000.00	0.00	0.000	3,970.32	-160.77	-285.23	-286.25	0.00	0.00	0.00
4,100.00	0.00	0.000	4,070.32	-160.77	-285.23	-286.25	0.00	0.00	0.00
4,200.00	0.00	0.000	4,170.32	-160.77	-285.23	-286.25	0.00	0.00	0.00
4,300.00	0.00	0.000	4,270.32	-160.77	-285.23	-286.25	0.00	0.00	0.00
4,400.00	0.00	0.000	4,370.32	-160.77	-285.23	-286.25	0.00	0.00	0.00
4,500.00	0.00	0.000	4,470.32	-160.77	-285.23	-286.25	0.00	0.00	0.00
4,600.00	0.00	0.000	4,570.32	-160.77	-285.23	-286.25	0.00	0.00	0.00

Database:	Casper District	Local Co-ordinate Reference:	Well Anschutz-Williams 5-61-27-6457BN
Company:	Bill Barrett Corp.	TVD Reference:	GL 4593' & KB 20' @ 4613.00ft
Project:	Weld County, CO NAD 83	MD Reference:	GL 4593' & KB 20' @ 4613.00ft
Site:	Anschutz-Williams 5-61-27 SWSW Pad	North Reference:	True
Well:	Anschutz-Williams 5-61-27-6457BN	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	4,670.32	-160.77	-285.23	-286.25	0.00	0.00	0.00
4,800.00	0.00	0.000	4,770.32	-160.77	-285.23	-286.25	0.00	0.00	0.00
4,900.00	0.00	0.000	4,870.32	-160.77	-285.23	-286.25	0.00	0.00	0.00
5,000.00	0.00	0.000	4,970.32	-160.77	-285.23	-286.25	0.00	0.00	0.00
5,100.00	0.00	0.000	5,070.32	-160.77	-285.23	-286.25	0.00	0.00	0.00
5,200.00	0.00	0.000	5,170.32	-160.77	-285.23	-286.25	0.00	0.00	0.00
5,300.00	0.00	0.000	5,270.32	-160.77	-285.23	-286.25	0.00	0.00	0.00
5,400.00	0.00	0.000	5,370.32	-160.77	-285.23	-286.25	0.00	0.00	0.00
5,500.00	0.00	0.000	5,470.32	-160.77	-285.23	-286.25	0.00	0.00	0.00
5,503.22	0.00	0.000	5,473.54	-160.77	-285.23	-286.25	0.00	0.00	0.00
Start DLS 12.00 TFO 89.63									
5,600.00	11.61	89.633	5,569.66	-160.71	-275.46	-276.48	12.00	12.00	0.00
5,700.00	23.61	89.633	5,664.79	-160.51	-245.25	-246.28	12.00	12.00	0.00
5,800.00	35.61	89.633	5,751.57	-160.20	-195.93	-196.95	12.00	12.00	0.00
5,900.00	47.61	89.633	5,826.20	-159.77	-129.64	-130.66	12.00	12.00	0.00
6,000.00	59.61	89.633	5,885.42	-159.26	-49.29	-50.31	12.00	12.00	0.00
6,100.00	71.61	89.633	5,926.63	-158.68	41.62	40.60	12.00	12.00	0.00
6,200.00	83.61	89.633	5,948.04	-158.05	139.11	138.10	12.00	12.00	0.00
6,251.32	89.77	89.633	5,951.00	-157.73	190.32	189.30	12.00	12.00	0.00
Start 9759.12 hold at 6251.32 MD									
6,300.00	89.77	89.633	5,951.20	-157.41	239.00	237.99	0.00	0.00	0.00
6,400.00	89.77	89.633	5,951.60	-156.77	339.00	337.99	0.00	0.00	0.00
6,500.00	89.77	89.633	5,951.99	-156.13	438.99	437.99	0.00	0.00	0.00
6,600.00	89.77	89.633	5,952.39	-155.49	538.99	537.98	0.00	0.00	0.00
6,700.00	89.77	89.633	5,952.79	-154.85	638.99	637.98	0.00	0.00	0.00
6,800.00	89.77	89.633	5,953.19	-154.21	738.99	737.98	0.00	0.00	0.00
6,900.00	89.77	89.633	5,953.59	-153.57	838.98	837.98	0.00	0.00	0.00
7,000.00	89.77	89.633	5,953.99	-152.93	938.98	937.98	0.00	0.00	0.00
7,100.00	89.77	89.633	5,954.39	-152.29	1,038.98	1,037.98	0.00	0.00	0.00
7,200.00	89.77	89.633	5,954.79	-151.65	1,138.97	1,137.98	0.00	0.00	0.00
7,300.00	89.77	89.633	5,955.19	-151.01	1,238.97	1,237.98	0.00	0.00	0.00
7,400.00	89.77	89.633	5,955.59	-150.37	1,338.97	1,337.98	0.00	0.00	0.00
7,500.00	89.77	89.633	5,955.99	-149.73	1,438.97	1,437.98	0.00	0.00	0.00
7,600.00	89.77	89.633	5,956.39	-149.09	1,538.96	1,537.98	0.00	0.00	0.00
7,700.00	89.77	89.633	5,956.79	-148.45	1,638.96	1,637.98	0.00	0.00	0.00
7,800.00	89.77	89.633	5,957.19	-147.81	1,738.96	1,737.97	0.00	0.00	0.00
7,900.00	89.77	89.633	5,957.59	-147.17	1,838.95	1,837.97	0.00	0.00	0.00
8,000.00	89.77	89.633	5,957.99	-146.53	1,938.95	1,937.97	0.00	0.00	0.00
8,100.00	89.77	89.633	5,958.39	-145.89	2,038.95	2,037.97	0.00	0.00	0.00
8,200.00	89.77	89.633	5,958.79	-145.25	2,138.95	2,137.97	0.00	0.00	0.00
8,300.00	89.77	89.633	5,959.19	-144.61	2,238.94	2,237.97	0.00	0.00	0.00
8,400.00	89.77	89.633	5,959.59	-143.97	2,338.94	2,337.97	0.00	0.00	0.00
8,500.00	89.77	89.633	5,959.99	-143.33	2,438.94	2,437.97	0.00	0.00	0.00
8,600.00	89.77	89.633	5,960.39	-142.69	2,538.93	2,537.97	0.00	0.00	0.00
8,700.00	89.77	89.633	5,960.79	-142.05	2,638.93	2,637.97	0.00	0.00	0.00
8,800.00	89.77	89.633	5,961.19	-141.41	2,738.93	2,737.97	0.00	0.00	0.00
8,900.00	89.77	89.633	5,961.59	-140.77	2,838.93	2,837.97	0.00	0.00	0.00
9,000.00	89.77	89.633	5,961.99	-140.13	2,938.92	2,937.97	0.00	0.00	0.00
9,100.00	89.77	89.633	5,962.38	-139.49	3,038.92	3,037.96	0.00	0.00	0.00
9,200.00	89.77	89.633	5,962.78	-138.85	3,138.92	3,137.96	0.00	0.00	0.00
9,300.00	89.77	89.633	5,963.18	-138.21	3,238.91	3,237.96	0.00	0.00	0.00
9,400.00	89.77	89.633	5,963.58	-137.57	3,338.91	3,337.96	0.00	0.00	0.00
9,500.00	89.77	89.633	5,963.98	-136.93	3,438.91	3,437.96	0.00	0.00	0.00

Database:	Casper District	Local Co-ordinate Reference:	Well Anschutz-Williams 5-61-27-6457BN
Company:	Bill Barrett Corp.	TVD Reference:	GL 4593' & KB 20' @ 4613.00ft
Project:	Weld County, CO NAD 83	MD Reference:	GL 4593' & KB 20' @ 4613.00ft
Site:	Anschutz-Williams 5-61-27 SWSW Pad	North Reference:	True
Well:	Anschutz-Williams 5-61-27-6457BN	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	89.77	89.633	5,964.38	-136.29	3,538.91	3,537.96	0.00	0.00	0.00
9,700.00	89.77	89.633	5,964.78	-135.65	3,638.90	3,637.96	0.00	0.00	0.00
9,800.00	89.77	89.633	5,965.18	-135.01	3,738.90	3,737.96	0.00	0.00	0.00
9,900.00	89.77	89.633	5,965.58	-134.37	3,838.90	3,837.96	0.00	0.00	0.00
10,000.00	89.77	89.633	5,965.98	-133.73	3,938.89	3,937.96	0.00	0.00	0.00
10,100.00	89.77	89.633	5,966.38	-133.09	4,038.89	4,037.96	0.00	0.00	0.00
10,200.00	89.77	89.633	5,966.78	-132.45	4,138.89	4,137.96	0.00	0.00	0.00
10,300.00	89.77	89.633	5,967.18	-131.81	4,238.89	4,237.95	0.00	0.00	0.00
10,400.00	89.77	89.633	5,967.58	-131.17	4,338.88	4,337.95	0.00	0.00	0.00
10,500.00	89.77	89.633	5,967.98	-130.53	4,438.88	4,437.95	0.00	0.00	0.00
10,600.00	89.77	89.633	5,968.38	-129.89	4,538.88	4,537.95	0.00	0.00	0.00
10,700.00	89.77	89.633	5,968.78	-129.24	4,638.87	4,637.95	0.00	0.00	0.00
10,800.00	89.77	89.633	5,969.18	-128.60	4,738.87	4,737.95	0.00	0.00	0.00
10,900.00	89.77	89.633	5,969.58	-127.96	4,838.87	4,837.95	0.00	0.00	0.00
11,000.00	89.77	89.633	5,969.98	-127.32	4,938.87	4,937.95	0.00	0.00	0.00
11,100.00	89.77	89.633	5,970.38	-126.68	5,038.86	5,037.95	0.00	0.00	0.00
11,200.00	89.77	89.633	5,970.78	-126.04	5,138.86	5,137.95	0.00	0.00	0.00
11,300.00	89.77	89.633	5,971.18	-125.40	5,238.86	5,237.95	0.00	0.00	0.00
11,400.00	89.77	89.633	5,971.58	-124.76	5,338.85	5,337.95	0.00	0.00	0.00
11,500.00	89.77	89.633	5,971.98	-124.12	5,438.85	5,437.95	0.00	0.00	0.00
11,600.00	89.77	89.633	5,972.38	-123.48	5,538.85	5,537.94	0.00	0.00	0.00
11,700.00	89.77	89.633	5,972.77	-122.84	5,638.85	5,637.94	0.00	0.00	0.00
11,800.00	89.77	89.633	5,973.17	-122.20	5,738.84	5,737.94	0.00	0.00	0.00
11,900.00	89.77	89.633	5,973.57	-121.56	5,838.84	5,837.94	0.00	0.00	0.00
12,000.00	89.77	89.633	5,973.97	-120.92	5,938.84	5,937.94	0.00	0.00	0.00
12,100.00	89.77	89.633	5,974.37	-120.28	6,038.83	6,037.94	0.00	0.00	0.00
12,200.00	89.77	89.633	5,974.77	-119.64	6,138.83	6,137.94	0.00	0.00	0.00
12,300.00	89.77	89.633	5,975.17	-119.00	6,238.83	6,237.94	0.00	0.00	0.00
12,400.00	89.77	89.633	5,975.57	-118.36	6,338.83	6,337.94	0.00	0.00	0.00
12,500.00	89.77	89.633	5,975.97	-117.72	6,438.82	6,437.94	0.00	0.00	0.00
12,600.00	89.77	89.633	5,976.37	-117.08	6,538.82	6,537.94	0.00	0.00	0.00
12,700.00	89.77	89.633	5,976.77	-116.44	6,638.82	6,637.94	0.00	0.00	0.00
12,800.00	89.77	89.633	5,977.17	-115.80	6,738.81	6,737.93	0.00	0.00	0.00
12,900.00	89.77	89.633	5,977.57	-115.16	6,838.81	6,837.93	0.00	0.00	0.00
13,000.00	89.77	89.633	5,977.97	-114.52	6,938.81	6,937.93	0.00	0.00	0.00
13,100.00	89.77	89.633	5,978.37	-113.88	7,038.81	7,037.93	0.00	0.00	0.00
13,200.00	89.77	89.633	5,978.77	-113.24	7,138.80	7,137.93	0.00	0.00	0.00
13,300.00	89.77	89.633	5,979.17	-112.60	7,238.80	7,237.93	0.00	0.00	0.00
13,400.00	89.77	89.633	5,979.57	-111.96	7,338.80	7,337.93	0.00	0.00	0.00
13,500.00	89.77	89.633	5,979.97	-111.32	7,438.79	7,437.93	0.00	0.00	0.00
13,600.00	89.77	89.633	5,980.37	-110.68	7,538.79	7,537.93	0.00	0.00	0.00
13,700.00	89.77	89.633	5,980.77	-110.04	7,638.79	7,637.93	0.00	0.00	0.00
13,800.00	89.77	89.633	5,981.17	-109.40	7,738.79	7,737.93	0.00	0.00	0.00
13,900.00	89.77	89.633	5,981.57	-108.76	7,838.78	7,837.93	0.00	0.00	0.00
14,000.00	89.77	89.633	5,981.97	-108.12	7,938.78	7,937.93	0.00	0.00	0.00
14,100.00	89.77	89.633	5,982.37	-107.48	8,038.78	8,037.92	0.00	0.00	0.00
14,200.00	89.77	89.633	5,982.77	-106.84	8,138.78	8,137.92	0.00	0.00	0.00
14,300.00	89.77	89.633	5,983.16	-106.20	8,238.77	8,237.92	0.00	0.00	0.00
14,400.00	89.77	89.633	5,983.56	-105.56	8,338.77	8,337.92	0.00	0.00	0.00
14,500.00	89.77	89.633	5,983.96	-104.92	8,438.77	8,437.92	0.00	0.00	0.00
14,600.00	89.77	89.633	5,984.36	-104.28	8,538.76	8,537.92	0.00	0.00	0.00
14,700.00	89.77	89.633	5,984.76	-103.64	8,638.76	8,637.92	0.00	0.00	0.00
14,800.00	89.77	89.633	5,985.16	-103.00	8,738.76	8,737.92	0.00	0.00	0.00
14,900.00	89.77	89.633	5,985.56	-102.36	8,838.76	8,837.92	0.00	0.00	0.00

Database:	Casper District	Local Co-ordinate Reference:	Well Anschutz-Williams 5-61-27-6457BN
Company:	Bill Barrett Corp.	TVD Reference:	GL 4593' & KB 20' @ 4613.00ft
Project:	Weld County, CO NAD 83	MD Reference:	GL 4593' & KB 20' @ 4613.00ft
Site:	Anschutz-Williams 5-61-27 SWSW Pad	North Reference:	True
Well:	Anschutz-Williams 5-61-27-6457BN	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	89.77	89.633	5,985.96	-101.72	8,938.75	8,937.92	0.00	0.00	0.00
15,100.00	89.77	89.633	5,986.36	-101.08	9,038.75	9,037.92	0.00	0.00	0.00
15,200.00	89.77	89.633	5,986.76	-100.44	9,138.75	9,137.92	0.00	0.00	0.00
15,300.00	89.77	89.633	5,987.16	-99.80	9,238.74	9,237.92	0.00	0.00	0.00
15,400.00	89.77	89.633	5,987.56	-99.16	9,338.74	9,337.91	0.00	0.00	0.00
15,500.00	89.77	89.633	5,987.96	-98.52	9,438.74	9,437.91	0.00	0.00	0.00
15,600.00	89.77	89.633	5,988.36	-97.87	9,538.74	9,537.91	0.00	0.00	0.00
15,700.00	89.77	89.633	5,988.76	-97.23	9,638.73	9,637.91	0.00	0.00	0.00
15,800.00	89.77	89.633	5,989.16	-96.59	9,738.73	9,737.91	0.00	0.00	0.00
15,900.00	89.77	89.633	5,989.56	-95.95	9,838.73	9,837.91	0.00	0.00	0.00
16,000.00	89.77	89.633	5,989.96	-95.31	9,938.72	9,937.91	0.00	0.00	0.00
16,010.44	89.77	89.633	5,990.00	-95.25	9,949.16	9,948.35	0.00	0.00	0.00
TD at 16010.44									

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									
5-61-27-6457BN LP	0.00	0.000	5,951.00	-157.72	190.32	1,378,906.07	3,361,432.81	40° 21' 58.471 N	104° 12' 10.310 W
- plan hits target center									
- Point									
5-61-27-6457BN PBHL	0.00	0.000	5,990.00	-95.25	9,949.16	1,379,111.21	3,371,189.67	40° 21' 59.069 N	104° 10' 4.231 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	0.00	0.00	Start Build 2.00
1,699.45	1,692.52	-41.72	-74.01	Start 300.04 hold at 1699.45 MD
1,999.49	1,983.66	-77.33	-137.20	Start Drop -1.00
3,398.38	3,368.70	-160.77	-285.23	Start 2104.84 hold at 3398.38 MD
5,503.22	5,473.54	-160.77	-285.23	Start DLS 12.00 TFO 89.63
6,251.32	5,951.00	-157.73	190.32	Start 9759.12 hold at 6251.32 MD
16,010.44	5,990.00	-95.25	9,949.16	TD at 16010.44