

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 5-61-27-4956B
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 5-61-27-4956B/OH)

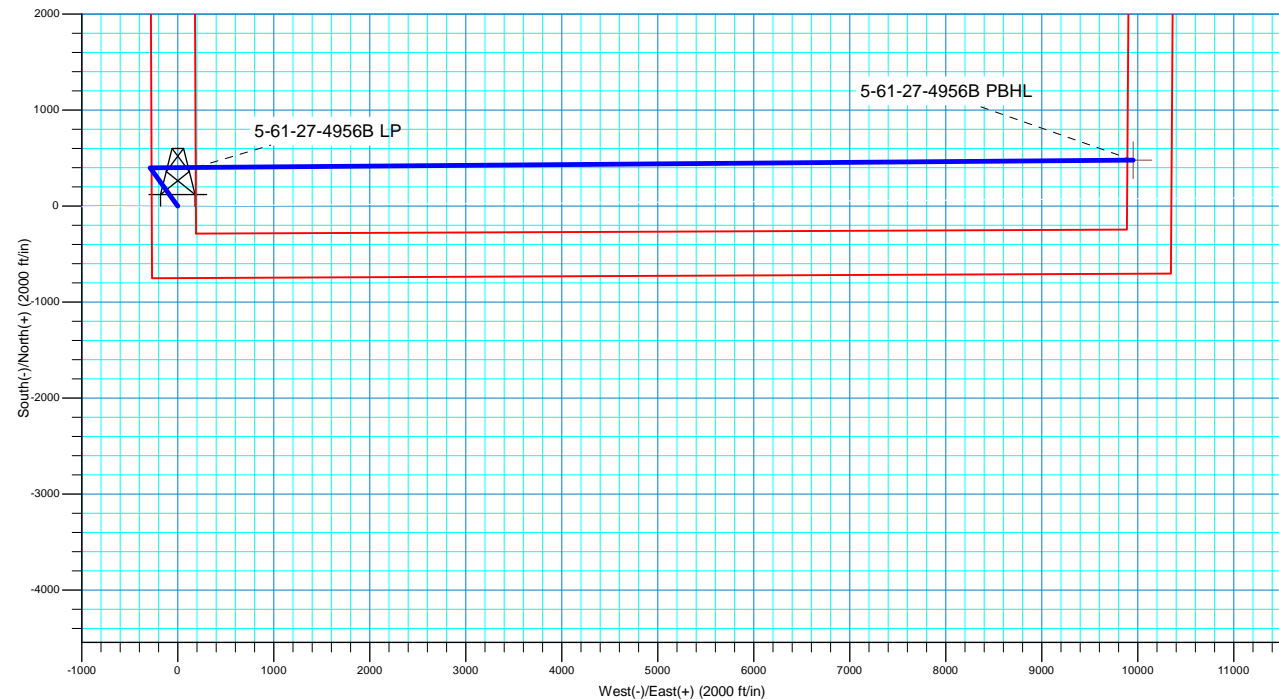
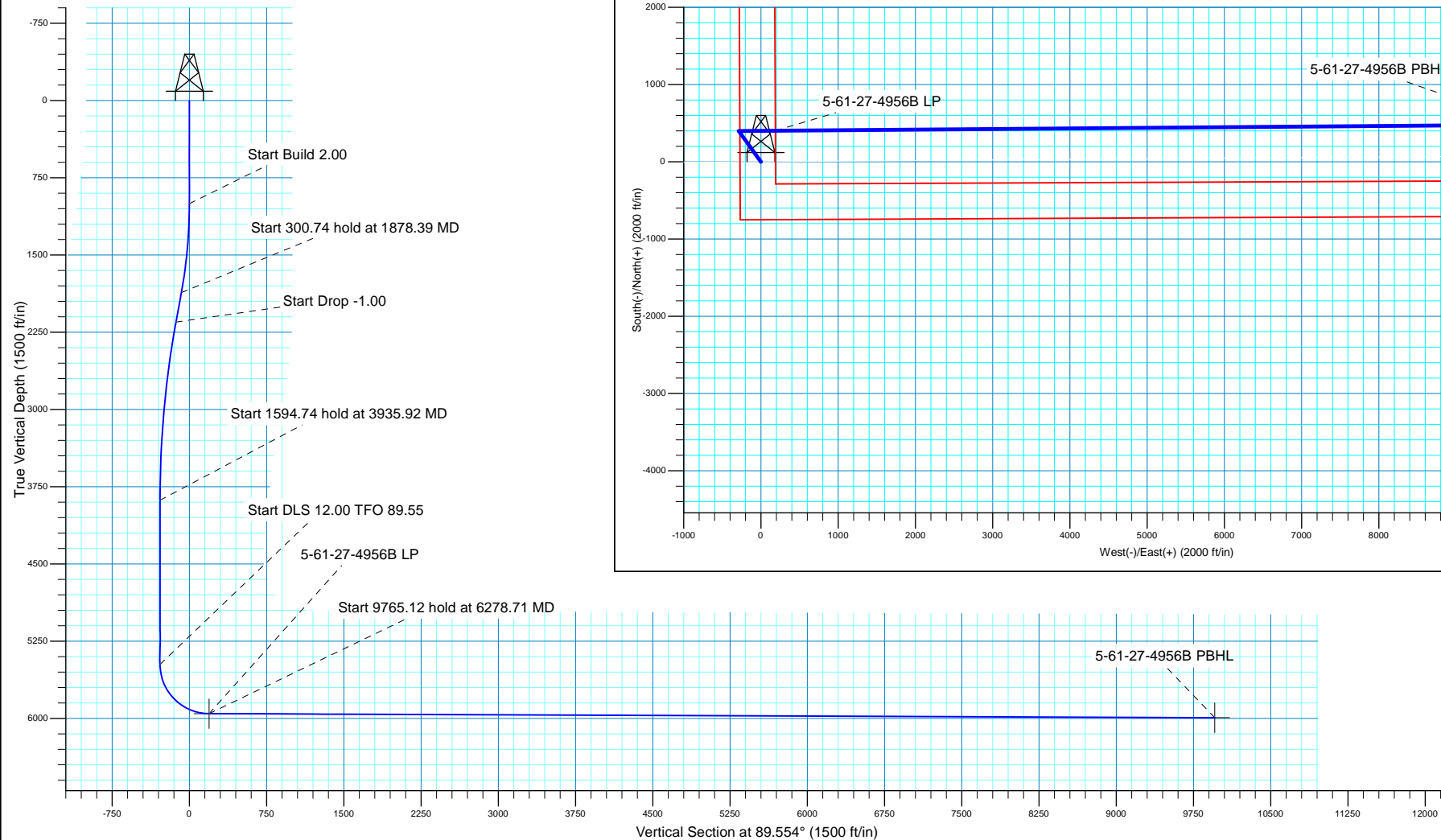
Created By: Seth Burstad Date: 7-24-2017

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
1878.39	17.57	324.224	1864.69	108.40	-78.11	2.00	324.22	-77.27
2179.14	17.57	324.224	2151.41	182.05	-131.18	0.00	0.00	-129.76
3935.92	0.00	0.000	3880.80	398.85	-287.41	1.00	180.00	-284.30
5530.66	0.00	0.000	5475.54	398.85	-287.41	0.00	0.00	-284.30
6278.71	89.77	89.554	5953.00	402.55	188.08	12.00	89.55	191.21
16043.82	89.77	89.554	5993.00	478.52	9952.82	0.00	0.00	9956.25

WELL DETAILS: Anschutz-Williams 5-61-27-4956B

		GL 4593' & KB 20' @ 4613.00ft		4593.00		
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	
0.00	0.00	1379076.29	3361239.99	40° 22' 0.181 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 5-61-27-4956B

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 5-61-27-4956B
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 5-61-27-4956B	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 5-61-27-4956B, 750' FSL 270' FWL Sec 27 T5N R61W					
Well Position	+N/-S	-0.01 ft	Northing:	1,379,076.30 usft	Latitude:	40° 22' 0.181 N
	+E/-W	0.00 ft	Easting:	3,361,239.98 usft	Longitude:	104° 12' 12.769 W
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	89.554

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	
1,878.39	17.57	324.224	1,864.69	108.40	-78.11	2.00	2.00	0.00	324.22	
2,179.14	17.57	324.224	2,151.41	182.05	-131.18	0.00	0.00	0.00	0.00	
3,935.92	0.00	0.000	3,880.80	398.85	-287.41	1.00	-1.00	0.00	180.00	
5,530.66	0.00	0.000	5,475.54	398.85	-287.41	0.00	0.00	0.00	0.00	
6,278.71	89.77	89.554	5,953.00	402.55	188.08	12.00	12.00	11.97	89.55	
16,043.82	89.77	89.554	5,993.00	478.51	9,952.82	0.00	0.00	0.00	0.00	5-61-27-4956B PBHL

Database:	Casper District	Local Co-ordinate Reference:	Well Anschutz-Williams 5-61-27-4956B
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 5-61-27-4956B	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	324.224	1,099.98	1.42	-1.02	-1.01	2.00	2.00	0.00
1,200.00	4.00	324.224	1,199.84	5.66	-4.08	-4.04	2.00	2.00	0.00
1,300.00	6.00	324.224	1,299.45	12.73	-9.17	-9.08	2.00	2.00	0.00
1,400.00	8.00	324.224	1,398.70	22.62	-16.30	-16.12	2.00	2.00	0.00
1,500.00	10.00	324.224	1,497.47	35.31	-25.44	-25.17	2.00	2.00	0.00
1,600.00	12.00	324.224	1,595.62	50.79	-36.60	-36.20	2.00	2.00	0.00
1,700.00	14.00	324.224	1,693.06	69.04	-49.75	-49.21	2.00	2.00	0.00
1,800.00	16.00	324.224	1,789.64	90.04	-64.88	-64.18	2.00	2.00	0.00
1,878.39	17.57	324.224	1,864.69	108.40	-78.11	-77.27	2.00	2.00	0.00
Start 300.74 hold at 1878.39 MD									
1,900.00	17.57	324.224	1,885.29	113.69	-81.93	-81.04	0.00	0.00	0.00
2,000.00	17.57	324.224	1,980.63	138.18	-99.57	-98.49	0.00	0.00	0.00
2,100.00	17.57	324.224	2,075.97	162.67	-117.22	-115.95	0.00	0.00	0.00
2,179.14	17.57	324.224	2,151.41	182.05	-131.18	-129.76	0.00	0.00	0.00
Start Drop -1.00									
2,200.00	17.36	324.224	2,171.31	187.13	-134.84	-133.38	1.00	-1.00	0.00
2,300.00	16.36	324.224	2,267.01	210.66	-151.80	-150.15	1.00	-1.00	0.00
2,400.00	15.36	324.224	2,363.21	232.83	-167.77	-165.96	1.00	-1.00	0.00
2,500.00	14.36	324.224	2,459.86	253.63	-182.77	-180.79	1.00	-1.00	0.00
2,600.00	13.36	324.224	2,556.95	273.07	-196.77	-194.64	1.00	-1.00	0.00
2,700.00	12.36	324.224	2,654.44	291.12	-209.78	-207.51	1.00	-1.00	0.00
2,800.00	11.36	324.224	2,752.30	307.79	-221.80	-219.39	1.00	-1.00	0.00
2,900.00	10.36	324.224	2,850.51	323.08	-232.81	-230.29	1.00	-1.00	0.00
3,000.00	9.36	324.224	2,949.03	336.97	-242.82	-240.19	1.00	-1.00	0.00
3,100.00	8.36	324.224	3,047.84	349.47	-251.82	-249.10	1.00	-1.00	0.00
3,200.00	7.36	324.224	3,146.90	360.56	-259.82	-257.00	1.00	-1.00	0.00
3,300.00	6.36	324.224	3,246.18	370.25	-266.80	-263.91	1.00	-1.00	0.00
3,400.00	5.36	324.224	3,345.66	378.53	-272.77	-269.81	1.00	-1.00	0.00
3,500.00	4.36	324.224	3,445.30	385.40	-277.72	-274.71	1.00	-1.00	0.00
3,600.00	3.36	324.224	3,545.07	390.86	-281.65	-278.60	1.00	-1.00	0.00
3,700.00	2.36	324.224	3,644.94	394.91	-284.57	-281.49	1.00	-1.00	0.00
3,800.00	1.36	324.224	3,744.89	397.54	-286.47	-283.36	1.00	-1.00	0.00
3,900.00	0.36	324.224	3,844.88	398.76	-287.34	-284.23	1.00	-1.00	0.00
3,935.92	0.00	0.000	3,880.80	398.85	-287.41	-284.30	1.00	-1.00	0.00
Start 1594.74 hold at 3935.92 MD									
4,000.00	0.00	0.000	3,944.88	398.85	-287.41	-284.30	0.00	0.00	0.00
4,100.00	0.00	0.000	4,044.88	398.85	-287.41	-284.30	0.00	0.00	0.00
4,200.00	0.00	0.000	4,144.88	398.85	-287.41	-284.30	0.00	0.00	0.00
4,300.00	0.00	0.000	4,244.88	398.85	-287.41	-284.30	0.00	0.00	0.00
4,400.00	0.00	0.000	4,344.88	398.85	-287.41	-284.30	0.00	0.00	0.00
4,500.00	0.00	0.000	4,444.88	398.85	-287.41	-284.30	0.00	0.00	0.00
4,600.00	0.00	0.000	4,544.88	398.85	-287.41	-284.30	0.00	0.00	0.00

Database:	Casper District	Local Co-ordinate Reference:	Well Anschutz-Williams 5-61-27-4956B
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 5-61-27-4956B	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	4,644.88	398.85	-287.41	-284.30	0.00	0.00	0.00
4,800.00	0.00	0.000	4,744.88	398.85	-287.41	-284.30	0.00	0.00	0.00
4,900.00	0.00	0.000	4,844.88	398.85	-287.41	-284.30	0.00	0.00	0.00
5,000.00	0.00	0.000	4,944.88	398.85	-287.41	-284.30	0.00	0.00	0.00
5,100.00	0.00	0.000	5,044.88	398.85	-287.41	-284.30	0.00	0.00	0.00
5,200.00	0.00	0.000	5,144.88	398.85	-287.41	-284.30	0.00	0.00	0.00
5,300.00	0.00	0.000	5,244.88	398.85	-287.41	-284.30	0.00	0.00	0.00
5,400.00	0.00	0.000	5,344.88	398.85	-287.41	-284.30	0.00	0.00	0.00
5,500.00	0.00	0.000	5,444.88	398.85	-287.41	-284.30	0.00	0.00	0.00
5,530.66	0.00	0.000	5,475.54	398.85	-287.41	-284.30	0.00	0.00	0.00
Start DLS 12.00 TFO 89.55									
5,600.00	8.32	89.554	5,544.63	398.89	-282.38	-279.27	12.00	12.00	0.00
5,700.00	20.32	89.554	5,641.35	399.08	-257.70	-254.58	12.00	12.00	0.00
5,800.00	32.32	89.554	5,730.82	399.43	-213.44	-210.32	12.00	12.00	0.00
5,900.00	44.32	89.554	5,809.13	399.91	-151.55	-148.43	12.00	12.00	0.00
6,000.00	56.32	89.554	5,872.86	400.50	-74.73	-71.61	12.00	12.00	0.00
6,100.00	68.32	89.554	5,919.23	401.19	13.66	16.78	12.00	12.00	0.00
6,200.00	80.32	89.554	5,946.21	401.94	109.76	112.89	12.00	12.00	0.00
6,278.71	89.77	89.554	5,953.00	402.55	188.08	191.21	12.00	12.00	0.00
Start 9765.12 hold at 6278.71 MD									
6,300.00	89.77	89.554	5,953.09	402.71	209.38	212.50	0.00	0.00	0.00
6,400.00	89.77	89.554	5,953.50	403.49	309.37	312.50	0.00	0.00	0.00
6,500.00	89.77	89.554	5,953.91	404.27	409.37	412.50	0.00	0.00	0.00
6,600.00	89.77	89.554	5,954.32	405.05	509.36	512.50	0.00	0.00	0.00
6,700.00	89.77	89.554	5,954.73	405.83	609.36	612.50	0.00	0.00	0.00
6,800.00	89.77	89.554	5,955.14	406.60	709.36	712.50	0.00	0.00	0.00
6,900.00	89.77	89.554	5,955.55	407.38	809.35	812.50	0.00	0.00	0.00
7,000.00	89.77	89.554	5,955.96	408.16	909.35	912.50	0.00	0.00	0.00
7,100.00	89.77	89.554	5,956.37	408.94	1,009.34	1,012.50	0.00	0.00	0.00
7,200.00	89.77	89.554	5,956.77	409.72	1,109.34	1,112.50	0.00	0.00	0.00
7,300.00	89.77	89.554	5,957.18	410.49	1,209.34	1,212.50	0.00	0.00	0.00
7,400.00	89.77	89.554	5,957.59	411.27	1,309.33	1,312.50	0.00	0.00	0.00
7,500.00	89.77	89.554	5,958.00	412.05	1,409.33	1,412.49	0.00	0.00	0.00
7,600.00	89.77	89.554	5,958.41	412.83	1,509.33	1,512.49	0.00	0.00	0.00
7,700.00	89.77	89.554	5,958.82	413.61	1,609.32	1,612.49	0.00	0.00	0.00
7,800.00	89.77	89.554	5,959.23	414.38	1,709.32	1,712.49	0.00	0.00	0.00
7,900.00	89.77	89.554	5,959.64	415.16	1,809.31	1,812.49	0.00	0.00	0.00
8,000.00	89.77	89.554	5,960.05	415.94	1,909.31	1,912.49	0.00	0.00	0.00
8,100.00	89.77	89.554	5,960.46	416.72	2,009.31	2,012.49	0.00	0.00	0.00
8,200.00	89.77	89.554	5,960.87	417.50	2,109.30	2,112.49	0.00	0.00	0.00
8,300.00	89.77	89.554	5,961.28	418.27	2,209.30	2,212.49	0.00	0.00	0.00
8,400.00	89.77	89.554	5,961.69	419.05	2,309.29	2,312.49	0.00	0.00	0.00
8,500.00	89.77	89.554	5,962.10	419.83	2,409.29	2,412.49	0.00	0.00	0.00
8,600.00	89.77	89.554	5,962.51	420.61	2,509.29	2,512.49	0.00	0.00	0.00
8,700.00	89.77	89.554	5,962.92	421.39	2,609.28	2,612.48	0.00	0.00	0.00
8,800.00	89.77	89.554	5,963.33	422.16	2,709.28	2,712.48	0.00	0.00	0.00
8,900.00	89.77	89.554	5,963.74	422.94	2,809.28	2,812.48	0.00	0.00	0.00
9,000.00	89.77	89.554	5,964.15	423.72	2,909.27	2,912.48	0.00	0.00	0.00
9,100.00	89.77	89.554	5,964.56	424.50	3,009.27	3,012.48	0.00	0.00	0.00
9,200.00	89.77	89.554	5,964.97	425.27	3,109.26	3,112.48	0.00	0.00	0.00
9,300.00	89.77	89.554	5,965.38	426.05	3,209.26	3,212.48	0.00	0.00	0.00
9,400.00	89.77	89.554	5,965.79	426.83	3,309.26	3,312.48	0.00	0.00	0.00
9,500.00	89.77	89.554	5,966.20	427.61	3,409.25	3,412.48	0.00	0.00	0.00

Database:	Casper District	Local Co-ordinate Reference:	Well Anschutz-Williams 5-61-27-4956B
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 5-61-27-4956B	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	89.554	5,966.61	428.39	3,509.25	3,512.48	0.00	0.00	0.00
9,700.00	89.77	89.554	5,967.02	429.16	3,609.24	3,612.48	0.00	0.00	0.00
9,800.00	89.77	89.554	5,967.42	429.94	3,709.24	3,712.48	0.00	0.00	0.00
9,900.00	89.77	89.554	5,967.83	430.72	3,809.24	3,812.47	0.00	0.00	0.00
10,000.00	89.77	89.554	5,968.24	431.50	3,909.23	3,912.47	0.00	0.00	0.00
10,100.00	89.77	89.554	5,968.65	432.28	4,009.23	4,012.47	0.00	0.00	0.00
10,200.00	89.77	89.554	5,969.06	433.05	4,109.23	4,112.47	0.00	0.00	0.00
10,300.00	89.77	89.554	5,969.47	433.83	4,209.22	4,212.47	0.00	0.00	0.00
10,400.00	89.77	89.554	5,969.88	434.61	4,309.22	4,312.47	0.00	0.00	0.00
10,500.00	89.77	89.554	5,970.29	435.39	4,409.21	4,412.47	0.00	0.00	0.00
10,600.00	89.77	89.554	5,970.70	436.17	4,509.21	4,512.47	0.00	0.00	0.00
10,700.00	89.77	89.554	5,971.11	436.94	4,609.21	4,612.47	0.00	0.00	0.00
10,800.00	89.77	89.554	5,971.52	437.72	4,709.20	4,712.47	0.00	0.00	0.00
10,900.00	89.77	89.554	5,971.93	438.50	4,809.20	4,812.47	0.00	0.00	0.00
11,000.00	89.77	89.554	5,972.34	439.28	4,909.19	4,912.46	0.00	0.00	0.00
11,100.00	89.77	89.554	5,972.75	440.06	5,009.19	5,012.46	0.00	0.00	0.00
11,200.00	89.77	89.554	5,973.16	440.83	5,109.19	5,112.46	0.00	0.00	0.00
11,300.00	89.77	89.554	5,973.57	441.61	5,209.18	5,212.46	0.00	0.00	0.00
11,400.00	89.77	89.554	5,973.98	442.39	5,309.18	5,312.46	0.00	0.00	0.00
11,500.00	89.77	89.554	5,974.39	443.17	5,409.18	5,412.46	0.00	0.00	0.00
11,600.00	89.77	89.554	5,974.80	443.95	5,509.17	5,512.46	0.00	0.00	0.00
11,700.00	89.77	89.554	5,975.21	444.72	5,609.17	5,612.46	0.00	0.00	0.00
11,800.00	89.77	89.554	5,975.62	445.50	5,709.16	5,712.46	0.00	0.00	0.00
11,900.00	89.77	89.554	5,976.03	446.28	5,809.16	5,812.46	0.00	0.00	0.00
12,000.00	89.77	89.554	5,976.44	447.06	5,909.16	5,912.46	0.00	0.00	0.00
12,100.00	89.77	89.554	5,976.85	447.83	6,009.15	6,012.46	0.00	0.00	0.00
12,200.00	89.77	89.554	5,977.26	448.61	6,109.15	6,112.45	0.00	0.00	0.00
12,300.00	89.77	89.554	5,977.66	449.39	6,209.14	6,212.45	0.00	0.00	0.00
12,400.00	89.77	89.554	5,978.07	450.17	6,309.14	6,312.45	0.00	0.00	0.00
12,500.00	89.77	89.554	5,978.48	450.95	6,409.14	6,412.45	0.00	0.00	0.00
12,600.00	89.77	89.554	5,978.89	451.72	6,509.13	6,512.45	0.00	0.00	0.00
12,700.00	89.77	89.554	5,979.30	452.50	6,609.13	6,612.45	0.00	0.00	0.00
12,800.00	89.77	89.554	5,979.71	453.28	6,709.12	6,712.45	0.00	0.00	0.00
12,900.00	89.77	89.554	5,980.12	454.06	6,809.12	6,812.45	0.00	0.00	0.00
13,000.00	89.77	89.554	5,980.53	454.84	6,909.12	6,912.45	0.00	0.00	0.00
13,100.00	89.77	89.554	5,980.94	455.61	7,009.11	7,012.45	0.00	0.00	0.00
13,200.00	89.77	89.554	5,981.35	456.39	7,109.11	7,112.45	0.00	0.00	0.00
13,300.00	89.77	89.554	5,981.76	457.17	7,209.11	7,212.45	0.00	0.00	0.00
13,400.00	89.77	89.554	5,982.17	457.95	7,309.10	7,312.44	0.00	0.00	0.00
13,500.00	89.77	89.554	5,982.58	458.73	7,409.10	7,412.44	0.00	0.00	0.00
13,600.00	89.77	89.554	5,982.99	459.50	7,509.09	7,512.44	0.00	0.00	0.00
13,700.00	89.77	89.554	5,983.40	460.28	7,609.09	7,612.44	0.00	0.00	0.00
13,800.00	89.77	89.554	5,983.81	461.06	7,709.09	7,712.44	0.00	0.00	0.00
13,900.00	89.77	89.554	5,984.22	461.84	7,809.08	7,812.44	0.00	0.00	0.00
14,000.00	89.77	89.554	5,984.63	462.62	7,909.08	7,912.44	0.00	0.00	0.00
14,100.00	89.77	89.554	5,985.04	463.39	8,009.07	8,012.44	0.00	0.00	0.00
14,200.00	89.77	89.554	5,985.45	464.17	8,109.07	8,112.44	0.00	0.00	0.00
14,300.00	89.77	89.554	5,985.86	464.95	8,209.07	8,212.44	0.00	0.00	0.00
14,400.00	89.77	89.554	5,986.27	465.73	8,309.06	8,312.44	0.00	0.00	0.00
14,500.00	89.77	89.554	5,986.68	466.50	8,409.06	8,412.44	0.00	0.00	0.00
14,600.00	89.77	89.554	5,987.09	467.28	8,509.06	8,512.43	0.00	0.00	0.00
14,700.00	89.77	89.554	5,987.50	468.06	8,609.05	8,612.43	0.00	0.00	0.00
14,800.00	89.77	89.554	5,987.91	468.84	8,709.05	8,712.43	0.00	0.00	0.00
14,900.00	89.77	89.554	5,988.31	469.62	8,809.04	8,812.43	0.00	0.00	0.00

Database:	Casper District	Local Co-ordinate Reference:	Well Anschutz-Williams 5-61-27-4956B
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 5-61-27-4956B	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	89.554	5,988.72	470.39	8,909.04	8,912.43	0.00	0.00	0.00
15,100.00	89.77	89.554	5,989.13	471.17	9,009.04	9,012.43	0.00	0.00	0.00
15,200.00	89.77	89.554	5,989.54	471.95	9,109.03	9,112.43	0.00	0.00	0.00
15,300.00	89.77	89.554	5,989.95	472.73	9,209.03	9,212.43	0.00	0.00	0.00
15,400.00	89.77	89.554	5,990.36	473.51	9,309.02	9,312.43	0.00	0.00	0.00
15,500.00	89.77	89.554	5,990.77	474.28	9,409.02	9,412.43	0.00	0.00	0.00
15,600.00	89.77	89.554	5,991.18	475.06	9,509.02	9,512.43	0.00	0.00	0.00
15,700.00	89.77	89.554	5,991.59	475.84	9,609.01	9,612.43	0.00	0.00	0.00
15,800.00	89.77	89.554	5,992.00	476.62	9,709.01	9,712.42	0.00	0.00	0.00
15,900.00	89.77	89.554	5,992.41	477.40	9,809.01	9,812.42	0.00	0.00	0.00
16,000.00	89.77	89.554	5,992.82	478.17	9,909.00	9,912.42	0.00	0.00	0.00
16,043.82	89.77	89.554	5,993.00	478.51	9,952.82	9,956.25	0.00	0.00	0.00
TD at 16043.82									

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									
5-61-27-4956B LP	0.00	0.000	5,953.00	402.56	188.08	1,379,481.56	3,361,422.16	40° 22' 4.159 N	104° 12' 10.339 W
- plan misses target center by 0.01ft at 6278.71ft MD (5953.00 TVD, 402.55 N, 188.08 E)									
- Point									
5-61-27-4956B PBHL	0.00	0.000	5,993.00	478.51	9,952.82	1,379,700.27	3,371,184.73	40° 22' 4.890 N	104° 10' 4.181 W
- plan hits target center									
- Point									

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
1,000.00	1,000.00	0.00	0.00	Start Build 2.00	
1,878.39	1,864.69	108.40	-78.11	Start 300.74 hold at 1878.39 MD	
2,179.14	2,151.41	182.05	-131.18	Start Drop -1.00	
3,935.92	3,880.80	398.85	-287.41	Start 1594.74 hold at 3935.92 MD	
5,530.66	5,475.54	398.85	-287.41	Start DLS 12.00 TFO 89.55	
6,278.71	5,953.00	402.55	188.08	Start 9765.12 hold at 6278.71 MD	
16,043.82	5,993.00	478.51	9,952.82	TD at 16043.82	