

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: RSU Anschutz Fed 4-61-4 NW Pad
 Well: RSU Anschutz Fed 4-61-05-2421C
 Wellbore: OH
 Design: Plan 1



Azimuths to True North
 Magnetic North: 8.22°



Magnetic Field
 Strength: 52299.6nT
 Dip Angle: 67.00°
 Date: 2/12/2018
 Model: HDGM

Plan: Plan 1 (RSU Anschutz Fed 4-61-05-2421C/OH)

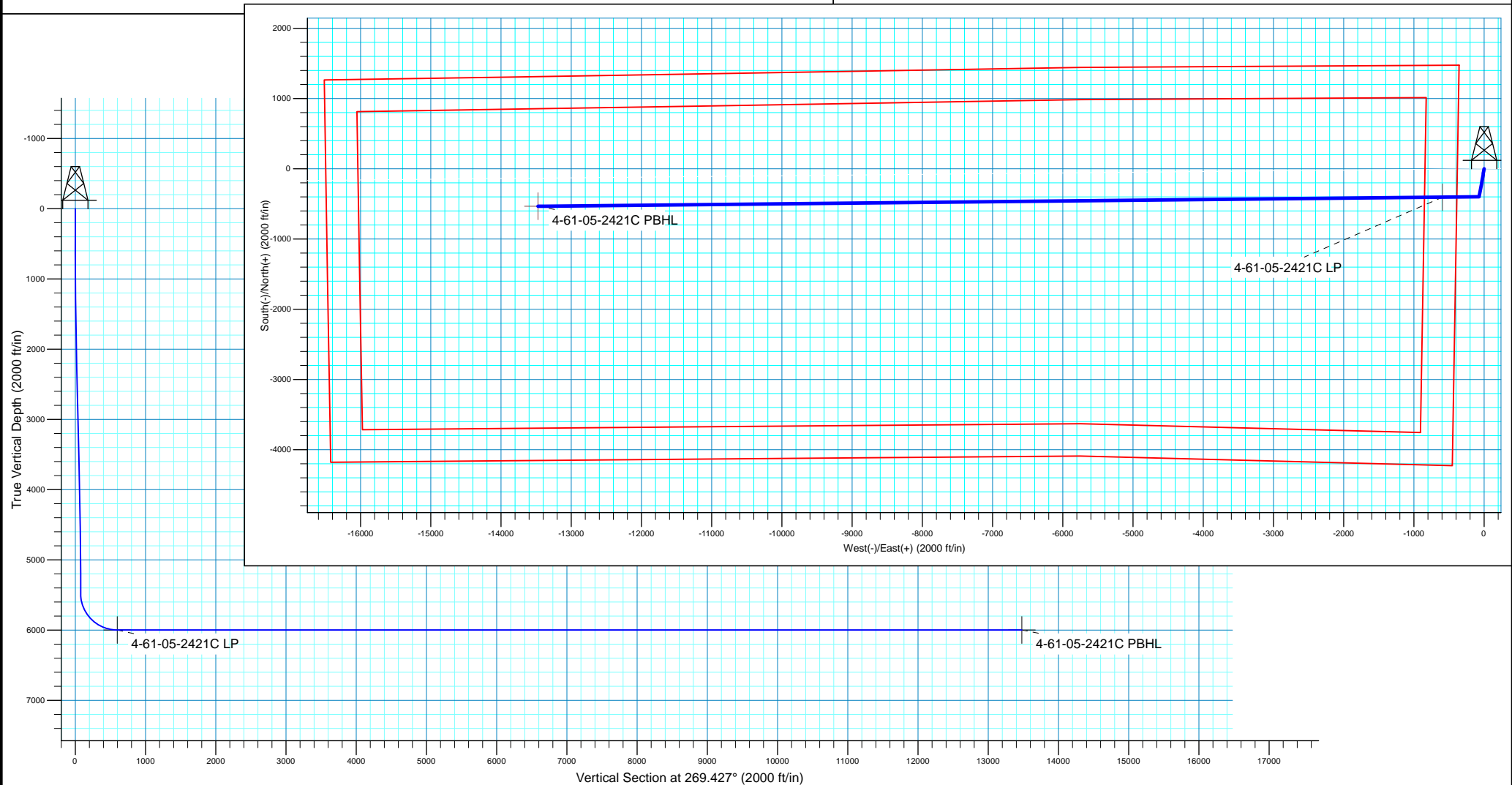
Created By: Seth Burstad

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
1319.25	6.39	190.183	1318.59	-17.49	-3.14	2.00	190.18	3.32
4596.20	6.39	190.183	4575.21	-376.18	-67.57	0.00	0.00	71.33
5021.87	0.00	0.000	5000.00	-399.50	-71.76	1.50	180.00	75.75
5499.00	0.00	0.000	5477.13	-399.50	-71.76	0.00	0.00	75.75
6317.18	90.00	269.427	5998.00	-404.71	-592.60	11.00	269.43	596.62
19199.47	90.00	269.427	5998.00	-533.64	-13474.25	0.00	0.00	13478.91

WELL DETAILS: RSU Anschutz Fed 4-61-05-2421C

		GL 4501.5' & KB 20' @ 4521.50ft		4501.50		
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	
0.00	0.00	1371423.47	3355586.24	40° 20' 45.373 N	104° 13' 27.228 W	





Bill Barrett Corporation

Bill Barrett Corp.

Weld County, CO NAD 83

RSU Anschutz Fed 4-61-4 NW Pad

RSU Anschutz Fed 4-61-05-2421C

OH

Plan: Plan 1

Standard Planning Report

13 February, 2018



Scientific Drilling

www.scientificdrilling.com



Database:	Casper District	Local Co-ordinate Reference:	Well RSU Anschutz Fed 4-61-05-2421C
Company:	Bill Barrett Corp.	TVD Reference:	GL 4501.5' & KB 20' @ 4521.50ft
Project:	Weld County, CO NAD 83	MD Reference:	GL 4501.5' & KB 20' @ 4521.50ft
Site:	RSU Anschutz Fed 4-61-4 NW Pad	North Reference:	True
Well:	RSU Anschutz Fed 4-61-05-2421C	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	RSU Anschutz Fed 4-61-4 NW Pad, Site Center : RSU Anschutz Fed 4-61-04-0808C				
Site Position:		Northing:	1,371,469.36 usft	Latitude:	40° 20' 45.852 N
From:	Lat/Long	Easting:	3,355,406.34 usft	Longitude:	104° 13' 29.543 W
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.82

Well	RSU Anschutz Fed 4-61-05-2421C, 1477' FNL 385' FWL Sec 4 T4N R61W					
Well Position	+N/-S	-48.47 ft	Northing:	1,371,423.47 usft	Latitude:	40° 20' 45.373 N
	+E/-W	179.23 ft	Easting:	3,355,586.24 usft	Longitude:	104° 13' 27.228 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft	Ground Level:	4,501.50 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	2/12/2018	8.22	67.00	52,300

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	269.427

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	
1,319.25	6.39	190.183	1,318.59	-17.49	-3.14	2.00	2.00	0.00	190.18	
4,596.20	6.39	190.183	4,575.21	-376.18	-67.57	0.00	0.00	0.00	0.00	
5,021.87	0.00	0.000	5,000.00	-399.50	-71.76	1.50	-1.50	0.00	180.00	
5,499.00	0.00	0.000	5,477.13	-399.50	-71.76	0.00	0.00	0.00	0.00	
6,317.18	90.00	269.427	5,998.00	-404.71	-592.60	11.00	11.00	-11.07	269.43	
19,199.47	90.00	269.427	5,998.00	-533.64	-13,474.25	0.00	0.00	0.00	0.00	4-61-05-2421C PBHL

Database:	Casper District	Local Co-ordinate Reference:	Well RSU Anschutz Fed 4-61-05-2421C
Company:	Bill Barrett Corp.	TVD Reference:	GL 4501.5' & KB 20' @ 4521.50ft
Project:	Weld County, CO NAD 83	MD Reference:	GL 4501.5' & KB 20' @ 4521.50ft
Site:	RSU Anschutz Fed 4-61-4 NW Pad	North Reference:	True
Well:	RSU Anschutz Fed 4-61-05-2421C	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	190.183	1,099.98	-1.72	-0.31	0.33	2.00	2.00	0.00
1,200.00	4.00	190.183	1,199.84	-6.87	-1.23	1.30	2.00	2.00	0.00
1,300.00	6.00	190.183	1,299.45	-15.45	-2.77	2.93	2.00	2.00	0.00
1,319.25	6.39	190.183	1,318.59	-17.49	-3.14	3.32	2.00	2.00	0.00
Start 3276.94 hold at 1319.25 MD									
1,400.00	6.39	190.183	1,398.84	-26.33	-4.73	4.99	0.00	0.00	0.00
1,500.00	6.39	190.183	1,498.22	-37.27	-6.70	7.07	0.00	0.00	0.00
1,600.00	6.39	190.183	1,597.60	-48.22	-8.66	9.14	0.00	0.00	0.00
1,700.00	6.39	190.183	1,696.98	-59.17	-10.63	11.22	0.00	0.00	0.00
1,800.00	6.39	190.183	1,796.36	-70.11	-12.59	13.29	0.00	0.00	0.00
1,900.00	6.39	190.183	1,895.74	-81.06	-14.56	15.37	0.00	0.00	0.00
2,000.00	6.39	190.183	1,995.12	-92.00	-16.53	17.45	0.00	0.00	0.00
2,100.00	6.39	190.183	2,094.50	-102.95	-18.49	19.52	0.00	0.00	0.00
2,200.00	6.39	190.183	2,193.88	-113.90	-20.46	21.60	0.00	0.00	0.00
2,300.00	6.39	190.183	2,293.26	-124.84	-22.42	23.67	0.00	0.00	0.00
2,400.00	6.39	190.183	2,392.64	-135.79	-24.39	25.75	0.00	0.00	0.00
2,500.00	6.39	190.183	2,492.02	-146.73	-26.36	27.82	0.00	0.00	0.00
2,600.00	6.39	190.183	2,591.40	-157.68	-28.32	29.90	0.00	0.00	0.00
2,700.00	6.39	190.183	2,690.77	-168.62	-30.29	31.97	0.00	0.00	0.00
2,800.00	6.39	190.183	2,790.15	-179.57	-32.26	34.05	0.00	0.00	0.00
2,900.00	6.39	190.183	2,889.53	-190.52	-34.22	36.12	0.00	0.00	0.00
3,000.00	6.39	190.183	2,988.91	-201.46	-36.19	38.20	0.00	0.00	0.00
3,100.00	6.39	190.183	3,088.29	-212.41	-38.15	40.28	0.00	0.00	0.00
3,200.00	6.39	190.183	3,187.67	-223.35	-40.12	42.35	0.00	0.00	0.00
3,300.00	6.39	190.183	3,287.05	-234.30	-42.09	44.43	0.00	0.00	0.00
3,400.00	6.39	190.183	3,386.43	-245.25	-44.05	46.50	0.00	0.00	0.00
3,500.00	6.39	190.183	3,485.81	-256.19	-46.02	48.58	0.00	0.00	0.00
3,600.00	6.39	190.183	3,585.19	-267.14	-47.98	50.65	0.00	0.00	0.00
3,700.00	6.39	190.183	3,684.57	-278.08	-49.95	52.73	0.00	0.00	0.00
3,800.00	6.39	190.183	3,783.95	-289.03	-51.92	54.80	0.00	0.00	0.00
3,900.00	6.39	190.183	3,883.33	-299.97	-53.88	56.88	0.00	0.00	0.00
4,000.00	6.39	190.183	3,982.71	-310.92	-55.85	58.96	0.00	0.00	0.00
4,100.00	6.39	190.183	4,082.09	-321.87	-57.82	61.03	0.00	0.00	0.00
4,200.00	6.39	190.183	4,181.47	-332.81	-59.78	63.11	0.00	0.00	0.00
4,300.00	6.39	190.183	4,280.85	-343.76	-61.75	65.18	0.00	0.00	0.00
4,400.00	6.39	190.183	4,380.23	-354.70	-63.71	67.26	0.00	0.00	0.00
4,500.00	6.39	190.183	4,479.61	-365.65	-65.68	69.33	0.00	0.00	0.00
4,596.20	6.39	190.183	4,575.21	-376.18	-67.57	71.33	0.00	0.00	0.00
Start Drop -1.50									
4,600.00	6.33	190.183	4,578.99	-376.59	-67.65	71.41	1.50	-1.50	0.00
4,700.00	4.83	190.183	4,678.51	-386.16	-69.36	73.22	1.50	-1.50	0.00

Database:	Casper District	Local Co-ordinate Reference:	Well RSU Anschutz Fed 4-61-05-2421C
Company:	Bill Barrett Corp.	TVD Reference:	GL 4501.5' & KB 20' @ 4521.50ft
Project:	Weld County, CO NAD 83	MD Reference:	GL 4501.5' & KB 20' @ 4521.50ft
Site:	RSU Anschutz Fed 4-61-4 NW Pad	North Reference:	True
Well:	RSU Anschutz Fed 4-61-05-2421C	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)
4,800.00	3.33	190.183	4,778.26	-393.16	-70.62	74.55	1.50	-1.50	0.00
4,900.00	1.83	190.183	4,878.15	-397.59	-71.42	75.39	1.50	-1.50	0.00
5,000.00	0.33	190.183	4,978.13	-399.44	-71.75	75.74	1.50	-1.50	0.00
5,021.87	0.00	0.000	5,000.00	-399.50	-71.76	75.75	1.50	-1.50	0.00
Start 477.13 hold at 5021.87 MD									
5,100.00	0.00	0.000	5,078.13	-399.50	-71.76	75.75	0.00	0.00	0.00
5,200.00	0.00	0.000	5,178.13	-399.50	-71.76	75.75	0.00	0.00	0.00
5,300.00	0.00	0.000	5,278.13	-399.50	-71.76	75.75	0.00	0.00	0.00
5,400.00	0.00	0.000	5,378.13	-399.50	-71.76	75.75	0.00	0.00	0.00
5,499.00	0.00	0.000	5,477.13	-399.50	-71.76	75.75	0.00	0.00	0.00
Start DLS 11.00 TFO 269.43									
5,500.00	0.11	269.427	5,478.13	-399.50	-71.76	75.75	11.00	11.00	0.00
5,600.00	11.11	269.427	5,577.50	-399.60	-81.52	85.51	11.00	11.00	0.00
5,700.00	22.11	269.427	5,673.18	-399.88	-110.06	114.06	11.00	11.00	0.00
5,800.00	33.11	269.427	5,761.66	-400.35	-156.33	160.33	11.00	11.00	0.00
5,900.00	44.11	269.427	5,839.68	-400.97	-218.64	222.64	11.00	11.00	0.00
6,000.00	55.11	269.427	5,904.38	-401.73	-294.68	298.68	11.00	11.00	0.00
6,100.00	66.11	269.427	5,953.38	-402.60	-381.67	385.68	11.00	11.00	0.00
6,200.00	77.11	269.427	5,984.88	-403.55	-476.42	480.43	11.00	11.00	0.00
6,300.00	88.11	269.427	5,997.72	-404.54	-575.43	579.45	11.00	11.00	0.00
6,317.18	90.00	269.427	5,998.00	-404.71	-592.60	596.62	11.00	11.00	0.00
Start 12882.29 hold at 6317.18 MD									
6,400.00	90.00	269.427	5,998.00	-405.54	-675.42	679.44	0.00	0.00	0.00
6,500.00	90.00	269.427	5,998.00	-406.54	-775.42	779.44	0.00	0.00	0.00
6,600.00	90.00	269.427	5,998.00	-407.54	-875.41	879.44	0.00	0.00	0.00
6,700.00	90.00	269.427	5,998.00	-408.54	-975.41	979.44	0.00	0.00	0.00
6,800.00	90.00	269.427	5,998.00	-409.55	-1,075.40	1,079.44	0.00	0.00	0.00
6,900.00	90.00	269.427	5,998.00	-410.55	-1,175.40	1,179.44	0.00	0.00	0.00
7,000.00	90.00	269.427	5,998.00	-411.55	-1,275.39	1,279.44	0.00	0.00	0.00
7,100.00	90.00	269.427	5,998.00	-412.55	-1,375.39	1,379.44	0.00	0.00	0.00
7,200.00	90.00	269.427	5,998.00	-413.55	-1,475.38	1,479.44	0.00	0.00	0.00
7,300.00	90.00	269.427	5,998.00	-414.55	-1,575.38	1,579.44	0.00	0.00	0.00
7,400.00	90.00	269.427	5,998.00	-415.55	-1,675.37	1,679.44	0.00	0.00	0.00
7,500.00	90.00	269.427	5,998.00	-416.55	-1,775.37	1,779.44	0.00	0.00	0.00
7,600.00	90.00	269.427	5,998.00	-417.55	-1,875.36	1,879.44	0.00	0.00	0.00
7,700.00	90.00	269.427	5,998.00	-418.55	-1,975.36	1,979.44	0.00	0.00	0.00
7,800.00	90.00	269.427	5,998.00	-419.55	-2,075.35	2,079.44	0.00	0.00	0.00
7,900.00	90.00	269.427	5,998.00	-420.55	-2,175.35	2,179.44	0.00	0.00	0.00
8,000.00	90.00	269.427	5,998.00	-421.56	-2,275.34	2,279.44	0.00	0.00	0.00
8,100.00	90.00	269.427	5,998.00	-422.56	-2,375.34	2,379.44	0.00	0.00	0.00
8,200.00	90.00	269.427	5,998.00	-423.56	-2,475.33	2,479.44	0.00	0.00	0.00
8,300.00	90.00	269.427	5,998.00	-424.56	-2,575.33	2,579.44	0.00	0.00	0.00
8,400.00	90.00	269.427	5,998.00	-425.56	-2,675.32	2,679.44	0.00	0.00	0.00
8,500.00	90.00	269.427	5,998.00	-426.56	-2,775.32	2,779.44	0.00	0.00	0.00
8,600.00	90.00	269.427	5,998.00	-427.56	-2,875.31	2,879.44	0.00	0.00	0.00
8,700.00	90.00	269.427	5,998.00	-428.56	-2,975.31	2,979.44	0.00	0.00	0.00
8,800.00	90.00	269.427	5,998.00	-429.56	-3,075.30	3,079.44	0.00	0.00	0.00
8,900.00	90.00	269.427	5,998.00	-430.56	-3,175.30	3,179.44	0.00	0.00	0.00
9,000.00	90.00	269.427	5,998.00	-431.56	-3,275.29	3,279.44	0.00	0.00	0.00
9,100.00	90.00	269.427	5,998.00	-432.56	-3,375.29	3,379.44	0.00	0.00	0.00
9,200.00	90.00	269.427	5,998.00	-433.57	-3,475.28	3,479.44	0.00	0.00	0.00
9,300.00	90.00	269.427	5,998.00	-434.57	-3,575.28	3,579.44	0.00	0.00	0.00
9,400.00	90.00	269.427	5,998.00	-435.57	-3,675.27	3,679.44	0.00	0.00	0.00

Database:	Casper District	Local Co-ordinate Reference:	Well RSU Anschutz Fed 4-61-05-2421C
Company:	Bill Barrett Corp.	TVD Reference:	GL 4501.5' & KB 20' @ 4521.50ft
Project:	Weld County, CO NAD 83	MD Reference:	GL 4501.5' & KB 20' @ 4521.50ft
Site:	RSU Anschutz Fed 4-61-4 NW Pad	North Reference:	True
Well:	RSU Anschutz Fed 4-61-05-2421C	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)
9,500.00	90.00	269.427	5,998.00	-436.57	-3,775.27	3,779.44	0.00	0.00	0.00
9,600.00	90.00	269.427	5,998.00	-437.57	-3,875.26	3,879.44	0.00	0.00	0.00
9,700.00	90.00	269.427	5,998.00	-438.57	-3,975.26	3,979.44	0.00	0.00	0.00
9,800.00	90.00	269.427	5,998.00	-439.57	-4,075.25	4,079.44	0.00	0.00	0.00
9,900.00	90.00	269.427	5,998.00	-440.57	-4,175.25	4,179.44	0.00	0.00	0.00
10,000.00	90.00	269.427	5,998.00	-441.57	-4,275.24	4,279.44	0.00	0.00	0.00
10,100.00	90.00	269.427	5,998.00	-442.57	-4,375.24	4,379.44	0.00	0.00	0.00
10,200.00	90.00	269.427	5,998.00	-443.57	-4,475.23	4,479.44	0.00	0.00	0.00
10,300.00	90.00	269.427	5,998.00	-444.57	-4,575.23	4,579.44	0.00	0.00	0.00
10,400.00	90.00	269.427	5,998.00	-445.58	-4,675.22	4,679.44	0.00	0.00	0.00
10,500.00	90.00	269.427	5,998.00	-446.58	-4,775.22	4,779.44	0.00	0.00	0.00
10,600.00	90.00	269.427	5,998.00	-447.58	-4,875.21	4,879.44	0.00	0.00	0.00
10,700.00	90.00	269.427	5,998.00	-448.58	-4,975.21	4,979.44	0.00	0.00	0.00
10,800.00	90.00	269.427	5,998.00	-449.58	-5,075.20	5,079.44	0.00	0.00	0.00
10,900.00	90.00	269.427	5,998.00	-450.58	-5,175.20	5,179.44	0.00	0.00	0.00
11,000.00	90.00	269.427	5,998.00	-451.58	-5,275.19	5,279.44	0.00	0.00	0.00
11,100.00	90.00	269.427	5,998.00	-452.58	-5,375.19	5,379.44	0.00	0.00	0.00
11,200.00	90.00	269.427	5,998.00	-453.58	-5,475.18	5,479.44	0.00	0.00	0.00
11,300.00	90.00	269.427	5,998.00	-454.58	-5,575.18	5,579.44	0.00	0.00	0.00
11,400.00	90.00	269.427	5,998.00	-455.58	-5,675.17	5,679.44	0.00	0.00	0.00
11,500.00	90.00	269.427	5,998.00	-456.58	-5,775.17	5,779.44	0.00	0.00	0.00
11,600.00	90.00	269.427	5,998.00	-457.59	-5,875.16	5,879.44	0.00	0.00	0.00
11,700.00	90.00	269.427	5,998.00	-458.59	-5,975.16	5,979.44	0.00	0.00	0.00
11,800.00	90.00	269.427	5,998.00	-459.59	-6,075.15	6,079.44	0.00	0.00	0.00
11,900.00	90.00	269.427	5,998.00	-460.59	-6,175.15	6,179.44	0.00	0.00	0.00
12,000.00	90.00	269.427	5,998.00	-461.59	-6,275.14	6,279.44	0.00	0.00	0.00
12,100.00	90.00	269.427	5,998.00	-462.59	-6,375.14	6,379.44	0.00	0.00	0.00
12,200.00	90.00	269.427	5,998.00	-463.59	-6,475.13	6,479.44	0.00	0.00	0.00
12,300.00	90.00	269.427	5,998.00	-464.59	-6,575.13	6,579.44	0.00	0.00	0.00
12,400.00	90.00	269.427	5,998.00	-465.59	-6,675.12	6,679.44	0.00	0.00	0.00
12,500.00	90.00	269.427	5,998.00	-466.59	-6,775.12	6,779.44	0.00	0.00	0.00
12,600.00	90.00	269.427	5,998.00	-467.59	-6,875.11	6,879.44	0.00	0.00	0.00
12,700.00	90.00	269.427	5,998.00	-468.59	-6,975.11	6,979.44	0.00	0.00	0.00
12,800.00	90.00	269.427	5,998.00	-469.60	-7,075.10	7,079.44	0.00	0.00	0.00
12,900.00	90.00	269.427	5,998.00	-470.60	-7,175.10	7,179.44	0.00	0.00	0.00
13,000.00	90.00	269.427	5,998.00	-471.60	-7,275.09	7,279.44	0.00	0.00	0.00
13,100.00	90.00	269.427	5,998.00	-472.60	-7,375.09	7,379.44	0.00	0.00	0.00
13,200.00	90.00	269.427	5,998.00	-473.60	-7,475.08	7,479.44	0.00	0.00	0.00
13,300.00	90.00	269.427	5,998.00	-474.60	-7,575.08	7,579.44	0.00	0.00	0.00
13,400.00	90.00	269.427	5,998.00	-475.60	-7,675.07	7,679.44	0.00	0.00	0.00
13,500.00	90.00	269.427	5,998.00	-476.60	-7,775.07	7,779.44	0.00	0.00	0.00
13,600.00	90.00	269.427	5,998.00	-477.60	-7,875.06	7,879.44	0.00	0.00	0.00
13,700.00	90.00	269.427	5,998.00	-478.60	-7,975.06	7,979.44	0.00	0.00	0.00
13,800.00	90.00	269.427	5,998.00	-479.60	-8,075.05	8,079.44	0.00	0.00	0.00
13,900.00	90.00	269.427	5,998.00	-480.60	-8,175.05	8,179.44	0.00	0.00	0.00
14,000.00	90.00	269.427	5,998.00	-481.61	-8,275.04	8,279.44	0.00	0.00	0.00
14,100.00	90.00	269.427	5,998.00	-482.61	-8,375.04	8,379.44	0.00	0.00	0.00
14,200.00	90.00	269.427	5,998.00	-483.61	-8,475.03	8,479.44	0.00	0.00	0.00
14,300.00	90.00	269.427	5,998.00	-484.61	-8,575.03	8,579.44	0.00	0.00	0.00
14,400.00	90.00	269.427	5,998.00	-485.61	-8,675.02	8,679.44	0.00	0.00	0.00
14,500.00	90.00	269.427	5,998.00	-486.61	-8,775.02	8,779.44	0.00	0.00	0.00
14,600.00	90.00	269.427	5,998.00	-487.61	-8,875.01	8,879.44	0.00	0.00	0.00
14,700.00	90.00	269.427	5,998.00	-488.61	-8,975.01	8,979.44	0.00	0.00	0.00
14,800.00	90.00	269.427	5,998.00	-489.61	-9,075.00	9,079.44	0.00	0.00	0.00

Database:	Casper District	Local Co-ordinate Reference:	Well RSU Anschutz Fed 4-61-05-2421C
Company:	Bill Barrett Corp.	TVD Reference:	GL 4501.5' & KB 20' @ 4521.50ft
Project:	Weld County, CO NAD 83	MD Reference:	GL 4501.5' & KB 20' @ 4521.50ft
Site:	RSU Anschutz Fed 4-61-4 NW Pad	North Reference:	True
Well:	RSU Anschutz Fed 4-61-05-2421C	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)
14,900.00	90.00	269.427	5,998.00	-490.61	-9,175.00	9,179.44	0.00	0.00	0.00
15,000.00	90.00	269.427	5,998.00	-491.61	-9,274.99	9,279.44	0.00	0.00	0.00
15,100.00	90.00	269.427	5,998.00	-492.61	-9,374.99	9,379.44	0.00	0.00	0.00
15,200.00	90.00	269.427	5,998.00	-493.62	-9,474.98	9,479.44	0.00	0.00	0.00
15,300.00	90.00	269.427	5,998.00	-494.62	-9,574.98	9,579.44	0.00	0.00	0.00
15,400.00	90.00	269.427	5,998.00	-495.62	-9,674.97	9,679.44	0.00	0.00	0.00
15,500.00	90.00	269.427	5,998.00	-496.62	-9,774.97	9,779.44	0.00	0.00	0.00
15,600.00	90.00	269.427	5,998.00	-497.62	-9,874.96	9,879.44	0.00	0.00	0.00
15,700.00	90.00	269.427	5,998.00	-498.62	-9,974.95	9,979.44	0.00	0.00	0.00
15,800.00	90.00	269.427	5,998.00	-499.62	-10,074.95	10,079.44	0.00	0.00	0.00
15,900.00	90.00	269.427	5,998.00	-500.62	-10,174.94	10,179.44	0.00	0.00	0.00
16,000.00	90.00	269.427	5,998.00	-501.62	-10,274.94	10,279.44	0.00	0.00	0.00
16,100.00	90.00	269.427	5,998.00	-502.62	-10,374.93	10,379.44	0.00	0.00	0.00
16,200.00	90.00	269.427	5,998.00	-503.62	-10,474.93	10,479.44	0.00	0.00	0.00
16,300.00	90.00	269.427	5,998.00	-504.62	-10,574.92	10,579.44	0.00	0.00	0.00
16,400.00	90.00	269.427	5,998.00	-505.63	-10,674.92	10,679.44	0.00	0.00	0.00
16,500.00	90.00	269.427	5,998.00	-506.63	-10,774.91	10,779.44	0.00	0.00	0.00
16,600.00	90.00	269.427	5,998.00	-507.63	-10,874.91	10,879.44	0.00	0.00	0.00
16,700.00	90.00	269.427	5,998.00	-508.63	-10,974.90	10,979.44	0.00	0.00	0.00
16,800.00	90.00	269.427	5,998.00	-509.63	-11,074.90	11,079.44	0.00	0.00	0.00
16,900.00	90.00	269.427	5,998.00	-510.63	-11,174.89	11,179.44	0.00	0.00	0.00
17,000.00	90.00	269.427	5,998.00	-511.63	-11,274.89	11,279.44	0.00	0.00	0.00
17,100.00	90.00	269.427	5,998.00	-512.63	-11,374.88	11,379.44	0.00	0.00	0.00
17,200.00	90.00	269.427	5,998.00	-513.63	-11,474.88	11,479.44	0.00	0.00	0.00
17,300.00	90.00	269.427	5,998.00	-514.63	-11,574.87	11,579.44	0.00	0.00	0.00
17,400.00	90.00	269.427	5,998.00	-515.63	-11,674.87	11,679.44	0.00	0.00	0.00
17,500.00	90.00	269.427	5,998.00	-516.63	-11,774.86	11,779.44	0.00	0.00	0.00
17,600.00	90.00	269.427	5,998.00	-517.64	-11,874.86	11,879.44	0.00	0.00	0.00
17,700.00	90.00	269.427	5,998.00	-518.64	-11,974.85	11,979.44	0.00	0.00	0.00
17,800.00	90.00	269.427	5,998.00	-519.64	-12,074.85	12,079.44	0.00	0.00	0.00
17,900.00	90.00	269.427	5,998.00	-520.64	-12,174.84	12,179.44	0.00	0.00	0.00
18,000.00	90.00	269.427	5,998.00	-521.64	-12,274.84	12,279.44	0.00	0.00	0.00
18,100.00	90.00	269.427	5,998.00	-522.64	-12,374.83	12,379.44	0.00	0.00	0.00
18,200.00	90.00	269.427	5,998.00	-523.64	-12,474.83	12,479.44	0.00	0.00	0.00
18,300.00	90.00	269.427	5,998.00	-524.64	-12,574.82	12,579.44	0.00	0.00	0.00
18,400.00	90.00	269.427	5,998.00	-525.64	-12,674.82	12,679.44	0.00	0.00	0.00
18,500.00	90.00	269.427	5,998.00	-526.64	-12,774.81	12,779.44	0.00	0.00	0.00
18,600.00	90.00	269.427	5,998.00	-527.64	-12,874.81	12,879.44	0.00	0.00	0.00
18,700.00	90.00	269.427	5,998.00	-528.64	-12,974.80	12,979.44	0.00	0.00	0.00
18,800.00	90.00	269.427	5,998.00	-529.65	-13,074.80	13,079.44	0.00	0.00	0.00
18,900.00	90.00	269.427	5,998.00	-530.65	-13,174.79	13,179.44	0.00	0.00	0.00
19,000.00	90.00	269.427	5,998.00	-531.65	-13,274.79	13,279.44	0.00	0.00	0.00
19,100.00	90.00	269.427	5,998.00	-532.65	-13,374.78	13,379.44	0.00	0.00	0.00
19,199.47	90.00	269.427	5,998.00	-533.64	-13,474.25	13,478.91	0.00	0.00	0.00
TD at 19199.47									

Database:	Casper District	Local Co-ordinate Reference:	Well RSU Anschutz Fed 4-61-05-2421C
Company:	Bill Barrett Corp.	TVD Reference:	GL 4501.5' & KB 20' @ 4521.50ft
Project:	Weld County, CO NAD 83	MD Reference:	GL 4501.5' & KB 20' @ 4521.50ft
Site:	RSU Anschutz Fed 4-61-4 NW Pad	North Reference:	True
Well:	RSU Anschutz Fed 4-61-05-2421C	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1		

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)		
4-61-05-2421C LP	0.00	0.000	5,998.00	-404.71	-592.60	1,371,010.28	3,354,999.54	40° 20' 41.374 N	104° 13' 34.882 W
- plan misses target center by 0.01ft at 6317.17ft MD (5998.00 TVD, -404.71 N, -592.60 E)									
- Point									
4-61-05-2421C PBHL	0.00	0.000	5,998.00	-533.64	-13,474.25	1,370,696.04	3,342,121.10	40° 20' 40.063 N	104° 16' 21.252 W
- plan hits target center									
- Point									

Plan Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)	
1,000.00	1,000.00	0.00	0.00	Start Build 2.00
1,319.25	1,318.59	-17.49	-3.14	Start 3276.94 hold at 1319.25 MD
4,596.20	4,575.21	-376.18	-67.57	Start Drop -1.50
5,021.87	5,000.00	-399.50	-71.76	Start 477.13 hold at 5021.87 MD
5,499.00	5,477.13	-399.50	-71.76	Start DLS 11.00 TFO 269.43
6,317.18	5,998.00	-404.71	-592.60	Start 12882.29 hold at 6317.18 MD
19,199.47	5,998.00	-533.64	-13,474.25	TD at 19199.47