





**Bill Barrett Corporation**

## **Bill Barrett Corp.**

Weld County, CO NAD 83

RSU Anschutz Fed 4-61-4 NW Pad

RSU Anschutz Fed 4-61-04-2424C

OH

Plan: Plan 1

## **Standard Planning Report**

13 February, 2018



**Scientific Drilling**

[www.scientificdrilling.com](http://www.scientificdrilling.com)



<b>Database:</b>	Casper District	<b>Local Co-ordinate Reference:</b>	Well RSU Anschutz Fed 4-61-04-2424C
<b>Company:</b>	Bill Barrett Corp.	<b>TVD Reference:</b>	GL 4501.5' & KB 20' @ 4521.50ft
<b>Project:</b>	Weld County, CO NAD 83	<b>MD Reference:</b>	GL 4501.5' & KB 20' @ 4521.50ft
<b>Site:</b>	RSU Anschutz Fed 4-61-4 NW Pad	<b>North Reference:</b>	True
<b>Well:</b>	RSU Anschutz Fed 4-61-04-2424C	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan 1		

<b>Project</b>	Weld County, CO NAD 83		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	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 4-61-04-2424C, 1472' FNL 205' FWL Sec 4 T4N R61W					
Well Position	+N/-S	-44.82 ft	Northing:	1,371,424.52 usft	Latitude:	40° 20' 45.409 N
	+E/-W	-0.84 ft	Easting:	3,355,406.15 usft	Longitude:	104° 13' 29.554 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft	Ground Level:	4,501.50 ft

<b>Wellbore</b>	OH				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	HDGM	2/12/2018	8.22	67.00	52,299

<b>Design</b>	Plan 1			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	89.520

<b>Plan Sections</b>										
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	
2,528.29	30.57	239.939	2,456.82	-199.40	-344.53	2.00	2.00	0.00	239.94	
2,828.28	30.57	239.939	2,715.13	-275.82	-476.56	0.00	0.00	0.00	0.00	
4,866.00	0.00	0.000	4,657.56	-541.69	-935.94	1.50	-1.50	0.00	180.00	
5,701.57	0.00	0.000	5,493.13	-541.69	-935.94	0.00	0.00	0.00	0.00	
6,519.80	90.01	89.520	6,014.00	-537.32	-415.04	11.00	11.00	10.94	89.52	
16,972.56	90.01	89.520	6,013.00	-449.67	10,037.36	0.00	0.00	0.00	0.00	4-61-04-2424C PBHL

<b>Database:</b>	Casper District	<b>Local Co-ordinate Reference:</b>	Well RSU Anschutz Fed 4-61-04-2424C
<b>Company:</b>	Bill Barrett Corp.	<b>TVD Reference:</b>	GL 4501.5' & KB 20' @ 4521.50ft
<b>Project:</b>	Weld County, CO NAD 83	<b>MD Reference:</b>	GL 4501.5' & KB 20' @ 4521.50ft
<b>Site:</b>	RSU Anschutz Fed 4-61-4 NW Pad	<b>North Reference:</b>	True
<b>Well:</b>	RSU Anschutz Fed 4-61-04-2424C	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	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
<b>Start Build 2.00</b>									
1,100.00	2.00	239.939	1,099.98	-0.87	-1.51	-1.52	2.00	2.00	0.00
1,200.00	4.00	239.939	1,199.84	-3.50	-6.04	-6.07	2.00	2.00	0.00
1,300.00	6.00	239.939	1,299.45	-7.86	-13.58	-13.65	2.00	2.00	0.00
1,400.00	8.00	239.939	1,398.70	-13.97	-24.13	-24.25	2.00	2.00	0.00
1,500.00	10.00	239.939	1,497.47	-21.80	-37.67	-37.85	2.00	2.00	0.00
1,600.00	12.00	239.939	1,595.62	-31.36	-54.18	-54.44	2.00	2.00	0.00
1,700.00	14.00	239.939	1,693.06	-42.63	-73.65	-74.01	2.00	2.00	0.00
1,800.00	16.00	239.939	1,789.64	-55.59	-96.05	-96.51	2.00	2.00	0.00
1,900.00	18.00	239.939	1,885.27	-70.24	-121.35	-121.94	2.00	2.00	0.00
2,000.00	20.00	239.939	1,979.82	-86.54	-149.53	-150.25	2.00	2.00	0.00
2,100.00	22.00	239.939	2,073.17	-104.49	-180.54	-181.41	2.00	2.00	0.00
2,200.00	24.00	239.939	2,165.21	-124.06	-214.36	-215.39	2.00	2.00	0.00
2,300.00	26.00	239.939	2,255.84	-145.23	-250.94	-252.14	2.00	2.00	0.00
2,400.00	28.00	239.939	2,344.94	-167.97	-290.23	-291.62	2.00	2.00	0.00
2,500.00	30.00	239.939	2,432.39	-192.26	-332.18	-333.78	2.00	2.00	0.00
2,528.29	30.57	239.939	2,456.82	-199.40	-344.53	-346.19	2.00	2.00	0.00
<b>Start 299.99 hold at 2528.29 MD</b>									
2,600.00	30.57	239.939	2,518.57	-217.67	-376.09	-377.90	0.00	0.00	0.00
2,700.00	30.57	239.939	2,604.67	-243.14	-420.11	-422.13	0.00	0.00	0.00
2,800.00	30.57	239.939	2,690.78	-268.62	-464.12	-466.35	0.00	0.00	0.00
2,828.28	30.57	239.939	2,715.13	-275.82	-476.56	-478.86	0.00	0.00	0.00
<b>Start Drop -1.50</b>									
2,900.00	29.49	239.939	2,777.22	-293.80	-507.63	-510.07	1.50	-1.50	0.00
3,000.00	27.99	239.939	2,864.90	-317.88	-549.24	-551.89	1.50	-1.50	0.00
3,100.00	26.49	239.939	2,953.81	-340.81	-588.86	-591.69	1.50	-1.50	0.00
3,200.00	24.99	239.939	3,043.88	-362.56	-626.44	-629.46	1.50	-1.50	0.00
3,300.00	23.49	239.939	3,135.06	-383.13	-661.98	-665.16	1.50	-1.50	0.00
3,400.00	21.99	239.939	3,227.29	-402.49	-695.43	-698.78	1.50	-1.50	0.00
3,500.00	20.49	239.939	3,320.49	-420.64	-726.78	-730.28	1.50	-1.50	0.00
3,600.00	18.99	239.939	3,414.61	-437.56	-756.02	-759.65	1.50	-1.50	0.00
3,700.00	17.49	239.939	3,509.59	-453.23	-783.10	-786.87	1.50	-1.50	0.00
3,800.00	15.99	239.939	3,605.35	-467.66	-808.03	-811.92	1.50	-1.50	0.00
3,900.00	14.49	239.939	3,701.83	-480.83	-830.78	-834.78	1.50	-1.50	0.00
4,000.00	12.99	239.939	3,798.96	-492.73	-851.34	-855.44	1.50	-1.50	0.00
4,100.00	11.49	239.939	3,896.69	-503.35	-869.69	-873.87	1.50	-1.50	0.00
4,200.00	9.99	239.939	3,994.93	-512.68	-885.82	-890.08	1.50	-1.50	0.00
4,300.00	8.49	239.939	4,093.63	-520.72	-899.71	-904.04	1.50	-1.50	0.00
4,400.00	6.99	239.939	4,192.72	-527.47	-911.37	-915.76	1.50	-1.50	0.00
4,500.00	5.49	239.939	4,292.12	-532.91	-920.78	-925.21	1.50	-1.50	0.00
4,600.00	3.99	239.939	4,391.78	-537.05	-927.93	-932.39	1.50	-1.50	0.00
4,700.00	2.49	239.939	4,491.61	-539.88	-932.82	-937.31	1.50	-1.50	0.00

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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	0.99	239.939	4,591.56	-541.40	-935.45	-939.95	1.50	-1.50	0.00
4,866.00	0.00	0.000	4,657.56	-541.69	-935.94	-940.45	1.50	-1.50	0.00
<b>Start 835.57 hold at 4866.00 MD</b>									
4,900.00	0.00	0.000	4,691.56	-541.69	-935.94	-940.45	0.00	0.00	0.00
5,000.00	0.00	0.000	4,791.56	-541.69	-935.94	-940.45	0.00	0.00	0.00
5,100.00	0.00	0.000	4,891.56	-541.69	-935.94	-940.45	0.00	0.00	0.00
5,200.00	0.00	0.000	4,991.56	-541.69	-935.94	-940.45	0.00	0.00	0.00
5,300.00	0.00	0.000	5,091.56	-541.69	-935.94	-940.45	0.00	0.00	0.00
5,400.00	0.00	0.000	5,191.56	-541.69	-935.94	-940.45	0.00	0.00	0.00
5,500.00	0.00	0.000	5,291.56	-541.69	-935.94	-940.45	0.00	0.00	0.00
5,600.00	0.00	0.000	5,391.56	-541.69	-935.94	-940.45	0.00	0.00	0.00
5,700.00	0.00	0.000	5,491.56	-541.69	-935.94	-940.45	0.00	0.00	0.00
5,701.57	0.00	0.000	5,493.13	-541.69	-935.94	-940.45	0.00	0.00	0.00
<b>Start DLS 11.00 TFO 89.52</b>									
5,800.00	10.83	89.520	5,590.98	-541.61	-926.67	-931.17	11.00	11.00	0.00
5,900.00	21.83	89.520	5,686.80	-541.38	-898.60	-903.10	11.00	11.00	0.00
6,000.00	32.83	89.520	5,775.50	-540.99	-852.76	-857.27	11.00	11.00	0.00
6,100.00	43.83	89.520	5,853.83	-540.47	-790.85	-795.35	11.00	11.00	0.00
6,200.00	54.83	89.520	5,918.90	-539.84	-715.12	-719.62	11.00	11.00	0.00
6,300.00	65.83	89.520	5,968.33	-539.11	-628.37	-632.86	11.00	11.00	0.00
6,400.00	76.83	89.520	6,000.30	-538.32	-533.78	-538.27	11.00	11.00	0.00
6,500.00	87.83	89.520	6,013.63	-537.49	-434.83	-439.32	11.00	11.00	0.00
6,519.80	90.01	89.520	6,014.00	-537.32	-415.04	-419.52	11.00	11.00	0.00
<b>Start 10452.76 hold at 6519.80 MD</b>									
6,600.00	90.01	89.520	6,013.99	-536.65	-334.84	-339.32	0.00	0.00	0.00
6,700.00	90.01	89.520	6,013.98	-535.81	-234.84	-239.32	0.00	0.00	0.00
6,800.00	90.01	89.520	6,013.97	-534.97	-134.85	-139.32	0.00	0.00	0.00
6,900.00	90.01	89.520	6,013.96	-534.13	-34.85	-39.32	0.00	0.00	0.00
7,000.00	90.01	89.520	6,013.95	-533.30	65.15	60.68	0.00	0.00	0.00
7,100.00	90.01	89.520	6,013.95	-532.46	165.14	160.68	0.00	0.00	0.00
7,200.00	90.01	89.520	6,013.94	-531.62	265.14	260.68	0.00	0.00	0.00
7,300.00	90.01	89.520	6,013.93	-530.78	365.13	360.68	0.00	0.00	0.00
7,400.00	90.01	89.520	6,013.92	-529.94	465.13	460.68	0.00	0.00	0.00
7,500.00	90.01	89.520	6,013.91	-529.10	565.13	560.68	0.00	0.00	0.00
7,600.00	90.01	89.520	6,013.90	-528.26	665.12	660.68	0.00	0.00	0.00
7,700.00	90.01	89.520	6,013.89	-527.43	765.12	760.68	0.00	0.00	0.00
7,800.00	90.01	89.520	6,013.88	-526.59	865.12	860.68	0.00	0.00	0.00
7,900.00	90.01	89.520	6,013.87	-525.75	965.11	960.68	0.00	0.00	0.00
8,000.00	90.01	89.520	6,013.86	-524.91	1,065.11	1,060.68	0.00	0.00	0.00
8,100.00	90.01	89.520	6,013.85	-524.07	1,165.11	1,160.68	0.00	0.00	0.00
8,200.00	90.01	89.520	6,013.84	-523.23	1,265.10	1,260.68	0.00	0.00	0.00
8,300.00	90.01	89.520	6,013.83	-522.39	1,365.10	1,360.68	0.00	0.00	0.00
8,400.00	90.01	89.520	6,013.82	-521.56	1,465.10	1,460.68	0.00	0.00	0.00
8,500.00	90.01	89.520	6,013.81	-520.72	1,565.09	1,560.68	0.00	0.00	0.00
8,600.00	90.01	89.520	6,013.80	-519.88	1,665.09	1,660.68	0.00	0.00	0.00
8,700.00	90.01	89.520	6,013.79	-519.04	1,765.09	1,760.68	0.00	0.00	0.00
8,800.00	90.01	89.520	6,013.78	-518.20	1,865.08	1,860.68	0.00	0.00	0.00
8,900.00	90.01	89.520	6,013.77	-517.36	1,965.08	1,960.68	0.00	0.00	0.00
9,000.00	90.01	89.520	6,013.76	-516.52	2,065.07	2,060.68	0.00	0.00	0.00
9,100.00	90.01	89.520	6,013.75	-515.69	2,165.07	2,160.68	0.00	0.00	0.00
9,200.00	90.01	89.520	6,013.74	-514.85	2,265.07	2,260.68	0.00	0.00	0.00
9,300.00	90.01	89.520	6,013.73	-514.01	2,365.06	2,360.68	0.00	0.00	0.00
9,400.00	90.01	89.520	6,013.73	-513.17	2,465.06	2,460.68	0.00	0.00	0.00

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<b>Project:</b>	Weld County, CO NAD 83	<b>MD Reference:</b>	GL 4501.5' & KB 20' @ 4521.50ft
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<b>Well:</b>	RSU Anschutz Fed 4-61-04-2424C	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	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	90.01	89.520	6,013.72	-512.33	2,565.06	2,560.68	0.00	0.00	0.00
9,600.00	90.01	89.520	6,013.71	-511.49	2,665.05	2,660.68	0.00	0.00	0.00
9,700.00	90.01	89.520	6,013.70	-510.65	2,765.05	2,760.68	0.00	0.00	0.00
9,800.00	90.01	89.520	6,013.69	-509.82	2,865.05	2,860.68	0.00	0.00	0.00
9,900.00	90.01	89.520	6,013.68	-508.98	2,965.04	2,960.68	0.00	0.00	0.00
10,000.00	90.01	89.520	6,013.67	-508.14	3,065.04	3,060.68	0.00	0.00	0.00
10,100.00	90.01	89.520	6,013.66	-507.30	3,165.04	3,160.68	0.00	0.00	0.00
10,200.00	90.01	89.520	6,013.65	-506.46	3,265.03	3,260.68	0.00	0.00	0.00
10,300.00	90.01	89.520	6,013.64	-505.62	3,365.03	3,360.68	0.00	0.00	0.00
10,400.00	90.01	89.520	6,013.63	-504.78	3,465.03	3,460.68	0.00	0.00	0.00
10,500.00	90.01	89.520	6,013.62	-503.95	3,565.02	3,560.68	0.00	0.00	0.00
10,600.00	90.01	89.520	6,013.61	-503.11	3,665.02	3,660.68	0.00	0.00	0.00
10,700.00	90.01	89.520	6,013.60	-502.27	3,765.02	3,760.68	0.00	0.00	0.00
10,800.00	90.01	89.520	6,013.59	-501.43	3,865.01	3,860.68	0.00	0.00	0.00
10,900.00	90.01	89.520	6,013.58	-500.59	3,965.01	3,960.68	0.00	0.00	0.00
11,000.00	90.01	89.520	6,013.57	-499.75	4,065.00	4,060.68	0.00	0.00	0.00
11,100.00	90.01	89.520	6,013.56	-498.91	4,165.00	4,160.68	0.00	0.00	0.00
11,200.00	90.01	89.520	6,013.55	-498.08	4,265.00	4,260.68	0.00	0.00	0.00
11,300.00	90.01	89.520	6,013.54	-497.24	4,364.99	4,360.68	0.00	0.00	0.00
11,400.00	90.01	89.520	6,013.53	-496.40	4,464.99	4,460.68	0.00	0.00	0.00
11,500.00	90.01	89.520	6,013.52	-495.56	4,564.99	4,560.68	0.00	0.00	0.00
11,600.00	90.01	89.520	6,013.51	-494.72	4,664.98	4,660.68	0.00	0.00	0.00
11,700.00	90.01	89.520	6,013.50	-493.88	4,764.98	4,760.68	0.00	0.00	0.00
11,800.00	90.01	89.520	6,013.50	-493.04	4,864.98	4,860.68	0.00	0.00	0.00
11,900.00	90.01	89.520	6,013.49	-492.21	4,964.97	4,960.68	0.00	0.00	0.00
12,000.00	90.01	89.520	6,013.48	-491.37	5,064.97	5,060.68	0.00	0.00	0.00
12,100.00	90.01	89.520	6,013.47	-490.53	5,164.97	5,160.68	0.00	0.00	0.00
12,200.00	90.01	89.520	6,013.46	-489.69	5,264.96	5,260.68	0.00	0.00	0.00
12,300.00	90.01	89.520	6,013.45	-488.85	5,364.96	5,360.68	0.00	0.00	0.00
12,400.00	90.01	89.520	6,013.44	-488.01	5,464.96	5,460.68	0.00	0.00	0.00
12,500.00	90.01	89.520	6,013.43	-487.17	5,564.95	5,560.68	0.00	0.00	0.00
12,600.00	90.01	89.520	6,013.42	-486.34	5,664.95	5,660.68	0.00	0.00	0.00
12,700.00	90.01	89.520	6,013.41	-485.50	5,764.94	5,760.68	0.00	0.00	0.00
12,800.00	90.01	89.520	6,013.40	-484.66	5,864.94	5,860.68	0.00	0.00	0.00
12,900.00	90.01	89.520	6,013.39	-483.82	5,964.94	5,960.68	0.00	0.00	0.00
13,000.00	90.01	89.520	6,013.38	-482.98	6,064.93	6,060.68	0.00	0.00	0.00
13,100.00	90.01	89.520	6,013.37	-482.14	6,164.93	6,160.68	0.00	0.00	0.00
13,200.00	90.01	89.520	6,013.36	-481.30	6,264.93	6,260.68	0.00	0.00	0.00
13,300.00	90.01	89.520	6,013.35	-480.47	6,364.92	6,360.68	0.00	0.00	0.00
13,400.00	90.01	89.520	6,013.34	-479.63	6,464.92	6,460.68	0.00	0.00	0.00
13,500.00	90.01	89.520	6,013.33	-478.79	6,564.92	6,560.68	0.00	0.00	0.00
13,600.00	90.01	89.520	6,013.32	-477.95	6,664.91	6,660.68	0.00	0.00	0.00
13,700.00	90.01	89.520	6,013.31	-477.11	6,764.91	6,760.68	0.00	0.00	0.00
13,800.00	90.01	89.520	6,013.30	-476.27	6,864.91	6,860.68	0.00	0.00	0.00
13,900.00	90.01	89.520	6,013.29	-475.43	6,964.90	6,960.68	0.00	0.00	0.00
14,000.00	90.01	89.520	6,013.28	-474.60	7,064.90	7,060.68	0.00	0.00	0.00
14,100.00	90.01	89.520	6,013.28	-473.76	7,164.90	7,160.68	0.00	0.00	0.00
14,200.00	90.01	89.520	6,013.27	-472.92	7,264.89	7,260.68	0.00	0.00	0.00
14,300.00	90.01	89.520	6,013.26	-472.08	7,364.89	7,360.68	0.00	0.00	0.00
14,400.00	90.01	89.520	6,013.25	-471.24	7,464.89	7,460.68	0.00	0.00	0.00
14,500.00	90.01	89.520	6,013.24	-470.40	7,564.88	7,560.68	0.00	0.00	0.00
14,600.00	90.01	89.520	6,013.23	-469.56	7,664.88	7,660.68	0.00	0.00	0.00
14,700.00	90.01	89.520	6,013.22	-468.73	7,764.87	7,760.68	0.00	0.00	0.00
14,800.00	90.01	89.520	6,013.21	-467.89	7,864.87	7,860.68	0.00	0.00	0.00

<b>Database:</b>	Casper District	<b>Local Co-ordinate Reference:</b>	Well RSU Anschutz Fed 4-61-04-2424C
<b>Company:</b>	Bill Barrett Corp.	<b>TVD Reference:</b>	GL 4501.5' & KB 20' @ 4521.50ft
<b>Project:</b>	Weld County, CO NAD 83	<b>MD Reference:</b>	GL 4501.5' & KB 20' @ 4521.50ft
<b>Site:</b>	RSU Anschutz Fed 4-61-4 NW Pad	<b>North Reference:</b>	True
<b>Well:</b>	RSU Anschutz Fed 4-61-04-2424C	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	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	90.01	89.520	6,013.20	-467.05	7,964.87	7,960.68	0.00	0.00	0.00
15,000.00	90.01	89.520	6,013.19	-466.21	8,064.86	8,060.68	0.00	0.00	0.00
15,100.00	90.01	89.520	6,013.18	-465.37	8,164.86	8,160.68	0.00	0.00	0.00
15,200.00	90.01	89.520	6,013.17	-464.53	8,264.86	8,260.68	0.00	0.00	0.00
15,300.00	90.01	89.520	6,013.16	-463.69	8,364.85	8,360.68	0.00	0.00	0.00
15,400.00	90.01	89.520	6,013.15	-462.86	8,464.85	8,460.68	0.00	0.00	0.00
15,500.00	90.01	89.520	6,013.14	-462.02	8,564.85	8,560.68	0.00	0.00	0.00
15,600.00	90.01	89.520	6,013.13	-461.18	8,664.84	8,660.68	0.00	0.00	0.00
15,700.00	90.01	89.520	6,013.12	-460.34	8,764.84	8,760.68	0.00	0.00	0.00
15,800.00	90.01	89.520	6,013.11	-459.50	8,864.84	8,860.68	0.00	0.00	0.00
15,900.00	90.01	89.520	6,013.10	-458.66	8,964.83	8,960.68	0.00	0.00	0.00
16,000.00	90.01	89.520	6,013.09	-457.82	9,064.83	9,060.68	0.00	0.00	0.00
16,100.00	90.01	89.520	6,013.08	-456.99	9,164.83	9,160.68	0.00	0.00	0.00
16,200.00	90.01	89.520	6,013.07	-456.15	9,264.82	9,260.68	0.00	0.00	0.00
16,300.00	90.01	89.520	6,013.06	-455.31	9,364.82	9,360.68	0.00	0.00	0.00
16,400.00	90.01	89.520	6,013.05	-454.47	9,464.81	9,460.68	0.00	0.00	0.00
16,500.00	90.01	89.520	6,013.05	-453.63	9,564.81	9,560.68	0.00	0.00	0.00
16,600.00	90.01	89.520	6,013.04	-452.79	9,664.81	9,660.68	0.00	0.00	0.00
16,700.00	90.01	89.520	6,013.03	-451.95	9,764.80	9,760.68	0.00	0.00	0.00
16,800.00	90.01	89.520	6,013.02	-451.12	9,864.80	9,860.68	0.00	0.00	0.00
16,900.00	90.01	89.520	6,013.01	-450.28	9,964.80	9,960.68	0.00	0.00	0.00
16,972.56	90.01	89.520	6,013.00	-449.67	10,037.36	10,033.24	0.00	0.00	0.00
TD at 16972.56									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
4-61-04-2424C PBHL - hit/miss target - Shape - Point	0.00	0.000	6,013.00	-449.67	10,037.36	1,371,119.23	3,365,448.91	40° 20' 40.945 N	104° 11' 19.918 W
4-61-04-2424C LP - plan misses target center by 1.00ft at 6519.78ft MD (6014.00 TVD, -537.32 N, -415.06 E) - Point	0.00	0.000	6,013.00	-537.31	-415.04	1,370,881.30	3,354,998.88	40° 20' 40.099 N	104° 13' 34.914 W

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	
2,528.29	2,456.82	-199.40	-344.53	Start 299.99 hold at 2528.29 MD	
2,828.28	2,715.13	-275.82	-476.56	Start Drop -1.50	
4,866.00	4,657.56	-541.69	-935.94	Start 835.57 hold at 4866.00 MD	
5,701.57	5,493.13	-541.69	-935.94	Start DLS 11.00 TFO 89.52	
6,519.80	6,014.00	-537.32	-415.04	Start 10452.76 hold at 6519.80 MD	
16,972.56	6,013.00	-449.67	10,037.36	TD at 16972.56	