



**Bill Barrett Corporation**

Project: Weld County, CO NAD 83  
Site: Anschutz-Williams 5-61-27 CW2 Pad  
Well: Anschutz-Williams 5-61-27-4841B  
Wellbore: OH  
Design: OH

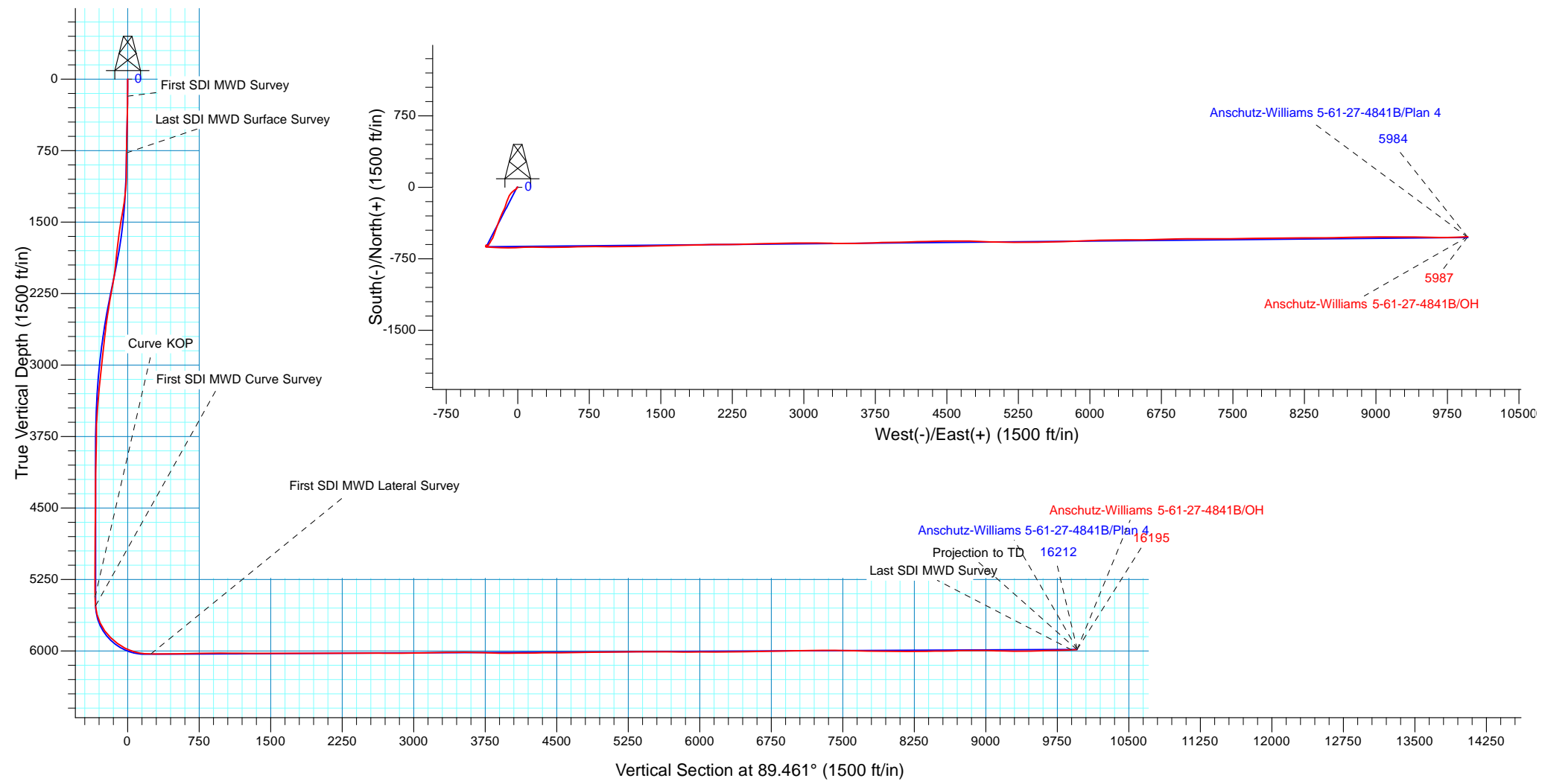


WELL DETAILS: Anschutz-Williams 5-61-27-4841B			
GL 4601.3' & KB 16.5' @ 4617.80ft (Cade 24)	4601.30		
Northing	Easting	Latitude	Longitude
1380673.77	3361209.66	40° 22' 15.970 N	104° 12' 12.859 W

Design: OH (Anschutz-Williams 5-61-27-4841B/OH)	
Created By: Seth Burstad	Date: 1-08-2018

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

ANNOTATIONS									
TVD	MD	Inc	Azi	+N/-S	+E/-W	Vsect	Departure	Annotation	
178.99	179.00	1.23	324.910	1.57	-1.10	-1.09	1.92	First SDI MWD Survey	
774.74	775.00	2.89	206.810	-7.73	-12.02	-12.09	17.96	Last SDI MWD Surface Survey	
5436.83	5542.00	0.67	152.776	-624.79	-336.20	-342.07	751.26	Curve KOP	
5527.71	5633.00	4.87	99.397	-625.90	-332.21	-338.09	755.64	First SDI MWD Curve Survey	
6031.16	6479.00	89.87	90.920	-629.36	250.27	244.34	1338.50	First SDI MWD Lateral Survey	
5989.26	16137.00	92.08	87.040	-521.23	9904.91	9899.56	10995.25	Last SDI MWD Survey	
5987.16	16195.00	92.08	87.040	-518.24	9962.79	9957.47	11053.21	Projection to TD	





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Weld County, CO NAD 83

Anschutz-Williams 5-61-27 CW2 Pad

Anschutz-Williams 5-61-27-4841B

OH

Design: OH

## **Standard Survey Report**

08 January, 2018



**Scientific Drilling**

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



<b>Company:</b>	Bill Barrett Corp.	<b>Local Co-ordinate Reference:</b>	Well Anschutz-Williams 5-61-27-4841B
<b>Project:</b>	Weld County, CO NAD 83	<b>TVD Reference:</b>	GL 4601.3' & KB 16.5' @ 4617.80ft (Cade 24)
<b>Site:</b>	Anschutz-Williams 5-61-27 CW2 Pad	<b>MD Reference:</b>	GL 4601.3' & KB 16.5' @ 4617.80ft (Cade 24)
<b>Well:</b>	Anschutz-Williams 5-61-27-4841B	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	Casper District

<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		

<b>Site</b>	Anschutz-Williams 5-61-27 CW2 Pad, Site Center : Anschutz-Williams 5-61-27-3225B		
<b>Site Position:</b>		<b>Northing:</b>	1,380,704.06 usft
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,361,209.22 usft
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13.200 in
		<b>Latitude:</b>	40° 22' 16.270 N
		<b>Longitude:</b>	104° 12' 12.859 W
		<b>Grid Convergence:</b>	0.84 °

<b>Well</b>	Anschutz-Williams 5-61-27-4841B, 2348' FSL 270' FWL Sec 27 T5N R61W		
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b> 1,380,673.77 usft
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b> 3,361,209.66 usft
<b>Position Uncertainty</b>	0.00 ft	<b>Wellhead Elevation:</b>	0.00 ft
		<b>Ground Level:</b>	4,601.30 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	7/24/2017	8.27	67.03	52,359

<b>Design</b>	OH				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<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		89.461

<b>Survey Program</b>	<b>Date</b>	1/8/2018			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
179.00	775.00	Survey #1 - Surface (OH)	OWSG MWD	OWSG MWD - Standard	
887.00	6,383.00	Survey #2 - Intermediate (OH)	OWSG MWD	OWSG MWD - Standard	
6,479.00	16,195.00	Survey #3 - Lateral (OH)	OWSG MWD	OWSG MWD - Standard	

<b>Survey</b>									
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Vertical Section (ft)</b>	<b>Dogleg Rate (°/100ft)</b>	<b>Build Rate (°/100ft)</b>	<b>Turn Rate (°/100ft)</b>
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00
179.00	1.23	324.910	178.99	1.57	-1.10	-1.09	0.69	0.69	0.00
<b>First SDI MWD Survey</b>									
209.00	0.99	318.930	208.98	2.03	-1.46	-1.44	0.89	-0.80	-19.93
257.00	0.94	249.340	256.98	2.20	-2.10	-2.08	2.30	-0.10	-144.98
301.00	0.80	274.730	300.97	2.10	-2.74	-2.72	0.92	-0.32	57.70
393.00	0.88	239.080	392.96	1.79	-3.99	-3.97	0.57	0.09	-38.75
484.00	1.52	234.580	483.94	0.73	-5.57	-5.57	0.71	0.70	-4.95
576.00	1.84	216.980	575.90	-1.15	-7.46	-7.47	0.66	0.35	-19.13

<b>Company:</b>	Bill Barrett Corp.	<b>Local Co-ordinate Reference:</b>	Well Anschutz-Williams 5-61-27-4841B
<b>Project:</b>	Weld County, CO NAD 83	<b>TVD Reference:</b>	GL 4601.3' & KB 16.5' @ 4617.80ft (Cade 24)
<b>Site:</b>	Anschutz-Williams 5-61-27 CW2 Pad	<b>MD Reference:</b>	GL 4601.3' & KB 16.5' @ 4617.80ft (Cade 24)
<b>Well:</b>	Anschutz-Williams 5-61-27-4841B	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	Casper District

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)
668.00	2.22	218.580	667.84	-3.73	-9.46	-9.49	0.42	0.41	1.74
759.00	2.79	209.500	758.76	-7.03	-11.65	-11.71	0.76	0.63	-9.98
775.00	2.89	206.810	774.74	-7.73	-12.02	-12.09	1.04	0.63	-16.81
<b>Last SDI MWD Surface Survey</b>									
887.00	2.87	178.210	886.60	-13.05	-13.21	-13.33	1.27	-0.02	-25.54
977.00	1.79	183.050	976.53	-16.71	-13.21	-13.37	1.22	-1.20	5.38
1,069.00	2.92	244.850	1,068.46	-19.14	-15.41	-15.59	2.83	1.23	67.17
1,160.00	5.48	244.740	1,159.21	-21.98	-21.44	-21.64	2.81	2.81	-0.12
1,251.00	8.07	240.650	1,249.56	-26.97	-30.94	-31.19	2.89	2.85	-4.49
1,341.00	11.75	229.410	1,338.21	-36.03	-43.41	-43.74	4.60	4.09	-12.49
1,432.00	13.26	228.920	1,427.05	-48.92	-58.31	-58.77	1.66	1.66	-0.54
1,523.00	15.27	218.960	1,515.26	-65.10	-73.72	-74.33	3.48	2.21	-10.95
1,613.00	15.20	209.240	1,602.11	-84.61	-86.93	-87.73	2.84	-0.08	-10.80
1,704.00	15.91	206.630	1,689.78	-106.17	-98.35	-99.35	1.10	0.78	-2.87
1,796.00	16.77	200.340	1,778.07	-129.89	-108.62	-109.84	2.14	0.93	-6.84
1,887.00	17.84	196.240	1,864.95	-155.58	-117.08	-118.54	1.78	1.18	-4.51
1,979.00	18.46	197.220	1,952.37	-183.03	-125.33	-127.05	0.75	0.67	1.07
2,070.00	20.62	201.540	2,038.13	-211.70	-135.48	-137.47	2.85	2.37	4.75
2,162.00	22.28	205.400	2,123.76	-242.52	-148.91	-151.19	2.37	1.80	4.20
2,254.00	23.57	206.130	2,208.49	-274.79	-164.50	-167.07	1.44	1.40	0.79
2,346.00	22.47	202.120	2,293.17	-307.60	-179.22	-182.10	2.08	-1.20	-4.36
2,440.00	23.12	201.740	2,379.83	-341.38	-192.82	-196.02	0.71	0.69	-0.40
2,534.00	22.10	201.200	2,466.60	-375.01	-206.05	-209.57	1.11	-1.09	-0.57
2,627.00	21.87	199.080	2,552.84	-407.69	-218.04	-221.86	0.89	-0.25	-2.28
2,721.00	20.70	197.530	2,640.43	-440.08	-228.76	-232.89	1.38	-1.24	-1.65
2,816.00	19.07	200.430	2,729.76	-470.64	-239.24	-243.66	2.01	-1.72	3.05
2,908.00	17.04	202.340	2,817.23	-497.19	-249.61	-254.28	2.30	-2.21	2.08
3,002.00	13.87	200.170	2,907.82	-520.51	-258.73	-263.62	3.43	-3.37	-2.31
3,096.00	11.93	208.750	2,999.45	-539.61	-267.29	-272.36	2.90	-2.06	9.13
3,190.00	11.39	210.130	3,091.51	-556.16	-276.63	-281.84	0.65	-0.57	1.47
3,283.00	11.00	209.660	3,182.74	-571.81	-285.63	-290.99	0.43	-0.42	-0.51
3,377.00	10.63	212.360	3,275.07	-586.93	-294.70	-300.21	0.67	-0.39	2.87
3,471.00	9.32	218.690	3,367.65	-600.19	-304.10	-309.74	1.82	-1.39	6.73
3,565.00	6.27	221.060	3,460.77	-610.00	-312.23	-317.96	3.26	-3.24	2.52
3,659.00	4.15	223.400	3,554.38	-616.35	-317.94	-323.73	2.27	-2.26	2.49
3,752.00	1.50	270.840	3,647.27	-618.78	-321.47	-327.28	3.57	-2.85	51.01
3,846.00	0.55	348.780	3,741.25	-618.31	-322.79	-328.59	1.58	-1.01	82.91
3,940.00	1.78	338.970	3,835.23	-616.51	-323.40	-329.19	1.32	1.31	-10.44
4,034.00	2.58	322.630	3,929.16	-613.47	-325.21	-330.97	1.07	0.85	-17.38
4,127.00	2.37	318.640	4,022.08	-610.36	-327.75	-333.48	0.29	-0.23	-4.29
4,221.00	0.92	261.570	4,116.04	-609.01	-329.78	-335.50	2.15	-1.54	-60.71
4,316.00	0.38	277.480	4,211.03	-609.08	-330.85	-336.57	0.59	-0.57	16.75
4,410.00	0.33	297.010	4,305.03	-608.92	-331.40	-337.11	0.14	-0.05	20.78

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<b>Site:</b>	Anschutz-Williams 5-61-27 CW2 Pad	<b>MD Reference:</b>	GL 4601.3' & KB 16.5' @ 4617.80ft (Cade 24)
<b>Well:</b>	Anschutz-Williams 5-61-27-4841B	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	Casper District

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)
4,504.00	1.27	192.940	4,399.02	-609.81	-331.88	-337.60	1.48	1.00	-110.71
4,598.00	1.25	193.840	4,493.00	-611.82	-332.35	-338.10	0.03	-0.02	0.96
4,692.00	1.11	219.700	4,586.98	-613.52	-333.18	-338.94	0.58	-0.15	27.51
4,786.00	0.70	231.780	4,680.97	-614.57	-334.21	-339.98	0.48	-0.44	12.85
4,880.00	0.64	256.630	4,774.96	-615.05	-335.18	-340.95	0.31	-0.06	26.44
4,973.00	2.18	192.320	4,867.94	-616.90	-336.06	-341.85	2.14	1.66	-69.15
5,067.00	2.21	194.780	4,961.87	-620.40	-336.90	-342.72	0.11	0.03	2.62
5,162.00	0.44	112.240	5,056.84	-622.31	-337.03	-342.87	2.31	-1.86	-86.88
5,256.00	0.14	128.400	5,150.84	-622.51	-336.61	-342.45	0.33	-0.32	17.19
5,350.00	0.53	175.770	5,244.84	-623.02	-336.49	-342.33	0.48	0.41	50.39
5,444.00	0.50	170.120	5,338.84	-623.86	-336.38	-342.24	0.06	-0.03	-6.01
5,538.00	0.60	169.070	5,432.83	-624.74	-336.22	-342.08	0.11	0.11	-1.12
5,542.00	0.67	152.776	5,436.83	-624.79	-336.20	-342.07	4.85	1.82	-407.36
<b>Curve KOP</b>									
5,632.00	4.74	99.720	5,526.72	-625.88	-332.30	-338.17	4.85	4.52	-58.95
5,633.00	4.87	99.397	5,527.71	-625.90	-332.21	-338.09	13.26	12.98	-32.31
<b>First SDI MWD Curve Survey</b>									
5,725.00	17.00	91.030	5,617.88	-626.78	-314.85	-320.73	13.26	13.18	-9.09
5,819.00	24.15	95.910	5,705.83	-629.01	-281.94	-287.84	7.82	7.61	5.19
5,914.00	35.23	92.130	5,788.24	-632.04	-235.07	-241.01	11.82	11.66	-3.98
6,008.00	45.50	91.420	5,859.77	-633.88	-174.31	-180.26	10.94	10.93	-0.76
6,102.00	53.25	90.700	5,920.92	-635.18	-103.03	-109.00	8.27	8.24	-0.77
6,195.00	63.62	86.800	5,969.55	-633.30	-23.94	-29.90	11.71	11.15	-4.19
6,289.00	71.85	88.080	6,005.14	-629.45	62.89	56.96	8.85	8.76	1.36
6,383.00	83.23	90.390	6,025.39	-628.26	154.51	148.59	12.34	12.11	2.46
6,479.00	89.87	90.920	6,031.16	-629.36	250.27	244.34	6.94	6.92	0.55
<b>First SDI MWD Lateral Survey</b>									
6,573.00	89.90	90.250	6,031.35	-630.32	344.27	338.32	0.71	0.03	-0.71
6,666.00	90.37	89.130	6,031.13	-629.82	437.27	431.32	1.31	0.51	-1.20
6,760.00	91.31	87.980	6,029.76	-627.45	531.22	525.30	1.58	1.00	-1.22
6,855.00	91.61	88.330	6,027.33	-624.39	626.14	620.24	0.49	0.32	0.37
6,949.00	90.47	89.860	6,025.63	-622.90	720.11	714.22	2.03	-1.21	1.63
7,043.00	90.10	89.370	6,025.16	-622.27	814.11	808.22	0.65	-0.39	-0.52
7,136.00	90.97	89.630	6,024.29	-621.46	907.10	901.21	0.98	0.94	0.28
7,230.00	89.43	90.150	6,023.96	-621.28	1,001.09	995.21	1.73	-1.64	0.55
7,324.00	90.27	90.210	6,024.21	-621.58	1,095.09	1,089.20	0.90	0.89	0.06
7,417.00	89.46	89.590	6,024.43	-621.41	1,188.09	1,182.19	1.10	-0.87	-0.67
7,511.00	89.70	88.820	6,025.12	-620.11	1,282.08	1,276.19	0.86	0.26	-0.82
7,605.00	89.83	88.420	6,025.50	-617.85	1,376.05	1,370.18	0.45	0.14	-0.43
7,699.00	90.10	88.970	6,025.56	-615.70	1,470.03	1,464.17	0.65	0.29	0.59
7,793.00	90.64	87.770	6,024.95	-613.03	1,563.98	1,558.15	1.40	0.57	-1.28
7,887.00	90.13	88.960	6,024.32	-610.35	1,657.94	1,652.13	1.38	-0.54	1.27
7,980.00	90.47	88.210	6,023.84	-608.05	1,750.91	1,745.11	0.89	0.37	-0.81
8,074.00	89.06	88.710	6,024.22	-605.53	1,844.87	1,839.10	1.59	-1.50	0.53

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<b>Site:</b>	Anschutz-Williams 5-61-27 CW2 Pad	<b>MD Reference:</b>	GL 4601.3' & KB 16.5' @ 4617.80ft (Cade 24)
<b>Well:</b>	Anschutz-Williams 5-61-27-4841B	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	Casper District

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)
8,168.00	89.09	88.300	6,025.74	-603.07	1,938.83	1,933.07	0.44	0.03	-0.44
8,261.00	90.34	89.710	6,026.20	-601.46	2,031.81	2,026.06	2.03	1.34	1.52
8,355.00	90.67	90.050	6,025.37	-601.26	2,125.81	2,120.06	0.50	0.35	0.36
8,449.00	90.94	89.180	6,024.05	-600.63	2,219.79	2,214.04	0.97	0.29	-0.93
8,542.00	90.67	88.900	6,022.75	-599.07	2,312.77	2,307.03	0.42	-0.29	-0.30
8,636.00	89.33	88.000	6,022.75	-596.53	2,406.73	2,401.02	1.72	-1.43	-0.96
8,730.00	89.77	88.890	6,023.48	-593.98	2,500.69	2,495.00	1.06	0.47	0.95
8,824.00	90.40	87.720	6,023.34	-591.20	2,594.65	2,588.97	1.41	0.67	-1.24
8,918.00	89.26	89.030	6,023.62	-588.53	2,688.61	2,682.95	1.85	-1.21	1.39
9,013.00	90.00	89.650	6,024.24	-587.44	2,783.60	2,777.95	1.02	0.78	0.65
9,107.00	90.74	88.980	6,023.63	-586.32	2,877.59	2,871.95	1.06	0.79	-0.71
9,200.00	91.08	89.740	6,022.15	-585.28	2,970.57	2,964.93	0.90	0.37	0.82
9,295.00	90.44	89.590	6,020.89	-584.72	3,065.56	3,059.93	0.69	-0.67	-0.16
9,389.00	91.38	91.080	6,019.40	-585.27	3,159.54	3,153.90	1.87	1.00	1.59
9,483.00	92.02	91.230	6,016.61	-587.17	3,253.48	3,247.82	0.70	0.68	0.16
9,577.00	89.73	89.900	6,015.18	-588.09	3,347.46	3,341.78	2.82	-2.44	-1.41
9,670.00	90.67	90.490	6,014.85	-588.41	3,440.46	3,434.77	1.19	1.01	0.63
9,764.00	89.93	89.580	6,014.36	-588.47	3,534.45	3,528.76	1.25	-0.79	-0.97
9,858.00	88.46	88.340	6,015.68	-586.76	3,628.42	3,622.74	2.05	-1.56	-1.32
9,951.00	88.39	87.670	6,018.24	-583.52	3,721.33	3,715.68	0.72	-0.08	-0.72
10,045.00	88.09	88.090	6,021.12	-580.05	3,815.22	3,809.60	0.55	-0.32	0.45
10,139.00	88.99	89.380	6,023.52	-577.97	3,909.17	3,903.56	1.67	0.96	1.37
10,233.00	90.37	89.430	6,024.04	-577.00	4,003.16	3,997.55	1.47	1.47	0.05
10,326.00	90.57	87.370	6,023.28	-574.40	4,096.11	4,090.53	2.23	0.22	-2.22
10,420.00	90.54	88.450	6,022.37	-570.97	4,190.05	4,184.49	1.15	-0.03	1.15
10,513.00	91.17	88.490	6,020.98	-568.49	4,283.00	4,277.46	0.68	0.68	0.04
10,603.00	89.66	88.080	6,020.33	-565.80	4,372.96	4,367.44	1.74	-1.68	-0.46
10,694.00	90.30	89.930	6,020.36	-564.22	4,463.94	4,458.43	2.15	0.70	2.03
10,784.00	90.44	90.110	6,019.78	-564.25	4,553.94	4,548.43	0.25	0.16	0.20
10,875.00	91.20	89.910	6,018.48	-564.26	4,644.93	4,639.41	0.86	0.84	-0.22
10,967.00	90.54	91.570	6,017.08	-565.45	4,736.90	4,731.38	1.94	-0.72	1.80
11,058.00	91.11	91.390	6,015.77	-567.80	4,827.86	4,822.31	0.66	0.63	-0.20
11,149.00	90.57	92.080	6,014.44	-570.56	4,918.81	4,913.23	0.96	-0.59	0.76
11,240.00	92.39	92.060	6,012.09	-573.84	5,009.72	5,004.10	2.00	2.00	-0.02
11,331.00	90.74	91.230	6,009.60	-576.45	5,100.64	5,094.99	2.03	-1.81	-0.91
11,422.00	90.30	90.840	6,008.78	-578.10	5,191.62	5,185.96	0.65	-0.48	-0.43
11,513.00	89.97	89.880	6,008.56	-578.67	5,282.62	5,276.94	1.12	-0.36	-1.05
11,604.00	90.60	89.410	6,008.11	-578.11	5,373.62	5,367.94	0.86	0.69	-0.52
11,695.00	89.39	89.060	6,008.12	-576.89	5,464.61	5,458.94	1.38	-1.33	-0.38
11,786.00	88.93	87.740	6,009.45	-574.35	5,555.56	5,549.91	1.54	-0.51	-1.45
11,876.00	89.56	89.090	6,010.64	-571.86	5,645.51	5,639.89	1.66	0.70	1.50
11,967.00	89.73	88.080	6,011.20	-569.61	5,736.48	5,730.87	1.13	0.19	-1.11
12,058.00	89.87	87.590	6,011.52	-566.18	5,827.42	5,821.83	0.56	0.15	-0.54
12,149.00	90.13	87.830	6,011.52	-562.54	5,918.35	5,912.79	0.39	0.29	0.26

<b>Company:</b>	Bill Barrett Corp.	<b>Local Co-ordinate Reference:</b>	Well Anschutz-Williams 5-61-27-4841B
<b>Project:</b>	Weld County, CO NAD 83	<b>TVD Reference:</b>	GL 4601.3' & KB 16.5' @ 4617.80ft (Cade 24)
<b>Site:</b>	Anschutz-Williams 5-61-27 CW2 Pad	<b>MD Reference:</b>	GL 4601.3' & KB 16.5' @ 4617.80ft (Cade 24)
<b>Well:</b>	Anschutz-Williams 5-61-27-4841B	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	Casper District

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)
12,240.00	90.07	87.700	6,011.36	-558.99	6,009.28	6,003.75	0.16	-0.07	-0.14
12,332.00	89.80	88.440	6,011.46	-555.89	6,101.22	6,095.72	0.86	-0.29	0.80
12,424.00	90.23	89.310	6,011.44	-554.09	6,193.20	6,187.72	1.05	0.47	0.95
12,516.00	89.90	88.980	6,011.34	-552.71	6,285.19	6,279.72	0.51	-0.36	-0.36
12,607.00	91.94	90.050	6,009.87	-551.94	6,376.17	6,370.70	2.53	2.24	1.18
12,699.00	91.04	89.870	6,007.48	-551.88	6,468.14	6,462.66	1.00	-0.98	-0.20
12,791.00	90.40	89.600	6,006.33	-551.45	6,560.13	6,554.65	0.76	-0.70	-0.29
12,882.00	90.30	88.410	6,005.77	-549.87	6,651.11	6,645.65	1.31	-0.11	-1.31
12,973.00	90.54	88.080	6,005.10	-547.09	6,742.07	6,736.62	0.45	0.26	-0.36
13,064.00	91.61	88.050	6,003.40	-544.01	6,833.00	6,827.58	1.18	1.18	-0.03
13,156.00	92.08	88.960	6,000.43	-541.62	6,924.92	6,919.52	1.11	0.51	0.99
13,246.00	91.14	89.930	5,997.90	-540.74	7,014.88	7,009.48	1.50	-1.04	1.08
13,337.00	91.31	89.840	5,995.96	-540.56	7,105.86	7,100.46	0.21	0.19	-0.10
13,429.00	89.97	90.500	5,994.93	-540.83	7,197.85	7,192.44	1.62	-1.46	0.72
13,520.00	90.60	89.680	5,994.48	-540.98	7,288.85	7,283.43	1.14	0.69	-0.90
13,611.00	89.77	90.080	5,994.19	-540.79	7,379.84	7,374.43	1.01	-0.91	0.44
13,702.00	88.62	89.890	5,995.46	-540.76	7,470.83	7,465.42	1.28	-1.26	-0.21
13,794.00	88.46	89.020	5,997.81	-539.89	7,562.80	7,557.39	0.96	-0.17	-0.95
13,885.00	89.73	88.670	5,999.25	-538.05	7,653.77	7,648.37	1.45	1.40	-0.38
13,976.00	88.83	88.650	6,000.39	-535.93	7,744.73	7,739.35	0.99	-0.99	-0.02
14,067.00	88.22	88.300	6,002.73	-533.51	7,835.67	7,830.31	0.77	-0.67	-0.38
14,158.00	89.46	90.710	6,004.57	-532.72	7,926.64	7,921.28	2.98	1.36	2.65
14,249.00	90.00	90.010	6,005.00	-533.29	8,017.64	8,012.26	0.97	0.59	-0.77
14,340.00	90.34	89.410	6,004.73	-532.83	8,108.63	8,103.26	0.76	0.37	-0.66
14,432.00	88.92	89.010	6,005.33	-531.56	8,200.62	8,195.26	1.60	-1.54	-0.43
14,523.00	90.34	89.090	6,005.91	-530.05	8,291.60	8,286.25	1.56	1.56	0.09
14,614.00	91.41	90.490	6,004.52	-529.72	8,382.59	8,377.24	1.94	1.18	1.54
14,705.00	91.17	90.170	6,002.48	-530.24	8,473.56	8,468.20	0.44	-0.26	-0.35
14,797.00	90.13	88.730	6,001.43	-529.36	8,565.55	8,560.19	1.93	-1.13	-1.57
14,888.00	91.64	89.000	6,000.03	-527.56	8,656.52	8,651.17	1.69	1.66	0.30
14,979.00	91.92	89.060	5,997.20	-526.02	8,747.46	8,742.13	0.31	0.31	0.07
15,070.00	90.47	89.200	5,995.30	-524.64	8,838.43	8,833.10	1.60	-1.59	0.15
15,162.00	89.83	88.600	5,995.06	-522.87	8,930.41	8,925.10	0.95	-0.70	-0.65
15,253.00	88.69	88.800	5,996.24	-520.81	9,021.38	9,016.08	1.27	-1.25	0.22
15,344.00	88.62	89.980	5,998.37	-519.84	9,112.35	9,107.05	1.30	-0.08	1.30
15,436.00	88.22	90.460	6,000.91	-520.19	9,204.31	9,199.01	0.68	-0.43	0.52
15,527.00	89.77	90.950	6,002.51	-521.31	9,295.29	9,289.97	1.79	1.70	0.54
15,618.00	89.83	90.890	6,002.82	-522.77	9,386.27	9,380.94	0.09	0.07	-0.07
15,710.00	91.31	90.870	6,001.91	-524.19	9,478.26	9,472.91	1.61	1.61	-0.02
15,801.00	91.88	91.540	5,999.37	-526.10	9,569.20	9,563.83	0.97	0.63	0.74
15,892.00	92.02	90.390	5,996.28	-527.63	9,660.13	9,654.74	1.27	0.15	-1.26
15,983.00	90.97	88.890	5,993.90	-527.06	9,751.10	9,745.71	2.01	-1.15	-1.65
16,077.00	92.05	87.490	5,991.43	-524.09	9,845.01	9,839.65	1.88	1.15	-1.49

<b>Company:</b>	Bill Barrett Corp.	<b>Local Co-ordinate Reference:</b>	Well Anschutz-Williams 5-61-27-4841B
<b>Project:</b>	Weld County, CO NAD 83	<b>TVD Reference:</b>	GL 4601.3' & KB 16.5' @ 4617.80ft (Cade 24)
<b>Site:</b>	Anschutz-Williams 5-61-27 CW2 Pad	<b>MD Reference:</b>	GL 4601.3' & KB 16.5' @ 4617.80ft (Cade 24)
<b>Well:</b>	Anschutz-Williams 5-61-27-4841B	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	Casper District

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)	
16,137.00	92.08	87.040	5,989.26	-521.23	9,904.91	9,899.56	0.75	0.05	-0.75	
<b>Last SDI MWD Survey</b>										
16,195.00	92.08	87.040	5,987.16	-518.24	9,962.79	9,957.47	0.00	0.00	0.00	
<b>Projection to TD</b>										

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
179.00	178.99	1.57	-1.10	First SDI MWD Survey	
775.00	774.74	-7.73	-12.02	Last SDI MWD Surface Survey	
5,542.00	5,436.83	-624.79	-336.20	Curve KOP	
5,633.00	5,527.71	-625.90	-332.21	First SDI MWD Curve Survey	
6,479.00	6,031.16	-629.36	250.27	First SDI MWD Lateral Survey	
16,137.00	5,989.26	-521.23	9,904.91	Last SDI MWD Survey	
16,195.00	5,987.16	-518.24	9,962.79	Projection to TD	

Checked By: _____	Approved By: _____	Date: _____
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