



Bill Barrett Corporation

Project: Weld County, CO NAD 83
Site: Anschutz-Williams 5-61-27 CW2 Pad
Well: Anschutz-Williams 5-61-27-3340B
Wellbore: OH
Design: OH

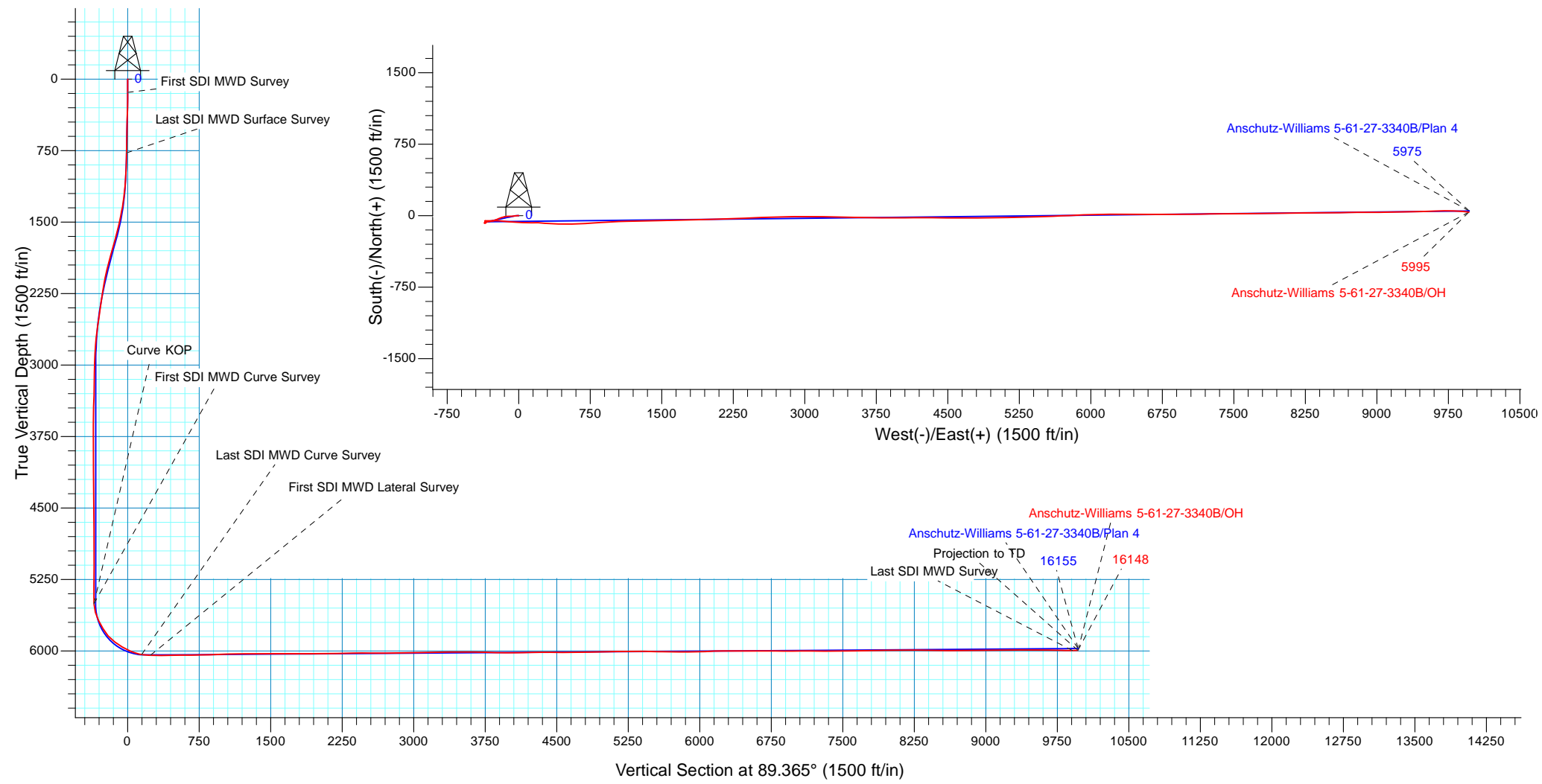


WELL DETAILS: Anschutz-Williams 5-61-27-3340B			
GL 4601.3' & KB 16.5' @ 4617.80ft (Cade 24)	4601.30		
Northing	Easting	Latitude	Longitude
1380688.69	3361209.44	40° 22' 16.118 N	104° 12' 12.859 W

Design: OH (Anschutz-Williams 5-61-27-3340B/OH)	
Created By: Seth Burstad	Date: 1-02-2018

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	
140.00	140.00	0.27	337.000	0.30	-0.13	-0.13	0.33	First SDI MWD Survey	
774.85	775.00	1.64	268.440	0.98	-12.62	-12.61	13.39	Last SDI MWD Surface Survey	
5503.27	5538.00	1.03	33.290	-52.72	-354.36	-354.93	410.04	First SDI MWD Curve Survey	
5507.26	5542.00	1.50	60.448	-52.66	-354.30	-354.86	410.70	Curve KOP	
6038.33	6324.00	81.40	89.120	-72.33	147.04	146.23	912.97	Last SDI MWD Curve Survey	
6045.45	6416.00	89.73	95.650	-76.17	238.55	237.69	1004.61	First SDI MWD Lateral Survey	
5995.11	16089.00	90.30	95.380	43.91	9906.80	9906.68	10676.23	Last SDI MWD Survey	
5994.80	16148.00	90.30	95.380	38.38	9965.54	9965.35	10735.23	Projection to TD	





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Weld County, CO NAD 83

Anschutz-Williams 5-61-27 CW2 Pad

Anschutz-Williams 5-61-27-3340B

OH

Design: OH

Standard Survey Report

02 January, 2018



Scientific Drilling

www.scientificdrilling.com



Company:	Bill Barrett Corp.	Local Co-ordinate Reference:	Well Anschutz-Williams 5-61-27-3340B
Project:	Weld County, CO NAD 83	TVD Reference:	GL 4601.3' & KB 16.5' @ 4617.80ft (Cade 24)
Site:	Anschutz-Williams 5-61-27 CW2 Pad	MD Reference:	GL 4601.3' & KB 16.5' @ 4617.80ft (Cade 24)
Well:	Anschutz-Williams 5-61-27-3340B	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Casper District

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

Well	Anschutz-Williams 5-61-27-3340B, 2363' FSL 270' FWL Sec 27 T5N R61W		
Well Position	+N/-S	0.00 ft	Northing: 1,380,688.69 usft
	+E/-W	0.00 ft	Easting: 3,361,209.44 usft
Position Uncertainty	0.00 ft	Wellhead Elevation:	0.00 ft
		Ground Level:	4,601.30 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	7/24/2017	8.27	67.03	52,359

Design	OH				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00		89.365

Survey Program	Date	1/2/2018			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
140.00	775.00	Survey #1 - Surface (OH)	OWSG MWD	OWSG MWD - Standard	
887.00	6,324.00	Survey #2 - Intermediate (OH)	OWSG MWD	OWSG MWD - Standard	
6,416.00	16,148.00	Survey #3 - Lateral (OH)	OWSG MWD	OWSG MWD - Standard	

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
140.00	0.27	337.000	140.00	0.30	-0.13	-0.13	0.19	0.19	0.00
First SDI MWD Survey									
209.00	0.50	333.190	209.00	0.72	-0.33	-0.32	0.34	0.33	-5.52
301.00	1.18	279.360	300.99	1.23	-1.44	-1.43	1.06	0.74	-58.51
393.00	1.40	270.820	392.97	1.40	-3.50	-3.49	0.32	0.24	-9.28
484.00	1.30	271.560	483.94	1.45	-5.65	-5.63	0.11	-0.11	0.81
576.00	0.98	273.220	575.92	1.52	-7.47	-7.46	0.35	-0.35	1.80
668.00	1.66	259.130	667.90	1.31	-9.57	-9.55	0.81	0.74	-15.32

Company:	Bill Barrett Corp.	Local Co-ordinate Reference:	Well Anschutz-Williams 5-61-27-3340B
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Site:	Anschutz-Williams 5-61-27 CW2 Pad	MD Reference:	GL 4601.3' & KB 16.5' @ 4617.80ft (Cade 24)
Well:	Anschutz-Williams 5-61-27-3340B	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	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)
775.00	1.64	268.440	774.85	0.98	-12.62	-12.61	0.25	-0.02	8.70
Last SDI MWD Surface Survey									
887.00	1.68	260.710	886.81	0.67	-15.84	-15.84	0.20	0.04	-6.90
978.00	1.85	259.940	977.76	0.20	-18.61	-18.60	0.19	0.19	-0.85
1,069.00	4.26	270.250	1,068.63	-0.04	-23.43	-23.43	2.71	2.65	11.33
1,160.00	5.06	256.530	1,159.33	-0.96	-30.72	-30.72	1.50	0.88	-15.08
1,251.00	7.64	259.900	1,249.76	-2.96	-40.58	-40.61	2.86	2.84	3.70
1,342.00	10.14	268.410	1,339.67	-4.24	-54.54	-54.59	3.10	2.75	9.35
1,433.00	11.33	268.810	1,429.07	-4.65	-71.49	-71.53	1.31	1.31	0.44
1,523.00	12.47	268.870	1,517.14	-5.02	-90.04	-90.09	1.27	1.27	0.07
1,614.00	14.22	267.460	1,605.68	-5.71	-111.03	-111.09	1.96	1.92	-1.55
1,705.00	15.29	260.310	1,693.68	-8.23	-134.03	-134.11	2.32	1.18	-7.86
1,796.00	16.27	254.680	1,781.26	-13.62	-158.15	-158.29	2.00	1.08	-6.19
1,887.00	16.44	251.390	1,868.58	-21.09	-182.65	-182.87	1.03	0.19	-3.62
1,979.00	15.54	250.530	1,957.02	-29.36	-206.61	-206.92	1.01	-0.98	-0.93
2,071.00	13.52	247.070	2,046.07	-37.66	-228.13	-228.54	2.39	-2.20	-3.76
2,163.00	10.72	244.410	2,136.01	-45.54	-245.76	-246.25	3.10	-3.04	-2.89
2,254.00	9.00	248.720	2,225.66	-51.78	-260.03	-260.58	2.06	-1.89	4.74
2,346.00	8.52	260.320	2,316.60	-55.54	-273.45	-274.05	1.99	-0.52	12.61
2,440.00	8.65	262.860	2,409.55	-57.59	-287.33	-287.95	0.43	0.14	2.70
2,534.00	8.38	261.990	2,502.51	-59.42	-301.12	-301.76	0.32	-0.29	-0.93
2,627.00	8.05	261.250	2,594.56	-61.36	-314.27	-314.93	0.37	-0.35	-0.80
2,722.00	6.96	257.720	2,688.74	-63.59	-326.47	-327.16	1.25	-1.15	-3.72
2,816.00	4.61	242.140	2,782.26	-66.57	-335.38	-336.09	2.98	-2.50	-16.57
2,909.00	3.76	234.250	2,875.01	-70.10	-341.16	-341.91	1.10	-0.91	-8.48
3,002.00	3.44	220.720	2,967.83	-74.00	-345.45	-346.25	0.97	-0.34	-14.55
3,096.00	1.34	218.390	3,061.74	-76.99	-347.97	-348.81	2.24	-2.23	-2.48
3,190.00	1.22	211.470	3,155.72	-78.71	-349.18	-350.03	0.21	-0.13	-7.36
3,284.00	1.52	291.570	3,249.70	-79.11	-350.86	-351.72	1.89	0.32	85.21
3,377.00	1.91	304.840	3,342.66	-77.77	-353.28	-354.12	0.60	0.42	14.27
3,471.00	1.68	272.770	3,436.62	-76.80	-355.94	-356.77	1.08	-0.24	-34.12
3,565.00	1.26	257.510	3,530.58	-76.96	-358.33	-359.16	0.61	-0.45	-16.23
3,659.00	1.26	192.770	3,624.57	-78.19	-359.56	-360.41	1.44	0.00	-68.87
3,752.00	1.15	27.670	3,717.56	-78.36	-359.36	-360.20	2.57	-0.12	-177.53
3,846.00	1.27	14.030	3,811.54	-76.52	-358.67	-359.49	0.33	0.13	-14.51
3,940.00	1.45	12.500	3,905.51	-74.35	-358.16	-358.96	0.20	0.19	-1.63
4,034.00	0.93	5.550	3,999.49	-72.43	-357.83	-358.61	0.57	-0.55	-7.39
4,128.00	0.98	33.010	4,093.48	-70.99	-357.31	-358.08	0.49	0.05	29.21
4,222.00	0.89	34.160	4,187.47	-69.71	-356.47	-357.22	0.10	-0.10	1.22
4,316.00	1.13	17.730	4,281.45	-68.23	-355.77	-356.51	0.40	0.26	-17.48
4,410.00	1.37	17.000	4,375.43	-66.27	-355.16	-355.88	0.26	0.26	-0.78
4,504.00	1.50	18.500	4,469.40	-64.03	-354.44	-355.13	0.14	0.14	1.60
4,598.00	1.76	16.870	4,563.36	-61.48	-353.63	-354.29	0.28	0.28	-1.73

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Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	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)
4,692.00	1.67	2.410	4,657.32	-58.73	-353.16	-353.79	0.47	-0.10	-15.38
4,786.00	0.45	87.350	4,751.31	-57.34	-352.73	-353.35	1.80	-1.30	90.36
4,880.00	0.52	51.480	4,845.30	-57.06	-352.03	-352.64	0.33	0.07	-38.16
4,973.00	0.44	17.830	4,938.30	-56.46	-351.59	-352.19	0.31	-0.09	-36.18
5,067.00	0.76	11.800	5,032.29	-55.51	-351.35	-351.95	0.35	0.34	-6.41
5,162.00	0.68	282.770	5,127.29	-54.76	-351.77	-352.36	1.06	-0.08	-93.72
5,256.00	0.44	259.820	5,221.28	-54.70	-352.67	-353.26	0.34	-0.26	-24.41
5,351.00	0.59	308.250	5,316.28	-54.47	-353.42	-354.00	0.47	0.16	50.98
5,445.00	0.78	306.110	5,410.27	-53.79	-354.31	-354.89	0.20	0.20	-2.28
5,538.00	1.03	33.290	5,503.27	-52.72	-354.36	-354.93	1.36	0.27	93.74
First SDI MWD Curve Survey									
5,542.00	1.50	60.448	5,507.27	-52.66	-354.30	-354.86	18.67	11.67	678.95
Curve KOP									
5,632.00	17.99	96.550	5,595.68	-53.67	-339.36	-339.94	18.67	18.33	40.11
5,726.00	26.45	85.250	5,682.66	-53.60	-304.00	-304.57	10.04	9.00	-12.02
5,820.00	30.00	89.560	5,765.48	-51.68	-259.62	-260.17	4.35	3.78	4.59
5,914.00	42.08	94.170	5,841.36	-53.80	-204.49	-205.07	13.16	12.85	4.90
6,008.00	52.43	95.850	5,905.08	-59.90	-135.83	-136.48	11.09	11.01	1.79
6,102.00	58.98	94.610	5,958.02	-66.95	-58.53	-59.27	7.05	6.97	-1.32
6,195.00	67.01	91.870	6,000.22	-71.55	24.12	23.32	9.02	8.63	-2.95
6,289.00	74.64	89.660	6,031.07	-72.70	112.82	112.01	8.41	8.12	-2.35
6,324.00	81.40	89.120	6,038.33	-72.33	147.04	146.23	19.37	19.31	-1.54
Last SDI MWD Curve Survey									
6,416.00	89.73	95.650	6,045.45	-76.17	238.55	237.69	11.49	9.05	7.10
First SDI MWD Lateral Survey									
6,478.00	89.46	94.120	6,045.89	-81.45	300.32	299.40	2.51	-0.44	-2.47
6,572.00	89.73	91.610	6,046.55	-86.15	394.20	393.22	2.69	0.29	-2.67
6,666.00	90.97	90.040	6,045.98	-87.50	488.18	487.18	2.13	1.32	-1.67
6,760.00	90.60	88.850	6,044.69	-86.59	582.17	581.17	1.33	-0.39	-1.27
6,854.00	91.07	87.190	6,043.32	-83.35	676.10	675.13	1.84	0.50	-1.77
6,948.00	90.30	85.810	6,042.20	-77.61	769.91	769.00	1.68	-0.82	-1.47
7,042.00	91.98	85.850	6,040.33	-70.78	863.64	862.80	1.79	1.79	0.04
7,135.00	92.82	87.210	6,036.43	-65.15	956.39	955.60	1.72	0.90	1.46
7,229.00	91.34	88.120	6,033.02	-61.32	1,050.24	1,049.50	1.85	-1.57	0.97
7,323.00	91.58	88.260	6,030.63	-58.36	1,144.16	1,143.45	0.30	0.26	0.15
7,417.00	89.87	88.890	6,029.44	-56.02	1,238.12	1,237.43	1.94	-1.82	0.67
7,510.00	89.73	88.740	6,029.76	-54.10	1,331.10	1,330.42	0.22	-0.15	-0.16
7,604.00	89.46	88.900	6,030.43	-52.16	1,425.08	1,424.42	0.33	-0.29	0.17
7,699.00	91.14	89.260	6,029.93	-50.63	1,520.06	1,519.41	1.81	1.77	0.38
7,792.00	90.03	88.600	6,028.98	-48.90	1,613.04	1,612.40	1.39	-1.19	-0.71
7,886.00	90.17	88.460	6,028.81	-46.49	1,707.01	1,706.39	0.21	0.15	-0.15
7,979.00	90.17	88.330	6,028.54	-43.88	1,799.97	1,799.38	0.14	0.00	-0.14
8,073.00	90.07	88.620	6,028.34	-41.38	1,893.94	1,893.36	0.33	-0.11	0.31
8,167.00	90.03	88.940	6,028.26	-39.38	1,987.92	1,987.36	0.34	-0.04	0.34

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Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	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)	
8,261.00	90.17	88.480	6,028.10	-37.26	2,081.89	2,081.35	0.51	0.15	-0.49	
8,354.00	91.14	87.860	6,027.03	-34.29	2,174.84	2,174.32	1.24	1.04	-0.67	
8,448.00	91.95	86.960	6,024.50	-30.05	2,268.71	2,268.23	1.29	0.86	-0.96	
8,542.00	90.81	87.660	6,022.23	-25.64	2,362.57	2,362.14	1.42	-1.21	0.74	
8,636.00	89.77	88.170	6,021.76	-22.22	2,456.51	2,456.11	1.23	-1.11	0.54	
8,729.00	88.89	88.250	6,022.85	-19.31	2,549.46	2,549.08	0.95	-0.95	0.09	
8,823.00	89.73	87.800	6,023.98	-16.07	2,643.39	2,643.05	1.01	0.89	-0.48	
8,917.00	90.20	88.650	6,024.04	-13.16	2,737.35	2,737.03	1.03	0.50	0.90	
9,012.00	92.28	88.150	6,021.98	-10.51	2,832.28	2,831.99	2.25	2.19	-0.53	
9,106.00	90.87	90.140	6,019.40	-9.11	2,926.23	2,925.95	2.59	-1.50	2.12	
9,200.00	90.97	89.790	6,017.89	-9.05	3,020.22	3,019.93	0.39	0.11	-0.37	
9,294.00	90.34	91.780	6,016.81	-10.34	3,114.20	3,113.89	2.22	-0.67	2.12	
9,388.00	92.02	91.420	6,014.88	-12.96	3,208.14	3,207.79	1.83	1.79	-0.38	
9,482.00	91.58	91.050	6,011.92	-14.99	3,302.07	3,301.70	0.61	-0.47	-0.39	
9,576.00	90.50	90.770	6,010.22	-16.48	3,396.04	3,395.65	1.19	-1.15	-0.30	
9,670.00	89.53	91.060	6,010.19	-17.98	3,490.02	3,489.61	1.08	-1.03	0.31	
9,763.00	88.56	90.190	6,011.74	-19.00	3,583.00	3,582.57	1.40	-1.04	-0.94	
9,857.00	88.92	90.480	6,013.81	-19.55	3,676.98	3,676.54	0.49	0.38	0.31	
9,951.00	88.29	90.420	6,016.10	-20.28	3,770.95	3,770.49	0.67	-0.67	-0.06	
10,044.00	89.03	90.790	6,018.27	-21.27	3,863.92	3,863.44	0.89	0.80	0.40	
10,138.00	89.13	90.480	6,019.78	-22.31	3,957.90	3,957.41	0.35	0.11	-0.33	
10,232.00	90.67	89.220	6,019.95	-22.06	4,051.89	4,051.40	2.12	1.64	-1.34	
10,326.00	91.58	89.280	6,018.10	-20.83	4,145.87	4,145.38	0.97	0.97	0.06	
10,419.00	91.75	89.470	6,015.40	-19.82	4,238.82	4,238.34	0.27	0.18	0.20	
10,512.00	90.27	91.060	6,013.76	-20.25	4,331.80	4,331.31	2.34	-1.59	1.71	
10,603.00	89.46	90.350	6,013.97	-21.37	4,422.79	4,422.28	1.18	-0.89	-0.78	
10,694.00	90.00	90.920	6,014.40	-22.37	4,513.78	4,513.26	0.86	0.59	0.63	
10,784.00	90.67	91.720	6,013.88	-24.45	4,603.76	4,603.20	1.16	0.74	0.89	
10,875.00	89.50	89.230	6,013.74	-25.20	4,694.75	4,694.18	3.02	-1.29	-2.74	
10,966.00	90.74	89.100	6,013.55	-23.88	4,785.73	4,785.18	1.37	1.36	-0.14	
11,057.00	90.20	88.740	6,012.80	-22.16	4,876.71	4,876.17	0.71	-0.59	-0.40	
11,148.00	92.55	89.050	6,010.62	-20.41	4,967.67	4,967.13	2.60	2.58	0.34	
11,239.00	91.01	89.140	6,007.79	-18.97	5,058.61	5,058.09	1.70	-1.69	0.10	
11,330.00	90.30	89.380	6,006.75	-17.80	5,149.59	5,149.08	0.82	-0.78	0.26	
11,421.00	91.45	89.600	6,005.36	-16.99	5,240.58	5,240.07	1.29	1.26	0.24	
11,512.00	90.20	88.550	6,004.05	-15.52	5,331.55	5,331.05	1.79	-1.37	-1.15	
11,603.00	89.46	88.020	6,004.32	-12.79	5,422.51	5,422.04	1.00	-0.81	-0.58	
11,694.00	88.42	87.150	6,006.01	-8.96	5,513.41	5,512.97	1.49	-1.14	-0.96	
11,785.00	89.46	87.660	6,007.69	-4.84	5,604.30	5,603.90	1.27	1.14	0.56	
11,875.00	89.19	88.050	6,008.75	-1.47	5,694.23	5,693.87	0.53	-0.30	0.43	
11,966.00	89.09	87.530	6,010.12	2.04	5,785.15	5,784.82	0.58	-0.11	-0.57	
12,057.00	90.10	87.150	6,010.76	6.26	5,876.05	5,875.76	1.19	1.11	-0.42	
12,148.00	91.54	87.880	6,009.46	10.21	5,966.95	5,966.70	1.77	1.58	0.80	
12,240.00	93.16	88.130	6,005.69	13.41	6,058.82	6,058.59	1.78	1.76	0.27	

Company:	Bill Barrett Corp.	Local Co-ordinate Reference:	Well Anschutz-Williams 5-61-27-3340B
Project:	Weld County, CO NAD 83	TVD Reference:	GL 4601.3' & KB 16.5' @ 4617.80ft (Cade 24)
Site:	Anschutz-Williams 5-61-27 CW2 Pad	MD Reference:	GL 4601.3' & KB 16.5' @ 4617.80ft (Cade 24)
Well:	Anschutz-Williams 5-61-27-3340B	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	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)
12,332.00	91.54	89.910	6,001.91	14.98	6,150.72	6,150.51	2.61	-1.76	1.93
12,423.00	89.63	90.140	6,000.98	14.94	6,241.71	6,241.49	2.11	-2.10	0.25
12,515.00	90.70	90.150	6,000.72	14.70	6,333.71	6,333.48	1.16	1.16	0.01
12,607.00	90.23	88.920	5,999.97	15.45	6,425.70	6,425.48	1.43	-0.51	-1.34
12,698.00	90.13	90.960	5,999.69	15.55	6,516.70	6,516.47	2.24	-0.11	2.24
12,790.00	89.29	90.360	6,000.15	14.49	6,608.69	6,608.44	1.12	-0.91	-0.65
12,882.00	90.44	89.980	6,000.37	14.21	6,700.69	6,700.43	1.32	1.25	-0.41
12,973.00	89.26	89.940	6,000.61	14.28	6,791.68	6,791.42	1.30	-1.30	-0.04
13,064.00	89.70	89.530	6,001.43	14.70	6,882.68	6,882.42	0.66	0.48	-0.45
13,155.00	89.93	89.330	6,001.73	15.60	6,973.67	6,973.42	0.33	0.25	-0.22
13,246.00	91.07	89.830	6,000.93	16.27	7,064.67	7,064.41	1.37	1.25	0.55
13,337.00	89.19	89.210	6,000.73	17.03	7,155.66	7,155.41	2.18	-2.07	-0.68
13,428.00	89.90	88.990	6,001.45	18.46	7,246.64	7,246.40	0.82	0.78	-0.24
13,519.00	90.07	89.480	6,001.47	19.68	7,337.63	7,337.40	0.57	0.19	0.54
13,611.00	90.37	89.420	6,001.12	20.56	7,429.63	7,429.40	0.33	0.33	-0.07
13,702.00	91.17	89.370	5,999.90	21.52	7,520.62	7,520.39	0.88	0.88	-0.05
13,793.00	90.17	90.140	5,998.83	21.91	7,611.61	7,611.38	1.39	-1.10	0.85
13,884.00	89.93	89.430	5,998.75	22.25	7,702.61	7,702.38	0.82	-0.26	-0.78
13,975.00	92.45	89.370	5,996.86	23.20	7,793.57	7,793.35	2.77	2.77	-0.07
14,067.00	91.04	89.630	5,994.06	24.01	7,885.52	7,885.31	1.56	-1.53	0.28
14,158.00	90.50	88.720	5,992.84	25.32	7,976.51	7,976.30	1.16	-0.59	-1.00
14,248.00	89.53	89.160	5,992.82	26.98	8,066.49	8,066.29	1.18	-1.08	0.49
14,340.00	91.95	89.060	5,991.63	28.41	8,158.46	8,158.28	2.63	2.63	-0.11
14,431.00	88.89	89.810	5,990.96	29.31	8,249.45	8,249.26	3.46	-3.36	0.82
14,522.00	89.09	89.560	5,992.56	29.81	8,340.43	8,340.25	0.35	0.22	-0.27
14,614.00	88.56	89.080	5,994.45	30.90	8,432.40	8,432.23	0.78	-0.58	-0.52
14,705.00	89.26	89.840	5,996.18	31.76	8,523.38	8,523.21	1.14	0.77	0.84
14,796.00	89.90	88.930	5,996.85	32.73	8,614.37	8,614.21	1.22	0.70	-1.00
14,887.00	90.77	89.280	5,996.32	34.15	8,705.36	8,705.20	1.03	0.96	0.38
14,978.00	90.13	89.470	5,995.60	35.15	8,796.35	8,796.20	0.73	-0.70	0.21
15,069.00	91.84	90.880	5,994.04	34.87	8,887.33	8,887.17	2.44	1.88	1.55
15,161.00	89.70	88.700	5,992.80	35.21	8,979.31	8,979.15	3.32	-2.33	-2.37
15,252.00	90.03	89.420	5,993.02	36.70	9,070.30	9,070.15	0.87	0.36	0.79
15,343.00	90.27	89.400	5,992.78	37.64	9,161.29	9,161.15	0.26	0.26	-0.02
15,435.00	91.64	88.970	5,991.24	38.95	9,253.27	9,253.13	1.56	1.49	-0.47
15,526.00	90.47	88.340	5,989.57	41.08	9,344.22	9,344.11	1.46	-1.29	-0.69
15,617.00	89.26	88.930	5,989.78	43.25	9,435.20	9,435.10	1.48	-1.33	0.65
15,709.00	89.87	88.500	5,990.48	45.31	9,527.17	9,527.09	0.81	0.66	-0.47
15,800.00	88.56	87.100	5,991.73	48.80	9,618.09	9,618.04	2.11	-1.44	-1.54
15,891.00	89.09	89.820	5,993.60	51.25	9,709.03	9,709.00	3.04	0.58	2.99
15,982.00	89.26	91.470	5,994.91	50.22	9,800.01	9,799.97	1.82	0.19	1.81
16,076.00	90.40	94.820	5,995.18	45.07	9,893.85	9,893.75	3.76	1.21	3.56
16,089.00	90.30	95.380	5,995.11	43.91	9,906.80	9,906.68	4.38	-0.77	4.31

Company:	Bill Barrett Corp.	Local Co-ordinate Reference:	Well Anschutz-Williams 5-61-27-3340B
Project:	Weld County, CO NAD 83	TVD Reference:	GL 4601.3' & KB 16.5' @ 4617.80ft (Cade 24)
Site:	Anschutz-Williams 5-61-27 CW2 Pad	MD Reference:	GL 4601.3' & KB 16.5' @ 4617.80ft (Cade 24)
Well:	Anschutz-Williams 5-61-27-3340B	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	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)
Last SDI MWD Survey									
16,148.00	90.30	95.380	5,994.80	38.38	9,965.54	9,965.36	0.00	0.00	0.00
Projection to TD									

Design Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
140.00	140.00	0.30	-0.13	First SDI MWD Survey
775.00	774.85	0.98	-12.62	Last SDI MWD Surface Survey
5,538.00	5,503.27	-52.72	-354.36	First SDI MWD Curve Survey
5,542.00	5,507.27	-52.66	-354.30	Curve KOP
6,324.00	6,038.33	-72.33	147.04	Last SDI MWD Curve Survey
6,416.00	6,045.45	-76.17	238.55	First SDI MWD Lateral Survey
16,089.00	5,995.11	43.91	9,906.80	Last SDI MWD Survey
16,148.00	5,994.80	38.38	9,965.54	Projection to TD

Checked By: _____ Approved By: _____ Date: _____