



Project: Weld County, CO NAD 83
Site: Anschutz Equus Farms 4-62-28_27 NWNW Pad [GOOD]
Well: Anschutz Equus Farms 4-62-28-0108CS
Wellbore: OH
Design: OH



WELL DETAILS: Anschutz Equus Farms 4-62-28-0108CS

GL 4574.2' & KB 20' @ 4594.20ft (Savanna 802) 4574.20
Northing 1349662.34 Easting 3324353.45 Latitude 40° 17' 14.589 N Longitude 104° 20' 14.269 W

Design: OH (Anschutz Equus Farms 4-62-28-0108CS/OH)

Created By: Seth Burstad Date: 2-12-2018

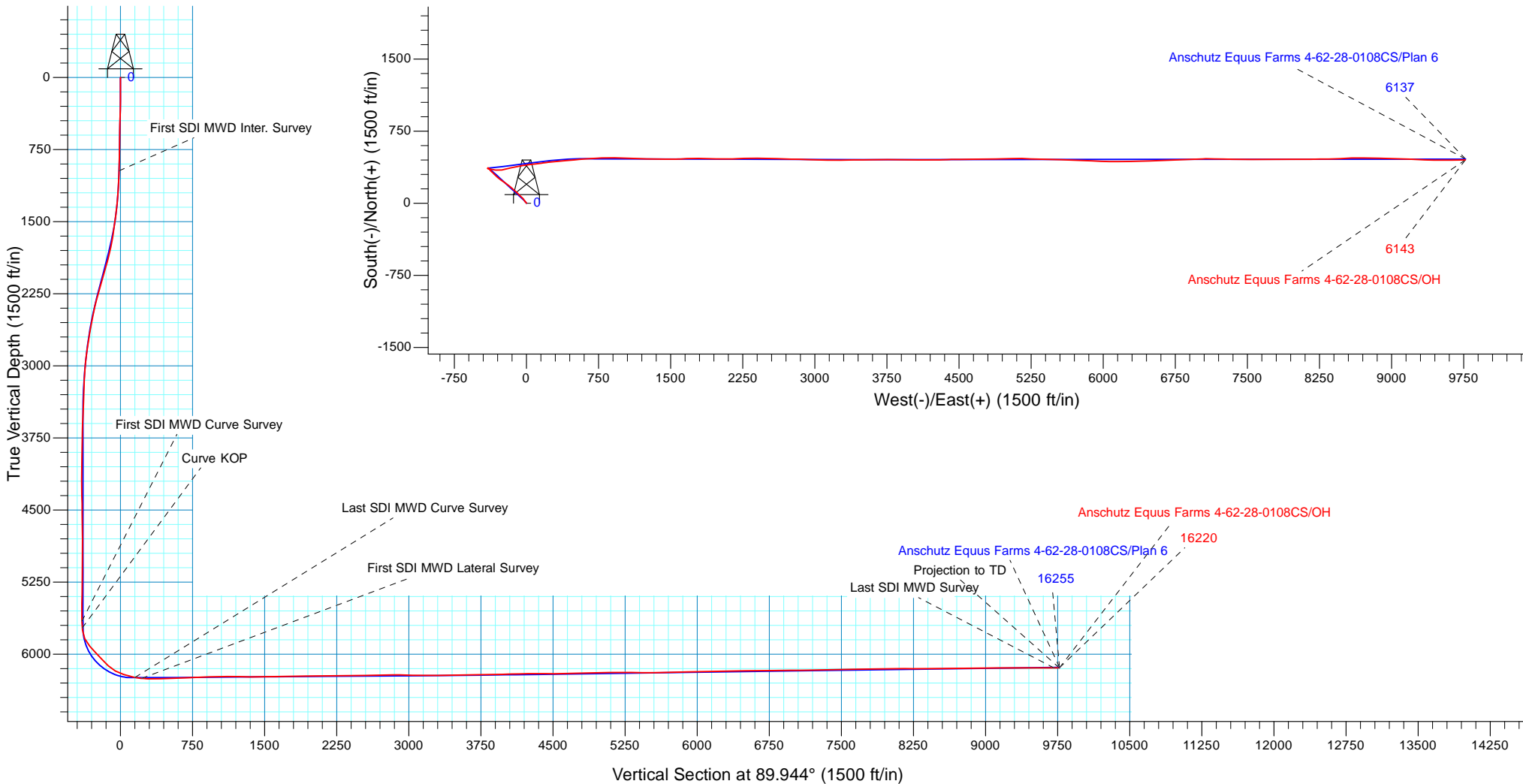
PROJECT DETAILS: Weld County, CO NAD 83

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
971.64	972.00	1.78	305.540	18.46	-14.94	-14.92	24.34	First SDI MWD Inter. Survey
5657.01	5721.00	0.68	107.930	360.85	-400.81	-400.46	573.37	First SDI MWD Curve Survey
5726.92	5791.00	4.61	110.946	359.71	-397.79	-397.44	577.39	Curve KOP
6242.13	6594.00	77.62	81.210	416.23	150.47	150.88	1133.28	Last SDI MWD Curve Survey
6252.77	6666.00	85.37	83.640	425.59	221.00	221.42	1204.43	First SDI MWD Lateral Survey
6143.21	16162.00	90.10	88.290	450.25	9709.98	9710.42	10698.63	Last SDI MWD Survey
6143.11	16220.00	90.10	88.290	451.98	9767.96	9768.40	10756.63	Projection to TD





Bill Barrett Corporation

Bill Barrett Corp.

Weld County, CO NAD 83

Anschutz Equus Farms 4-62-28_27 NWNW Pad [GOOD]

Anschutz Equus Farms 4-62-28-0108CS

OH

Design: OH

Standard Survey Report

12 February, 2018



Scientific Drilling

www.scientificdrilling.com



Company:	Bill Barrett Corp.	Local Co-ordinate Reference:	Well Anschutz Equus Farms 4-62-28-0108CS
Project:	Weld County, CO NAD 83	TVD Reference:	GL 4574.2' & KB 20' @ 4594.20ft (Savanna 802)
Site:	Anschutz Equus Farms 4-62-28_27 NWNW Pad [GOOD]	MD Reference:	GL 4574.2' & KB 20' @ 4594.20ft (Savanna 802)
Well:	Anschutz Equus Farms 4-62-28-0108CS	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 Equus Farms 4-62-28_27 NWNW Pad [GOOD]				
Site Position:		Northing:	1,350,001.23 usft	Latitude:	40° 17' 17.948 N
From:	Lat/Long	Easting:	3,324,269.21 usft	Longitude:	104° 20' 15.299 W
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.75 °

Well	Anschutz Equus Farms 4-62-28-0108CS, 951' FNL 331' FWL Sec 28 T4N R62W					
Well Position	+N/-S	0.00 ft	Northing:	1,349,662.34 usft	Latitude:	40° 17' 14.589 N
	+E/-W	0.00 ft	Easting:	3,324,353.45 usft	Longitude:	104° 20' 14.269 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft	Ground Level:	4,574.20 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2016	4/24/2017	8.14	66.87	52,418
	HDGM	6/28/2017	8.25	66.95	52,364

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		89.944

Survey Program	Date	2/12/2018			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
150.00	819.00	Survey #1 - Surface (OH)	OWSG MWD	OWSG MWD - Standard	
972.00	6,594.00	Survey #2 - Intermediate (OH)	OWSG MWD	OWSG MWD - Standard	
6,666.00	16,220.00	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	
150.00	0.61	1.240	150.00	0.80	0.02	0.02	0.41	0.41	0.00	
241.00	0.85	340.260	240.99	1.92	-0.20	-0.20	0.39	0.26	-23.05	
333.00	1.39	315.390	332.97	3.35	-1.21	-1.21	0.78	0.59	-27.03	
424.00	2.01	318.810	423.93	5.34	-3.04	-3.04	0.69	0.68	3.76	
515.00	2.21	319.790	514.87	7.88	-5.22	-5.22	0.22	0.22	1.08	
606.00	1.71	310.430	605.82	10.10	-7.39	-7.38	0.65	-0.55	-10.29	

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Site:	Anschutz Equus Farms 4-62-28_27 NWNW Pad [GOOD]	MD Reference:	GL 4574.2' & KB 20' @ 4594.20ft (Savanna 802)
Well:	Anschutz Equus Farms 4-62-28-0108CS	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)
698.00	1.90	331.820	697.77	12.34	-9.16	-9.14	0.76	0.21	23.25
789.00	1.67	315.780	788.73	14.62	-10.79	-10.78	0.60	-0.25	-17.63
819.00	1.80	318.450	818.71	15.28	-11.41	-11.40	0.51	0.43	8.90
972.00	1.78	305.540	971.64	18.46	-14.94	-14.92	0.26	-0.01	-8.44
First SDI MWD Inter. Survey									
1,063.00	4.76	328.180	1,062.49	22.49	-18.08	-18.06	3.51	3.27	24.88
1,154.00	6.69	330.330	1,153.03	30.31	-22.69	-22.66	2.13	2.12	2.36
1,246.00	6.74	324.780	1,244.40	39.38	-28.46	-28.42	0.71	0.05	-6.03
1,336.00	9.60	313.930	1,333.48	48.90	-36.91	-36.87	3.60	3.18	-12.06
1,427.00	10.09	313.390	1,423.14	59.64	-48.17	-48.11	0.55	0.54	-0.59
1,518.00	10.99	313.370	1,512.60	71.07	-60.27	-60.20	0.99	0.99	-0.02
1,609.00	11.82	315.890	1,601.81	83.72	-73.06	-72.98	1.06	0.91	2.77
1,701.00	14.25	318.250	1,691.43	98.94	-87.16	-87.07	2.70	2.64	2.57
1,792.00	15.43	310.530	1,779.40	115.16	-103.82	-103.71	2.53	1.30	-8.48
1,884.00	17.61	310.030	1,867.60	132.07	-123.78	-123.66	2.37	2.37	-0.54
1,975.00	19.81	311.180	1,953.78	151.08	-145.93	-145.79	2.45	2.42	1.26
2,067.00	21.30	310.510	2,039.92	172.20	-170.37	-170.20	1.64	1.62	-0.73
2,158.00	20.29	306.840	2,125.00	192.39	-195.57	-195.38	1.81	-1.11	-4.03
2,249.00	19.91	305.670	2,210.46	210.89	-220.78	-220.58	0.61	-0.42	-1.29
2,340.00	17.75	304.910	2,296.58	227.87	-244.75	-244.53	2.39	-2.37	-0.84
2,434.00	15.74	305.220	2,386.59	243.42	-266.92	-266.68	2.14	-2.14	0.33
2,529.00	14.22	309.680	2,478.36	258.30	-286.43	-286.17	2.01	-1.60	4.69
2,623.00	13.86	311.170	2,569.56	273.09	-303.79	-303.52	0.54	-0.38	1.59
2,717.00	13.27	312.680	2,660.93	287.81	-320.19	-319.91	0.73	-0.63	1.61
2,811.00	12.10	314.200	2,752.64	301.99	-335.19	-334.89	1.29	-1.24	1.62
2,904.00	10.53	313.010	2,843.83	314.59	-348.39	-348.08	1.71	-1.69	-1.28
2,999.00	8.63	310.970	2,937.50	325.18	-360.12	-359.80	2.03	-2.00	-2.15
3,093.00	6.57	313.700	3,030.67	333.52	-369.33	-369.01	2.22	-2.19	2.90
3,187.00	3.45	317.700	3,124.30	339.33	-375.13	-374.80	3.34	-3.32	4.26
3,281.00	3.31	326.190	3,218.13	343.68	-378.54	-378.21	0.55	-0.15	9.03
3,375.00	3.52	322.270	3,311.97	348.22	-381.82	-381.48	0.33	0.22	-4.17
3,469.00	3.76	324.880	3,405.78	353.02	-385.36	-385.01	0.31	0.26	2.78
3,562.00	4.05	316.830	3,498.56	357.91	-389.36	-389.01	0.67	0.31	-8.66
3,656.00	3.21	318.440	3,592.37	362.30	-393.37	-393.02	0.90	-0.89	1.71
3,750.00	1.86	320.320	3,686.28	365.44	-396.09	-395.74	1.44	-1.44	2.00
3,843.00	0.89	328.500	3,779.25	367.22	-397.44	-397.08	1.06	-1.04	8.80
3,937.00	1.04	303.110	3,873.24	368.31	-398.53	-398.17	0.48	0.16	-27.01
4,030.00	1.51	248.130	3,966.22	368.31	-400.38	-400.02	1.34	0.51	-59.12
4,124.00	2.32	215.680	4,060.17	366.31	-402.64	-402.28	1.41	0.86	-34.52
4,218.00	1.31	169.570	4,154.12	363.70	-403.55	-403.19	1.81	-1.07	-49.05
4,312.00	1.01	104.470	4,248.11	362.44	-402.55	-402.20	1.35	-0.32	-69.26
4,405.00	0.78	81.400	4,341.10	362.33	-401.13	-400.78	0.45	-0.25	-24.81
4,500.00	0.59	116.710	4,436.09	362.21	-400.06	-399.70	0.48	-0.20	37.17

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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)
4,593.00	0.78	69.810	4,529.08	362.21	-399.04	-398.68	0.62	0.20	-50.43
4,687.00	0.80	68.230	4,623.08	362.67	-397.83	-397.47	0.03	0.02	-1.68
4,781.00	0.58	104.670	4,717.07	362.80	-396.76	-396.40	0.51	-0.23	38.77
4,875.00	0.74	79.320	4,811.06	362.79	-395.70	-395.34	0.35	0.17	-26.97
4,969.00	0.21	314.380	4,905.06	363.02	-395.23	-394.87	0.93	-0.56	-132.91
5,064.00	0.56	259.030	5,000.06	363.06	-395.81	-395.45	0.50	0.37	-58.26
5,157.00	0.47	280.040	5,093.05	363.04	-396.63	-396.27	0.22	-0.10	22.59
5,251.00	0.79	256.600	5,187.05	362.95	-397.64	-397.28	0.43	0.34	-24.94
5,345.00	0.69	260.840	5,281.04	362.71	-398.83	-398.47	0.12	-0.11	4.51
5,439.00	0.83	249.190	5,375.03	362.38	-400.02	-399.67	0.22	0.15	-12.39
5,533.00	1.07	251.600	5,469.02	361.86	-401.49	-401.14	0.26	0.26	2.56
5,627.00	0.69	119.990	5,563.01	361.30	-401.83	-401.48	1.72	-0.40	-140.01
5,721.00	0.68	107.930	5,657.01	360.85	-400.81	-400.46	0.15	-0.01	-12.83
First SDI MWD Curve Survey									
5,791.00	4.61	110.946	5,726.92	359.71	-397.79	-397.44	5.61	5.61	4.31
Curve KOP									
5,814.00	5.90	111.060	5,749.82	358.96	-395.82	-395.47	5.61	5.61	0.50
5,908.00	26.13	100.480	5,839.72	353.40	-370.70	-370.35	21.66	21.52	-11.26
6,002.00	41.54	97.740	5,917.57	345.39	-319.15	-318.81	16.47	16.39	-2.91
6,095.00	43.77	80.050	5,986.21	346.80	-256.67	-256.33	13.08	2.40	-19.02
6,189.00	44.65	75.850	6,053.60	360.49	-192.60	-192.25	3.25	0.94	-4.47
6,283.00	46.07	77.680	6,119.65	375.79	-127.50	-127.13	2.05	1.51	1.95
6,377.00	61.10	79.110	6,175.29	390.87	-53.60	-53.22	16.04	15.99	1.52
6,470.00	74.00	85.010	6,210.76	402.51	31.33	31.72	15.05	13.87	6.34
6,564.00	75.82	82.790	6,235.23	412.16	121.56	121.97	2.99	1.94	-2.36
6,594.00	77.62	81.210	6,242.13	416.23	150.47	150.88	7.89	6.00	-5.27
Last SDI MWD Curve Survey									
6,666.00	85.37	83.640	6,252.77	425.59	221.00	221.42	11.27	10.76	3.38
First SDI MWD Lateral Survey									
6,760.00	89.16	84.450	6,257.25	435.33	314.37	314.80	4.12	4.03	0.86
6,854.00	91.81	85.260	6,256.46	443.76	407.98	408.41	2.95	2.82	0.86
6,947.00	92.25	84.580	6,253.16	451.99	500.56	501.00	0.87	0.47	-0.73
7,042.00	92.35	86.310	6,249.35	459.53	595.18	595.63	1.82	0.11	1.82
7,135.00	92.28	85.460	6,245.59	466.19	687.86	688.32	0.92	-0.08	-0.91
7,229.00	92.35	88.140	6,241.80	471.44	781.63	782.09	2.85	0.07	2.85
7,323.00	91.41	91.130	6,238.71	472.03	875.56	876.03	3.33	-1.00	3.18
7,416.00	92.75	90.080	6,235.34	471.05	968.49	968.95	1.83	1.44	-1.13
7,510.00	90.81	92.380	6,232.42	469.03	1,062.42	1,062.87	3.20	-2.06	2.45
7,605.00	88.83	92.470	6,232.71	465.01	1,157.33	1,157.78	2.09	-2.08	0.09
7,699.00	88.29	91.210	6,235.08	462.00	1,251.25	1,251.70	1.46	-0.57	-1.34
7,793.00	89.97	90.970	6,236.50	460.21	1,345.21	1,345.66	1.81	1.79	-0.26
7,886.00	91.21	90.310	6,235.55	459.17	1,438.20	1,438.65	1.51	1.33	-0.71
7,981.00	91.01	90.050	6,233.71	458.87	1,533.18	1,533.63	0.35	-0.21	-0.27

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Well:	Anschutz Equus Farms 4-62-28-0108CS	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)
8,074.00	90.37	86.590	6,232.59	461.60	1,626.12	1,626.57	3.78	-0.69	-3.72
8,168.00	90.94	87.260	6,231.51	466.64	1,719.98	1,720.44	0.94	0.61	0.71
8,263.00	90.60	92.450	6,230.23	466.88	1,814.94	1,815.39	5.47	-0.36	5.46
8,357.00	90.91	91.110	6,228.99	463.96	1,908.88	1,909.34	1.46	0.33	-1.43
8,451.00	90.60	90.680	6,227.76	462.49	2,002.86	2,003.31	0.56	-0.33	-0.46
8,545.00	90.54	89.920	6,226.82	462.00	2,096.86	2,097.31	0.81	-0.06	-0.81
8,638.00	90.57	88.200	6,225.92	463.53	2,189.84	2,190.29	1.85	0.03	-1.85
8,729.00	90.67	87.660	6,224.94	466.81	2,280.77	2,281.23	0.60	0.11	-0.59
8,823.00	89.97	88.920	6,224.41	469.62	2,374.72	2,375.18	1.53	-0.74	1.34
8,918.00	91.44	92.120	6,223.24	468.76	2,469.70	2,470.16	3.71	1.55	3.37
9,012.00	92.11	92.040	6,220.33	465.35	2,563.59	2,564.04	0.72	0.71	-0.09
9,105.00	90.23	92.540	6,218.43	461.63	2,656.49	2,656.94	2.09	-2.02	0.54
9,199.00	91.24	91.620	6,217.22	458.22	2,750.42	2,750.87	1.45	1.07	-0.98
9,293.00	90.40	90.410	6,215.88	456.56	2,844.39	2,844.84	1.57	-0.89	-1.29
9,387.00	88.76	92.130	6,216.57	454.47	2,938.36	2,938.80	2.53	-1.74	1.83
9,481.00	88.83	91.920	6,218.55	451.15	3,032.28	3,032.72	0.24	0.07	-0.22
9,574.00	89.20	90.790	6,220.14	448.95	3,125.24	3,125.68	1.28	0.40	-1.22
9,669.00	89.09	90.390	6,221.56	447.97	3,220.23	3,220.66	0.44	-0.12	-0.42
9,762.00	90.30	88.410	6,222.06	448.95	3,313.21	3,313.65	2.50	1.30	-2.13
9,856.00	91.54	89.450	6,220.55	450.70	3,407.18	3,407.62	1.72	1.32	1.11
9,950.00	92.18	89.550	6,217.50	451.52	3,501.13	3,501.57	0.69	0.68	0.11
10,043.00	90.20	89.450	6,215.57	452.33	3,594.10	3,594.54	2.13	-2.13	-0.11
10,136.00	90.00	89.400	6,215.40	453.27	3,687.09	3,687.54	0.22	-0.22	-0.05
10,230.00	91.21	88.620	6,214.41	454.89	3,781.07	3,781.51	1.53	1.29	-0.83
10,324.00	91.31	91.520	6,212.34	454.78	3,875.04	3,875.48	3.09	0.11	3.09
10,415.00	92.08	91.250	6,209.65	452.58	3,965.97	3,966.41	0.90	0.85	-0.30
10,506.00	90.97	90.670	6,207.23	451.05	4,056.93	4,057.36	1.38	-1.22	-0.64
10,598.00	91.64	90.090	6,205.13	450.44	4,148.90	4,149.34	0.96	0.73	-0.63
10,689.00	90.50	89.700	6,203.43	450.61	4,239.88	4,240.32	1.32	-1.25	-0.43
10,781.00	89.97	87.500	6,203.06	452.86	4,331.85	4,332.29	2.46	-0.58	-2.39
10,872.00	89.83	89.140	6,203.22	455.53	4,422.80	4,423.25	1.81	-0.15	1.80
10,964.00	89.80	89.690	6,203.51	456.47	4,514.80	4,515.24	0.60	-0.03	0.60
11,055.00	91.41	88.830	6,202.55	457.64	4,605.78	4,606.23	2.01	1.77	-0.95
11,146.00	91.54	89.130	6,200.21	459.26	4,696.74	4,697.18	0.36	0.14	0.33
11,238.00	91.14	90.380	6,198.06	459.65	4,788.71	4,789.16	1.43	-0.43	1.36
11,329.00	91.78	87.970	6,195.74	460.96	4,879.66	4,880.11	2.74	0.70	-2.65
11,420.00	91.31	88.630	6,193.29	463.66	4,970.59	4,971.04	0.89	-0.52	0.73
11,511.00	91.17	89.220	6,191.32	465.37	5,061.55	5,062.00	0.67	-0.15	0.65
11,603.00	90.13	90.450	6,190.27	465.63	5,153.54	5,153.99	1.75	-1.13	1.34
11,694.00	88.99	93.620	6,190.97	462.40	5,244.47	5,244.92	3.70	-1.25	3.48
11,785.00	89.16	91.300	6,192.44	458.50	5,335.37	5,335.81	2.56	0.19	-2.55
11,877.00	89.73	91.750	6,193.33	456.05	5,427.33	5,427.77	0.79	0.62	0.49

Company:	Bill Barrett Corp.	Local Co-ordinate Reference:	Well Anschutz Equus Farms 4-62-28-0108CS
Project:	Weld County, CO NAD 83	TVD Reference:	GL 4574.2' & KB 20' @ 4594.20ft (Savanna 802)
Site:	Anschutz Equus Farms 4-62-28_27 NWNW Pad [GOOD]	MD Reference:	GL 4574.2' & KB 20' @ 4594.20ft (Savanna 802)
Well:	Anschutz Equus Farms 4-62-28-0108CS	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)
11,968.00	90.20	91.340	6,193.39	453.60	5,518.30	5,518.74	0.69	0.52	-0.45
12,060.00	90.40	91.200	6,192.91	451.56	5,610.27	5,610.71	0.27	0.22	-0.15
12,151.00	91.98	92.080	6,191.02	448.95	5,701.21	5,701.65	1.99	1.74	0.97
12,242.00	90.67	92.000	6,188.91	445.71	5,792.13	5,792.56	1.44	-1.44	-0.09
12,333.00	92.04	93.670	6,186.76	441.22	5,882.99	5,883.41	2.37	1.51	1.84
12,425.00	92.04	92.910	6,183.49	435.94	5,974.77	5,975.20	0.83	0.00	-0.83
12,515.00	91.37	90.150	6,180.81	433.54	6,064.69	6,065.11	3.15	-0.74	-3.07
12,606.00	91.21	89.630	6,178.76	433.71	6,155.67	6,156.09	0.60	-0.18	-0.57
12,698.00	91.34	87.990	6,176.71	435.62	6,247.62	6,248.05	1.79	0.14	-1.78
12,789.00	90.20	89.280	6,175.49	437.79	6,338.59	6,339.01	1.89	-1.25	1.42
12,880.00	90.34	89.450	6,175.06	438.80	6,429.58	6,430.01	0.24	0.15	0.19
12,971.00	90.67	87.760	6,174.26	441.01	6,520.55	6,520.97	1.89	0.36	-1.86
13,062.00	91.21	87.920	6,172.76	444.44	6,611.47	6,611.90	0.62	0.59	0.18
13,153.00	90.10	87.300	6,171.72	448.24	6,702.38	6,702.82	1.40	-1.22	-0.68
13,245.00	90.77	87.100	6,171.03	452.73	6,794.27	6,794.71	0.76	0.73	-0.22
13,336.00	90.54	88.800	6,169.99	455.99	6,885.20	6,885.64	1.89	-0.25	1.87
13,427.00	90.74	86.590	6,168.97	459.65	6,976.12	6,976.56	2.44	0.22	-2.43
13,518.00	90.67	89.340	6,167.85	462.88	7,067.04	7,067.49	3.02	-0.08	3.02
13,610.00	90.57	91.820	6,166.85	461.95	7,159.03	7,159.47	2.70	-0.11	2.70
13,701.00	91.64	91.110	6,165.10	459.62	7,249.98	7,250.42	1.41	1.18	-0.78
13,792.00	91.10	91.350	6,162.92	457.67	7,340.93	7,341.37	0.65	-0.59	0.26
13,883.00	91.27	90.980	6,161.04	455.82	7,431.89	7,432.33	0.45	0.19	-0.41
13,974.00	90.54	89.530	6,159.60	455.41	7,522.88	7,523.32	1.78	-0.80	-1.59
14,066.00	90.77	90.690	6,158.55	455.24	7,614.87	7,615.31	1.29	0.25	1.26
14,157.00	91.11	88.610	6,157.06	455.79	7,705.85	7,706.29	2.32	0.37	-2.29
14,249.00	90.87	90.750	6,155.47	456.30	7,797.83	7,798.27	2.34	-0.26	2.33
14,340.00	91.58	88.360	6,153.52	457.01	7,888.80	7,889.24	2.74	0.78	-2.63
14,431.00	90.94	90.560	6,151.52	457.87	7,979.77	7,980.21	2.52	-0.70	2.42
14,522.00	90.50	90.860	6,150.38	456.74	8,070.75	8,071.19	0.59	-0.48	0.33
14,614.00	88.76	88.020	6,150.97	457.64	8,162.73	8,163.18	3.62	-1.89	-3.09
14,704.00	89.43	89.540	6,152.39	459.56	8,252.70	8,253.14	1.85	0.74	1.69
14,795.00	90.77	89.140	6,152.23	460.60	8,343.69	8,344.14	1.54	1.47	-0.44
14,886.00	90.30	86.970	6,151.39	463.69	8,434.63	8,435.08	2.44	-0.52	-2.38
14,976.00	90.67	87.200	6,150.62	468.27	8,524.51	8,524.96	0.48	0.41	0.26
15,068.00	91.34	89.870	6,149.01	470.62	8,616.45	8,616.91	2.99	0.73	2.90
15,159.00	90.17	90.600	6,147.81	470.25	8,707.44	8,707.90	1.52	-1.29	0.80
15,251.00	90.40	91.490	6,147.35	468.57	8,799.43	8,799.88	1.00	0.25	0.97
15,342.00	90.23	90.300	6,146.85	467.15	8,890.41	8,890.86	1.32	-0.19	-1.31
15,434.00	90.91	91.270	6,145.94	465.89	8,982.40	8,982.85	1.29	0.74	1.05
15,525.00	90.77	91.530	6,144.60	463.66	9,073.36	9,073.81	0.32	-0.15	0.29
15,616.00	90.57	93.570	6,143.54	459.62	9,164.26	9,164.70	2.25	-0.22	2.24
15,707.00	90.10	92.860	6,143.01	454.51	9,255.11	9,255.55	0.94	-0.52	-0.78
15,798.00	89.97	91.890	6,142.95	450.74	9,346.03	9,346.47	1.08	-0.14	-1.07

Company:	Bill Barrett Corp.	Local Co-ordinate Reference:	Well Anschutz Equus Farms 4-62-28-0108CS
Project:	Weld County, CO NAD 83	TVD Reference:	GL 4574.2' & KB 20' @ 4594.20ft (Savanna 802)
Site:	Anschutz Equus Farms 4-62-28_27 NWNW Pad [GOOD]	MD Reference:	GL 4574.2' & KB 20' @ 4594.20ft (Savanna 802)
Well:	Anschutz Equus Farms 4-62-28-0108CS	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)
15,892.00	90.07	90.600	6,142.92	448.70	9,440.01	9,440.44	1.38	0.11	-1.37
15,986.00	89.90	90.220	6,142.94	448.03	9,534.01	9,534.44	0.44	-0.18	-0.40
16,079.00	89.83	89.240	6,143.16	448.47	9,627.00	9,627.44	1.06	-0.08	-1.05
16,162.00	90.10	88.290	6,143.21	450.25	9,709.98	9,710.42	1.19	0.33	-1.14
Last SDI MWD Survey									
16,220.00	90.10	88.290	6,143.11	451.98	9,767.96	9,768.40	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)	
972.00	971.64	18.46	-14.94	First SDI MWD Inter. Survey
5,721.00	5,657.01	360.85	-400.81	First SDI MWD Curve Survey
5,791.00	5,726.92	359.71	-397.79	Curve KOP
6,594.00	6,242.13	416.23	150.47	Last SDI MWD Curve Survey
6,666.00	6,252.77	425.59	221.00	First SDI MWD Lateral Survey
16,162.00	6,143.21	450.25	9,709.98	Last SDI MWD Survey
16,220.00	6,143.11	451.98	9,767.96	Projection to TD

Checked By: _____ Approved By: _____ Date: _____