



Bill Barrett Corporation

Bill Barrett Corp.

Weld Co., CO (NAD 83)

Sec. 35-T5N R62W

Anschutz State 5-62-35-6457BH

OH

Survey: Surveys

Standard Survey Report

11 November, 2013





Bill Barrett Corp.
Project: Weld Co., CO (NAD 83)
Site: Sec. 35-T5N R62W
Well: Anschutz State 5-62-35-6457BH
Wellbore: OH
Design: Plan2 28Oct13 RG
Lat: 40° 21' 11.52 N
Long: 104° 17' 57.11 W
Pad GL: 4581.00
RKB:18' @ 4599.00ft (SST 17)



SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Annotation
0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
900.00	0.000	0.00	900.00	0.00	0.00	0.00	0.00	0.00	Start Build 1.50
2027.09	16.906	190.53	2010.80	-162.30	-30.17	1.50	190.53	0.60	Start 2410.78 hold at 2027.09 MD
4437.87	16.906	190.53	4317.40	-851.57	-158.28	0.00	0.00	3.13	Start Drop -2.00
5283.19	0.000	0.00	5150.50	-973.30	-180.90	2.00	180.00	3.58	Start 520.05 hold at 5283.19 MD
5803.24	0.000	0.00	5670.55	-973.30	-180.90	0.00	0.00	3.58	Start DLS 12.00 TFO 88.92
6556.42	90.382	88.92	6148.00	-964.22	299.66	12.00	88.92	474.04	Start 4352.82 hold at 6556.42 MD
10909.24	90.382	88.92	6119.00	-881.98	4651.61	0.00	0.00	4734.48	TD at 10909.24

WELL DETAILS: Anschutz State 5-62-35-6457BH

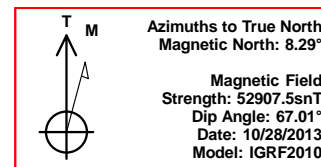
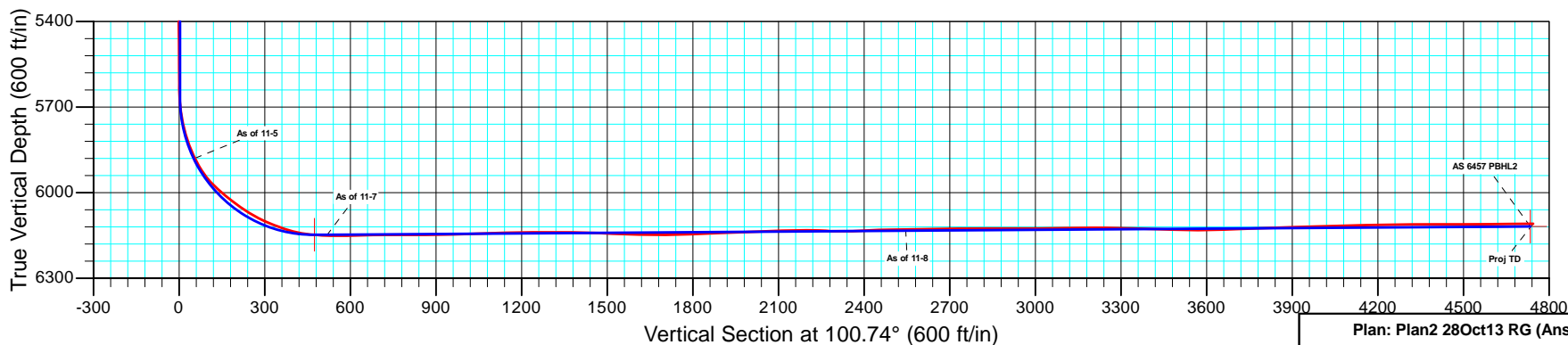
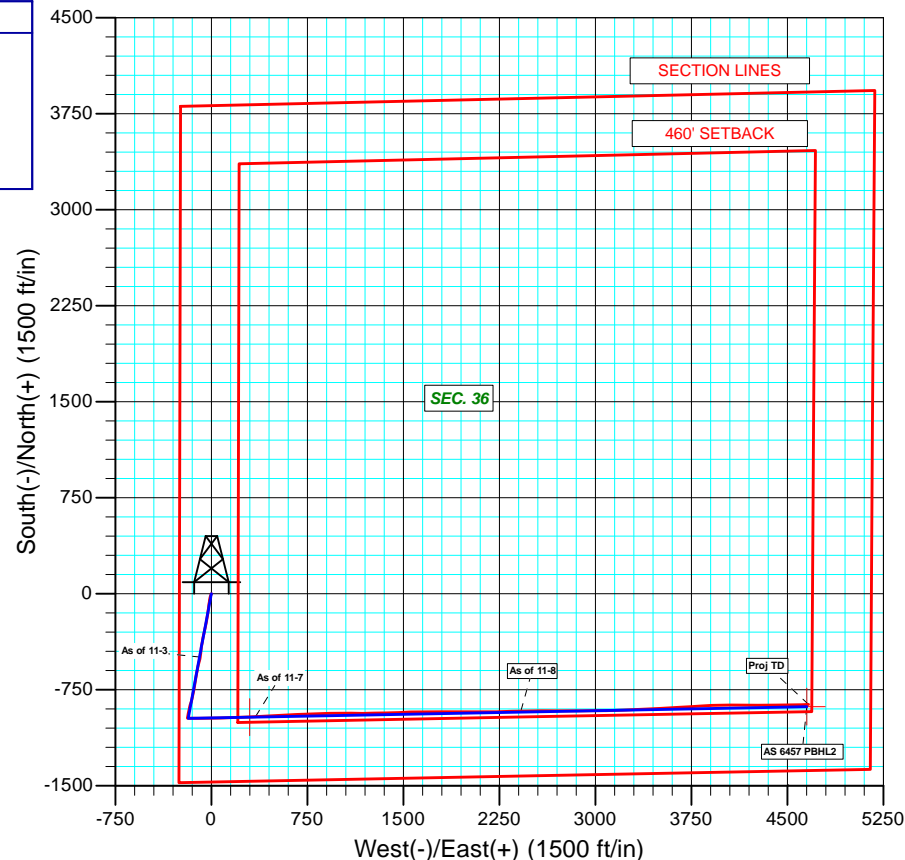
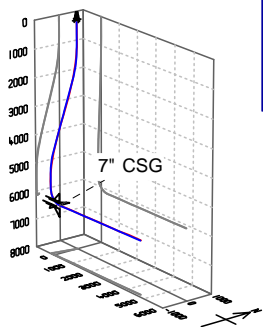
+N/-S	+E/-W	Northing	Ground Level: Easting	Latitude	Longitude	Slot
0.00	0.00	1373777.30	3334656.65	40° 21' 11.52 N	104° 17' 57.11 W	

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
AS 6457 PBHL2	6119.00	-881.98	4651.61	40° 21' 2.80 N	104° 16' 57.03 W	Point
AS 6457 LP2	6148.00	-964.22	299.66	40° 21' 1.99 N	104° 17' 53.24 W	Point

PROJECT DETAILS: Weld Co., 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



Azimuths to True North
Magnetic North: 8.29°
Magnetic Field
Strength: 52907.5snT
Dip Angle: 67.01°
Date: 10/28/2013
Model: IGRF2010

Plan: Plan2 28Oct13 RG (Anschutz State 5-62-35-6457BH/OH)

Created By: Rolando Garza

Date: 8:34, November 11 2013

Company:	Bill Barrett Corp.	Local Co-ordinate Reference:	Well Anschutz State 5-62-35-6457BH
Project:	Weld Co., CO (NAD 83)	TVD Reference:	RKB:18' @ 4599.00ft (SST 17)
Site:	Sec. 35-T5N R62W	MD Reference:	RKB:18' @ 4599.00ft (SST 17)
Well:	Anschutz State 5-62-35-6457BH	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	CompassVM

Project	Weld Co., 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		Using geodetic scale factor

Site	Sec. 35-T5N R62W		
Site Position:		Northing:	1,373,777.32 usft
From:	Lat/Long	Easting:	3,334,656.66 usft
Position Uncertainty:	0.00 ft	Slot Radius:	1.10 ft
		Latitude:	40° 21' 11.52 N
		Longitude:	104° 17' 57.11 W
		Grid Convergence:	0.78 °

Well	Anschutz State 5-62-35-6457BH		
Well Position	+N/-S	0.00 ft	Northing: 1,373,777.30 usft
	+E/-W	0.00 ft	Easting: 3,334,656.66 usft
Position Uncertainty	0.00 ft	Wellhead Elevation:	ft
		Latitude:	40° 21' 11.52 N
		Longitude:	104° 17' 57.11 W
		Ground Level:	4,581.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	10/28/2013	8.29	67.01	52,907

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	100.74	

Survey Program	Date	11/11/2013			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
855.00	10,909.00	Surveys (OH)	MWD	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	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
855.00	0.000	0.00	855.00	0.00	0.00	0.00	0.00	0.00	0.00	
872.00	0.400	238.70	872.00	-0.03	-0.05	-0.04	2.35	2.35	0.00	
962.00	2.400	201.20	961.97	-1.95	-1.00	-0.62	2.33	2.22	-41.67	
1,053.00	4.100	199.10	1,052.82	-6.80	-2.75	-1.44	1.87	1.87	-2.31	
1,144.00	5.600	199.00	1,143.49	-14.07	-5.26	-2.55	1.65	1.65	-0.11	
1,235.00	6.900	192.90	1,233.95	-23.60	-7.93	-3.39	1.60	1.43	-6.70	
1,327.00	8.400	195.30	1,325.13	-35.47	-10.94	-4.14	1.67	1.63	2.61	
1,419.00	9.500	188.80	1,416.01	-49.46	-13.87	-4.42	1.62	1.20	-7.07	
1,514.00	8.700	185.30	1,509.81	-64.36	-15.74	-3.47	1.02	-0.84	-3.68	

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Site:	Sec. 35-T5N R62W	MD Reference:	RKB:18' @ 4599.00ft (SST 17)
Well:	Anschutz State 5-62-35-6457BH	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	CompassVM

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)	
1,608.00	9.800	188.50	1,602.59	-79.35	-17.57	-2.49	1.29	1.17	3.40	
1,702.00	10.200	189.00	1,695.16	-95.48	-20.06	-1.92	0.44	0.43	0.53	
1,797.00	10.500	189.00	1,788.62	-112.34	-22.73	-1.40	0.32	0.32	0.00	
1,893.00	11.300	183.90	1,882.89	-130.36	-24.74	-0.02	1.30	0.83	-5.31	
1,987.00	13.400	185.50	1,974.71	-150.40	-26.41	2.07	2.26	2.23	1.70	
2,081.00	13.400	189.30	2,066.15	-171.99	-29.21	3.34	0.94	0.00	4.04	
2,176.00	14.100	189.60	2,158.43	-194.26	-32.92	3.84	0.74	0.74	0.32	
2,271.00	15.800	192.20	2,250.21	-218.31	-37.58	3.74	1.92	1.79	2.74	
2,367.00	17.500	195.30	2,342.18	-245.01	-44.16	2.26	2.00	1.77	3.23	
2,462.00	16.100	192.10	2,433.13	-271.67	-50.69	0.81	1.77	-1.47	-3.37	
2,558.00	18.300	191.80	2,524.83	-299.44	-56.56	0.21	2.29	2.29	-0.31	
2,654.00	17.500	192.10	2,616.18	-328.31	-62.67	-0.41	0.84	-0.83	0.31	
2,748.00	17.700	189.40	2,705.78	-356.23	-67.96	-0.41	0.89	0.21	-2.87	
2,842.00	16.100	186.80	2,795.72	-383.27	-71.84	0.82	1.88	-1.70	-2.77	
2,938.00	16.800	187.50	2,887.79	-410.24	-75.23	2.51	0.76	0.73	0.73	
3,033.00	17.600	187.70	2,978.54	-438.09	-78.94	4.05	0.84	0.84	0.21	
3,129.00	16.700	187.10	3,070.27	-466.16	-82.59	5.69	0.96	-0.94	-0.63	
3,225.00	17.800	189.20	3,161.95	-494.33	-86.65	6.96	1.32	1.15	2.19	
As of 11-3										
3,319.00	18.200	193.90	3,251.36	-522.77	-92.47	6.54	1.60	0.43	5.00	
3,416.00	18.900	193.50	3,343.32	-552.75	-99.78	4.94	0.73	0.72	-0.41	
3,510.00	18.100	194.70	3,432.46	-581.67	-107.03	3.20	0.94	-0.85	1.28	
3,605.00	18.400	188.30	3,522.69	-610.79	-112.94	2.82	2.13	0.32	-6.74	
3,701.00	16.700	190.80	3,614.22	-639.33	-117.72	3.44	1.94	-1.77	2.60	
3,797.00	17.800	189.30	3,705.90	-667.36	-122.67	3.80	1.24	1.15	-1.56	
3,892.00	16.500	188.60	3,796.67	-695.03	-127.04	4.66	1.39	-1.37	-0.74	
3,988.00	15.400	188.60	3,888.98	-721.12	-130.98	5.65	1.15	-1.15	0.00	
4,083.00	15.400	191.90	3,980.57	-745.93	-135.47	5.86	0.92	0.00	3.47	
4,178.00	15.300	192.40	4,072.18	-770.52	-140.76	5.24	0.17	-0.11	0.53	
4,274.00	14.700	191.70	4,164.91	-794.81	-145.95	4.67	0.65	-0.63	-0.73	
4,369.00	13.700	190.40	4,257.00	-817.68	-150.43	4.53	1.10	-1.05	-1.37	
4,464.00	14.000	197.30	4,349.25	-839.72	-155.88	3.28	1.77	0.32	7.26	
4,559.00	13.100	196.90	4,441.60	-860.99	-162.42	0.81	0.95	-0.95	-0.42	
4,654.00	12.400	195.10	4,534.26	-881.14	-168.21	-1.12	0.85	-0.74	-1.89	
4,749.00	11.300	193.70	4,627.23	-900.03	-173.07	-2.37	1.20	-1.16	-1.47	
4,844.00	10.300	192.00	4,720.55	-917.38	-177.04	-3.04	1.10	-1.05	-1.79	
4,939.00	9.200	186.20	4,814.18	-933.24	-179.63	-2.63	1.55	-1.16	-6.11	
5,034.00	7.400	193.20	4,908.18	-946.75	-181.84	-2.29	2.17	-1.89	7.37	
5,130.00	4.900	191.90	5,003.62	-956.78	-184.10	-2.64	2.61	-2.60	-1.35	
As of 11-4										
5,225.00	3.700	189.50	5,098.35	-963.78	-185.44	-2.66	1.28	-1.26	-2.53	
5,319.00	1.600	186.10	5,192.25	-968.07	-186.08	-2.49	2.24	-2.23	-3.62	
5,412.00	1.500	169.60	5,285.21	-970.56	-186.00	-1.94	0.49	-0.11	-17.74	
5,507.00	0.700	79.90	5,380.20	-971.68	-185.21	-0.95	1.74	-0.84	-94.42	

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Project:	Weld Co., CO (NAD 83)	TVD Reference:	RKB:18' @ 4599.00ft (SST 17)
Site:	Sec. 35-T5N R62W	MD Reference:	RKB:18' @ 4599.00ft (SST 17)
Well:	Anschutz State 5-62-35-6457BH	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	CompassVM

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)	
5,602.00	0.500	84.70	5,475.19	-971.54	-184.22	-0.01	0.22	-0.21	5.05	
5,697.00	0.000	168.50	5,570.19	-971.50	-183.81	0.39	0.53	-0.53	0.00	
5,792.00	1.900	92.00	5,665.18	-971.56	-182.24	1.94	2.00	2.00	0.00	
5,824.00	5.800	88.40	5,697.10	-971.53	-180.09	4.05	12.20	12.19	-11.25	
5,855.00	9.400	89.40	5,727.82	-971.46	-175.99	8.06	11.62	11.61	3.23	
5,887.00	12.400	87.80	5,759.24	-971.30	-169.94	13.98	9.42	9.38	-5.00	
5,919.00	16.000	90.60	5,790.26	-971.22	-162.10	21.67	11.45	11.25	8.75	
5,951.00	18.900	91.70	5,820.78	-971.42	-152.50	31.13	9.12	9.06	3.44	
5,983.00	22.400	90.40	5,850.72	-971.61	-141.22	42.25	11.03	10.94	-4.06	
6,015.00	26.900	90.60	5,879.80	-971.73	-127.88	55.38	14.06	14.06	0.63	
As of 11-5										
6,047.00	30.700	91.20	5,907.83	-971.98	-112.47	70.57	11.91	11.88	1.88	
6,078.00	35.100	92.10	5,933.86	-972.47	-95.64	87.19	14.28	14.19	2.90	
6,124.00	44.700	91.80	5,969.10	-973.47	-66.19	116.32	20.87	20.87	-0.65	
6,173.00	50.600	89.50	6,002.10	-973.84	-30.00	151.94	12.53	12.04	-4.69	
6,204.00	52.400	87.30	6,021.40	-973.16	-5.75	175.64	8.03	5.81	-7.10	
6,235.00	54.200	87.10	6,039.93	-971.95	19.07	199.80	5.83	5.81	-0.65	
6,267.00	55.800	87.40	6,058.28	-970.69	45.26	225.29	5.06	5.00	0.94	
6,297.00	60.300	87.90	6,074.15	-969.65	70.68	250.08	15.07	15.00	1.67	
6,330.00	63.600	87.80	6,089.67	-968.55	99.78	278.47	10.00	10.00	-0.30	
6,361.00	66.500	88.10	6,102.74	-967.55	127.87	305.87	9.40	9.35	0.97	
6,393.00	69.300	88.30	6,114.78	-966.62	157.50	334.81	8.77	8.75	0.63	
6,425.00	71.800	88.30	6,125.43	-965.72	187.66	364.28	7.81	7.81	0.00	
6,457.00	74.500	88.60	6,134.71	-964.90	218.27	394.20	8.49	8.44	0.94	
6,488.00	79.200	88.40	6,141.76	-964.11	248.44	423.69	15.17	15.16	-0.65	
6,520.00	83.700	88.40	6,146.52	-963.22	280.06	454.60	14.06	14.06	0.00	
6,539.62	85.478	88.46	6,148.37	-962.69	299.59	473.68	9.07	9.06	0.31	
AS 6457 LP2										
6,552.00	86.600	88.50	6,149.22	-962.36	311.93	485.75	9.07	9.06	0.31	
6,584.00	87.600	88.20	6,150.84	-961.44	343.88	516.96	3.26	3.13	-0.94	
As of 11-7										
6,658.00	91.500	85.80	6,151.42	-957.57	417.75	588.83	6.19	5.27	-3.24	
6,752.00	91.500	86.00	6,148.96	-950.85	511.48	679.66	0.21	0.00	0.21	
6,848.00	89.000	86.10	6,148.54	-944.24	607.25	772.52	2.61	-2.60	0.10	
6,943.00	90.900	88.00	6,148.63	-939.35	702.11	864.81	2.83	2.00	2.00	
7,038.00	91.600	89.10	6,146.55	-936.95	797.06	957.65	1.37	0.74	1.16	
7,133.00	91.900	88.40	6,143.65	-934.87	891.99	1,050.53	0.80	0.32	-0.74	
7,228.00	91.600	90.20	6,140.75	-933.71	986.93	1,143.60	1.92	-0.32	1.89	
7,324.00	89.700	89.70	6,139.66	-933.63	1,082.92	1,237.89	2.05	-1.98	-0.52	
7,419.00	90.600	90.00	6,139.41	-933.38	1,177.92	1,331.18	1.00	0.95	0.32	
7,516.00	88.000	88.90	6,140.60	-932.45	1,274.90	1,426.29	2.91	-2.68	-1.13	
7,610.00	87.500	88.70	6,144.29	-930.48	1,368.80	1,518.18	0.57	-0.53	-0.21	
7,706.00	88.900	87.60	6,147.30	-927.39	1,464.70	1,611.83	1.85	1.46	-1.15	
7,801.00	90.000	88.10	6,148.22	-923.82	1,559.63	1,704.43	1.27	1.16	0.53	

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Site:	Sec. 35-T5N R62W	MD Reference:	RKB:18' @ 4599.00ft (SST 17)
Well:	Anschutz State 5-62-35-6457BH	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	CompassVM

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)	
7,897.00	92.400	89.70	6,146.20	-921.98	1,655.58	1,798.36	3.00	2.50	1.67	
7,993.00	92.500	89.70	6,142.10	-921.48	1,751.49	1,892.49	0.10	0.10	0.00	
8,088.00	92.200	90.00	6,138.21	-921.23	1,846.41	1,985.71	0.45	-0.32	0.32	
8,182.00	92.300	89.90	6,134.52	-921.15	1,940.34	2,077.97	0.15	0.11	-0.11	
8,278.00	90.600	90.60	6,132.09	-921.57	2,036.30	2,172.34	1.91	-1.77	0.73	
8,374.00	86.700	90.20	6,134.35	-922.24	2,132.26	2,266.73	4.08	-4.06	-0.42	
8,469.00	92.300	88.80	6,135.18	-921.41	2,227.21	2,359.87	6.08	5.89	-1.47	
8,564.00	92.300	88.40	6,131.36	-919.09	2,322.10	2,452.67	0.42	0.00	-0.42	
8,660.00	90.500	87.70	6,129.02	-915.82	2,418.02	2,546.30	2.01	-1.88	-0.73	
As of 11-8										
8,755.00	90.900	89.70	6,127.86	-913.67	2,512.98	2,639.19	2.15	0.42	2.11	
8,849.00	90.900	90.80	6,126.38	-914.08	2,606.96	2,731.61	1.17	0.00	1.17	
8,945.00	90.100	90.00	6,125.54	-914.75	2,702.96	2,826.05	1.18	-0.83	-0.83	
9,041.00	89.800	90.10	6,125.63	-914.83	2,798.96	2,920.38	0.33	-0.31	0.10	
9,135.00	90.200	88.50	6,125.63	-913.68	2,892.95	3,012.51	1.75	0.43	-1.70	
9,231.00	91.400	90.10	6,124.29	-912.51	2,988.93	3,106.59	2.08	1.25	1.67	
9,326.00	89.900	89.40	6,123.21	-912.09	3,083.91	3,199.84	1.74	-1.58	-0.74	
9,422.00	88.700	88.60	6,124.38	-910.42	3,179.89	3,293.83	1.50	-1.25	-0.83	
9,516.00	88.000	87.40	6,127.09	-907.14	3,273.79	3,385.47	1.48	-0.74	-1.28	
9,611.00	88.500	87.20	6,129.99	-902.67	3,368.64	3,477.83	0.57	0.53	-0.21	
9,706.00	89.700	86.20	6,131.48	-897.20	3,463.47	3,569.98	1.64	1.26	-1.05	
9,800.00	92.000	86.60	6,130.09	-891.30	3,557.27	3,661.04	2.48	2.45	0.43	
9,895.00	92.500	87.70	6,126.36	-886.58	3,652.08	3,753.31	1.27	0.53	1.16	
9,990.00	91.500	86.20	6,123.04	-881.53	3,746.88	3,845.51	1.90	-1.05	-1.58	
10,085.00	92.000	86.00	6,120.14	-875.07	3,841.61	3,937.38	0.57	0.53	-0.21	
10,180.00	91.600	88.10	6,117.16	-870.18	3,936.44	4,029.63	2.25	-0.42	2.21	
10,275.00	91.300	90.50	6,114.75	-869.02	4,031.39	4,122.71	2.55	-0.32	2.53	
10,370.00	90.400	90.50	6,113.34	-869.85	4,126.38	4,216.19	0.95	-0.95	0.00	
10,465.00	90.700	89.90	6,112.43	-870.18	4,221.37	4,309.58	0.71	0.32	-0.63	
10,560.00	90.500	89.80	6,111.44	-869.93	4,316.37	4,402.87	0.24	-0.21	-0.11	
10,654.00	90.000	88.90	6,111.03	-868.87	4,410.36	4,495.01	1.10	-0.53	-0.96	
10,749.00	90.500	89.10	6,110.61	-867.21	4,505.34	4,588.03	0.57	0.53	0.21	
10,843.00	90.400	89.10	6,109.87	-865.73	4,599.33	4,680.09	0.11	-0.11	0.00	
10,851.00	90.500	89.20	6,109.81	-865.61	4,607.33	4,687.93	1.77	1.25	1.25	
10,894.97	90.500	89.20	6,109.43	-865.00	4,651.29	4,731.00	0.00	0.00	0.00	
AS 6457 PBHL2										
10,909.00	90.500	89.20	6,109.30	-864.80	4,665.32	4,744.76	0.00	0.00	0.00	
Proj TD										

Company:	Bill Barrett Corp.	Local Co-ordinate Reference:	Well Anschutz State 5-62-35-6457BH
Project:	Weld Co., CO (NAD 83)	TVD Reference:	RKB:18' @ 4599.00ft (SST 17)
Site:	Sec. 35-T5N R62W	MD Reference:	RKB:18' @ 4599.00ft (SST 17)
Well:	Anschutz State 5-62-35-6457BH	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	CompassVM

Survey Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
3,225.00	3,161.95	-494.33	-86.65	As of 11-3
5,130.00	5,003.62	-956.78	-184.10	As of 11-4
6,015.00	5,879.80	-971.73	-127.88	As of 11-5
6,584.00	6,150.84	-961.44	343.88	As of 11-7
8,660.00	6,129.02	-915.82	2,418.02	As of 11-8
10,909.00	6,109.30	-864.80	4,665.32	Proj TD

Checked By: _____ Approved By: _____ Date: _____