



Bill Barrett Corporation

Bill Barrett Corp.

Weld Co., CO

Sec.15-T6N-R62W

Heath 6-62-15-0659AH2

Wellbore #1

Plan: Design #1

Standard Planning Report

17 April, 2015

Archer



Bill Barrett Corp.
Project: Weld Co., CO
Site: Sec.15-T6N-R62W
Well: Heath 6-62-15-0659AH2
Wellbore: Wellbore #1
Design: Design #1
Lat: 40° 29' 37.071 N
Long: 104° 18' 8.831 W
Pad GL: 4732.00
KB: Well @ 4748.00usft

Archer

Plan: Design #1 (Heath 6-62-15-0659AH2/Wellbore #1)

Created By: Ricky Osburn Date: 14:10, April 17 2015

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	Start Build 2.00
1332.14	8.64	297.94	1330.50	15.24	-28.74	2.00	297.94	-15.12	Start 3637.84 hold at 1332.14 MD
4969.98	8.64	297.94	4927.04	271.39	-511.69	0.00	0.00	-269.15	Start Drop -2.00
5402.12	0.00	0.00	5357.54	286.63	-540.43	2.00	180.00	-284.27	Start 500.00 hold at 5402.12 MD
5902.12	0.00	0.00	5857.54	286.63	-540.43	0.00	0.00	-284.27	Start Build 12.00
6654.39	90.27	180.25	6335.00	-193.09	-542.54	12.00	180.25	195.46	Start 9495.75 hold at 6654.39 MD
16150.13	90.27	180.25	6290.00	-9688.64	-584.29	0.00	0.00	9691.09	TD at 16150.13

WELL DETAILS: Heath 6-62-15-0659AH2

+N/-S	+E/-W	Northing	Ground Level: Easting	4732.00 Latitude	Longitude	Slot
0.00	0.00	1424919.225	3333058.467	40° 29' 37.071 N	104° 18' 8.831 W	

WELLBORE TARGET DETAILS (LAT/LONG)

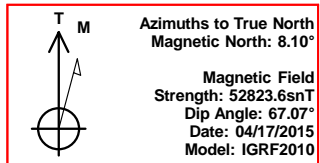
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape Point
Heath 6-62-15-0659AH2 tgt	6290.00	-9688.64	-584.29	40° 28' 1.330 N	104° 18' 16.391 W	

CASING DETAILS

TVD	MD	Name
6335.00	6654.39	7" Csg.

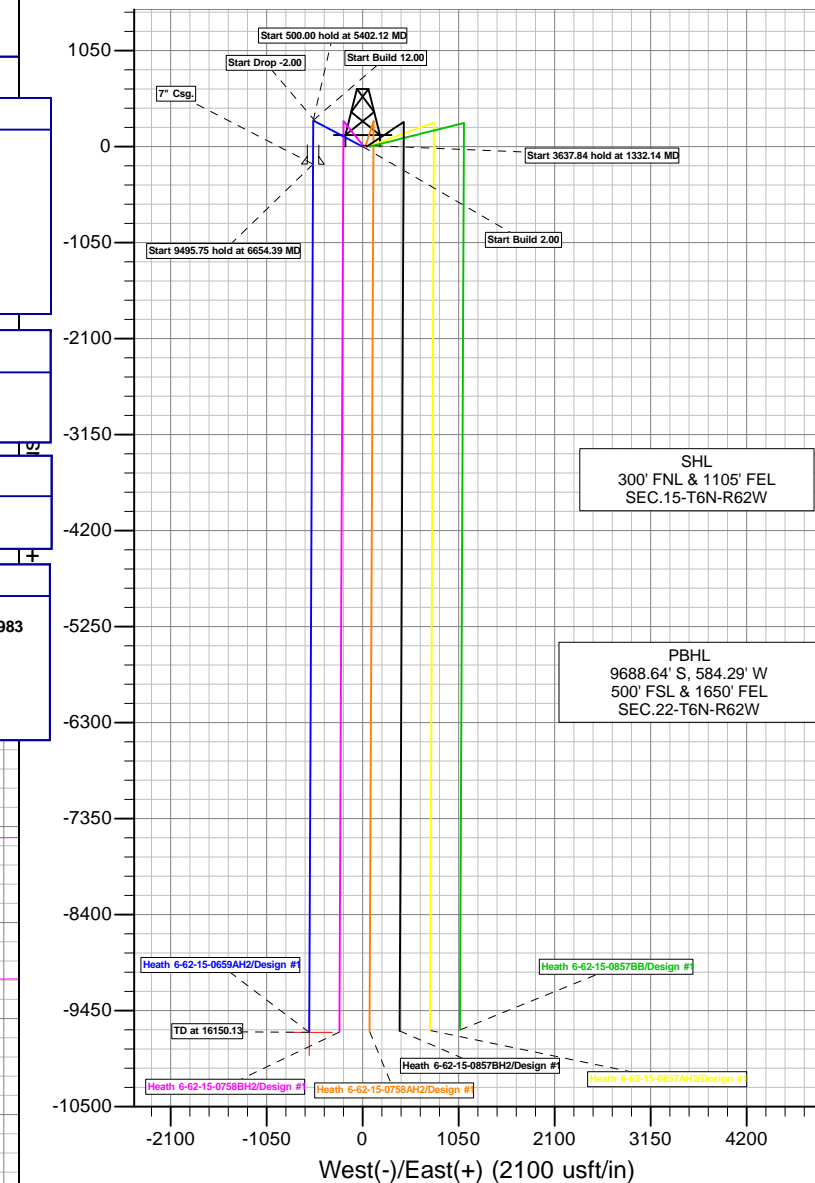
PROJECT DETAILS: Weld Co., CO

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Colorado Northern Zone
System Datum: Mean Sea Level



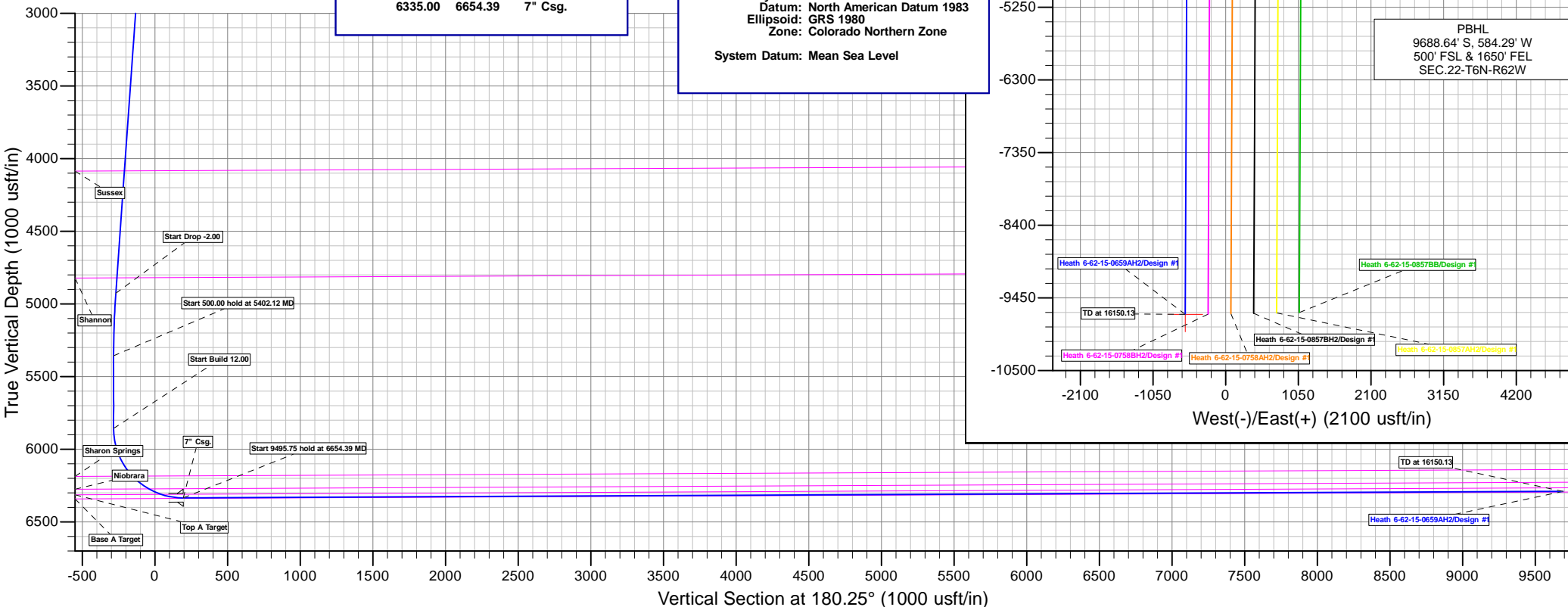
Azimuths to True North
Magnetic North: 8.10°

Magnetic Field
Strength: 52823.6snT
Dip Angle: 67.07°
Date: 04/17/2015
Model: IGRF2010



SHL
300' FNL & 1105' FEL
SEC.15-T6N-R62W

PBHL
9688.64' S, 584.29' W
500' FSL & 1650' FEL
SEC.22-T6N-R62W



Vertical Section at 180.25° (1000 usft/in)

Database:	EDMDBBW	Local Co-ordinate Reference:	Well Heath 6-62-15-0659AH2
Company:	Bill Barrett Corp.	TVD Reference:	Well @ 4748.00usft
Project:	Weld Co., CO	MD Reference:	Well @ 4748.00usft
Site:	Sec.15-T6N-R62W	North Reference:	True
Well:	Heath 6-62-15-0659AH2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Project	Weld Co., CO		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site	Sec.15-T6N-R62W				
Site Position:		Northing:	1,424,875.232 usft	Latitude:	40° 29' 37.061 N
From:	Lat/Long	Easting:	3,329,865.887 usft	Longitude:	104° 18' 50.159 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16"	Grid Convergence:	0.77 °

Well	Heath 6-62-15-0659AH2					
Well Position	+N/-S	1.29 usft	Northing:	1,424,919.225 usft	Latitude:	40° 29' 37.071 N
	+E/-W	3,192.88 usft	Easting:	3,333,058.467 usft	Longitude:	104° 18' 8.831 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	4,732.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2015/04/17	8.10	67.07	52,824

Design	Design #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	180.25

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,332.14	8.64	297.94	1,330.50	15.24	-28.74	2.00	2.00	0.00	297.94	
4,969.98	8.64	297.94	4,927.04	271.39	-511.69	0.00	0.00	0.00	0.00	
5,402.12	0.00	0.00	5,357.54	286.63	-540.43	2.00	-2.00	0.00	180.00	
5,902.12	0.00	0.00	5,857.54	286.63	-540.43	0.00	0.00	0.00	0.00	
6,654.39	90.27	180.25	6,335.00	-193.09	-542.54	12.00	12.00	0.00	180.25	Heath 6-62-15-0659A
16,150.13	90.27	180.25	6,290.00	-9,688.64	-584.29	0.00	0.00	0.00	0.00	Heath 6-62-15-0659A

Database:	EDMDBBW	Local Co-ordinate Reference:	Well Heath 6-62-15-0659AH2
Company:	Bill Barrett Corp.	TVD Reference:	Well @ 4748.00usft
Project:	Weld Co., CO	MD Reference:	Well @ 4748.00usft
Site:	Sec.15-T6N-R62W	North Reference:	True
Well:	Heath 6-62-15-0659AH2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	2.00	297.94	999.98	0.82	-1.54	-0.81	2.00	2.00	0.00
1,100.00	4.00	297.94	1,099.84	3.27	-6.17	-3.24	2.00	2.00	0.00
1,200.00	6.00	297.94	1,199.45	7.35	-13.86	-7.29	2.00	2.00	0.00
1,300.00	8.00	297.94	1,298.70	13.06	-24.63	-12.96	2.00	2.00	0.00
Start 3637.84 hold at 1332.14 MD									
1,332.14	8.64	297.94	1,330.50	15.24	-28.74	-15.12	2.00	2.00	0.00
1,400.00	8.64	297.94	1,397.59	20.02	-37.75	-19.86	0.00	0.00	0.00
1,500.00	8.64	297.94	1,496.46	27.06	-51.02	-26.84	0.00	0.00	0.00
1,600.00	8.64	297.94	1,595.32	34.10	-64.30	-33.82	0.00	0.00	0.00
1,700.00	8.64	297.94	1,694.19	41.14	-77.58	-40.81	0.00	0.00	0.00
1,800.00	8.64	297.94	1,793.05	48.19	-90.85	-47.79	0.00	0.00	0.00
1,900.00	8.64	297.94	1,891.91	55.23	-104.13	-54.77	0.00	0.00	0.00
2,000.00	8.64	297.94	1,990.78	62.27	-117.40	-61.75	0.00	0.00	0.00
2,100.00	8.64	297.94	2,089.64	69.31	-130.68	-68.74	0.00	0.00	0.00
2,200.00	8.64	297.94	2,188.51	76.35	-143.95	-75.72	0.00	0.00	0.00
2,300.00	8.64	297.94	2,287.37	83.39	-157.23	-82.70	0.00	0.00	0.00
2,400.00	8.64	297.94	2,386.24	90.43	-170.51	-89.69	0.00	0.00	0.00
2,500.00	8.64	297.94	2,485.10	97.47	-183.78	-96.67	0.00	0.00	0.00
2,600.00	8.64	297.94	2,583.97	104.51	-197.06	-103.65	0.00	0.00	0.00
2,700.00	8.64	297.94	2,682.83	111.56	-210.33	-110.64	0.00	0.00	0.00
2,800.00	8.64	297.94	2,781.69	118.60	-223.61	-117.62	0.00	0.00	0.00
2,900.00	8.64	297.94	2,880.56	125.64	-236.88	-124.60	0.00	0.00	0.00
3,000.00	8.64	297.94	2,979.42	132.68	-250.16	-131.59	0.00	0.00	0.00
3,100.00	8.64	297.94	3,078.29	139.72	-263.44	-138.57	0.00	0.00	0.00
3,200.00	8.64	297.94	3,177.15	146.76	-276.71	-145.55	0.00	0.00	0.00
3,300.00	8.64	297.94	3,276.02	153.80	-289.99	-152.54	0.00	0.00	0.00
3,400.00	8.64	297.94	3,374.88	160.84	-303.26	-159.52	0.00	0.00	0.00
3,500.00	8.64	297.94	3,473.75	167.88	-316.54	-166.50	0.00	0.00	0.00
3,600.00	8.64	297.94	3,572.61	174.93	-329.81	-173.48	0.00	0.00	0.00
3,700.00	8.64	297.94	3,671.47	181.97	-343.09	-180.47	0.00	0.00	0.00
3,800.00	8.64	297.94	3,770.34	189.01	-356.37	-187.45	0.00	0.00	0.00
3,900.00	8.64	297.94	3,869.20	196.05	-369.64	-194.43	0.00	0.00	0.00
4,000.00	8.64	297.94	3,968.07	203.09	-382.92	-201.42	0.00	0.00	0.00
4,100.00	8.64	297.94	4,066.93	210.13	-396.19	-208.40	0.00	0.00	0.00
Sussex									
4,118.26	8.64	297.94	4,084.99	211.42	-398.62	-209.68	0.00	0.00	0.00
4,200.00	8.64	297.94	4,165.80	217.17	-409.47	-215.38	0.00	0.00	0.00
4,300.00	8.64	297.94	4,264.66	224.21	-422.75	-222.37	0.00	0.00	0.00
4,400.00	8.64	297.94	4,363.53	231.25	-436.02	-229.35	0.00	0.00	0.00
4,500.00	8.64	297.94	4,462.39	238.30	-449.30	-236.33	0.00	0.00	0.00
4,600.00	8.64	297.94	4,561.25	245.34	-462.57	-243.32	0.00	0.00	0.00
4,700.00	8.64	297.94	4,660.12	252.38	-475.85	-250.30	0.00	0.00	0.00

Database:	EDMDBBW	Local Co-ordinate Reference:	Well Heath 6-62-15-0659AH2
Company:	Bill Barrett Corp.	TVD Reference:	Well @ 4748.00usft
Project:	Weld Co., CO	MD Reference:	Well @ 4748.00usft
Site:	Sec.15-T6N-R62W	North Reference:	True
Well:	Heath 6-62-15-0659AH2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,800.00	8.64	297.94	4,758.98	259.42	-489.12	-257.28	0.00	0.00	0.00
Shannon									
4,862.96	8.64	297.94	4,821.23	263.85	-497.48	-261.68	0.00	0.00	0.00
4,900.00	8.64	297.94	4,857.85	266.46	-502.40	-264.27	0.00	0.00	0.00
Start Drop -2.00									
4,969.98	8.64	297.94	4,927.04	271.39	-511.69	-269.15	0.00	0.00	0.00
5,000.00	8.04	297.94	4,956.74	273.43	-515.54	-271.18	2.00	-2.00	0.00
5,100.00	6.04	297.94	5,055.98	279.17	-526.37	-276.87	2.00	-2.00	0.00
5,200.00	4.04	297.94	5,155.58	283.29	-534.13	-280.96	2.00	-2.00	0.00
5,300.00	2.04	297.94	5,255.44	285.78	-538.82	-283.42	2.00	-2.00	0.00
Start 500.00 hold at 5402.12 MD									
5,402.12	0.00	0.00	5,357.54	286.63	-540.43	-284.27	2.00	-2.00	0.00
5,500.00	0.00	0.00	5,455.42	286.63	-540.43	-284.27	0.00	0.00	0.00
5,600.00	0.00	0.00	5,555.42	286.63	-540.43	-284.27	0.00	0.00	0.00
5,700.00	0.00	0.00	5,655.42	286.63	-540.43	-284.27	0.00	0.00	0.00
5,800.00	0.00	0.00	5,755.42	286.63	-540.43	-284.27	0.00	0.00	0.00
Start Build 12.00									
5,902.12	0.00	0.00	5,857.54	286.63	-540.43	-284.27	0.00	0.00	0.00
5,925.00	2.75	180.25	5,880.41	286.08	-540.43	-283.72	12.00	12.00	0.00
5,950.00	5.75	180.25	5,905.34	284.23	-540.44	-281.87	12.00	12.00	0.00
5,975.00	8.75	180.25	5,930.13	281.08	-540.45	-278.72	12.00	12.00	0.00
6,000.00	11.75	180.25	5,954.73	276.63	-540.47	-274.27	12.00	12.00	0.00
6,025.00	14.75	180.25	5,979.06	270.91	-540.50	-268.55	12.00	12.00	0.00
6,050.00	17.75	180.25	6,003.06	263.91	-540.53	-261.55	12.00	12.00	0.00
6,075.00	20.75	180.25	6,026.66	255.67	-540.57	-253.31	12.00	12.00	0.00
6,100.00	23.75	180.25	6,049.80	246.21	-540.61	-243.85	12.00	12.00	0.00
6,125.00	26.75	180.25	6,072.41	235.55	-540.65	-233.19	12.00	12.00	0.00
6,150.00	29.75	180.25	6,094.43	223.72	-540.71	-221.36	12.00	12.00	0.00
6,175.00	32.75	180.25	6,115.80	210.75	-540.76	-208.39	12.00	12.00	0.00
6,200.00	35.75	180.25	6,136.47	196.69	-540.83	-194.33	12.00	12.00	0.00
6,225.00	38.75	180.25	6,156.36	181.56	-540.89	-179.20	12.00	12.00	0.00
6,250.00	41.75	180.25	6,175.44	165.41	-540.96	-163.05	12.00	12.00	0.00
Sharon Springs									
6,263.96	43.42	180.25	6,185.72	155.96	-541.00	-153.60	12.00	12.00	0.00
6,275.00	44.75	180.25	6,193.65	148.28	-541.04	-145.92	12.00	12.00	0.00
6,300.00	47.75	180.25	6,210.94	130.23	-541.12	-127.87	12.00	12.00	0.00
6,325.00	50.75	180.25	6,227.26	111.29	-541.20	-108.93	12.00	12.00	0.00
6,350.00	53.75	180.25	6,242.56	91.53	-541.29	-89.17	12.00	12.00	0.00
6,375.00	56.75	180.25	6,256.81	70.99	-541.38	-68.63	12.00	12.00	0.00
6,400.00	59.75	180.25	6,269.97	49.74	-541.47	-47.37	12.00	12.00	0.00
Niobrara									
6,406.48	60.52	180.25	6,273.20	44.12	-541.50	-41.76	12.00	12.00	0.00
6,425.00	62.75	180.25	6,282.00	27.82	-541.57	-25.46	12.00	12.00	0.00
6,450.00	65.75	180.25	6,292.86	5.31	-541.67	-2.95	12.00	12.00	0.00
6,475.00	68.75	180.25	6,302.53	-17.74	-541.77	20.11	12.00	12.00	0.00
Top A Target									
6,499.43	71.68	180.25	6,310.80	-40.73	-541.87	43.09	12.00	12.00	0.00
6,500.00	71.75	180.25	6,310.98	-41.27	-541.87	43.63	12.00	12.00	0.00
6,525.00	74.75	180.25	6,318.18	-65.20	-541.98	67.57	12.00	12.00	0.00
6,550.00	77.75	180.25	6,324.12	-89.48	-542.08	91.85	12.00	12.00	0.00
6,575.00	80.75	180.25	6,328.79	-114.04	-542.19	116.41	12.00	12.00	0.00
6,600.00	83.75	180.25	6,332.16	-138.81	-542.30	141.18	12.00	12.00	0.00
6,625.00	86.75	180.25	6,334.23	-163.72	-542.41	166.09	12.00	12.00	0.00

Database:	EDMDBBW	Local Co-ordinate Reference:	Well Heath 6-62-15-0659AH2
Company:	Bill Barrett Corp.	TVD Reference:	Well @ 4748.00usft
Project:	Weld Co., CO	MD Reference:	Well @ 4748.00usft
Site:	Sec.15-T6N-R62W	North Reference:	True
Well:	Heath 6-62-15-0659AH2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
6,650.00	89.75	180.25	6,335.00	-188.71	-542.52	191.07	12.00	12.00	0.00
Start 9495.75 hold at 6654.39 MD - 7" Csg.									
6,654.39	90.27	180.25	6,335.00	-193.10	-542.54	195.46	11.99	11.99	0.00
6,700.00	90.27	180.25	6,334.78	-238.71	-542.74	241.07	0.00	0.00	0.00
6,800.00	90.27	180.25	6,334.31	-338.70	-543.18	341.07	0.00	0.00	0.00
6,900.00	90.27	180.25	6,333.84	-438.70	-543.62	441.07	0.00	0.00	0.00
7,000.00	90.27	180.25	6,333.36	-538.70	-544.06	541.07	0.00	0.00	0.00
7,100.00	90.27	180.25	6,332.89	-638.70	-544.50	641.07	0.00	0.00	0.00
7,200.00	90.27	180.25	6,332.41	-738.69	-544.94	741.07	0.00	0.00	0.00
7,300.00	90.27	180.25	6,331.94	-838.69	-545.38	841.06	0.00	0.00	0.00
7,400.00	90.27	180.25	6,331.47	-938.69	-545.82	941.06	0.00	0.00	0.00
7,500.00	90.27	180.25	6,330.99	-1,038.69	-546.26	1,041.06	0.00	0.00	0.00
7,600.00	90.27	180.25	6,330.52	-1,138.69	-546.70	1,141.06	0.00	0.00	0.00
7,700.00	90.27	180.25	6,330.04	-1,238.68	-547.14	1,241.06	0.00	0.00	0.00
7,800.00	90.27	180.25	6,329.57	-1,338.68	-547.58	1,341.06	0.00	0.00	0.00
7,900.00	90.27	180.25	6,329.10	-1,438.68	-548.02	1,441.06	0.00	0.00	0.00
8,000.00	90.27	180.25	6,328.62	-1,538.68	-548.46	1,541.06	0.00	0.00	0.00
8,100.00	90.27	180.25	6,328.15	-1,638.68	-548.90	1,641.06	0.00	0.00	0.00
8,200.00	90.27	180.25	6,327.68	-1,738.67	-549.34	1,741.05	0.00	0.00	0.00
8,300.00	90.27	180.25	6,327.20	-1,838.67	-549.78	1,841.05	0.00	0.00	0.00
8,400.00	90.27	180.25	6,326.73	-1,938.67	-550.22	1,941.05	0.00	0.00	0.00
8,500.00	90.27	180.25	6,326.25	-2,038.67	-550.65	2,041.05	0.00	0.00	0.00
8,600.00	90.27	180.25	6,325.78	-2,138.67	-551.09	2,141.05	0.00	0.00	0.00
8,700.00	90.27	180.25	6,325.31	-2,238.66	-551.53	2,241.05	0.00	0.00	0.00
8,800.00	90.27	180.25	6,324.83	-2,338.66	-551.97	2,341.05	0.00	0.00	0.00
8,900.00	90.27	180.25	6,324.36	-2,438.66	-552.41	2,441.05	0.00	0.00	0.00
9,000.00	90.27	180.25	6,323.88	-2,538.66	-552.85	2,541.05	0.00	0.00	0.00
9,100.00	90.27	180.25	6,323.41	-2,638.66	-553.29	2,641.04	0.00	0.00	0.00
9,200.00	90.27	180.25	6,322.94	-2,738.65	-553.73	2,741.04	0.00	0.00	0.00
9,300.00	90.27	180.25	6,322.46	-2,838.65	-554.17	2,841.04	0.00	0.00	0.00
9,400.00	90.27	180.25	6,321.99	-2,938.65	-554.61	2,941.04	0.00	0.00	0.00
9,500.00	90.27	180.25	6,321.52	-3,038.65	-555.05	3,041.04	0.00	0.00	0.00
9,600.00	90.27	180.25	6,321.04	-3,138.64	-555.49	3,141.04	0.00	0.00	0.00
9,700.00	90.27	180.25	6,320.57	-3,238.64	-555.93	3,241.04	0.00	0.00	0.00
9,800.00	90.27	180.25	6,320.09	-3,338.64	-556.37	3,341.04	0.00	0.00	0.00
9,900.00	90.27	180.25	6,319.62	-3,438.64	-556.81	3,441.04	0.00	0.00	0.00
10,000.00	90.27	180.25	6,319.15	-3,538.64	-557.25	3,541.03	0.00	0.00	0.00
10,100.00	90.27	180.25	6,318.67	-3,638.63	-557.69	3,641.03	0.00	0.00	0.00
10,200.00	90.27	180.25	6,318.20	-3,738.63	-558.13	3,741.03	0.00	0.00	0.00
10,300.00	90.27	180.25	6,317.72	-3,838.63	-558.57	3,841.03	0.00	0.00	0.00
10,400.00	90.27	180.25	6,317.25	-3,938.63	-559.01	3,941.03	0.00	0.00	0.00
10,500.00	90.27	180.25	6,316.78	-4,038.63	-559.45	4,041.03	0.00	0.00	0.00
10,600.00	90.27	180.25	6,316.30	-4,138.62	-559.89	4,141.03	0.00	0.00	0.00
10,700.00	90.27	180.25	6,315.83	-4,238.62	-560.33	4,241.03	0.00	0.00	0.00
10,800.00	90.27	180.25	6,315.36	-4,338.62	-560.77	4,341.03	0.00	0.00	0.00
10,900.00	90.27	180.25	6,314.88	-4,438.62	-561.21	4,441.02	0.00	0.00	0.00
11,000.00	90.27	180.25	6,314.41	-4,538.62	-561.65	4,541.02	0.00	0.00	0.00
11,100.00	90.27	180.25	6,313.93	-4,638.61	-562.09	4,641.02	0.00	0.00	0.00
11,200.00	90.27	180.25	6,313.46	-4,738.61	-562.53	4,741.02	0.00	0.00	0.00
11,300.00	90.27	180.25	6,312.99	-4,838.61	-562.97	4,841.02	0.00	0.00	0.00
11,400.00	90.27	180.25	6,312.51	-4,938.61	-563.41	4,941.02	0.00	0.00	0.00
11,500.00	90.27	180.25	6,312.04	-5,038.60	-563.85	5,041.02	0.00	0.00	0.00
11,600.00	90.27	180.25	6,311.56	-5,138.60	-564.29	5,141.02	0.00	0.00	0.00
11,700.00	90.27	180.25	6,311.09	-5,238.60	-564.73	5,241.01	0.00	0.00	0.00

Database:	EDMDBBW	Local Co-ordinate Reference:	Well Heath 6-62-15-0659AH2
Company:	Bill Barrett Corp.	TVD Reference:	Well @ 4748.00usft
Project:	Weld Co., CO	MD Reference:	Well @ 4748.00usft
Site:	Sec.15-T6N-R62W	North Reference:	True
Well:	Heath 6-62-15-0659AH2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
11,800.00	90.27	180.25	6,310.62	-5,338.60	-565.17	5,341.01	0.00	0.00	0.00
11,900.00	90.27	180.25	6,310.14	-5,438.60	-565.61	5,441.01	0.00	0.00	0.00
12,000.00	90.27	180.25	6,309.67	-5,538.59	-566.04	5,541.01	0.00	0.00	0.00
12,100.00	90.27	180.25	6,309.20	-5,638.59	-566.48	5,641.01	0.00	0.00	0.00
12,200.00	90.27	180.25	6,308.72	-5,738.59	-566.92	5,741.01	0.00	0.00	0.00
12,300.00	90.27	180.25	6,308.25	-5,838.59	-567.36	5,841.01	0.00	0.00	0.00
12,400.00	90.27	180.25	6,307.77	-5,938.59	-567.80	5,941.01	0.00	0.00	0.00
12,500.00	90.27	180.25	6,307.30	-6,038.58	-568.24	6,041.01	0.00	0.00	0.00
12,600.00	90.27	180.25	6,306.83	-6,138.58	-568.68	6,141.00	0.00	0.00	0.00
12,700.00	90.27	180.25	6,306.35	-6,238.58	-569.12	6,241.00	0.00	0.00	0.00
12,800.00	90.27	180.25	6,305.88	-6,338.58	-569.56	6,341.00	0.00	0.00	0.00
12,900.00	90.27	180.25	6,305.40	-6,438.58	-570.00	6,441.00	0.00	0.00	0.00
13,000.00	90.27	180.25	6,304.93	-6,538.57	-570.44	6,541.00	0.00	0.00	0.00
13,100.00	90.27	180.25	6,304.46	-6,638.57	-570.88	6,641.00	0.00	0.00	0.00
13,200.00	90.27	180.25	6,303.98	-6,738.57	-571.32	6,741.00	0.00	0.00	0.00
13,300.00	90.27	180.25	6,303.51	-6,838.57	-571.76	6,841.00	0.00	0.00	0.00
13,400.00	90.27	180.25	6,303.04	-6,938.57	-572.20	6,941.00	0.00	0.00	0.00
13,500.00	90.27	180.25	6,302.56	-7,038.56	-572.64	7,040.99	0.00	0.00	0.00
13,600.00	90.27	180.25	6,302.09	-7,138.56	-573.08	7,140.99	0.00	0.00	0.00
13,700.00	90.27	180.25	6,301.61	-7,238.56	-573.52	7,240.99	0.00	0.00	0.00
13,800.00	90.27	180.25	6,301.14	-7,338.56	-573.96	7,340.99	0.00	0.00	0.00
13,900.00	90.27	180.25	6,300.67	-7,438.55	-574.40	7,440.99	0.00	0.00	0.00
14,000.00	90.27	180.25	6,300.19	-7,538.55	-574.84	7,540.99	0.00	0.00	0.00
14,100.00	90.27	180.25	6,299.72	-7,638.55	-575.28	7,640.99	0.00	0.00	0.00
14,200.00	90.27	180.25	6,299.24	-7,738.55	-575.72	7,740.99	0.00	0.00	0.00
14,300.00	90.27	180.25	6,298.77	-7,838.55	-576.16	7,840.99	0.00	0.00	0.00
14,400.00	90.27	180.25	6,298.30	-7,938.54	-576.60	7,940.98	0.00	0.00	0.00
14,500.00	90.27	180.25	6,297.82	-8,038.54	-577.04	8,040.98	0.00	0.00	0.00
14,600.00	90.27	180.25	6,297.35	-8,138.54	-577.48	8,140.98	0.00	0.00	0.00
14,700.00	90.27	180.25	6,296.87	-8,238.54	-577.92	8,240.98	0.00	0.00	0.00
14,800.00	90.27	180.25	6,296.40	-8,338.54	-578.36	8,340.98	0.00	0.00	0.00
14,900.00	90.27	180.25	6,295.93	-8,438.53	-578.80	8,440.98	0.00	0.00	0.00
15,000.00	90.27	180.25	6,295.45	-8,538.53	-579.24	8,540.98	0.00	0.00	0.00
15,100.00	90.27	180.25	6,294.98	-8,638.53	-579.68	8,640.98	0.00	0.00	0.00
15,200.00	90.27	180.25	6,294.51	-8,738.53	-580.12	8,740.98	0.00	0.00	0.00
15,300.00	90.27	180.25	6,294.03	-8,838.53	-580.56	8,840.97	0.00	0.00	0.00
15,400.00	90.27	180.25	6,293.56	-8,938.52	-580.99	8,940.97	0.00	0.00	0.00
15,500.00	90.27	180.25	6,293.08	-9,038.52	-581.43	9,040.97	0.00	0.00	0.00
15,600.00	90.27	180.25	6,292.61	-9,138.52	-581.87	9,140.97	0.00	0.00	0.00
15,700.00	90.27	180.25	6,292.14	-9,238.52	-582.31	9,240.97	0.00	0.00	0.00
15,800.00	90.27	180.25	6,291.66	-9,338.52	-582.75	9,340.97	0.00	0.00	0.00
15,900.00	90.27	180.25	6,291.19	-9,438.51	-583.19	9,440.97	0.00	0.00	0.00
16,000.00	90.27	180.25	6,290.71	-9,538.51	-583.63	9,540.97	0.00	0.00	0.00
16,100.00	90.27	180.25	6,290.24	-9,638.51	-584.07	9,640.97	0.00	0.00	0.00
TD at 16150.13									
16,150.13	90.27	180.25	6,290.00	-9,688.64	-584.29	9,691.09	0.00	0.00	0.00

Database:	EDMDBBW	Local Co-ordinate Reference:	Well Heath 6-62-15-0659AH2
Company:	Bill Barrett Corp.	TVD Reference:	Well @ 4748.00usft
Project:	Weld Co., CO	MD Reference:	Well @ 4748.00usft
Site:	Sec.15-T6N-R62W	North Reference:	True
Well:	Heath 6-62-15-0659AH2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
- Shape									
Heath 6-62-15-0659AH2	0.00	0.00	6,290.00	-9,688.64	-584.29	1,415,223.581	3,332,605.067	40° 28' 1.330 N	104° 18' 16.391 W
- plan hits target center									
- Point									

Casing Points					
Measured Depth	Vertical Depth	Name		Casing Diameter	Hole Diameter
(usft)	(usft)			(")	(")
6,654.39	6,335.00	7" Csg.		7	8-3/4

Formations					
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction
(usft)	(usft)			(°)	(°)
4,118.26	4,084.00	Sussex		-0.27	180.25
4,862.96	4,820.00	Shannon		-0.27	180.25
6,263.96	6,185.00	Sharon Springs		-0.27	180.25
6,406.48	6,273.00	Niobrara		-0.27	180.25
6,499.43	6,311.00	Top A Target		-0.27	180.25

Plan Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(usft)	(usft)	+N/-S (usft)	+E/-W (usft)	
900.00	900.00	0.00	0.00	Start Build 2.00
1,332.14	1,330.50	15.24	-28.74	Start 3637.84 hold at 1332.14 MD
4,969.98	4,927.04	271.39	-511.69	Start Drop -2.00
5,402.12	5,357.54	286.63	-540.43	Start 500.00 hold at 5402.12 MD
5,902.12	5,857.54	286.63	-540.43	Start Build 12.00
6,654.39	6,335.00	-193.09	-542.54	Start 9495.75 hold at 6654.39 MD
16,150.13	6,290.00	-9,688.64	-584.29	TD at 16150.13