

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

Project: Weld County, CO NAD 83  
 Site: Heath  
 Well: Heath 6-62-15-0659C2  
 Wellbore: OH  
 Design: Plan 1



Azinuths to True North  
 Magnetic North: 8.25°

Magnetic Field  
 Strength: 52680.7nT  
 Dip Angle: 67.11°  
 Date: 12/16/2015  
 Model: BGGM2015

Plan: Plan 1 (Heath 6-62-15-0659C2/OH)

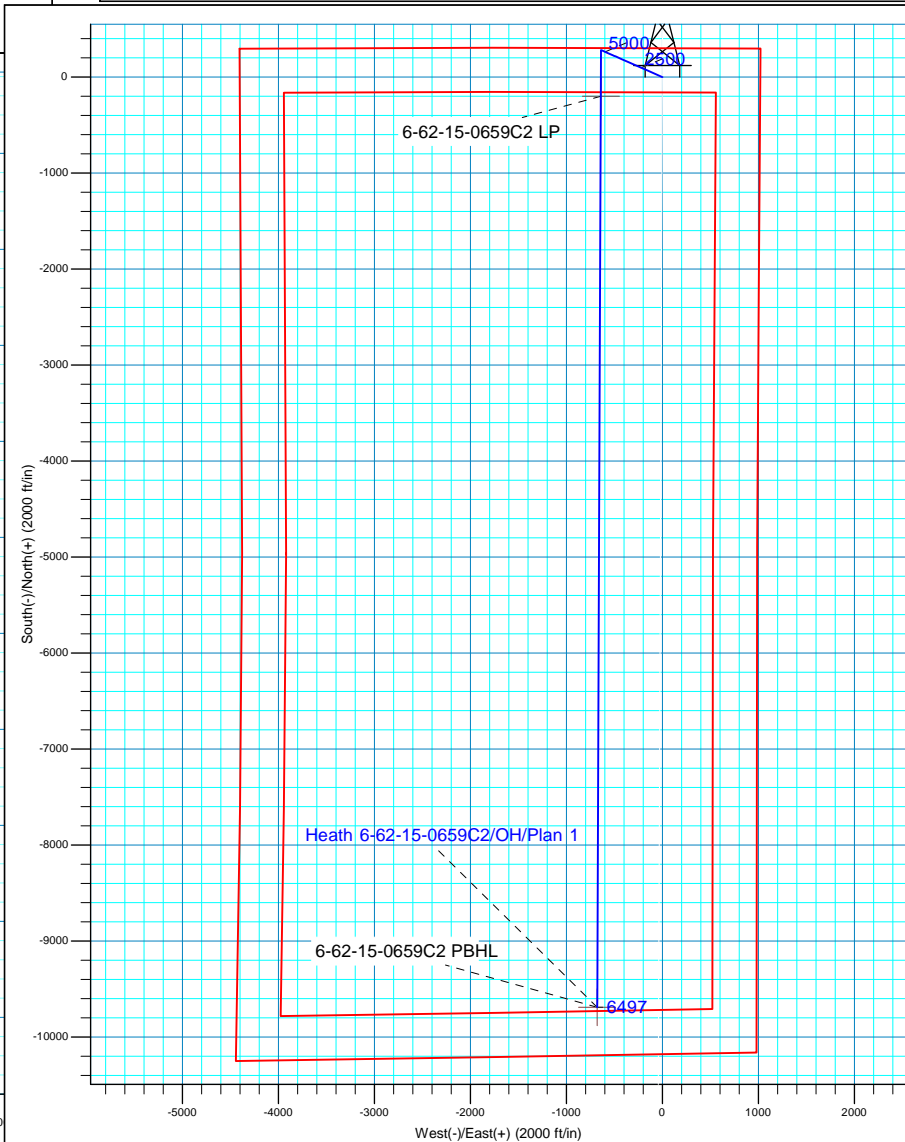
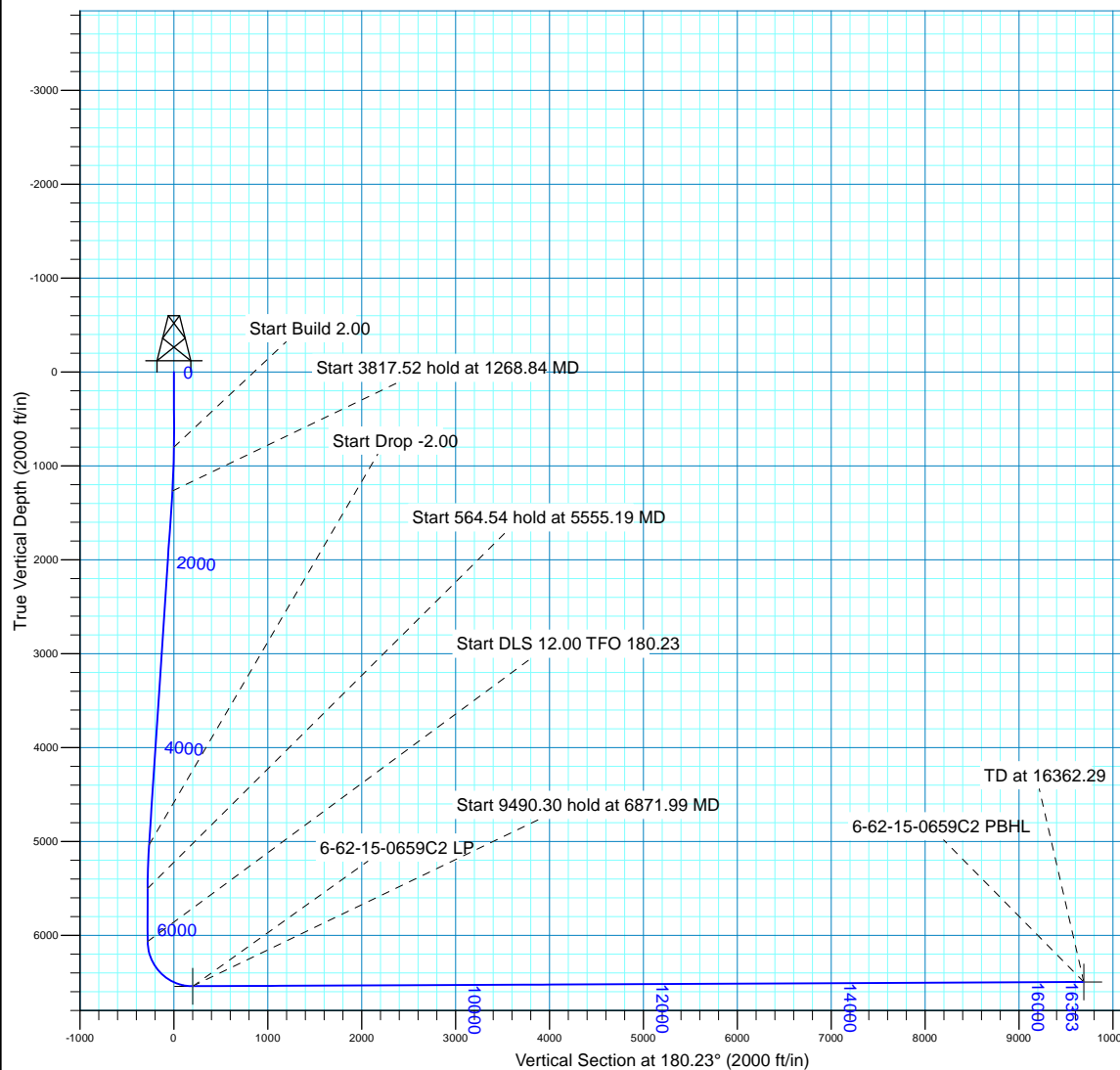
Created By: Seth Burstad Date: 12-16-2015

### SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect
0.00	0.00	0.00	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
1268.84	9.38	293.74	1266.75	15.41	-35.04	2.00	293.74	-15.27
5086.35	9.38	293.74	5033.25	265.78	-604.39	0.00	0.00	-263.35
5555.19	0.00	0.00	5500.00	281.19	-639.43	2.00	180.00	-278.62
6119.73	0.00	0.00	6064.54	281.19	-639.43	0.00	0.00	-278.62
6871.99	90.27	180.23	6542.00	-198.53	-641.36	12.00	180.23	201.11
16362.29	90.27	180.23	6497.00	-9688.65	-679.45	0.00	0.00	9691.30

### WELL DETAILS: Heath 6-62-15-0659C2

GL 4732' & KB 16' @ 4748.00ft				4732.00	
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	1424920.37	3333143.57	40° 29' 37.071 N	104° 18' 7.729 W





## **Bill Barrett Corp.**

Weld County, CO NAD 83

Heath

Heath 6-62-15-0659C2

OH

Plan: Plan 1

## **Standard Planning Report**

16 December, 2015



<b>Database:</b>	Casper District	<b>Local Co-ordinate Reference:</b>	Well Heath 6-62-15-0659C2
<b>Company:</b>	Bill Barrett Corp.	<b>TVD Reference:</b>	GL 4732' & KB 16' @ 4748.00ft
<b>Project:</b>	Weld County, CO NAD 83	<b>MD Reference:</b>	GL 4732' & KB 16' @ 4748.00ft
<b>Site:</b>	Heath	<b>North Reference:</b>	True
<b>Well:</b>	Heath 6-62-15-0659C2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan 1		

<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		

Site		Heath, Site Center : 6-62-15-0659A2			
Site Position: From:		Northing:	1,424,920.59 usft	Latitude:	40° 29' 37.072 N
	Lat/Long	Easting:	3,333,158.31 usft	Longitude:	104° 18' 7.538 W
	Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:

Well	Heath 6-62-15-0659C2, 300' FNL 1020' FEL Sec 15 T6N R62W					
Well Position	+N/-S	-0.02 ft	Northing:	1,424,920.37 usft	Latitude:	40° 29' 37.071 N
	+E/-W	-14.74 ft	Easting:	3,333,143.57 usft	Longitude:	104° 18' 7.729 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft	Ground Level:	4,732.00 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>
	BGGM2015	12/16/2015	8.25	67.11	52,681

<b>Design</b>	Plan 1			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<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	180.23

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	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	
1,268.84	9.38	293.74	1,266.75	15.41	-35.04	2.00	2.00	0.00	293.74	
5,086.35	9.38	293.74	5,033.25	265.78	-604.39	0.00	0.00	0.00	0.00	
5,555.19	0.00	0.00	5,500.00	281.19	-639.43	2.00	-2.00	0.00	180.00	
6,119.73	0.00	0.00	6,064.54	281.19	-639.43	0.00	0.00	0.00	0.00	
6,871.99	90.27	180.23	6,542.00	-198.53	-641.36	12.00	12.00	-23.90	180.23	
16,362.29	90.27	180.23	6,497.00	-9,688.65	-679.45	0.00	0.00	0.00	0.00	6-62-15-0659C2 PBH

<b>Database:</b>	Casper District	<b>Local Co-ordinate Reference:</b>	Well Heath 6-62-15-0659C2
<b>Company:</b>	Bill Barrett Corp.	<b>TVD Reference:</b>	GL 4732' & KB 16' @ 4748.00ft
<b>Project:</b>	Weld County, CO NAD 83	<b>MD Reference:</b>	GL 4732' & KB 16' @ 4748.00ft
<b>Site:</b>	Heath	<b>North Reference:</b>	True
<b>Well:</b>	Heath 6-62-15-0659C2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan 1		

Planned 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	0.00	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
248.00	0.00	0.00	248.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>BASE OF FOX HILLS</b>									
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
<b>Start Build 2.00</b>									
900.00	2.00	293.74	899.98	0.70	-1.60	-0.70	2.00	2.00	0.00
1,000.00	4.00	293.74	999.84	2.81	-6.39	-2.78	2.00	2.00	0.00
1,100.00	6.00	293.74	1,099.45	6.32	-14.37	-6.26	2.00	2.00	0.00
1,200.00	8.00	293.74	1,198.70	11.22	-25.52	-11.12	2.00	2.00	0.00
1,268.84	9.38	293.74	1,266.75	15.41	-35.04	-15.27	2.00	2.00	0.00
<b>Start 3817.52 hold at 1268.84 MD</b>									
1,300.00	9.38	293.74	1,297.49	17.45	-39.69	-17.29	0.00	0.00	0.00
1,400.00	9.38	293.74	1,396.16	24.01	-54.60	-23.79	0.00	0.00	0.00
1,500.00	9.38	293.74	1,494.82	30.57	-69.52	-30.29	0.00	0.00	0.00
1,600.00	9.38	293.74	1,593.49	37.13	-84.43	-36.79	0.00	0.00	0.00
1,700.00	9.38	293.74	1,692.15	43.69	-99.34	-43.29	0.00	0.00	0.00
1,800.00	9.38	293.74	1,790.81	50.25	-114.26	-49.79	0.00	0.00	0.00
1,900.00	9.38	293.74	1,889.48	56.80	-129.17	-56.28	0.00	0.00	0.00
2,000.00	9.38	293.74	1,988.14	63.36	-144.09	-62.78	0.00	0.00	0.00
2,100.00	9.38	293.74	2,086.80	69.92	-159.00	-69.28	0.00	0.00	0.00
2,200.00	9.38	293.74	2,185.47	76.48	-173.92	-75.78	0.00	0.00	0.00
2,300.00	9.38	293.74	2,284.13	83.04	-188.83	-82.28	0.00	0.00	0.00
2,400.00	9.38	293.74	2,382.80	89.60	-203.74	-88.78	0.00	0.00	0.00
2,500.00	9.38	293.74	2,481.46	96.15	-218.66	-95.28	0.00	0.00	0.00
2,600.00	9.38	293.74	2,580.12	102.71	-233.57	-101.77	0.00	0.00	0.00
2,700.00	9.38	293.74	2,678.79	109.27	-248.49	-108.27	0.00	0.00	0.00
2,800.00	9.38	293.74	2,777.45	115.83	-263.40	-114.77	0.00	0.00	0.00
2,900.00	9.38	293.74	2,876.12	122.39	-278.31	-121.27	0.00	0.00	0.00
3,000.00	9.38	293.74	2,974.78	128.95	-293.23	-127.77	0.00	0.00	0.00
3,100.00	9.38	293.74	3,073.44	135.51	-308.14	-134.27	0.00	0.00	0.00
3,200.00	9.38	293.74	3,172.11	142.06	-323.06	-140.77	0.00	0.00	0.00
3,300.00	9.38	293.74	3,270.77	148.62	-337.97	-147.27	0.00	0.00	0.00
3,400.00	9.38	293.74	3,369.43	155.18	-352.88	-153.76	0.00	0.00	0.00
3,500.00	9.38	293.74	3,468.10	161.74	-367.80	-160.26	0.00	0.00	0.00
3,600.00	9.38	293.74	3,566.76	168.30	-382.71	-166.76	0.00	0.00	0.00
3,700.00	9.38	293.74	3,665.43	174.86	-397.63	-173.26	0.00	0.00	0.00
3,800.00	9.38	293.74	3,764.09	181.42	-412.54	-179.76	0.00	0.00	0.00
3,900.00	9.38	293.74	3,862.75	187.97	-427.46	-186.26	0.00	0.00	0.00
4,000.00	9.38	293.74	3,961.42	194.53	-442.37	-192.76	0.00	0.00	0.00
4,100.00	9.38	293.74	4,060.08	201.09	-457.28	-199.25	0.00	0.00	0.00
4,124.24	9.38	293.74	4,084.00	202.68	-460.90	-200.83	0.00	0.00	0.00
<b>SUSSEX</b>									
4,200.00	9.38	293.74	4,158.75	207.65	-472.20	-205.75	0.00	0.00	0.00
4,300.00	9.38	293.74	4,257.41	214.21	-487.11	-212.25	0.00	0.00	0.00
4,400.00	9.38	293.74	4,356.07	220.77	-502.03	-218.75	0.00	0.00	0.00
4,500.00	9.38	293.74	4,454.74	227.33	-516.94	-225.25	0.00	0.00	0.00
4,600.00	9.38	293.74	4,553.40	233.88	-531.85	-231.75	0.00	0.00	0.00

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<b>Project:</b>	Weld County, CO NAD 83	<b>MD Reference:</b>	GL 4732' & KB 16' @ 4748.00ft
<b>Site:</b>	Heath	<b>North Reference:</b>	True
<b>Well:</b>	Heath 6-62-15-0659C2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan 1		

Planned 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)
4,700.00	9.38	293.74	4,652.06	240.44	-546.77	-238.25	0.00	0.00	0.00
4,800.00	9.38	293.74	4,750.73	247.00	-561.68	-244.74	0.00	0.00	0.00
4,870.21	9.38	293.74	4,820.00	251.61	-572.15	-249.31	0.00	0.00	0.00
<b>SHANNON</b>									
4,900.00	9.38	293.74	4,849.39	253.56	-576.60	-251.24	0.00	0.00	0.00
5,000.00	9.38	293.74	4,948.06	260.12	-591.51	-257.74	0.00	0.00	0.00
5,086.35	9.38	293.74	5,033.25	265.78	-604.39	-263.35	0.00	0.00	0.00
<b>Start Drop -2.00</b>									
5,100.00	9.10	293.74	5,046.72	266.66	-606.40	-264.23	2.00	-2.00	0.00
5,200.00	7.10	293.74	5,145.72	272.34	-619.30	-269.85	2.00	-2.00	0.00
5,300.00	5.10	293.74	5,245.15	276.62	-629.03	-274.09	2.00	-2.00	0.00
5,400.00	3.10	293.74	5,344.89	279.50	-635.58	-276.94	2.00	-2.00	0.00
5,500.00	1.10	293.74	5,444.82	280.98	-638.94	-278.41	2.00	-2.00	0.00
5,555.19	0.00	0.00	5,500.00	281.19	-639.43	-278.62	2.00	-2.00	0.00
<b>Start 564.54 hold at 5555.19 MD</b>									
5,600.00	0.00	0.00	5,544.81	281.19	-639.43	-278.62	0.00	0.00	0.00
5,700.00	0.00	0.00	5,644.81	281.19	-639.43	-278.62	0.00	0.00	0.00
5,800.00	0.00	0.00	5,744.81	281.19	-639.43	-278.62	0.00	0.00	0.00
5,900.00	0.00	0.00	5,844.81	281.19	-639.43	-278.62	0.00	0.00	0.00
6,000.00	0.00	0.00	5,944.81	281.19	-639.43	-278.62	0.00	0.00	0.00
6,100.00	0.00	0.00	6,044.81	281.19	-639.43	-278.62	0.00	0.00	0.00
6,119.73	0.00	0.00	6,064.54	281.19	-639.43	-278.62	0.00	0.00	0.00
<b>Start DLS 12.00 TFO 180.23</b>									
6,200.00	9.63	180.23	6,144.43	274.46	-639.46	-271.89	12.00	12.00	0.00
6,241.50	14.61	180.23	6,185.00	265.74	-639.49	-263.18	12.00	12.00	0.00
<b>SHARON SPRINGS</b>									
6,300.00	21.63	180.23	6,240.56	247.56	-639.57	-244.99	12.00	12.00	0.00
6,335.45	25.89	180.23	6,273.00	233.28	-639.62	-230.71	12.00	12.00	0.00
<b>NIOBRARA</b>									
6,378.70	31.08	180.23	6,311.00	212.66	-639.71	-210.09	12.00	12.00	0.00
<b>A CHALK</b>									
6,400.00	33.63	180.23	6,328.99	201.27	-639.75	-198.70	12.00	12.00	0.00
6,413.35	35.23	180.23	6,340.00	193.72	-639.78	-191.15	12.00	12.00	0.00
<b>A MARL</b>									
6,500.00	45.63	180.23	6,405.87	137.60	-640.01	-135.03	12.00	12.00	0.00
6,500.19	45.63	180.23	6,406.00	137.46	-640.01	-134.89	0.00	0.00	0.00
<b>B CHALK</b>									
6,546.96	51.27	180.23	6,437.00	102.47	-640.15	-99.90	12.05	12.05	0.00
<b>B MARL</b>									
6,600.00	57.63	180.23	6,467.82	59.34	-640.32	-56.76	12.00	12.00	0.00
6,660.76	64.92	180.23	6,497.00	6.09	-640.53	-3.52	12.00	12.00	0.00
<b>TD (HORIZONTAL)</b>									
6,693.92	68.90	180.23	6,510.00	-24.41	-640.66	26.98	12.00	12.00	0.00
<b>TOP "C" TARGET</b>									
6,700.00	69.63	180.23	6,512.15	-30.10	-640.68	32.67	12.00	12.00	0.00
6,800.00	81.63	180.23	6,536.92	-126.79	-641.07	129.36	12.00	12.00	0.00
6,871.88	90.27	180.23	6,542.00	-198.42	-641.36	200.99	12.02	12.02	0.00
<b>LANDING POINT</b>									
6,871.99	90.27	180.23	6,542.00	-198.53	-641.36	201.11	0.00	0.00	0.00
<b>Start 9490.30 hold at 6871.99 MD</b>									
6,900.00	90.27	180.23	6,541.87	-226.54	-641.47	229.12	0.00	0.00	0.00
7,000.00	90.27	180.23	6,541.39	-326.54	-641.87	329.11	0.00	0.00	0.00

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<b>Project:</b>	Weld County, CO NAD 83	<b>MD Reference:</b>	GL 4732' & KB 16' @ 4748.00ft
<b>Site:</b>	Heath	<b>North Reference:</b>	True
<b>Well:</b>	Heath 6-62-15-0659C2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan 1		

Planned 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)
7,100.00	90.27	180.23	6,540.92	-426.54	-642.27	429.11	0.00	0.00	0.00
7,200.00	90.27	180.23	6,540.44	-526.54	-642.67	529.11	0.00	0.00	0.00
7,300.00	90.27	180.23	6,539.97	-626.53	-643.07	629.11	0.00	0.00	0.00
7,400.00	90.27	180.23	6,539.50	-726.53	-643.48	729.11	0.00	0.00	0.00
7,500.00	90.27	180.23	6,539.02	-826.53	-643.88	829.11	0.00	0.00	0.00
7,600.00	90.27	180.23	6,538.55	-926.53	-644.28	929.11	0.00	0.00	0.00
7,700.00	90.27	180.23	6,538.07	-1,026.53	-644.68	1,029.11	0.00	0.00	0.00
7,800.00	90.27	180.23	6,537.60	-1,126.52	-645.08	1,129.11	0.00	0.00	0.00
7,900.00	90.27	180.23	6,537.13	-1,226.52	-645.48	1,229.10	0.00	0.00	0.00
8,000.00	90.27	180.23	6,536.65	-1,326.52	-645.88	1,329.10	0.00	0.00	0.00
8,100.00	90.27	180.23	6,536.18	-1,426.52	-646.29	1,429.10	0.00	0.00	0.00
8,200.00	90.27	180.23	6,535.70	-1,526.52	-646.69	1,529.10	0.00	0.00	0.00
8,300.00	90.27	180.23	6,535.23	-1,626.52	-647.09	1,629.10	0.00	0.00	0.00
8,400.00	90.27	180.23	6,534.75	-1,726.51	-647.49	1,729.10	0.00	0.00	0.00
8,500.00	90.27	180.23	6,534.28	-1,826.51	-647.89	1,829.10	0.00	0.00	0.00
8,600.00	90.27	180.23	6,533.81	-1,926.51	-648.29	1,929.10	0.00	0.00	0.00
8,700.00	90.27	180.23	6,533.33	-2,026.51	-648.69	2,029.10	0.00	0.00	0.00
8,800.00	90.27	180.23	6,532.86	-2,126.51	-649.10	2,129.09	0.00	0.00	0.00
8,900.00	90.27	180.23	6,532.38	-2,226.50	-649.50	2,229.09	0.00	0.00	0.00
9,000.00	90.27	180.23	6,531.91	-2,326.50	-649.90	2,329.09	0.00	0.00	0.00
9,100.00	90.27	180.23	6,531.44	-2,426.50	-650.30	2,429.09	0.00	0.00	0.00
9,200.00	90.27	180.23	6,530.96	-2,526.50	-650.70	2,529.09	0.00	0.00	0.00
9,300.00	90.27	180.23	6,530.49	-2,626.50	-651.10	2,629.09	0.00	0.00	0.00
9,400.00	90.27	180.23	6,530.01	-2,726.49	-651.50	2,729.09	0.00	0.00	0.00
9,500.00	90.27	180.23	6,529.54	-2,826.49	-651.90	2,829.09	0.00	0.00	0.00
9,600.00	90.27	180.23	6,529.06	-2,926.49	-652.31	2,929.09	0.00	0.00	0.00
9,700.00	90.27	180.23	6,528.59	-3,026.49	-652.71	3,029.08	0.00	0.00	0.00
9,800.00	90.27	180.23	6,528.12	-3,126.49	-653.11	3,129.08	0.00	0.00	0.00
9,900.00	90.27	180.23	6,527.64	-3,226.48	-653.51	3,229.08	0.00	0.00	0.00
10,000.00	90.27	180.23	6,527.17	-3,326.48	-653.91	3,329.08	0.00	0.00	0.00
10,100.00	90.27	180.23	6,526.69	-3,426.48	-654.31	3,429.08	0.00	0.00	0.00
10,200.00	90.27	180.23	6,526.22	-3,526.48	-654.71	3,529.08	0.00	0.00	0.00
10,300.00	90.27	180.23	6,525.75	-3,626.48	-655.12	3,629.08	0.00	0.00	0.00
10,400.00	90.27	180.23	6,525.27	-3,726.47	-655.52	3,729.08	0.00	0.00	0.00
10,500.00	90.27	180.23	6,524.80	-3,826.47	-655.92	3,829.08	0.00	0.00	0.00
10,600.00	90.27	180.23	6,524.32	-3,926.47	-656.32	3,929.07	0.00	0.00	0.00
10,700.00	90.27	180.23	6,523.85	-4,026.47	-656.72	4,029.07	0.00	0.00	0.00
10,800.00	90.27	180.23	6,523.37	-4,126.47	-657.12	4,129.07	0.00	0.00	0.00
10,900.00	90.27	180.23	6,522.90	-4,226.47	-657.52	4,229.07	0.00	0.00	0.00
11,000.00	90.27	180.23	6,522.43	-4,326.46	-657.93	4,329.07	0.00	0.00	0.00
11,100.00	90.27	180.23	6,521.95	-4,426.46	-658.33	4,429.07	0.00	0.00	0.00
11,200.00	90.27	180.23	6,521.48	-4,526.46	-658.73	4,529.07	0.00	0.00	0.00
11,300.00	90.27	180.23	6,521.00	-4,626.46	-659.13	4,629.07	0.00	0.00	0.00
11,400.00	90.27	180.23	6,520.53	-4,726.46	-659.53	4,729.06	0.00	0.00	0.00
11,500.00	90.27	180.23	6,520.06	-4,826.45	-659.93	4,829.06	0.00	0.00	0.00
11,600.00	90.27	180.23	6,519.58	-4,926.45	-660.33	4,929.06	0.00	0.00	0.00
11,700.00	90.27	180.23	6,519.11	-5,026.45	-660.74	5,029.06	0.00	0.00	0.00
11,800.00	90.27	180.23	6,518.63	-5,126.45	-661.14	5,129.06	0.00	0.00	0.00
11,900.00	90.27	180.23	6,518.16	-5,226.45	-661.54	5,229.06	0.00	0.00	0.00
12,000.00	90.27	180.23	6,517.68	-5,326.44	-661.94	5,329.06	0.00	0.00	0.00
12,100.00	90.27	180.23	6,517.21	-5,426.44	-662.34	5,429.06	0.00	0.00	0.00
12,200.00	90.27	180.23	6,516.74	-5,526.44	-662.74	5,529.06	0.00	0.00	0.00
12,300.00	90.27	180.23	6,516.26	-5,626.44	-663.14	5,629.05	0.00	0.00	0.00
12,400.00	90.27	180.23	6,515.79	-5,726.44	-663.55	5,729.05	0.00	0.00	0.00

<b>Database:</b>	Casper District	<b>Local Co-ordinate Reference:</b>	Well Heath 6-62-15-0659C2
<b>Company:</b>	Bill Barrett Corp.	<b>TVD Reference:</b>	GL 4732' & KB 16' @ 4748.00ft
<b>Project:</b>	Weld County, CO NAD 83	<b>MD Reference:</b>	GL 4732' & KB 16' @ 4748.00ft
<b>Site:</b>	Heath	<b>North Reference:</b>	True
<b>Well:</b>	Heath 6-62-15-0659C2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan 1		

Planned 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)	
12,500.00	90.27	180.23	6,515.31	-5,826.43	-663.95	5,829.05	0.00	0.00	0.00	
12,600.00	90.27	180.23	6,514.84	-5,926.43	-664.35	5,929.05	0.00	0.00	0.00	
12,700.00	90.27	180.23	6,514.37	-6,026.43	-664.75	6,029.05	0.00	0.00	0.00	
12,800.00	90.27	180.23	6,513.89	-6,126.43	-665.15	6,129.05	0.00	0.00	0.00	
12,900.00	90.27	180.23	6,513.42	-6,226.43	-665.55	6,229.05	0.00	0.00	0.00	
13,000.00	90.27	180.23	6,512.94	-6,326.42	-665.95	6,329.05	0.00	0.00	0.00	
13,100.00	90.27	180.23	6,512.47	-6,426.42	-666.36	6,429.05	0.00	0.00	0.00	
13,200.00	90.27	180.23	6,511.99	-6,526.42	-666.76	6,529.04	0.00	0.00	0.00	
13,300.00	90.27	180.23	6,511.52	-6,626.42	-667.16	6,629.04	0.00	0.00	0.00	
13,400.00	90.27	180.23	6,511.05	-6,726.42	-667.56	6,729.04	0.00	0.00	0.00	
13,500.00	90.27	180.23	6,510.57	-6,826.42	-667.96	6,829.04	0.00	0.00	0.00	
13,600.00	90.27	180.23	6,510.10	-6,926.41	-668.36	6,929.04	0.00	0.00	0.00	
13,700.00	90.27	180.23	6,509.62	-7,026.41	-668.76	7,029.04	0.00	0.00	0.00	
13,800.00	90.27	180.23	6,509.15	-7,126.41	-669.17	7,129.04	0.00	0.00	0.00	
13,900.00	90.27	180.23	6,508.68	-7,226.41	-669.57	7,229.04	0.00	0.00	0.00	
14,000.00	90.27	180.23	6,508.20	-7,326.41	-669.97	7,329.04	0.00	0.00	0.00	
14,100.00	90.27	180.23	6,507.73	-7,426.40	-670.37	7,429.03	0.00	0.00	0.00	
14,200.00	90.27	180.23	6,507.25	-7,526.40	-670.77	7,529.03	0.00	0.00	0.00	
14,300.00	90.27	180.23	6,506.78	-7,626.40	-671.17	7,629.03	0.00	0.00	0.00	
14,400.00	90.27	180.23	6,506.30	-7,726.40	-671.57	7,729.03	0.00	0.00	0.00	
14,500.00	90.27	180.23	6,505.83	-7,826.40	-671.98	7,829.03	0.00	0.00	0.00	
14,600.00	90.27	180.23	6,505.36	-7,926.39	-672.38	7,929.03	0.00	0.00	0.00	
14,700.00	90.27	180.23	6,504.88	-8,026.39	-672.78	8,029.03	0.00	0.00	0.00	
14,800.00	90.27	180.23	6,504.41	-8,126.39	-673.18	8,129.03	0.00	0.00	0.00	
14,900.00	90.27	180.23	6,503.93	-8,226.39	-673.58	8,229.03	0.00	0.00	0.00	
15,000.00	90.27	180.23	6,503.46	-8,326.39	-673.98	8,329.02	0.00	0.00	0.00	
15,100.00	90.27	180.23	6,502.99	-8,426.38	-674.38	8,429.02	0.00	0.00	0.00	
15,200.00	90.27	180.23	6,502.51	-8,526.38	-674.79	8,529.02	0.00	0.00	0.00	
15,300.00	90.27	180.23	6,502.04	-8,626.38	-675.19	8,629.02	0.00	0.00	0.00	
15,400.00	90.27	180.23	6,501.56	-8,726.38	-675.59	8,729.02	0.00	0.00	0.00	
15,500.00	90.27	180.23	6,501.09	-8,826.38	-675.99	8,829.02	0.00	0.00	0.00	
15,600.00	90.27	180.23	6,500.61	-8,926.37	-676.39	8,929.02	0.00	0.00	0.00	
15,700.00	90.27	180.23	6,500.14	-9,026.37	-676.79	9,029.02	0.00	0.00	0.00	
15,800.00	90.27	180.23	6,499.67	-9,126.37	-677.19	9,129.02	0.00	0.00	0.00	
15,900.00	90.27	180.23	6,499.19	-9,226.37	-677.60	9,229.01	0.00	0.00	0.00	
16,000.00	90.27	180.23	6,498.72	-9,326.37	-678.00	9,329.01	0.00	0.00	0.00	
16,100.00	90.27	180.23	6,498.24	-9,426.36	-678.40	9,429.01	0.00	0.00	0.00	
16,200.00	90.27	180.23	6,497.77	-9,526.36	-678.80	9,529.01	0.00	0.00	0.00	
16,300.00	90.27	180.23	6,497.30	-9,626.36	-679.20	9,629.01	0.00	0.00	0.00	
16,362.29	90.27	180.23	6,497.00	-9,688.65	-679.45	9,691.30	0.00	0.00	0.00	
TD at 16362.29										

<b>Database:</b>	Casper District	<b>Local Co-ordinate Reference:</b>	Well Heath 6-62-15-0659C2
<b>Company:</b>	Bill Barrett Corp.	<b>TVD Reference:</b>	GL 4732' & KB 16' @ 4748.00ft
<b>Project:</b>	Weld County, CO NAD 83	<b>MD Reference:</b>	GL 4732' & KB 16' @ 4748.00ft
<b>Site:</b>	Heath	<b>North Reference:</b>	True
<b>Well:</b>	Heath 6-62-15-0659C2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan 1		

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)		
6-62-15-0659C2 PBHL	0.00	0.00	6,497.00	-9,688.65	-679.45	1,415,223.45	3,332,595.06	40° 28' 1.330 N	104° 18' 16.520 W
- plan hits target center									
- Point									
6-62-15-0659C2 LP	0.00	0.00	6,542.00	-198.52	-641.36	1,424,713.21	3,332,504.95	40° 29' 35.110 N	104° 18' 16.031 W
- plan misses target center by 0.01ft at 6871.98ft MD (6542.00 TVD, -198.52 N, -641.36 E)									
- Point									

Formations					
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction
(ft)	(ft)			(°)	(°)
248.00	248.00	BASE OF FOX HILLS		0.00	
4,124.24	4,084.00	SUSSEX		0.00	
4,870.21	4,820.00	SHANNON		0.00	
6,241.50	6,185.00	SHARON SPRINGS		0.00	
6,335.45	6,273.00	NIOBRARA		0.00	
6,378.70	6,311.00	A CHALK		0.00	
6,413.35	6,340.00	A MARL		0.00	
6,500.19	6,406.00	B CHALK		0.00	
6,546.96	6,437.00	B MARL		0.00	
6,660.76	6,497.00	TD (HORIZONTAL)		0.00	
6,693.92	6,510.00	TOP "C" TARGET		0.00	
6,871.88	6,542.00	LANDING POINT		0.00	

Plan Annotations				
Measured Depth	Vertical Depth	Local Coordinates		
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)	Comment
800.00	800.00	0.00	0.00	Start Build 2.00
1,268.84	1,266.75	15.41	-35.04	Start 3817.52 hold at 1268.84 MD
5,086.35	5,033.25	265.78	-604.39	Start Drop -2.00
5,555.19	5,500.00	281.19	-639.43	Start 564.54 hold at 5555.19 MD
6,119.73	6,064.54	281.19	-639.43	Start DLS 12.00 TFO 180.23
6,871.99	6,542.00	-198.53	-641.36	Start 9490.30 hold at 6871.99 MD
16,362.29	6,497.00	-9,688.65	-679.45	TD at 16362.29