



Bill Barrett Corporation

Bill Barrett Corp.

Weld Co., CO

Sec.15-T6N-R62W

Will 6-62-15-0164BH2

Wellbore #1

Plan: Design #2

Standard Planning Report

08 April, 2015

Archer



Bill Barrett Corp.
Project: Weld Co., CO
Site: Sec.15-T6N-R62W
Well: Will 6-62-15-0164BH2
Wellbore: Wellbore #1
Design: Design #2
Lat: 40° 29' 37.061 N
Long: 104° 18' 50.159 W
Pad GL: 4761.00
KB: Well @ 4777.00usft

Archer

Plan: Design #2 (Will 6-62-15-0164BH2/Wellbore #1)

Created By: Ricky Osburn Date: 11:43, April 08 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
1754.79	17.10	284.47	1742.16	31.63	-122.56	2.00	284.47	-31.19	Start 3064.63 hold at 1754.79 MD
4819.42	17.10	284.47	4671.38	256.79	-994.89	0.00	0.00	-253.14	Start Drop -2.00
5674.21	0.00	0.00	5513.54	288.42	-1117.45	2.00	180.00	-284.32	Start 500.00 hold at 5674.21 MD
6174.21	0.00	0.00	6013.54	288.42	-1117.45	0.00	0.00	-284.32	Start Build 12.00
6924.71	90.06	180.21	6491.00	-189.54	-1119.20	12.00	180.21	193.64	Start 9558.90 hold at 6924.71 MD
16483.60	90.06	180.21	6481.00	-9748.37	-1154.12	0.00	0.00	9752.53	TD at 16483.61

WELL DETAILS: Will 6-62-15-0164BH2

+N/-S	+E/-W	Northing	Ground Level: Easting	4761.00 Latitude	Longitude	Slot
0.00	0.00	1424875.224	3329865.887	40° 29' 37.061 N	104° 18' 50.159 W	

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape Point
Will 6-62-15-0164BH2 tgt	6475.00	-9748.37	-1154.12	40° 28' 0.728 N	104° 19' 5.092 W	

CASING DETAILS

TVD	MD	Name
6491.00	6924.71	7" Csg.

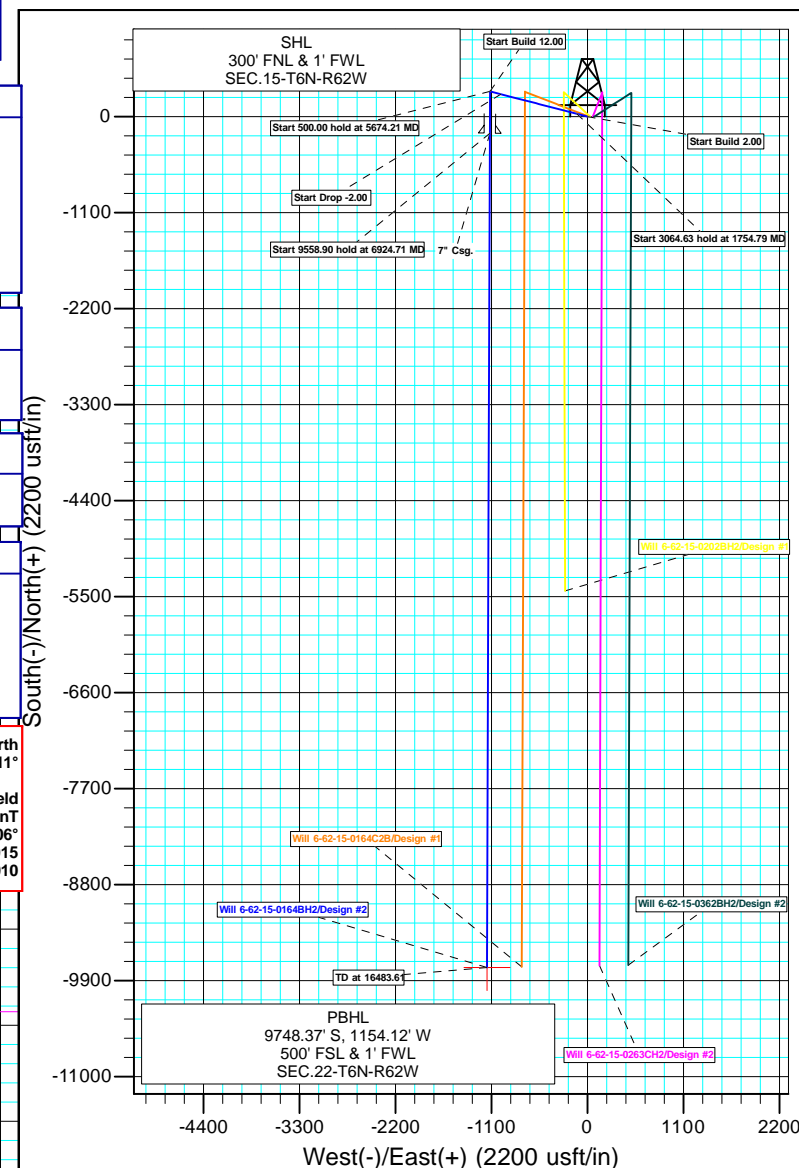
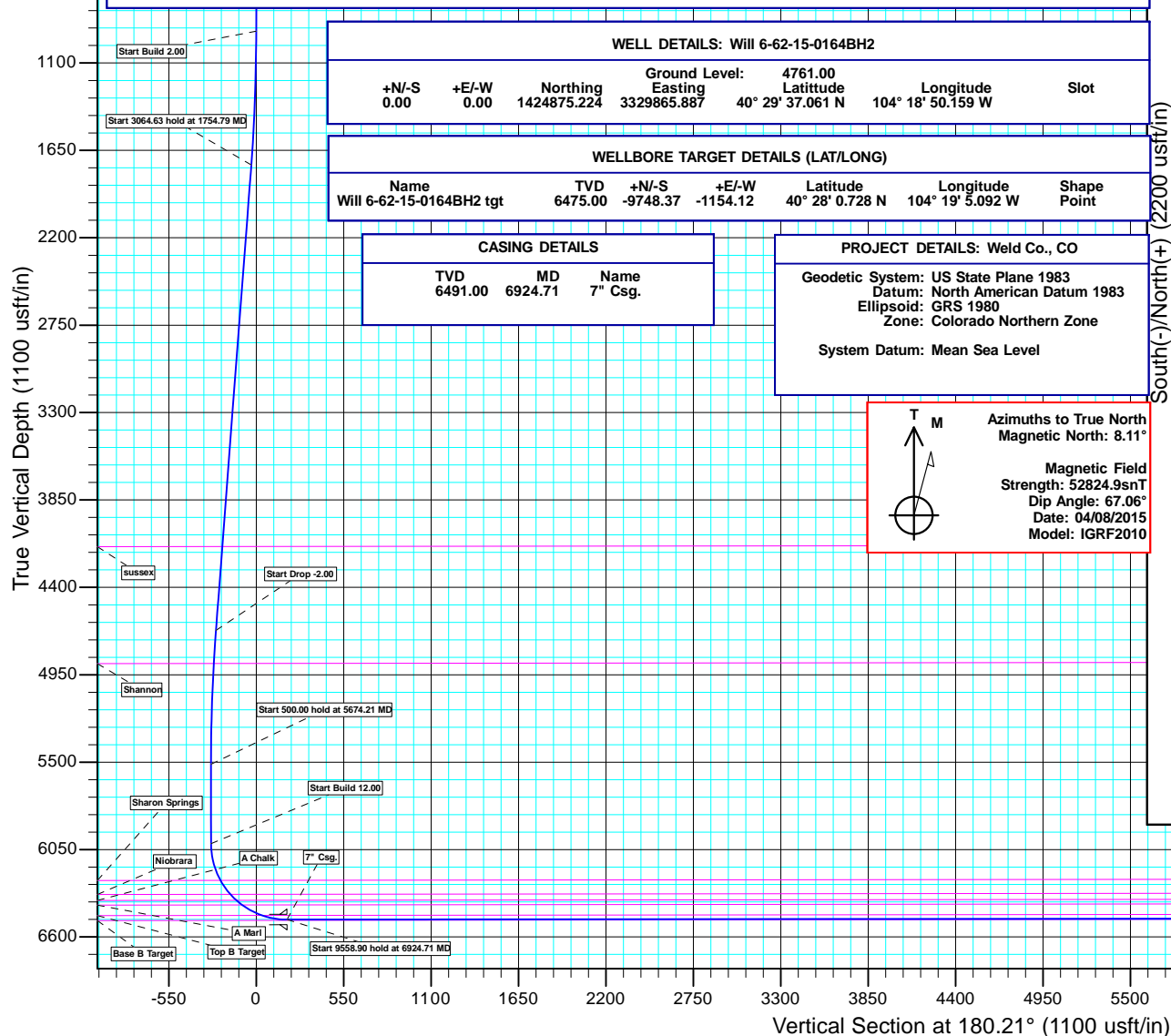
PROJECT DETAILS: Weld Co., CO

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: 8.11°

Magnetic Field
Strength: 52824.9snT
Dip Angle: 67.06°
Date: 04/08/2015
Model: IGRF2010



Database:	EDMDBBW	Local Co-ordinate Reference:	Well Will 6-62-15-0164BH2
Company:	Bill Barrett Corp.	TVD Reference:	Well @ 4777.00usft
Project:	Weld Co., CO	MD Reference:	Well @ 4777.00usft
Site:	Sec.15-T6N-R62W	North Reference:	True
Well:	Will 6-62-15-0164BH2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2		

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	Will 6-62-15-0164BH2					
Well Position	+N/-S	-0.01 usft	Northing:	1,424,875.224 usft	Latitude:	40° 29' 37.061 N
	+E/-W	0.00 usft	Easting:	3,329,865.887 usft	Longitude:	104° 18' 50.159 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	4,761.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2015/04/08	8.11	67.06	52,825

Design	Design #2			
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	180.21

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	
1,754.79	17.10	284.47	1,742.16	31.63	-122.56	2.00	2.00	0.00	284.47	
4,819.42	17.10	284.47	4,671.38	256.79	-994.89	0.00	0.00	0.00	0.00	
5,674.21	0.00	0.00	5,513.54	288.42	-1,117.45	2.00	-2.00	0.00	180.00	
6,174.21	0.00	0.00	6,013.54	288.42	-1,117.45	0.00	0.00	0.00	0.00	
6,924.71	90.06	180.21	6,491.00	-189.54	-1,119.20	12.00	12.00	0.00	180.21	Will 6-62-15-0164BH2
16,483.60	90.06	180.21	6,481.00	-9,748.37	-1,154.12	0.00	0.00	0.00	0.00	Will 6-62-15-0164BH2

Database:	EDMDBBW	Local Co-ordinate Reference:	Well Will 6-62-15-0164BH2
Company:	Bill Barrett Corp.	TVD Reference:	Well @ 4777.00usft
Project:	Weld Co., CO	MD Reference:	Well @ 4777.00usft
Site:	Sec.15-T6N-R62W	North Reference:	True
Well:	Will 6-62-15-0164BH2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2		

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	284.47	999.98	0.44	-1.69	-0.43	2.00	2.00	0.00
1,100.00	4.00	284.47	1,099.84	1.74	-6.76	-1.72	2.00	2.00	0.00
1,200.00	6.00	284.47	1,199.45	3.92	-15.20	-3.87	2.00	2.00	0.00
1,300.00	8.00	284.47	1,298.70	6.97	-27.00	-6.87	2.00	2.00	0.00
1,400.00	10.00	284.47	1,397.47	10.88	-42.14	-10.72	2.00	2.00	0.00
1,500.00	12.00	284.47	1,495.62	15.65	-60.62	-15.42	2.00	2.00	0.00
1,600.00	14.00	284.47	1,593.06	21.27	-82.40	-20.96	2.00	2.00	0.00
1,700.00	16.00	284.47	1,689.64	27.73	-107.46	-27.34	2.00	2.00	0.00
Start 3064.63 hold at 1754.79 MD									
1,754.79	17.10	284.47	1,742.16	31.63	-122.56	-31.19	2.00	2.00	0.00
1,800.00	17.10	284.47	1,785.38	34.96	-135.43	-34.46	0.00	0.00	0.00
1,900.00	17.10	284.47	1,880.96	42.30	-163.90	-41.70	0.00	0.00	0.00
2,000.00	17.10	284.47	1,976.54	49.65	-192.36	-48.94	0.00	0.00	0.00
2,100.00	17.10	284.47	2,072.12	57.00	-220.83	-56.19	0.00	0.00	0.00
2,200.00	17.10	284.47	2,167.70	64.34	-249.29	-63.43	0.00	0.00	0.00
2,300.00	17.10	284.47	2,263.28	71.69	-277.75	-70.67	0.00	0.00	0.00
2,400.00	17.10	284.47	2,358.86	79.04	-306.22	-77.91	0.00	0.00	0.00
2,500.00	17.10	284.47	2,454.45	86.38	-334.68	-85.16	0.00	0.00	0.00
2,600.00	17.10	284.47	2,550.03	93.73	-363.15	-92.40	0.00	0.00	0.00
2,700.00	17.10	284.47	2,645.61	101.08	-391.61	-99.64	0.00	0.00	0.00
2,800.00	17.10	284.47	2,741.19	108.42	-420.08	-106.88	0.00	0.00	0.00
2,900.00	17.10	284.47	2,836.77	115.77	-448.54	-114.13	0.00	0.00	0.00
3,000.00	17.10	284.47	2,932.35	123.12	-477.00	-121.37	0.00	0.00	0.00
3,100.00	17.10	284.47	3,027.93	130.46	-505.47	-128.61	0.00	0.00	0.00
3,200.00	17.10	284.47	3,123.52	137.81	-533.93	-135.85	0.00	0.00	0.00
3,300.00	17.10	284.47	3,219.10	145.16	-562.40	-143.10	0.00	0.00	0.00
3,400.00	17.10	284.47	3,314.68	152.50	-590.86	-150.34	0.00	0.00	0.00
3,500.00	17.10	284.47	3,410.26	159.85	-619.32	-157.58	0.00	0.00	0.00
3,600.00	17.10	284.47	3,505.84	167.20	-647.79	-164.82	0.00	0.00	0.00
3,700.00	17.10	284.47	3,601.42	174.54	-676.25	-172.06	0.00	0.00	0.00
3,800.00	17.10	284.47	3,697.00	181.89	-704.72	-179.31	0.00	0.00	0.00
3,900.00	17.10	284.47	3,792.59	189.24	-733.18	-186.55	0.00	0.00	0.00
4,000.00	17.10	284.47	3,888.17	196.58	-761.65	-193.79	0.00	0.00	0.00
4,100.00	17.10	284.47	3,983.75	203.93	-790.11	-201.03	0.00	0.00	0.00
4,200.00	17.10	284.47	4,079.33	211.28	-818.57	-208.28	0.00	0.00	0.00
sussex									
4,266.85	17.10	284.47	4,143.22	216.19	-837.60	-213.12	0.00	0.00	0.00
4,300.00	17.10	284.47	4,174.91	218.63	-847.04	-215.52	0.00	0.00	0.00
4,400.00	17.10	284.47	4,270.49	225.97	-875.50	-222.76	0.00	0.00	0.00
4,500.00	17.10	284.47	4,366.07	233.32	-903.97	-230.00	0.00	0.00	0.00
4,600.00	17.10	284.47	4,461.66	240.67	-932.43	-237.25	0.00	0.00	0.00
4,700.00	17.10	284.47	4,557.24	248.01	-960.89	-244.49	0.00	0.00	0.00

Database:	EDMDBBW	Local Co-ordinate Reference:	Well Will 6-62-15-0164BH2
Company:	Bill Barrett Corp.	TVD Reference:	Well @ 4777.00usft
Project:	Weld Co., CO	MD Reference:	Well @ 4777.00usft
Site:	Sec.15-T6N-R62W	North Reference:	True
Well:	Will 6-62-15-0164BH2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2		

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	17.10	284.47	4,652.82	255.36	-989.36	-251.73	0.00	0.00	0.00
Start Drop -2.00									
4,819.42	17.10	284.47	4,671.38	256.79	-994.89	-253.14	0.00	0.00	0.00
4,900.00	15.48	284.47	4,748.72	262.43	-1,016.77	-258.71	2.00	-2.00	0.00
5,000.00	13.48	284.47	4,845.54	268.68	-1,040.99	-264.87	2.00	-2.00	0.00
Shannon									
5,034.65	12.79	284.47	4,879.28	270.65	-1,048.61	-266.81	2.00	-2.00	0.00
5,100.00	11.48	284.47	4,943.17	274.09	-1,061.92	-270.19	2.00	-2.00	0.00
5,200.00	9.48	284.47	5,041.50	278.63	-1,079.53	-274.68	2.00	-2.00	0.00
5,300.00	7.48	284.47	5,140.40	282.32	-1,093.82	-278.31	2.00	-2.00	0.00
5,400.00	5.48	284.47	5,239.75	285.14	-1,104.75	-281.09	2.00	-2.00	0.00
5,500.00	3.48	284.47	5,339.44	287.10	-1,112.32	-283.02	2.00	-2.00	0.00
5,600.00	1.48	284.47	5,439.34	288.18	-1,116.52	-284.09	2.00	-2.00	0.00
Start 500.00 hold at 5674.21 MD									
5,674.21	0.00	0.00	5,513.54	288.42	-1,117.45	-284.32	2.00	-2.00	0.00
5,700.00	0.00	0.00	5,539.33	288.42	-1,117.45	-284.32	0.00	0.00	0.00
5,800.00	0.00	0.00	5,639.33	288.42	-1,117.45	-284.32	0.00	0.00	0.00
5,900.00	0.00	0.00	5,739.33	288.42	-1,117.45	-284.32	0.00	0.00	0.00
6,000.00	0.00	0.00	5,839.33	288.42	-1,117.45	-284.32	0.00	0.00	0.00
6,100.00	0.00	0.00	5,939.33	288.42	-1,117.45	-284.32	0.00	0.00	0.00
Start Build 12.00									
6,174.21	0.00	0.00	6,013.54	288.42	-1,117.45	-284.32	0.00	0.00	0.00
6,200.00	3.10	180.21	6,039.32	287.72	-1,117.45	-283.63	12.00	12.00	0.00
6,225.00	6.10	180.21	6,064.24	285.72	-1,117.46	-281.62	12.00	12.00	0.00
6,250.00	9.10	180.21	6,089.02	282.42	-1,117.47	-278.32	12.00	12.00	0.00
6,275.00	12.10	180.21	6,113.59	277.82	-1,117.49	-273.72	12.00	12.00	0.00
6,300.00	15.10	180.21	6,137.88	271.94	-1,117.51	-267.85	12.00	12.00	0.00
6,325.00	18.10	180.21	6,161.84	264.81	-1,117.54	-260.71	12.00	12.00	0.00
6,350.00	21.10	180.21	6,185.39	256.42	-1,117.57	-252.32	12.00	12.00	0.00
6,375.00	24.10	180.21	6,208.47	246.82	-1,117.60	-242.72	12.00	12.00	0.00
6,400.00	27.10	180.21	6,231.01	236.02	-1,117.64	-231.92	12.00	12.00	0.00
Sharon Springs									
6,414.98	28.89	180.21	6,244.24	228.99	-1,117.67	-224.89	12.00	12.00	0.00
6,425.00	30.10	180.21	6,252.96	224.05	-1,117.69	-219.96	12.00	12.00	0.00
6,450.00	33.10	180.21	6,274.25	210.96	-1,117.73	-206.86	12.00	12.00	0.00
6,475.00	36.10	180.21	6,294.83	196.77	-1,117.78	-192.67	12.00	12.00	0.00
6,500.00	39.10	180.21	6,314.64	181.52	-1,117.84	-177.42	12.00	12.00	0.00
Niobrara									
6,523.05	41.86	180.21	6,332.17	166.55	-1,117.90	-162.45	12.00	12.00	0.00
6,525.00	42.10	180.21	6,333.62	165.25	-1,117.90	-161.15	12.00	12.00	0.00
6,550.00	45.10	180.21	6,351.72	148.01	-1,117.96	-143.91	12.00	12.00	0.00
6,575.00	48.10	180.21	6,368.90	129.85	-1,118.03	-125.75	12.00	12.00	0.00
A Chalk									
6,576.85	48.32	180.21	6,370.13	128.47	-1,118.03	-124.37	12.00	12.00	0.00
6,600.00	51.10	180.21	6,385.10	110.82	-1,118.10	-106.72	12.00	12.00	0.00
A Marl									
6,622.98	53.85	180.21	6,399.09	92.60	-1,118.17	-88.50	12.00	12.00	0.00
6,625.00	54.10	180.21	6,400.28	90.96	-1,118.17	-86.86	12.00	12.00	0.00
6,650.00	57.10	180.21	6,414.41	70.34	-1,118.25	-66.24	12.00	12.00	0.00
6,675.00	60.10	180.21	6,427.43	49.00	-1,118.32	-44.90	12.00	12.00	0.00
6,700.00	63.10	180.21	6,439.32	27.01	-1,118.41	-22.91	12.00	12.00	0.00
6,725.00	66.10	180.21	6,450.05	4.43	-1,118.49	-0.33	12.00	12.00	0.00
6,750.00	69.10	180.21	6,459.58	-18.68	-1,118.57	22.78	12.00	12.00	0.00

Database:	EDMDBBW	Local Co-ordinate Reference:	Well Will 6-62-15-0164BH2
Company:	Bill Barrett Corp.	TVD Reference:	Well @ 4777.00usft
Project:	Weld Co., CO	MD Reference:	Well @ 4777.00usft
Site:	Sec.15-T6N-R62W	North Reference:	True
Well:	Will 6-62-15-0164BH2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2		

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)
Top B Target									
6,765.78	70.99	180.21	6,464.96	-33.50	-1,118.63	37.60	12.00	12.00	0.00
6,775.00	72.10	180.21	6,467.88	-42.25	-1,118.66	46.35	12.00	12.00	0.00
6,800.00	75.10	180.21	6,474.94	-66.23	-1,118.75	70.33	12.00	12.00	0.00
6,825.00	78.10	180.21	6,480.74	-90.55	-1,118.83	94.65	12.00	12.00	0.00
6,850.00	81.10	180.21	6,485.25	-115.13	-1,118.92	119.23	12.00	12.00	0.00
6,875.00	84.10	180.21	6,488.47	-139.92	-1,119.02	144.02	12.00	12.00	0.00
6,900.00	87.10	180.21	6,490.39	-164.85	-1,119.11	168.95	12.00	12.00	0.00
Start 9558.90 hold at 6924.71 MD - 7" Csg.									
6,924.71	90.06	180.21	6,491.00	-189.55	-1,119.20	193.65	12.00	12.00	0.00
7,000.00	90.06	180.21	6,490.93	-264.84	-1,119.47	268.94	0.00	0.00	0.00
7,100.00	90.06	180.21	6,490.82	-364.83	-1,119.84	368.94	0.00	0.00	0.00
7,200.00	90.06	180.21	6,490.72	-464.83	-1,120.20	468.94	0.00	0.00	0.00
7,300.00	90.06	180.21	6,490.61	-564.83	-1,120.57	568.94	0.00	0.00	0.00
7,400.00	90.06	180.21	6,490.51	-664.83	-1,120.93	668.94	0.00	0.00	0.00
7,500.00	90.06	180.21	6,490.40	-764.83	-1,121.30	768.94	0.00	0.00	0.00
7,600.00	90.06	180.21	6,490.30	-864.83	-1,121.66	868.94	0.00	0.00	0.00
7,700.00	90.06	180.21	6,490.19	-964.83	-1,122.03	968.94	0.00	0.00	0.00
7,800.00	90.06	180.21	6,490.09	-1,064.83	-1,122.39	1,068.94	0.00	0.00	0.00
7,900.00	90.06	180.21	6,489.98	-1,164.83	-1,122.76	1,168.94	0.00	0.00	0.00
8,000.00	90.06	180.21	6,489.88	-1,264.83	-1,123.13	1,268.94	0.00	0.00	0.00
8,100.00	90.06	180.21	6,489.77	-1,364.83	-1,123.49	1,368.94	0.00	0.00	0.00
8,200.00	90.06	180.21	6,489.67	-1,464.83	-1,123.86	1,468.94	0.00	0.00	0.00
8,300.00	90.06	180.21	6,489.56	-1,564.83	-1,124.22	1,568.94	0.00	0.00	0.00
8,400.00	90.06	180.21	6,489.46	-1,664.83	-1,124.59	1,668.94	0.00	0.00	0.00
8,500.00	90.06	180.21	6,489.36	-1,764.82	-1,124.95	1,768.94	0.00	0.00	0.00
8,600.00	90.06	180.21	6,489.25	-1,864.82	-1,125.32	1,868.94	0.00	0.00	0.00
8,700.00	90.06	180.21	6,489.15	-1,964.82	-1,125.68	1,968.94	0.00	0.00	0.00
8,800.00	90.06	180.21	6,489.04	-2,064.82	-1,126.05	2,068.94	0.00	0.00	0.00
8,900.00	90.06	180.21	6,488.94	-2,164.82	-1,126.41	2,168.94	0.00	0.00	0.00
9,000.00	90.06	180.21	6,488.83	-2,264.82	-1,126.78	2,268.94	0.00	0.00	0.00
9,100.00	90.06	180.21	6,488.73	-2,364.82	-1,127.14	2,368.94	0.00	0.00	0.00
9,200.00	90.06	180.21	6,488.62	-2,464.82	-1,127.51	2,468.94	0.00	0.00	0.00
9,300.00	90.06	180.21	6,488.52	-2,564.82	-1,127.87	2,568.94	0.00	0.00	0.00
9,400.00	90.06	180.21	6,488.41	-2,664.82	-1,128.24	2,668.94	0.00	0.00	0.00
9,500.00	90.06	180.21	6,488.31	-2,764.82	-1,128.61	2,768.94	0.00	0.00	0.00
9,600.00	90.06	180.21	6,488.20	-2,864.82	-1,128.97	2,868.94	0.00	0.00	0.00
9,700.00	90.06	180.21	6,488.10	-2,964.82	-1,129.34	2,968.94	0.00	0.00	0.00
9,800.00	90.06	180.21	6,487.99	-3,064.81	-1,129.70	3,068.93	0.00	0.00	0.00
9,900.00	90.06	180.21	6,487.89	-3,164.81	-1,130.07	3,168.93	0.00	0.00	0.00
10,000.00	90.06	180.21	6,487.78	-3,264.81	-1,130.43	3,268.93	0.00	0.00	0.00
10,100.00	90.06	180.21	6,487.68	-3,364.81	-1,130.80	3,368.93	0.00	0.00	0.00
10,200.00	90.06	180.21	6,487.58	-3,464.81	-1,131.16	3,468.93	0.00	0.00	0.00
10,300.00	90.06	180.21	6,487.47	-3,564.81	-1,131.53	3,568.93	0.00	0.00	0.00
10,400.00	90.06	180.21	6,487.37	-3,664.81	-1,131.89	3,668.93	0.00	0.00	0.00
10,500.00	90.06	180.21	6,487.26	-3,764.81	-1,132.26	3,768.93	0.00	0.00	0.00
10,600.00	90.06	180.21	6,487.16	-3,864.81	-1,132.62	3,868.93	0.00	0.00	0.00
10,700.00	90.06	180.21	6,487.05	-3,964.81	-1,132.99	3,968.93	0.00	0.00	0.00
10,800.00	90.06	180.21	6,486.95	-4,064.81	-1,133.36	4,068.93	0.00	0.00	0.00
10,900.00	90.06	180.21	6,486.84	-4,164.81	-1,133.72	4,168.93	0.00	0.00	0.00
11,000.00	90.06	180.21	6,486.74	-4,264.81	-1,134.09	4,268.93	0.00	0.00	0.00
11,100.00	90.06	180.21	6,486.63	-4,364.81	-1,134.45	4,368.93	0.00	0.00	0.00
11,200.00	90.06	180.21	6,486.53	-4,464.80	-1,134.82	4,468.93	0.00	0.00	0.00
11,300.00	90.06	180.21	6,486.42	-4,564.80	-1,135.18	4,568.93	0.00	0.00	0.00

Database:	EDMDBBW	Local Co-ordinate Reference:	Well Will 6-62-15-0164BH2
Company:	Bill Barrett Corp.	TVD Reference:	Well @ 4777.00usft
Project:	Weld Co., CO	MD Reference:	Well @ 4777.00usft
Site:	Sec.15-T6N-R62W	North Reference:	True
Well:	Will 6-62-15-0164BH2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2		

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)	
11,400.00	90.06	180.21	6,486.32	-4,664.80	-1,135.55	4,668.93	0.00	0.00	0.00	
11,500.00	90.06	180.21	6,486.21	-4,764.80	-1,135.91	4,768.93	0.00	0.00	0.00	
11,600.00	90.06	180.21	6,486.11	-4,864.80	-1,136.28	4,868.93	0.00	0.00	0.00	
11,700.00	90.06	180.21	6,486.00	-4,964.80	-1,136.64	4,968.93	0.00	0.00	0.00	
11,800.00	90.06	180.21	6,485.90	-5,064.80	-1,137.01	5,068.93	0.00	0.00	0.00	
11,900.00	90.06	180.21	6,485.80	-5,164.80	-1,137.37	5,168.93	0.00	0.00	0.00	
12,000.00	90.06	180.21	6,485.69	-5,264.80	-1,137.74	5,268.93	0.00	0.00	0.00	
12,100.00	90.06	180.21	6,485.59	-5,364.80	-1,138.11	5,368.93	0.00	0.00	0.00	
12,200.00	90.06	180.21	6,485.48	-5,464.80	-1,138.47	5,468.93	0.00	0.00	0.00	
12,300.00	90.06	180.21	6,485.38	-5,564.80	-1,138.84	5,568.93	0.00	0.00	0.00	
12,400.00	90.06	180.21	6,485.27	-5,664.80	-1,139.20	5,668.93	0.00	0.00	0.00	
12,500.00	90.06	180.21	6,485.17	-5,764.80	-1,139.57	5,768.93	0.00	0.00	0.00	
12,600.00	90.06	180.21	6,485.06	-5,864.79	-1,139.93	5,868.93	0.00	0.00	0.00	
12,700.00	90.06	180.21	6,484.96	-5,964.79	-1,140.30	5,968.93	0.00	0.00	0.00	
12,800.00	90.06	180.21	6,484.85	-6,064.79	-1,140.66	6,068.93	0.00	0.00	0.00	
12,900.00	90.06	180.21	6,484.75	-6,164.79	-1,141.03	6,168.93	0.00	0.00	0.00	
13,000.00	90.06	180.21	6,484.64	-6,264.79	-1,141.39	6,268.93	0.00	0.00	0.00	
13,100.00	90.06	180.21	6,484.54	-6,364.79	-1,141.76	6,368.93	0.00	0.00	0.00	
13,200.00	90.06	180.21	6,484.43	-6,464.79	-1,142.12	6,468.93	0.00	0.00	0.00	
13,300.00	90.06	180.21	6,484.33	-6,564.79	-1,142.49	6,568.93	0.00	0.00	0.00	
13,400.00	90.06	180.21	6,484.22	-6,664.79	-1,142.85	6,668.93	0.00	0.00	0.00	
13,500.00	90.06	180.21	6,484.12	-6,764.79	-1,143.22	6,768.93	0.00	0.00	0.00	
13,600.00	90.06	180.21	6,484.02	-6,864.79	-1,143.59	6,868.93	0.00	0.00	0.00	
13,700.00	90.06	180.21	6,483.91	-6,964.79	-1,143.95	6,968.93	0.00	0.00	0.00	
13,800.00	90.06	180.21	6,483.81	-7,064.79	-1,144.32	7,068.93	0.00	0.00	0.00	
13,900.00	90.06	180.21	6,483.70	-7,164.79	-1,144.68	7,168.93	0.00	0.00	0.00	
14,000.00	90.06	180.21	6,483.60	-7,264.78	-1,145.05	7,268.93	0.00	0.00	0.00	
14,100.00	90.06	180.21	6,483.49	-7,364.78	-1,145.41	7,368.93	0.00	0.00	0.00	
14,200.00	90.06	180.21	6,483.39	-7,464.78	-1,145.78	7,468.93	0.00	0.00	0.00	
14,300.00	90.06	180.21	6,483.28	-7,564.78	-1,146.14	7,568.93	0.00	0.00	0.00	
14,400.00	90.06	180.21	6,483.18	-7,664.78	-1,146.51	7,668.93	0.00	0.00	0.00	
14,500.00	90.06	180.21	6,483.07	-7,764.78	-1,146.87	7,768.93	0.00	0.00	0.00	
14,600.00	90.06	180.21	6,482.97	-7,864.78	-1,147.24	7,868.93	0.00	0.00	0.00	
14,700.00	90.06	180.21	6,482.86	-7,964.78	-1,147.60	7,968.93	0.00	0.00	0.00	
14,800.00	90.06	180.21	6,482.76	-8,064.78	-1,147.97	8,068.93	0.00	0.00	0.00	
14,900.00	90.06	180.21	6,482.65	-8,164.78	-1,148.34	8,168.93	0.00	0.00	0.00	
15,000.00	90.06	180.21	6,482.55	-8,264.78	-1,148.70	8,268.93	0.00	0.00	0.00	
15,100.00	90.06	180.21	6,482.44	-8,364.78	-1,149.07	8,368.93	0.00	0.00	0.00	
15,200.00	90.06	180.21	6,482.34	-8,464.78	-1,149.43	8,468.93	0.00	0.00	0.00	
15,300.00	90.06	180.21	6,482.24	-8,564.78	-1,149.80	8,568.93	0.00	0.00	0.00	
15,400.00	90.06	180.21	6,482.13	-8,664.77	-1,150.16	8,668.93	0.00	0.00	0.00	
15,500.00	90.06	180.21	6,482.03	-8,764.77	-1,150.53	8,768.93	0.00	0.00	0.00	
15,600.00	90.06	180.21	6,481.92	-8,864.77	-1,150.89	8,868.93	0.00	0.00	0.00	
15,700.00	90.06	180.21	6,481.82	-8,964.77	-1,151.26	8,968.93	0.00	0.00	0.00	
15,800.00	90.06	180.21	6,481.71	-9,064.77	-1,151.62	9,068.93	0.00	0.00	0.00	
15,900.00	90.06	180.21	6,481.61	-9,164.77	-1,151.99	9,168.93	0.00	0.00	0.00	
16,000.00	90.06	180.21	6,481.50	-9,264.77	-1,152.35	9,268.93	0.00	0.00	0.00	
16,100.00	90.06	180.21	6,481.40	-9,364.77	-1,152.72	9,368.93	0.00	0.00	0.00	
16,200.00	90.06	180.21	6,481.29	-9,464.77	-1,153.09	9,468.93	0.00	0.00	0.00	
16,300.00	90.06	180.21	6,481.19	-9,564.77	-1,153.45	9,568.93	0.00	0.00	0.00	
16,400.00	90.06	180.21	6,481.08	-9,664.77	-1,153.82	9,668.93	0.00	0.00	0.00	
TD at 16483.61										
16,483.60	90.06	180.21	6,481.00	-9,748.37	-1,154.12	9,752.53	0.00	0.00	0.00	

Database:	EDMDBBW	Local Co-ordinate Reference:	Well Will 6-62-15-0164BH2
Company:	Bill Barrett Corp.	TVD Reference:	Well @ 4777.00usft
Project:	Weld Co., CO	MD Reference:	Well @ 4777.00usft
Site:	Sec.15-T6N-R62W	North Reference:	True
Well:	Will 6-62-15-0164BH2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2		

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
Will 6-62-15-0164BH2 tc	0.00	0.00	6,475.00	-9,748.37	-1,154.12	1,415,112.294	3,328,842.254	40° 28' 0.728 N	104° 19' 5.092 W
- plan misses target center by 6.00usft at 16483.60usft MD (6481.00 TVD, -9748.37 N, -1154.12 E)									
- Point									

Casing Points					
Measured Depth	Vertical Depth			Casing Diameter	Hole Diameter
(usft)	(usft)		Name	(")	(")
6,924.71	6,491.00	7" Csg.		7	8-3/4

Formations						
Measured Depth	Vertical Depth				Dip	Dip Direction
(usft)	(usft)		Name	Lithology	(°)	(°)
4,266.85	4,143.00	sussex			-0.06	180.21
5,034.65	4,879.00	Shannon			-0.06	180.21
6,414.98	6,244.00	Sharon Springs			-0.06	180.21
6,523.05	6,332.00	Niobrara			-0.06	180.21
6,576.85	6,370.00	A Chalk			-0.06	180.21
6,622.98	6,399.00	A Marl			-0.06	180.21
6,765.78	6,465.00	Top B Target			-0.06	180.21

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates			
(usft)	(usft)	+N/-S	+E/-W	Comment	
(usft)	(usft)	(usft)	(usft)		
900.00	900.00	0.00	0.00	Start Build 2.00	
1,754.79	1,742.16	31.63	-122.56	Start 3064.63 hold at 1754.79 MD	
4,819.42	4,671.38	256.79	-994.89	Start Drop -2.00	
5,674.21	5,513.54	288.42	-1,117.45	Start 500.00 hold at 5674.21 MD	
6,174.21	6,013.54	288.42	-1,117.45	Start Build 12.00	
6,924.71	6,491.00	-189.54	-1,119.20	Start 9558.90 hold at 6924.71 MD	
16,483.60	6,481.00	-9,748.37	-1,154.12	TD at 16483.61	