

BILL BARRETT CORP

WELD COUNTY, COLORADO

Hawkins 5-61-21 Pad

Hawkins 5-61-21-6457BH

Wellbore #1

Plan: Design #1

Standard Planning Report

11 June, 2013



Calculation Method: Minimum Curvature
Error System: ISCWSA
Scan Method: Closest Approach 3D
Error Surface: Elliptical Conic
Warning Method: Error Ratio

Co-ordinate (N/E) Reference: Well Hawkins 5-61-21-6457BH, True North
Vertical (TVD) Reference: KB @ 4688.0ft (Original Well Elev)
Section (VS) Reference: Slot - (0.0N, 0.0E)
Measured Depth Reference: KB @ 4688.0ft (Original Well Elev)
Calculation Method: Minimum Curvature

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	1384873.79	3355857.44	40° 22' 58.238 N	104° 13' 21.223 W

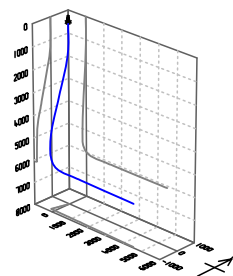
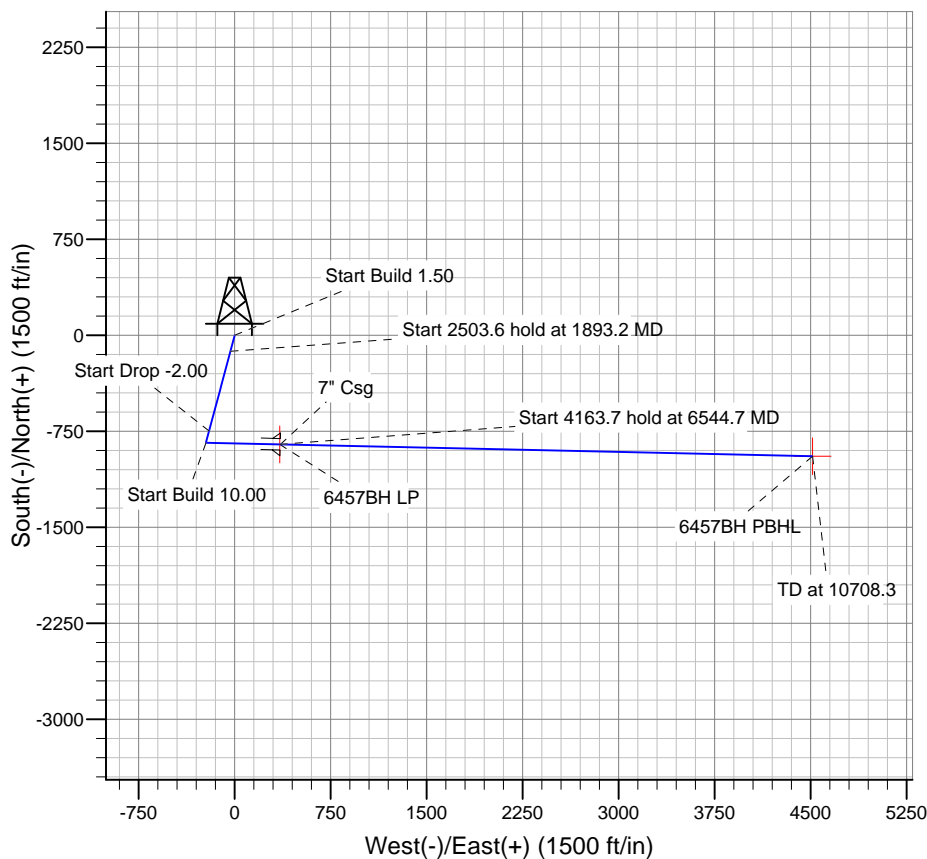
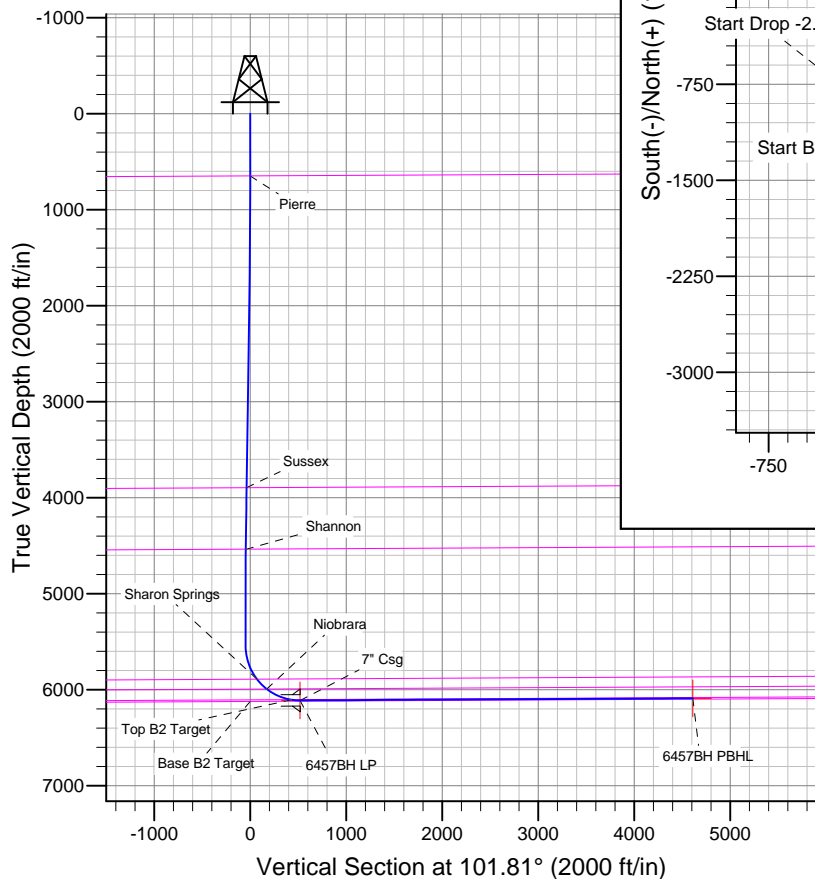
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	900.0	0.00	0.00	900.0	0.0	0.0	0.00	0.00	0.0	
3	1893.2	14.90	194.96	1882.1	-124.1	-33.1	1.50	194.96	-7.0	
4	4396.8	14.90	194.96	4301.5	-745.9	-199.3	0.00	0.00	-42.4	
5	5141.7	0.00	0.00	5038.0	-839.0	-224.1	2.00	180.00	-47.6	
6	5641.7	0.00	0.00	5538.0	-839.0	-224.1	0.00	0.00	-47.6	
7	6544.7	90.30	91.27	6111.0	-851.7	351.7	10.00	91.27	518.6	6457BH LP
8	10708.1	90.30	91.27	6089.2	-944.0	4514.1	0.00	0.00	4611.7	6457BH PBH

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

TVDPath	MDPath	Formation
647.0	647.0	Base B2 Target
3895.8	3977.0	Pierre
4537.0	4638.1	Sussex
5889.4	6020.0	Shannon
5992.9	6167.2	Sharon Springs
6104.5	6455.7	Niobrara
		Top B2 Target

Name	TVD	+N/-S	+E/-W	Shape
6457BH PBHL	6089.0	-943.8	4514.3	Point
6457BH LP	6111.0	-851.7	351.9	Point

TVD	MD	Name	Size
6110.9	6550.0	7" Csq	7



Azimuths to True North
Magnetic North: 8.30°
Magnetic Field
Strength: 52970.4nT
Dip Angle: 67.06°
Date: 6/11/2013
Model: IGRF2010

Bill Barrett Corp

Planning Report

Database:	Compass	Local Co-ordinate Reference:	Well Hawkins 5-61-21-6457BH
Company:	BILL BARRETT CORP	TVD Reference:	KB @ 4688.0ft (Original Well Elev)
Project:	WELD COUNTY, COLORADO	MD Reference:	KB @ 4688.0ft (Original Well Elev)
Site:	Hawkins 5-61-21 Pad	North Reference:	True
Well:	Hawkins 5-61-21-6457BH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Project	WELD COUNTY, COLORADO		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site		Hawkins 5-61-21 Pad				
Site Position:		Northing:	1,384,873.79 ft	Latitude:	40° 22' 58.238 N	
From:	Lat/Long	Easting:	3,355,857.44 ft	Longitude:	104° 13' 21.223 W	
Position Uncertainty:		0.0 ft	Slot Radius:	"	Grid Convergence:	0.83 °

Well	Hawkins 5-61-21-6457BH					
Well Position	+N-S	0.0 ft	Northing:	1,384,873.79 ft	Latitude:	40° 22' 58.238 N
	+E-W	0.0 ft	Easting:	3,355,857.44 ft	Longitude:	104° 13' 21.223 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,665.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	6/11/2013	8.30	67.06	52,970

Design	Design #1				
Audit Notes:					
Version:	Phase:	PLAN		Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.0	0.0	0.0	101.81	

Plan Sections										
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
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
900.0	0.00	0.00	900.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,893.2	14.90	194.96	1,882.1	-124.1	-33.1	1.50	1.50	0.00	194.96	
4,396.8	14.90	194.96	4,301.5	-745.9	-199.3	0.00	0.00	0.00	0.00	
5,141.7	0.00	0.00	5,038.0	-839.0	-224.1	2.00	-2.00	0.00	180.00	
5,641.7	0.00	0.00	5,538.0	-839.0	-224.1	0.00	0.00	0.00	0.00	
6,544.7	90.30	91.27	6,111.0	-851.7	351.7	10.00	10.00	0.00	91.27	6457BH LP
10,708.1	90.30	91.27	6,089.2	-944.0	4,514.1	0.00	0.00	0.00	0.00	6457BH PBHL

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Project:	WELD COUNTY, COLORADO	MD Reference:	KB @ 4688.0ft (Original Well Elev)
Site:	Hawkins 5-61-21 Pad	North Reference:	True
Well:	Hawkins 5-61-21-6457BH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #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)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
647.0	0.00	0.00	647.0	0.0	0.0	0.0	0.00	0.00	0.00
Pierre									
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	1.50	194.96	1,000.0	-1.3	-0.3	-0.1	1.50	1.50	0.00
1,100.0	3.00	194.96	1,099.9	-5.1	-1.4	-0.3	1.50	1.50	0.00
1,200.0	4.50	194.96	1,199.7	-11.4	-3.0	-0.6	1.50	1.50	0.00
1,300.0	6.00	194.96	1,299.3	-20.2	-5.4	-1.1	1.50	1.50	0.00
1,400.0	7.50	194.96	1,398.6	-31.6	-8.4	-1.8	1.50	1.50	0.00
1,500.0	9.00	194.96	1,497.5	-45.4	-12.1	-2.6	1.50	1.50	0.00
1,600.0	10.50	194.96	1,596.1	-61.8	-16.5	-3.5	1.50	1.50	0.00
1,700.0	12.00	194.96	1,694.2	-80.6	-21.5	-4.6	1.50	1.50	0.00
1,800.0	13.50	194.96	1,791.7	-102.0	-27.2	-5.8	1.50	1.50	0.00
1,893.2	14.90	194.96	1,882.1	-124.1	-33.1	-7.0	1.50	1.50	0.00
1,900.0	14.90	194.96	1,888.6	-125.7	-33.6	-7.1	0.00	0.00	0.00
2,000.0	14.90	194.96	1,985.3	-150.6	-40.2	-8.6	0.00	0.00	0.00
2,100.0	14.90	194.96	2,081.9	-175.4	-46.9	-10.0	0.00	0.00	0.00
2,200.0	14.90	194.96	2,178.5	-200.3	-53.5	-11.4	0.00	0.00	0.00
2,300.0	14.90	194.96	2,275.2	-225.1	-60.1	-12.8	0.00	0.00	0.00
2,400.0	14.90	194.96	2,371.8	-249.9	-66.8	-14.2	0.00	0.00	0.00
2,500.0	14.90	194.96	2,468.4	-274.8	-73.4	-15.6	0.00	0.00	0.00
2,600.0	14.90	194.96	2,565.1	-299.6	-80.0	-17.0	0.00	0.00	0.00
2,700.0	14.90	194.96	2,661.7	-324.5	-86.7	-18.4	0.00	0.00	0.00
2,800.0	14.90	194.96	2,758.4	-349.3	-93.3	-19.8	0.00	0.00	0.00
2,900.0	14.90	194.96	2,855.0	-374.1	-99.9	-21.2	0.00	0.00	0.00
3,000.0	14.90	194.96	2,951.6	-399.0	-106.6	-22.7	0.00	0.00	0.00
3,100.0	14.90	194.96	3,048.3	-423.8	-113.2	-24.1	0.00	0.00	0.00
3,200.0	14.90	194.96	3,144.9	-448.6	-119.8	-25.5	0.00	0.00	0.00
3,300.0	14.90	194.96	3,241.6	-473.5	-126.5	-26.9	0.00	0.00	0.00
3,400.0	14.90	194.96	3,338.2	-498.3	-133.1	-28.3	0.00	0.00	0.00
3,500.0	14.90	194.96	3,434.8	-523.2	-139.8	-29.7	0.00	0.00	0.00
3,600.0	14.90	194.96	3,531.5	-548.0	-146.4	-31.1	0.00	0.00	0.00
3,700.0	14.90	194.96	3,628.1	-572.8	-153.0	-32.5	0.00	0.00	0.00
3,800.0	14.90	194.96	3,724.7	-597.7	-159.7	-33.9	0.00	0.00	0.00
3,900.0	14.90	194.96	3,821.4	-622.5	-166.3	-35.3	0.00	0.00	0.00
3,977.0	14.90	194.96	3,895.8	-641.7	-171.4	-36.4	0.00	0.00	0.00
Sussex									
4,000.0	14.90	194.96	3,918.0	-647.4	-172.9	-36.8	0.00	0.00	0.00
4,100.0	14.90	194.96	4,014.7	-672.2	-179.6	-38.2	0.00	0.00	0.00
4,200.0	14.90	194.96	4,111.3	-697.0	-186.2	-39.6	0.00	0.00	0.00
4,300.0	14.90	194.96	4,207.9	-721.9	-192.8	-41.0	0.00	0.00	0.00
4,396.8	14.90	194.96	4,301.5	-745.9	-199.3	-42.4	0.00	0.00	0.00
4,400.0	14.83	194.96	4,304.6	-746.7	-199.5	-42.4	2.00	-2.00	0.00
4,500.0	12.83	194.96	4,401.7	-769.8	-205.6	-43.7	2.00	-2.00	0.00
4,600.0	10.83	194.96	4,499.5	-789.6	-210.9	-44.8	2.00	-2.00	0.00
4,638.1	10.07	194.96	4,537.0	-796.3	-212.7	-45.2	2.00	-2.00	0.00

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Project:	WELD COUNTY, COLORADO	MD Reference:	KB @ 4688.0ft (Original Well Elev)
Site:	Hawkins 5-61-21 Pad	North Reference:	True
Well:	Hawkins 5-61-21-6457BH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #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)
Shannon									
4,700.0	8.83	194.96	4,598.1	-806.1	-215.3	-45.8	2.00	-2.00	0.00
4,800.0	6.83	194.96	4,697.1	-819.3	-218.9	-46.5	2.00	-2.00	0.00
4,900.0	4.83	194.96	4,796.6	-829.1	-221.5	-47.1	2.00	-2.00	0.00
5,000.0	2.83	194.96	4,896.4	-835.6	-223.2	-47.4	2.00	-2.00	0.00
5,100.0	0.83	194.96	4,996.3	-838.7	-224.0	-47.6	2.00	-2.00	0.00
5,141.7	0.00	0.00	5,038.0	-839.0	-224.1	-47.6	2.00	-2.00	0.00
5,200.0	0.00	0.00	5,096.3	-839.0	-224.1	-47.6	0.00	0.00	0.00
5,300.0	0.00	0.00	5,196.3	-839.0	-224.1	-47.6	0.00	0.00	0.00
5,400.0	0.00	0.00	5,296.3	-839.0	-224.1	-47.6	0.00	0.00	0.00
5,500.0	0.00	0.00	5,396.3	-839.0	-224.1	-47.6	0.00	0.00	0.00
5,600.0	0.00	0.00	5,496.3	-839.0	-224.1	-47.6	0.00	0.00	0.00
5,641.7	0.00	0.00	5,538.0	-839.0	-224.1	-47.6	0.00	0.00	0.00
5,700.0	5.83	91.27	5,596.2	-839.0	-221.1	-44.7	10.00	10.00	0.00
5,800.0	15.83	91.27	5,694.3	-839.4	-202.4	-26.3	10.00	10.00	0.00
5,900.0	25.83	91.27	5,787.7	-840.2	-166.9	8.6	10.00	10.00	0.00
6,000.0	35.83	91.27	5,873.4	-841.4	-115.7	59.0	10.00	10.00	0.00
6,020.0	37.83	91.27	5,889.4	-841.6	-103.7	70.8	10.00	10.00	0.00
Sharon Springs									
6,100.0	45.83	91.27	5,949.0	-842.8	-50.4	123.2	10.00	10.00	0.00
6,167.2	52.56	91.27	5,992.9	-843.9	0.4	173.2	10.00	10.00	0.00
Niobrara									
6,200.0	55.83	91.27	6,012.1	-844.5	27.0	199.3	10.00	10.00	0.00
6,300.0	65.83	91.27	6,060.7	-846.5	114.2	285.0	10.00	10.00	0.00
6,400.0	75.83	91.27	6,093.5	-848.5	208.5	377.8	10.00	10.00	0.00
6,455.7	81.41	91.27	6,104.5	-849.8	263.1	431.5	10.00	10.00	0.00
Top B2 Target									
6,500.0	85.83	91.27	6,109.4	-850.7	307.1	474.7	10.00	10.00	0.00
6,544.7	90.30	91.27	6,111.0	-851.7	351.7	518.6	10.00	10.00	0.00
6,544.8	90.30	91.27	6,111.0	-851.7	351.9	518.7	0.00	0.00	0.00
6457BH LP									
6,550.0	90.30	91.27	6,110.9	-851.8	357.0	523.8	0.00	0.00	0.00
7" Csg									
6,600.0	90.30	91.27	6,110.7	-852.9	407.0	573.0	0.00	0.00	0.00
6,700.0	90.30	91.27	6,110.1	-855.2	507.0	671.3	0.00	0.00	0.00
6,800.0	90.30	91.27	6,109.6	-857.4	607.0	769.6	0.00	0.00	0.00
6,900.0	90.30	91.27	6,109.1	-859.6	706.9	867.9	0.00	0.00	0.00
7,000.0	90.30	91.27	6,108.6	-861.8	806.9	966.2	0.00	0.00	0.00
7,100.0	90.30	91.27	6,108.0	-864.0	906.9	1,064.5	0.00	0.00	0.00
7,200.0	90.30	91.27	6,107.5	-866.2	1,006.9	1,162.8	0.00	0.00	0.00
7,300.0	90.30	91.27	6,107.0	-868.5	1,106.8	1,261.2	0.00	0.00	0.00
7,400.0	90.30	91.27	6,106.5	-870.7	1,206.8	1,359.5	0.00	0.00	0.00
7,500.0	90.30	91.27	6,105.9	-872.9	1,306.8	1,457.8	0.00	0.00	0.00
7,600.0	90.30	91.27	6,105.4	-875.1	1,406.8	1,556.1	0.00	0.00	0.00
7,700.0	90.30	91.27	6,104.9	-877.3	1,506.7	1,654.4	0.00	0.00	0.00
7,800.0	90.30	91.27	6,104.4	-879.5	1,606.7	1,752.7	0.00	0.00	0.00
7,900.0	90.30	91.27	6,103.9	-881.7	1,706.7	1,851.0	0.00	0.00	0.00
8,000.0	90.30	91.27	6,103.3	-884.0	1,806.7	1,949.3	0.00	0.00	0.00
8,100.0	90.30	91.27	6,102.8	-886.2	1,906.6	2,047.6	0.00	0.00	0.00
8,200.0	90.30	91.27	6,102.3	-888.4	2,006.6	2,146.0	0.00	0.00	0.00
8,300.0	90.30	91.27	6,101.8	-890.6	2,106.6	2,244.3	0.00	0.00	0.00
8,400.0	90.30	91.27	6,101.2	-892.8	2,206.5	2,342.6	0.00	0.00	0.00
8,500.0	90.30	91.27	6,100.7	-895.0	2,306.5	2,440.9	0.00	0.00	0.00

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Well:	Hawkins 5-61-21-6457BH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #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)	
8,600.0	90.30	91.27	6,100.2	-897.3	2,406.5	2,539.2	0.00	0.00	0.00	
8,700.0	90.30	91.27	6,099.7	-899.5	2,506.5	2,637.5	0.00	0.00	0.00	
8,800.0	90.30	91.27	6,099.1	-901.7	2,606.4	2,735.8	0.00	0.00	0.00	
8,900.0	90.30	91.27	6,098.6	-903.9	2,706.4	2,834.1	0.00	0.00	0.00	
9,000.0	90.30	91.27	6,098.1	-906.1	2,806.4	2,932.4	0.00	0.00	0.00	
9,100.0	90.30	91.27	6,097.6	-908.3	2,906.4	3,030.8	0.00	0.00	0.00	
9,200.0	90.30	91.27	6,097.0	-910.5	3,006.3	3,129.1	0.00	0.00	0.00	
9,300.0	90.30	91.27	6,096.5	-912.8	3,106.3	3,227.4	0.00	0.00	0.00	
9,400.0	90.30	91.27	6,096.0	-915.0	3,206.3	3,325.7	0.00	0.00	0.00	
9,500.0	90.30	91.27	6,095.5	-917.2	3,306.3	3,424.0	0.00	0.00	0.00	
9,600.0	90.30	91.27	6,095.0	-919.4	3,406.2	3,522.3	0.00	0.00	0.00	
9,700.0	90.30	91.27	6,094.4	-921.6	3,506.2	3,620.6	0.00	0.00	0.00	
9,800.0	90.30	91.27	6,093.9	-923.8	3,606.2	3,718.9	0.00	0.00	0.00	
9,900.0	90.30	91.27	6,093.4	-926.1	3,706.2	3,817.2	0.00	0.00	0.00	
10,000.0	90.30	91.27	6,092.9	-928.3	3,806.1	3,915.6	0.00	0.00	0.00	
10,100.0	90.30	91.27	6,092.3	-930.5	3,906.1	4,013.9	0.00	0.00	0.00	
10,200.0	90.30	91.27	6,091.8	-932.7	4,006.1	4,112.2	0.00	0.00	0.00	
10,300.0	90.30	91.27	6,091.3	-934.9	4,106.1	4,210.5	0.00	0.00	0.00	
10,400.0	90.30	91.27	6,090.8	-937.1	4,206.0	4,308.8	0.00	0.00	0.00	
10,500.0	90.30	91.27	6,090.2	-939.3	4,306.0	4,407.1	0.00	0.00	0.00	
10,600.0	90.30	91.27	6,089.7	-941.6	4,406.0	4,505.4	0.00	0.00	0.00	
10,700.0	90.30	91.27	6,089.2	-943.8	4,506.0	4,603.7	0.00	0.00	0.00	
10,708.1	90.30	91.27	6,089.2	-944.0	4,514.1	4,611.7	0.00	0.00	0.00	
6457BH PBHL										

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
6,550.0	6,110.9	7" Csg	7	8-3/4	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
647.0	647.0	Pierre		-0.30	91.27	
3,977.0	3,895.0	Sussex		-0.30	91.27	
4,638.1	4,536.0	Shannon		-0.30	91.27	
6,020.0	5,889.0	Sharon Springs		-0.30	91.27	
6,167.2	5,993.0	Niobrara		-0.30	91.27	
6,455.7	6,106.0	Top B2 Target		-0.30	91.27	
	6,121.0	Base B2 Target		-0.30	91.27	