



Bill Barrett Corporation

COMPANY DETAILS: BILL BARRETT CORP

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

REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well Rosenberg 6-61-30-0659BH, Grid North
Vertical (TVD) Reference: KB @ 4669.0ft (Original Well Elev)
Section (VS) Reference: Slot - (0.0N, 0.0E)
Measured Depth Reference: KB @ 4669.0ft (Original Well Elev)
Calculation Method: Minimum Curvature

WELL DETAILS: Rosenberg 6-61-30-0659BH

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	1414897.82	3348491.23	40° 27' 55.944 N	104° 14' 50.924 W

SECTION DETAILS

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	1000.0	0.00	0.00	1000.0	0.0	0.0	0.00	0.00	0.0	
3	1500.8	7.51	296.73	1499.3	14.7	-29.3	1.50	296.73	-12.2	
4	4803.3	7.51	296.73	4773.5	208.9	-414.8	0.00	0.00	-172.6	
5	5178.8	0.00	0.00	5148.0	220.0	-436.8	2.00	180.00	-181.8	
6	5678.8	0.00	0.00	5648.0	220.0	-436.8	0.00	0.00	-181.8	
7	6582.3	90.35	179.37	6220.9	-356.4	-430.4	10.00	179.37	392.0	0659BH LP
8	10701.2	90.35	179.37	6195.8	-4475.0	-385.0	0.00	0.00	4491.5	

PROJECT DETAILS: WELD COUNTY, COLORADO

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

FORMATION TOP DETAILS

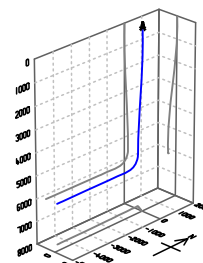
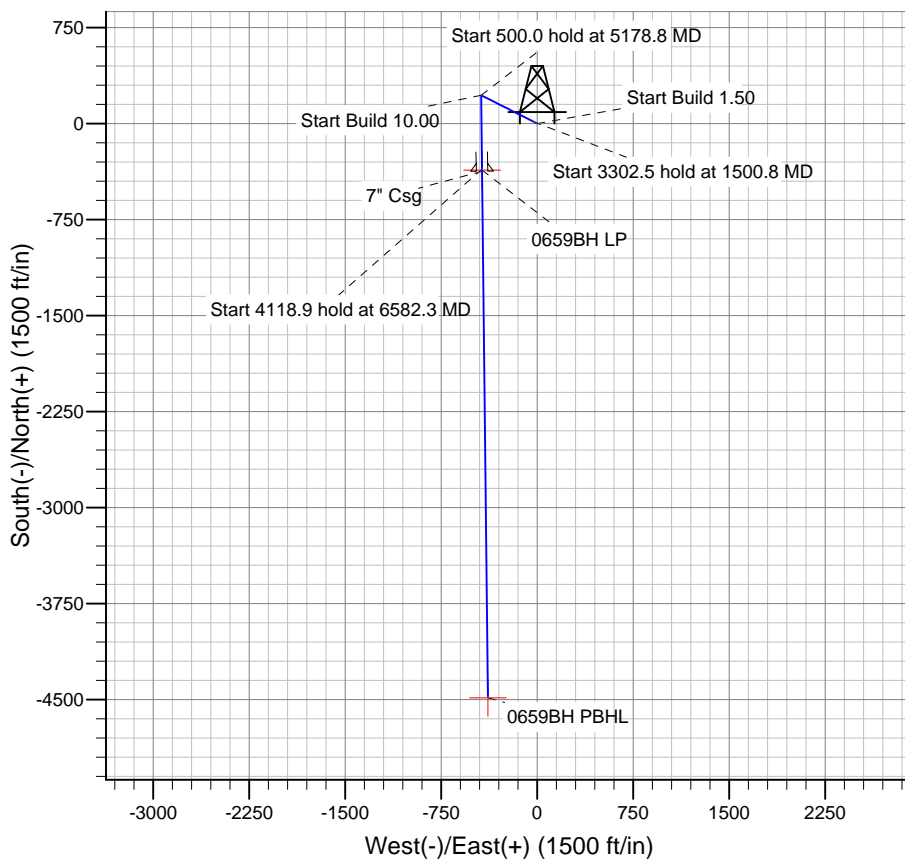
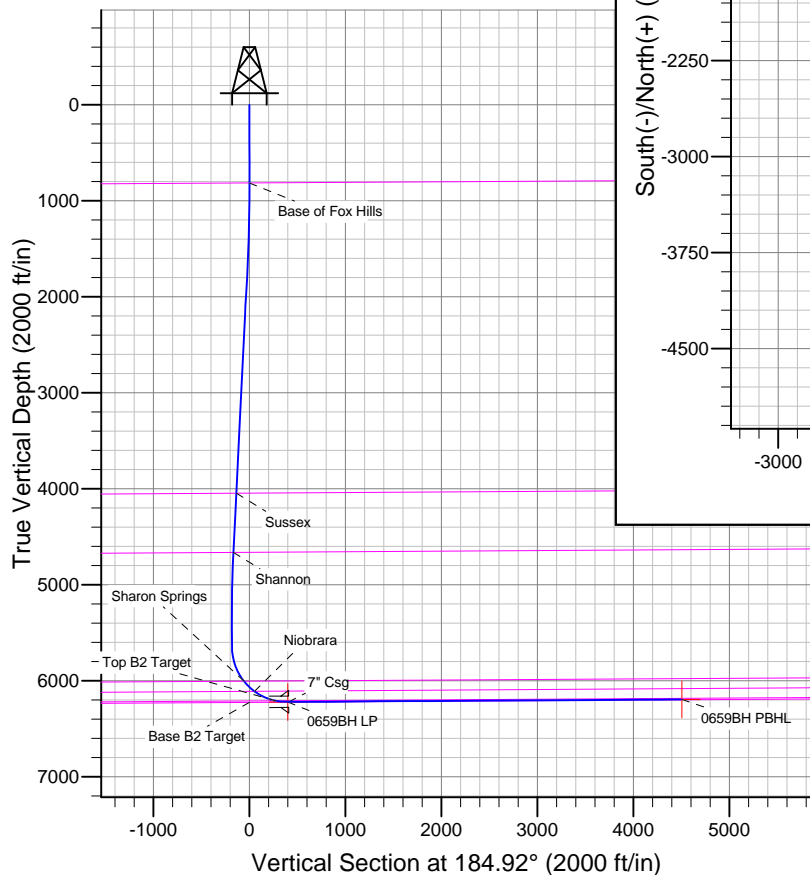
TVDPath	MDPath	Formation
815.0	815.0	Base B2 Target
4047.0	4070.5	Base of Fox Hills
4664.3	4693.1	Sussex
6005.6	6065.0	Shannon
6109.9	6216.2	Sharon Springs
6209.6	6464.4	Niobrara
		Top B2 Target

CASING DETAILS

TVD	MD	Name	Size
6220.8	6600.0	7" Csg	7

WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
0659BH PBHL	6196.0	-4487.5	-385.3	Point
0659BH LP	6221.0	-365.3	-430.3	Point



Azimuths to Grid North
True North: -0.81°
Magnetic North: 7.52°

Magnetic Field
Strength: 53018.4snT
Dip Angle: 67.12°
Date: 5/17/2013
Model: IGRF2010

BILL BARRETT CORP

WELD COUNTY, COLORADO

Rosenberg 6-61-30 NE

Rosenberg 6-61-30-0659BH

Wellbore #1

Plan: Design #1

Standard Planning Report

17 May, 2013

Bill Barrett Corp

Planning Report

Database:	Compass	Local Co-ordinate Reference:	Well Rosenberg 6-61-30-0659BH
Company:	BILL BARRETT CORP	TVD Reference:	KB @ 4669.0ft (Original Well Elev)
Project:	WELD COUNTY, COLORADO	MD Reference:	KB @ 4669.0ft (Original Well Elev)
Site:	Rosenberg 6-61-30 NE	North Reference:	Grid
Well:	Rosenberg 6-61-30-0659BH	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		Rosenberg 6-61-30 NE				
Site Position:		Northing:	1,414,897.91 ft	Latitude:	40° 27' 55.948 N	
From:	Lat/Long	Easting:	3,348,471.20ft	Longitude:	104° 14' 51.184 W	
Position Uncertainty:		0.0 ft	Slot Radius:	"	Grid Convergence:	0.81 °

Well	Rosenberg 6-61-30-0659BH					
Well Position	+N-S	-0.1 ft	Northing:	1,414,897.82 ft	Latitude:	40° 27' 55.944 N
	+E-W	20.0 ft	Easting:	3,348,491.23 ft	Longitude:	104° 14' 50.924 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,654.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	5/17/2013	8.33	67.12	53,018

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	184.92	

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	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,500.8	7.51	296.73	1,499.3	14.7	-29.3	1.50	1.50	0.00	296.73	
4,803.3	7.51	296.73	4,773.5	208.9	-414.8	0.00	0.00	0.00	0.00	
5,178.8	0.00	0.00	5,148.0	220.0	-436.8	2.00	-2.00	0.00	180.00	
5,678.8	0.00	0.00	5,648.0	220.0	-436.8	0.00	0.00	0.00	0.00	
6,582.3	90.35	179.37	6,220.9	-356.4	-430.4	10.00	10.00	0.00	179.37	0659BH LP
10,701.2	90.35	179.37	6,195.8	-4,475.0	-385.0	0.00	0.00	0.00	0.00	

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Planning Report

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Company:	BILL BARRETT CORP	TVD Reference:	KB @ 4669.0ft (Original Well Elev)
Project:	WELD COUNTY, COLORADO	MD Reference:	KB @ 4669.0ft (Original Well Elev)
Site:	Rosenberg 6-61-30 NE	North Reference:	Grid
Well:	Rosenberg 6-61-30-0659BH	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
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
815.0	0.00	0.00	815.0	0.0	0.0	0.0	0.00	0.00	0.00
Base of Fox Hills									
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	1.50	296.73	1,100.0	0.6	-1.2	-0.5	1.50	1.50	0.00
1,200.0	3.00	296.73	1,199.9	2.4	-4.7	-1.9	1.50	1.50	0.00
1,300.0	4.50	296.73	1,299.7	5.3	-10.5	-4.4	1.50	1.50	0.00
1,400.0	6.00	296.73	1,399.3	9.4	-18.7	-7.8	1.50	1.50	0.00
1,500.0	7.50	296.73	1,498.6	14.7	-29.2	-12.1	1.50	1.50	0.00
1,500.8	7.51	296.73	1,499.3	14.7	-29.3	-12.2	1.50	1.50	0.00
1,600.0	7.51	296.73	1,597.7	20.6	-40.9	-17.0	0.00	0.00	0.00
1,700.0	7.51	296.73	1,696.9	26.5	-52.5	-21.9	0.00	0.00	0.00
1,800.0	7.51	296.73	1,796.0	32.3	-64.2	-26.7	0.00	0.00	0.00
1,900.0	7.51	296.73	1,895.1	38.2	-75.9	-31.6	0.00	0.00	0.00
2,000.0	7.51	296.73	1,994.3	44.1	-87.6	-36.4	0.00	0.00	0.00
2,100.0	7.51	296.73	2,093.4	50.0	-99.2	-41.3	0.00	0.00	0.00
2,200.0	7.51	296.73	2,192.6	55.9	-110.9	-46.1	0.00	0.00	0.00
2,300.0	7.51	296.73	2,291.7	61.7	-122.6	-51.0	0.00	0.00	0.00
2,400.0	7.51	296.73	2,390.9	67.6	-134.3	-55.9	0.00	0.00	0.00
2,500.0	7.51	296.73	2,490.0	73.5	-145.9	-60.7	0.00	0.00	0.00
2,600.0	7.51	296.73	2,589.1	79.4	-157.6	-65.6	0.00	0.00	0.00
2,700.0	7.51	296.73	2,688.3	85.3	-169.3	-70.4	0.00	0.00	0.00
2,800.0	7.51	296.73	2,787.4	91.1	-181.0	-75.3	0.00	0.00	0.00
2,900.0	7.51	296.73	2,886.6	97.0	-192.6	-80.2	0.00	0.00	0.00
3,000.0	7.51	296.73	2,985.7	102.9	-204.3	-85.0	0.00	0.00	0.00
3,100.0	7.51	296.73	3,084.8	108.8	-216.0	-89.9	0.00	0.00	0.00
3,200.0	7.51	296.73	3,184.0	114.7	-227.7	-94.7	0.00	0.00	0.00
3,300.0	7.51	296.73	3,283.1	120.5	-239.3	-99.6	0.00	0.00	0.00
3,400.0	7.51	296.73	3,382.3	126.4	-251.0	-104.4	0.00	0.00	0.00
3,500.0	7.51	296.73	3,481.4	132.3	-262.7	-109.3	0.00	0.00	0.00
3,600.0	7.51	296.73	3,580.6	138.2	-274.4	-114.2	0.00	0.00	0.00
3,700.0	7.51	296.73	3,679.7	144.1	-286.0	-119.0	0.00	0.00	0.00
3,800.0	7.51	296.73	3,778.8	149.9	-297.7	-123.9	0.00	0.00	0.00
3,900.0	7.51	296.73	3,878.0	155.8	-309.4	-128.7	0.00	0.00	0.00
4,000.0	7.51	296.73	3,977.1	161.7	-321.1	-133.6	0.00	0.00	0.00
4,070.5	7.51	296.73	4,047.0	165.9	-329.3	-137.0	0.00	0.00	0.00
Sussex									
4,100.0	7.51	296.73	4,076.3	167.6	-332.7	-138.5	0.00	0.00	0.00
4,200.0	7.51	296.73	4,175.4	173.5	-344.4	-143.3	0.00	0.00	0.00
4,300.0	7.51	296.73	4,274.5	179.3	-356.1	-148.2	0.00	0.00	0.00
4,400.0	7.51	296.73	4,373.7	185.2	-367.8	-153.0	0.00	0.00	0.00
4,500.0	7.51	296.73	4,472.8	191.1	-379.4	-157.9	0.00	0.00	0.00
4,600.0	7.51	296.73	4,572.0	197.0	-391.1	-162.7	0.00	0.00	0.00
4,693.1	7.51	296.73	4,664.3	202.5	-402.0	-167.3	0.00	0.00	0.00

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Planning Report

Database:	Compass	Local Co-ordinate Reference:	Well Rosenberg 6-61-30-0659BH
Company:	BILL BARRETT CORP	TVD Reference:	KB @ 4669.0ft (Original Well Elev)
Project:	WELD COUNTY, COLORADO	MD Reference:	KB @ 4669.0ft (Original Well Elev)
Site:	Rosenberg 6-61-30 NE	North Reference:	Grid
Well:	Rosenberg 6-61-30-0659BH	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	7.51	296.73	4,671.1	202.9	-402.8	-167.6	0.00	0.00	0.00
4,800.0	7.51	296.73	4,770.3	208.7	-414.5	-172.5	0.00	0.00	0.00
4,803.3	7.51	296.73	4,773.5	208.9	-414.8	-172.6	0.00	0.00	0.00
4,900.0	5.58	296.73	4,869.6	213.9	-424.7	-176.7	2.00	-2.00	0.00
5,000.0	3.58	296.73	4,969.3	217.5	-431.8	-179.7	2.00	-2.00	0.00
5,100.0	1.58	296.73	5,069.2	219.5	-435.8	-181.3	2.00	-2.00	0.00
5,178.8	0.00	0.00	5,148.0	220.0	-436.8	-181.8	2.00	-2.00	0.00
5,200.0	0.00	0.00	5,169.2	220.0	-436.8	-181.8	0.00	0.00	0.00
5,300.0	0.00	0.00	5,269.2	220.0	-436.8	-181.8	0.00	0.00	0.00
5,400.0	0.00	0.00	5,369.2	220.0	-436.8	-181.8	0.00	0.00	0.00
5,500.0	0.00	0.00	5,469.2	220.0	-436.8	-181.8	0.00	0.00	0.00
5,600.0	0.00	0.00	5,569.2	220.0	-436.8	-181.8	0.00	0.00	0.00
5,678.8	0.00	0.00	5,648.0	220.0	-436.8	-181.8	0.00	0.00	0.00
5,700.0	2.12	179.37	5,669.1	219.6	-436.8	-181.4	10.00	10.00	0.00
5,800.0	12.12	179.37	5,768.3	207.2	-436.7	-169.1	10.00	10.00	0.00
5,900.0	22.12	179.37	5,863.7	177.8	-436.3	-139.8	10.00	10.00	0.00
6,000.0	32.12	179.37	5,952.6	132.3	-435.8	-94.5	10.00	10.00	0.00
6,065.0	38.62	179.37	6,005.6	94.7	-435.4	-57.0	10.00	10.00	0.00
Sharon Springs									
6,100.0	42.12	179.37	6,032.2	72.1	-435.2	-34.5	10.00	10.00	0.00
6,200.0	52.12	179.37	6,100.2	-1.1	-434.4	38.3	10.00	10.00	0.00
6,216.2	53.73	179.37	6,109.9	-14.0	-434.2	51.2	10.00	10.00	0.00
Niobrara									
6,300.0	62.12	179.37	6,154.4	-85.0	-433.4	121.8	10.00	10.00	0.00
6,400.0	72.12	179.37	6,193.3	-177.0	-432.4	213.4	10.00	10.00	0.00
6,464.4	78.56	179.37	6,209.6	-239.2	-431.7	275.4	10.00	10.00	0.00
Top B2 Target									
6,500.0	82.12	179.37	6,215.5	-274.3	-431.3	310.3	10.00	10.00	0.00
6,582.3	90.35	179.37	6,220.9	-356.4	-430.4	392.0	10.00	10.00	0.00
6,591.2	90.35	179.37	6,220.9	-365.3	-430.3	400.8	0.00	0.00	0.00
0659BH LP									
6,600.0	90.35	179.37	6,220.8	-374.1	-430.2	409.6	0.00	0.00	0.00
7" Csg									
6,700.0	90.35	179.37	6,220.2	-474.1	-429.1	509.1	0.00	0.00	0.00
6,800.0	90.35	179.37	6,219.6	-574.1	-428.0	608.6	0.00	0.00	0.00
6,900.0	90.35	179.37	6,219.0	-674.0	-426.9	708.2	0.00	0.00	0.00
7,000.0	90.35	179.37	6,218.4	-774.0	-425.8	807.7	0.00	0.00	0.00
7,100.0	90.35	179.37	6,217.8	-874.0	-424.7	907.2	0.00	0.00	0.00
7,200.0	90.35	179.37	6,217.2	-974.0	-423.6	1,006.7	0.00	0.00	0.00
7,300.0	90.35	179.37	6,216.6	-1,074.0	-422.5	1,106.3	0.00	0.00	0.00
7,400.0	90.35	179.37	6,216.0	-1,174.0	-421.4	1,205.8	0.00	0.00	0.00
7,500.0	90.35	179.37	6,215.3	-1,274.0	-420.3	1,305.3	0.00	0.00	0.00
7,600.0	90.35	179.37	6,214.7	-1,374.0	-419.2	1,404.9	0.00	0.00	0.00
7,700.0	90.35	179.37	6,214.1	-1,474.0	-418.1	1,504.4	0.00	0.00	0.00
7,800.0	90.35	179.37	6,213.5	-1,574.0	-417.0	1,603.9	0.00	0.00	0.00
7,900.0	90.35	179.37	6,212.9	-1,674.0	-415.9	1,703.5	0.00	0.00	0.00
8,000.0	90.35	179.37	6,212.3	-1,774.0	-414.8	1,803.0	0.00	0.00	0.00
8,100.0	90.35	179.37	6,211.7	-1,874.0	-413.7	1,902.5	0.00	0.00	0.00
8,200.0	90.35	179.37	6,211.1	-1,973.9	-412.6	2,002.0	0.00	0.00	0.00
8,300.0	90.35	179.37	6,210.5	-2,073.9	-411.5	2,101.6	0.00	0.00	0.00
8,400.0	90.35	179.37	6,209.8	-2,173.9	-410.4	2,201.1	0.00	0.00	0.00
8,500.0	90.35	179.37	6,209.2	-2,273.9	-409.3	2,300.6	0.00	0.00	0.00

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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	90.35	179.37	6,208.6	-2,373.9	-408.2	2,400.2	0.00	0.00	0.00	
8,700.0	90.35	179.37	6,208.0	-2,473.9	-407.1	2,499.7	0.00	0.00	0.00	
8,800.0	90.35	179.37	6,207.4	-2,573.9	-406.0	2,599.2	0.00	0.00	0.00	
8,900.0	90.35	179.37	6,206.8	-2,673.9	-404.8	2,698.8	0.00	0.00	0.00	
9,000.0	90.35	179.37	6,206.2	-2,773.9	-403.7	2,798.3	0.00	0.00	0.00	
9,100.0	90.35	179.37	6,205.6	-2,873.9	-402.6	2,897.8	0.00	0.00	0.00	
9,200.0	90.35	179.37	6,205.0	-2,973.9	-401.5	2,997.3	0.00	0.00	0.00	
9,300.0	90.35	179.37	6,204.3	-3,073.9	-400.4	3,096.9	0.00	0.00	0.00	
9,400.0	90.35	179.37	6,203.7	-3,173.9	-399.3	3,196.4	0.00	0.00	0.00	
9,500.0	90.35	179.37	6,203.1	-3,273.8	-398.2	3,295.9	0.00	0.00	0.00	
9,600.0	90.35	179.37	6,202.5	-3,373.8	-397.1	3,395.5	0.00	0.00	0.00	
9,700.0	90.35	179.37	6,201.9	-3,473.8	-396.0	3,495.0	0.00	0.00	0.00	
9,800.0	90.35	179.37	6,201.3	-3,573.8	-394.9	3,594.5	0.00	0.00	0.00	
9,900.0	90.35	179.37	6,200.7	-3,673.8	-393.8	3,694.0	0.00	0.00	0.00	
10,000.0	90.35	179.37	6,200.1	-3,773.8	-392.7	3,793.6	0.00	0.00	0.00	
10,100.0	90.35	179.37	6,199.5	-3,873.8	-391.6	3,893.1	0.00	0.00	0.00	
10,200.0	90.35	179.37	6,198.8	-3,973.8	-390.5	3,992.6	0.00	0.00	0.00	
10,300.0	90.35	179.37	6,198.2	-4,073.8	-389.4	4,092.2	0.00	0.00	0.00	
10,400.0	90.35	179.37	6,197.6	-4,173.8	-388.3	4,191.7	0.00	0.00	0.00	
10,500.0	90.35	179.37	6,197.0	-4,273.8	-387.2	4,291.2	0.00	0.00	0.00	
10,600.0	90.35	179.37	6,196.4	-4,373.8	-386.1	4,390.8	0.00	0.00	0.00	
10,700.0	90.35	179.37	6,195.8	-4,473.7	-385.0	4,490.3	0.00	0.00	0.00	
10,701.2	90.35	179.37	6,195.8	-4,475.0	-385.0	4,491.5	0.00	0.00	0.00	
0659BH PBHL										

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
6,600.0	6,220.8	7" Csg	7	8-3/4	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
815.0	815.0	Base of Fox Hills		-0.35	179.37	
4,070.5	4,046.0	Sussex		-0.35	179.37	
4,693.1	4,663.0	Shannon		-0.35	179.37	
6,065.0	6,005.0	Sharon Springs		-0.35	179.37	
6,216.2	6,110.0	Niobrara		-0.35	179.37	
6,464.4	6,211.0	Top B2 Target		-0.35	179.37	
	6,226.0	Base B2 Target		-0.35	179.37	