

BILL BARRETT CORP

**WELD COUNTY, COLORADO
Anschutz Spring Lake 16-24H
Well #1**

Wellbore #1

Plan: Design #1

Standard Planning Report

07 October, 2014



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 Well #1, True North
Vertical (TVD) Reference: WELL @ 4496.0ft (Original Well Elev)
Section (VS) Reference: Slot - (0.0N, 0.0E)
Measured Depth Reference: WELL @ 4496.0ft (Original Well Elev)
Calculation Method: Minimum Curvature

WELL DETAILS: Well #1

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	1351706.69	3344329.30	40° 17' 32.122 N	104° 15' 56.149 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	1405.5	28.11	260.08	1349.8	-58.2	-332.9	2.00	260.08	100.7	
3	4621.8	28.11	260.08	4186.7	-319.3	-1825.6	0.00	0.00	552.2	
4	6027.3	0.00	0.00	5536.5	-377.5	-2158.5	2.00	180.00	652.9	
5	6777.3	90.00	0.00	6014.0	100.0	-2158.5	12.00	0.00	1077.4	ASL 16-24H LP
6	10867.5	90.00	0.00	6014.0	4190.2	-2158.5	0.00	0.00	4713.4	ASL 16-24 PBHL

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

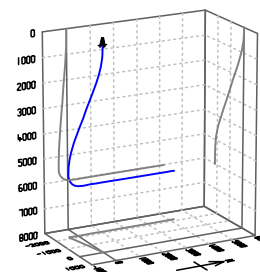
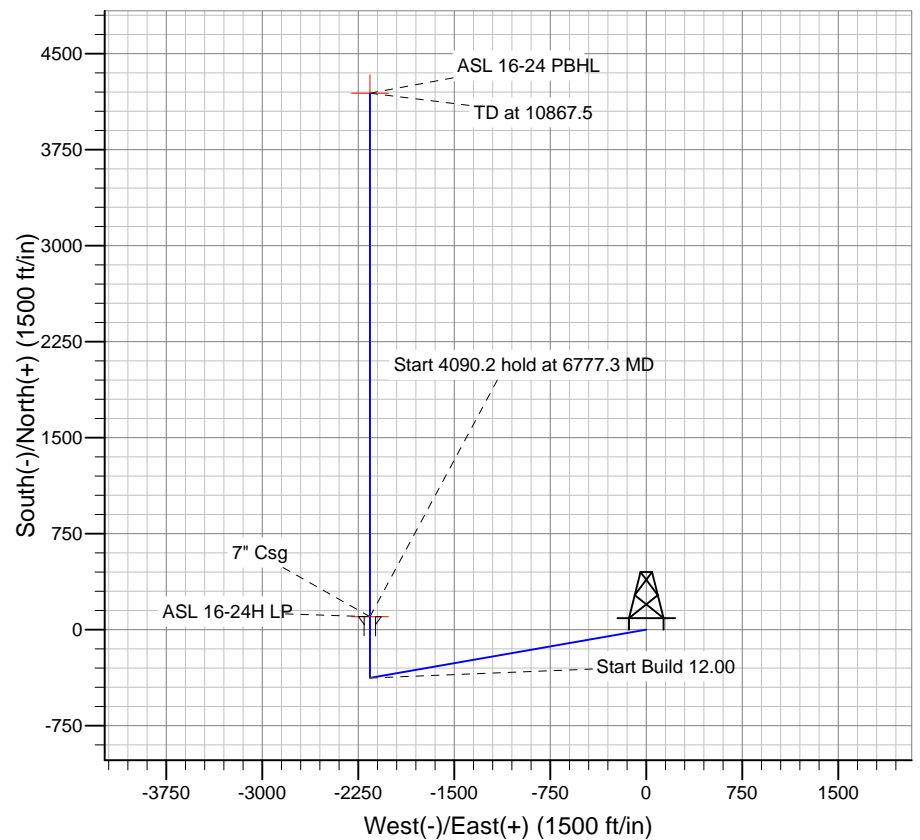
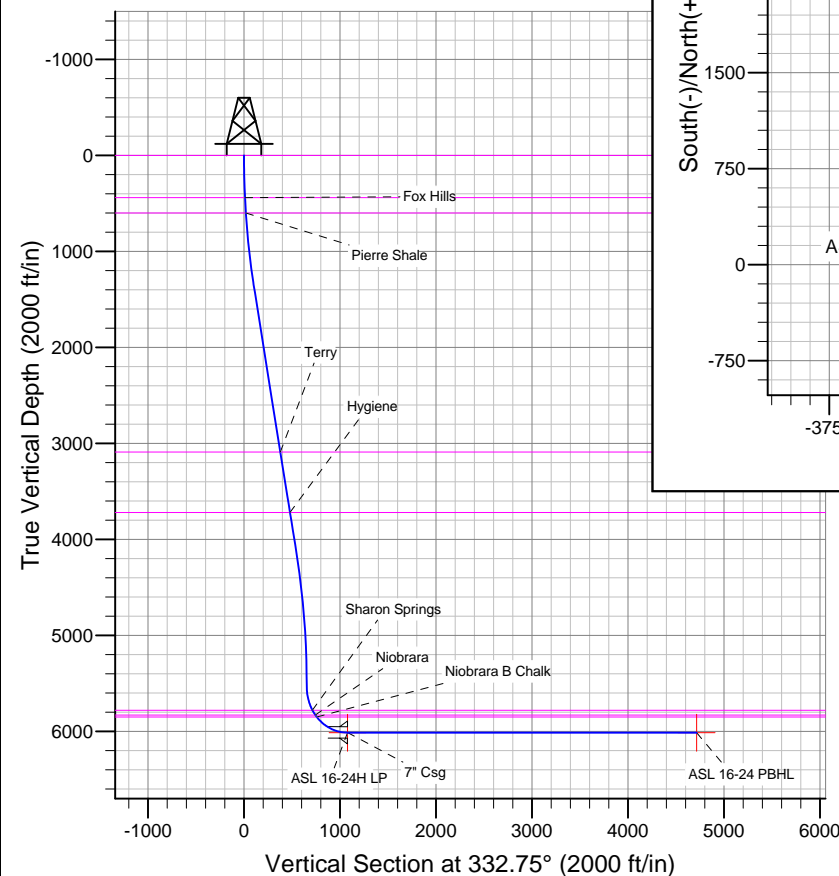
TVDPath	MDPath	Formation
0.0	0.0	White River
440.0	441.7	Fox Hills
600.0	604.5	Pierre Shale
3090.0	3378.4	Terry
3720.0	4092.7	Hygiene
5780.0	6282.8	Sharon Springs
5830.0	6343.4	Niobrara
5850.0	6369.3	Niobrara B Chalk

CASING DETAILS

TVD	MD	Name	Size
6014.0	6777.3	7" Csg	7

WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
ASL 16-24 PBHL	6014.0	4190.2	-2158.5	Point
ASL 16-24H LP	6014.0	100.0	-2158.5	Point



Azimuths to True North
Magnetic North: 8.14°

Magnetic Field
Strength: 52780.1snT
Dip Angle: 66.93°
Date: 10/7/2014
Model: IGRF2010

Bill Barrett Corp

Planning Report

Database:	Compass	Local Co-ordinate Reference:	Well Well #1
Company:	BILL BARRETT CORP	TVD Reference:	WELL @ 4496.0ft (Original Well Elev)
Project:	WELD COUNTY, COLORADO	MD Reference:	WELL @ 4496.0ft (Original Well Elev)
Site:	Anschutz Spring Lake 16-24H	North Reference:	True
Well:	Well #1	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	Anschutz Spring Lake 16-24H				
Site Position:		Northing:	1,351,706.69ft	Latitude:	40° 17' 32.122 N
From:	Lat/Long	Easting:	3,344,329.30ft	Longitude:	104° 15' 56.149 W
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.80 °

Well	Well #1					
Well Position	+N-S	0.0 ft	Northing:	1,351,706.69 ft	Latitude:	40° 17' 32.122 N
	+E-W	0.0 ft	Easting:	3,344,329.30 ft	Longitude:	104° 15' 56.149 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	0.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	10/7/2014	8.14	66.93	52,780

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	332.75	

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	
1,405.5	28.11	260.08	1,349.8	-58.2	-332.9	2.00	2.00	0.00	260.08	
4,621.8	28.11	260.08	4,186.7	-319.3	-1,825.6	0.00	0.00	0.00	0.00	
6,027.3	0.00	0.00	5,536.5	-377.5	-2,158.5	2.00	-2.00	0.00	180.00	
6,777.3	90.00	0.00	6,014.0	100.0	-2,158.5	12.00	12.00	0.00	0.00	ASL 16-24H LP
10,867.5	90.00	0.00	6,014.0	4,190.2	-2,158.5	0.00	0.00	0.00	0.00	ASL 16-24 PBHL

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Planning Report

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Company:	BILL BARRETT CORP	TVD Reference:	WELL @ 4496.0ft (Original Well Elev)
Project:	WELD COUNTY, COLORADO	MD Reference:	WELL @ 4496.0ft (Original Well Elev)
Site:	Anschutz Spring Lake 16-24H	North Reference:	True
Well:	Well #1	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
White River									
100.0	2.00	260.08	100.0	-0.3	-1.7	0.5	2.00	2.00	0.00
200.0	4.00	260.08	199.8	-1.2	-6.9	2.1	2.00	2.00	0.00
300.0	6.00	260.08	299.5	-2.7	-15.5	4.7	2.00	2.00	0.00
400.0	8.00	260.08	398.7	-4.8	-27.5	8.3	2.00	2.00	0.00
441.7	8.83	260.08	440.0	-5.9	-33.5	10.1	2.00	2.00	0.00
Fox Hills									
500.0	10.00	260.08	497.5	-7.5	-42.9	13.0	2.00	2.00	0.00
600.0	12.00	260.08	595.6	-10.8	-61.7	18.7	2.00	2.00	0.00
604.5	12.09	260.08	600.0	-10.9	-62.6	18.9	2.00	2.00	0.00
Pierre Shale									
700.0	14.00	260.08	693.1	-14.7	-83.8	25.4	2.00	2.00	0.00
800.0	16.00	260.08	789.6	-19.1	-109.3	33.1	2.00	2.00	0.00
900.0	18.00	260.08	885.3	-24.2	-138.1	41.8	2.00	2.00	0.00
1,000.0	20.00	260.08	979.8	-29.8	-170.2	51.5	2.00	2.00	0.00
1,100.0	22.00	260.08	1,073.2	-35.9	-205.5	62.2	2.00	2.00	0.00
1,200.0	24.00	260.08	1,165.2	-42.7	-244.0	73.8	2.00	2.00	0.00
1,300.0	26.00	260.08	1,255.8	-49.9	-285.6	86.4	2.00	2.00	0.00
1,400.0	28.00	260.08	1,344.9	-57.8	-330.3	99.9	2.00	2.00	0.00
1,405.5	28.11	260.08	1,349.8	-58.2	-332.9	100.7	2.00	2.00	0.00
1,500.0	28.11	260.08	1,433.1	-65.9	-376.7	114.0	0.00	0.00	0.00
1,600.0	28.11	260.08	1,521.3	-74.0	-423.1	128.0	0.00	0.00	0.00
1,700.0	28.11	260.08	1,609.6	-82.1	-469.5	142.0	0.00	0.00	0.00
1,800.0	28.11	260.08	1,697.8	-90.2	-516.0	156.1	0.00	0.00	0.00
1,900.0	28.11	260.08	1,786.0	-98.3	-562.4	170.1	0.00	0.00	0.00
2,000.0	28.11	260.08	1,874.2	-106.5	-608.8	184.1	0.00	0.00	0.00
2,100.0	28.11	260.08	1,962.4	-114.6	-655.2	198.2	0.00	0.00	0.00
2,200.0	28.11	260.08	2,050.6	-122.7	-701.6	212.2	0.00	0.00	0.00
2,300.0	28.11	260.08	2,138.8	-130.8	-748.0	226.3	0.00	0.00	0.00
2,400.0	28.11	260.08	2,227.0	-138.9	-794.4	240.3	0.00	0.00	0.00
2,500.0	28.11	260.08	2,315.2	-147.0	-840.8	254.3	0.00	0.00	0.00
2,600.0	28.11	260.08	2,403.4	-155.2	-887.3	268.4	0.00	0.00	0.00
2,700.0	28.11	260.08	2,491.6	-163.3	-933.7	282.4	0.00	0.00	0.00
2,800.0	28.11	260.08	2,579.8	-171.4	-980.1	296.5	0.00	0.00	0.00
2,900.0	28.11	260.08	2,668.0	-179.5	-1,026.5	310.5	0.00	0.00	0.00
3,000.0	28.11	260.08	2,756.2	-187.6	-1,072.9	324.5	0.00	0.00	0.00
3,100.0	28.11	260.08	2,844.4	-195.7	-1,119.3	338.6	0.00	0.00	0.00
3,200.0	28.11	260.08	2,932.6	-203.9	-1,165.7	352.6	0.00	0.00	0.00
3,300.0	28.11	260.08	3,020.8	-212.0	-1,212.1	366.7	0.00	0.00	0.00
3,378.4	28.11	260.08	3,090.0	-218.3	-1,248.5	377.7	0.00	0.00	0.00
Terry									
3,400.0	28.11	260.08	3,109.0	-220.1	-1,258.6	380.7	0.00	0.00	0.00
3,500.0	28.11	260.08	3,197.2	-228.2	-1,305.0	394.7	0.00	0.00	0.00
3,600.0	28.11	260.08	3,285.4	-236.3	-1,351.4	408.8	0.00	0.00	0.00
3,700.0	28.11	260.08	3,373.6	-244.4	-1,397.8	422.8	0.00	0.00	0.00
3,800.0	28.11	260.08	3,461.8	-252.6	-1,444.2	436.8	0.00	0.00	0.00
3,900.0	28.11	260.08	3,550.1	-260.7	-1,490.6	450.9	0.00	0.00	0.00
4,000.0	28.11	260.08	3,638.3	-268.8	-1,537.0	464.9	0.00	0.00	0.00
4,092.7	28.11	260.08	3,720.0	-276.3	-1,580.0	477.9	0.00	0.00	0.00
Hygiene									
4,100.0	28.11	260.08	3,726.5	-276.9	-1,583.4	479.0	0.00	0.00	0.00
4,200.0	28.11	260.08	3,814.7	-285.0	-1,629.9	493.0	0.00	0.00	0.00
4,300.0	28.11	260.08	3,902.9	-293.1	-1,676.3	507.0	0.00	0.00	0.00

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Project:	WELD COUNTY, COLORADO	MD Reference:	WELL @ 4496.0ft (Original Well Elev)
Site:	Anschutz Spring Lake 16-24H	North Reference:	True
Well:	Well #1	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)
4,400.0	28.11	260.08	3,991.1	-301.3	-1,722.7	521.1	0.00	0.00	0.00
4,500.0	28.11	260.08	4,079.3	-309.4	-1,769.1	535.1	0.00	0.00	0.00
4,600.0	28.11	260.08	4,167.5	-317.5	-1,815.5	549.2	0.00	0.00	0.00
4,621.8	28.11	260.08	4,186.7	-319.3	-1,825.6	552.2	0.00	0.00	0.00
4,700.0	26.55	260.08	4,256.2	-325.4	-1,861.0	562.9	2.00	-2.00	0.00
4,800.0	24.55	260.08	4,346.4	-332.9	-1,903.5	575.8	2.00	-2.00	0.00
4,900.0	22.55	260.08	4,438.1	-339.7	-1,942.8	587.7	2.00	-2.00	0.00
5,000.0	20.55	260.08	4,531.1	-346.1	-1,979.0	598.6	2.00	-2.00	0.00
5,100.0	18.55	260.08	4,625.3	-351.8	-2,011.9	608.6	2.00	-2.00	0.00
5,200.0	16.55	260.08	4,720.7	-357.0	-2,041.6	617.6	2.00	-2.00	0.00
5,300.0	14.55	260.08	4,817.0	-361.6	-2,068.0	625.5	2.00	-2.00	0.00
5,400.0	12.55	260.08	4,914.2	-365.7	-2,091.1	632.5	2.00	-2.00	0.00
5,500.0	10.55	260.08	5,012.2	-369.1	-2,110.8	638.5	2.00	-2.00	0.00
5,600.0	8.55	260.08	5,110.8	-372.0	-2,127.2	643.4	2.00	-2.00	0.00
5,700.0	6.55	260.08	5,209.9	-374.2	-2,140.1	647.3	2.00	-2.00	0.00
5,800.0	4.55	260.08	5,309.4	-375.9	-2,149.6	650.2	2.00	-2.00	0.00
5,900.0	2.55	260.08	5,409.2	-377.0	-2,155.7	652.1	2.00	-2.00	0.00
6,000.0	0.55	260.08	5,509.2	-377.4	-2,158.4	652.9	2.00	-2.00	0.00
6,027.3	0.00	0.00	5,536.5	-377.5	-2,158.5	652.9	2.00	-2.00	0.00
6,100.0	8.72	0.00	5,608.9	-371.9	-2,158.5	657.8	12.00	12.00	0.00
6,200.0	20.72	0.00	5,705.5	-346.6	-2,158.5	680.4	12.00	12.00	0.00
6,282.8	30.66	0.00	5,780.0	-310.7	-2,158.5	712.2	12.00	12.00	0.00
Sharon Springs									
6,300.0	32.72	0.00	5,794.6	-301.7	-2,158.5	720.3	12.00	12.00	0.00
6,343.4	37.93	0.00	5,830.0	-276.6	-2,158.5	742.5	12.00	12.00	0.00
Niobrara									
6,369.3	41.03	0.00	5,850.0	-260.2	-2,158.5	757.2	12.00	12.00	0.00
Niobrara B Chalk									
6,400.0	44.72	0.00	5,872.5	-239.3	-2,158.5	775.8	12.00	12.00	0.00
6,500.0	56.72	0.00	5,935.7	-162.0	-2,158.5	844.4	12.00	12.00	0.00
6,600.0	68.72	0.00	5,981.4	-73.3	-2,158.5	923.3	12.00	12.00	0.00
6,700.0	80.72	0.00	6,007.8	23.0	-2,158.5	1,008.9	12.00	12.00	0.00
6,777.3	90.00	0.00	6,014.0	100.0	-2,158.5	1,077.4	11.99	11.99	0.00
7" Csg - ASL 16-24H LP									
6,800.0	90.00	0.00	6,014.0	122.7	-2,158.5	1,097.5	0.02	0.02	0.00
6,900.0	90.00	0.00	6,014.0	222.7	-2,158.5	1,186.4	0.00	0.00	0.00
7,000.0	90.00	0.00	6,014.0	322.7	-2,158.5	1,275.3	0.00	0.00	0.00
7,100.0	90.00	0.00	6,014.0	422.7	-2,158.5	1,364.2	0.00	0.00	0.00
7,200.0	90.00	0.00	6,014.0	522.7	-2,158.5	1,453.1	0.00	0.00	0.00
7,300.0	90.00	0.00	6,014.0	622.7	-2,158.5	1,542.0	0.00	0.00	0.00
7,400.0	90.00	0.00	6,014.0	722.7	-2,158.5	1,630.9	0.00	0.00	0.00
7,500.0	90.00	0.00	6,014.0	822.7	-2,158.5	1,719.8	0.00	0.00	0.00
7,600.0	90.00	0.00	6,014.0	922.7	-2,158.5	1,808.7	0.00	0.00	0.00
7,700.0	90.00	0.00	6,014.0	1,022.7	-2,158.5	1,897.6	0.00	0.00	0.00
7,800.0	90.00	0.00	6,014.0	1,122.7	-2,158.5	1,986.5	0.00	0.00	0.00
7,900.0	90.00	0.00	6,014.0	1,222.7	-2,158.5	2,075.4	0.00	0.00	0.00
8,000.0	90.00	0.00	6,014.0	1,322.7	-2,158.5	2,164.3	0.00	0.00	0.00
8,100.0	90.00	0.00	6,014.0	1,422.7	-2,158.5	2,253.2	0.00	0.00	0.00
8,200.0	90.00	0.00	6,014.0	1,522.7	-2,158.5	2,342.1	0.00	0.00	0.00
8,300.0	90.00	0.00	6,014.0	1,622.7	-2,158.5	2,431.0	0.00	0.00	0.00
8,400.0	90.00	0.00	6,014.0	1,722.7	-2,158.5	2,519.9	0.00	0.00	0.00
8,500.0	90.00	0.00	6,014.0	1,822.7	-2,158.5	2,608.8	0.00	0.00	0.00
8,600.0	90.00	0.00	6,014.0	1,922.7	-2,158.5	2,697.7	0.00	0.00	0.00

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Company:	BILL BARRETT CORP	TVD Reference:	WELL @ 4496.0ft (Original Well Elev)
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Site:	Anschutz Spring Lake 16-24H	North Reference:	True
Well:	Well #1	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)
8,700.0	90.00	0.00	6,014.0	2,022.7	-2,158.5	2,786.6	0.00	0.00	0.00
8,800.0	90.00	0.00	6,014.0	2,122.7	-2,158.5	2,875.5	0.00	0.00	0.00
8,900.0	90.00	0.00	6,014.0	2,222.7	-2,158.5	2,964.4	0.00	0.00	0.00
9,000.0	90.00	0.00	6,014.0	2,322.7	-2,158.5	3,053.3	0.00	0.00	0.00
9,100.0	90.00	0.00	6,014.0	2,422.7	-2,158.5	3,142.2	0.00	0.00	0.00
9,200.0	90.00	0.00	6,014.0	2,522.7	-2,158.5	3,231.1	0.00	0.00	0.00
9,300.0	90.00	0.00	6,014.0	2,622.7	-2,158.5	3,320.0	0.00	0.00	0.00
9,400.0	90.00	0.00	6,014.0	2,722.7	-2,158.5	3,408.9	0.00	0.00	0.00
9,500.0	90.00	0.00	6,014.0	2,822.7	-2,158.5	3,497.8	0.00	0.00	0.00
9,600.0	90.00	0.00	6,014.0	2,922.7	-2,158.5	3,586.7	0.00	0.00	0.00
9,700.0	90.00	0.00	6,014.0	3,022.7	-2,158.5	3,675.6	0.00	0.00	0.00
9,800.0	90.00	0.00	6,014.0	3,122.7	-2,158.5	3,764.4	0.00	0.00	0.00
9,900.0	90.00	0.00	6,014.0	3,222.7	-2,158.5	3,853.3	0.00	0.00	0.00
10,000.0	90.00	0.00	6,014.0	3,322.7	-2,158.5	3,942.2	0.00	0.00	0.00
10,100.0	90.00	0.00	6,014.0	3,422.7	-2,158.5	4,031.1	0.00	0.00	0.00
10,200.0	90.00	0.00	6,014.0	3,522.7	-2,158.5	4,120.0	0.00	0.00	0.00
10,300.0	90.00	0.00	6,014.0	3,622.7	-2,158.5	4,208.9	0.00	0.00	0.00
10,400.0	90.00	0.00	6,014.0	3,722.7	-2,158.5	4,297.8	0.00	0.00	0.00
10,500.0	90.00	0.00	6,014.0	3,822.7	-2,158.5	4,386.7	0.00	0.00	0.00
10,600.0	90.00	0.00	6,014.0	3,922.7	-2,158.5	4,475.6	0.00	0.00	0.00
10,700.0	90.00	0.00	6,014.0	4,022.7	-2,158.5	4,564.5	0.00	0.00	0.00
10,800.0	90.00	0.00	6,014.0	4,122.7	-2,158.5	4,653.4	0.00	0.00	0.00
10,867.5	90.00	0.00	6,014.0	4,190.2	-2,158.5	4,713.4	0.00	0.00	0.00
ASL 16-24 PBHL									

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
6,777.3	6,014.0	7" Csg	7	8-3/4

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
0.0	0.0	White River		0.00	
441.7	440.0	Fox Hills		0.00	
604.5	600.0	Pierre Shale		0.00	
3,378.4	3,090.0	Terry		0.00	
4,092.7	3,720.0	Hygiene		0.00	
6,282.8	5,780.0	Sharon Springs		0.00	
6,343.4	5,830.0	Niobrara		0.00	
6,369.3	5,850.0	Niobrara B Chalk		0.00	