



NOBLE ENERGY INC WELD COUNTY CO

SEC.11-T3N-R65W

Aristocrat PC H11-30D Pad Sec. 11-T3N-R65W

Aristocrat PC H11-30D

Wellbore #1

Plan: Noble Aristocrat PC H11-30D Plan #2 (9-22-10)

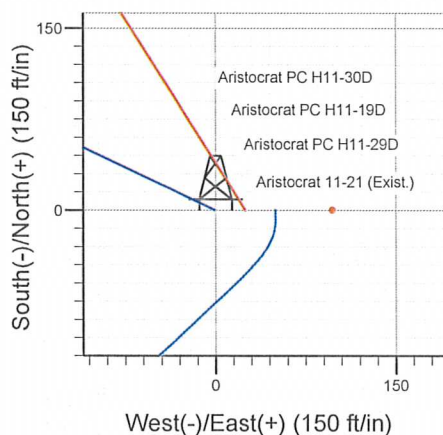
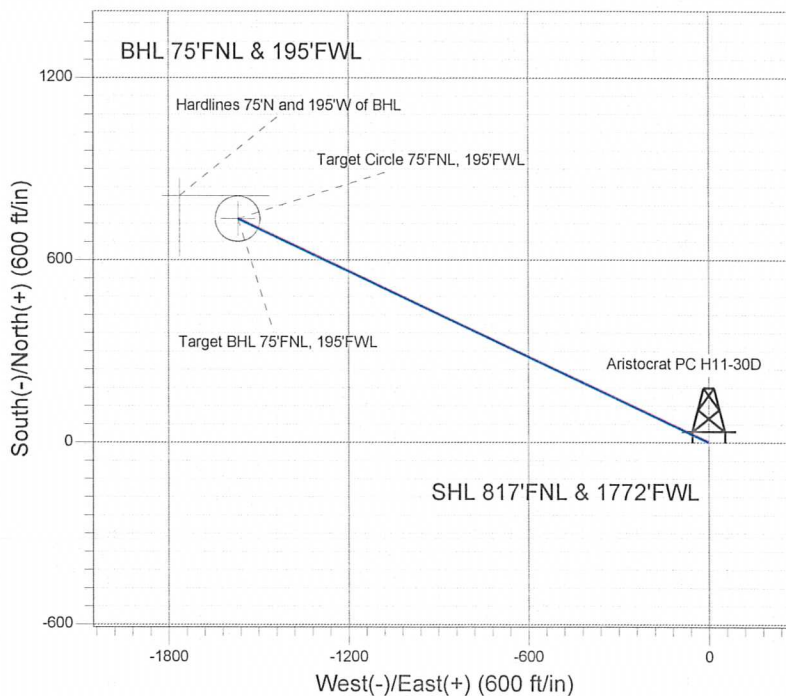
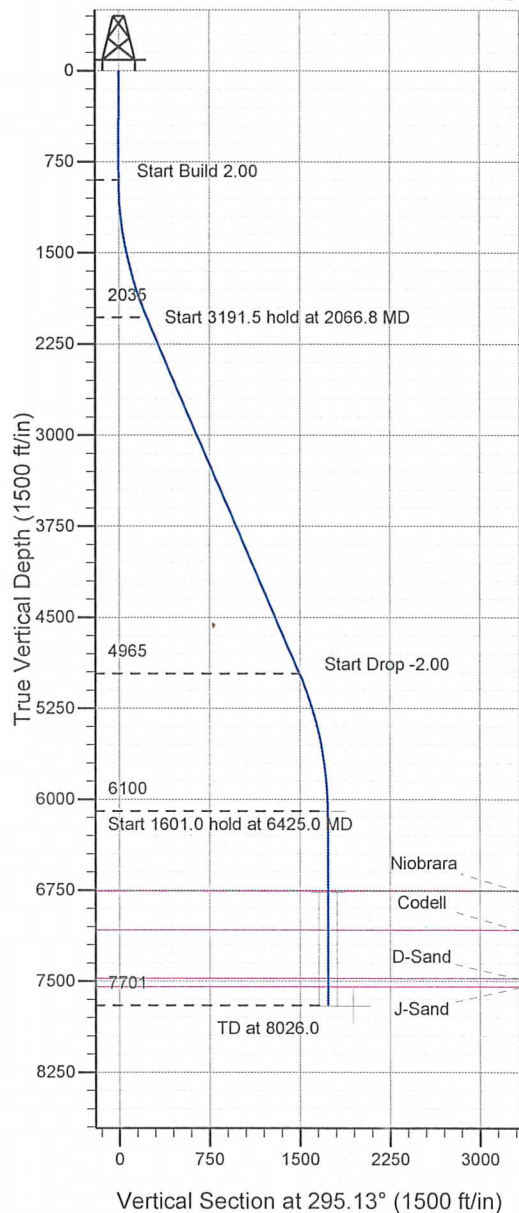
Standard Planning Report

23 September, 2010



Well Name: Aristocrat PC H11-30D						
Surface Location: Aristocrat PC H11-30D Pad Sec. 11-T3N-R65W						
North American Datum 1983 , US State Plane 1983Colorado Northern Zone						
Ground Elevation: 4768.0						
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1333229.69	3241880.39	40° 14' 41.532 N	104° 38' 0.564 W	
Original Well ElevWELL @ 4781.0ft (Original Well Elev)						

NOBLE ENERGY INC WELD COUNTY CO



Aristocrat PC H11-30D Pad Sec. 11-T3N-R65W
Aristocrat PC H11-30D
Noble Aristocrat PC H11-30D Plan #2 (9-22-10)
8:21, September 23 2010



Azimuths to True North
Magnetic North: 8.88°

Magnetic Field

Strength: 53141.3snT

Dip Angle: 66.97°
Date: 9/22/2019

Date: 9/23/2010
Model: IGRF2010

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
Target BHL 75°FNL, 195°FWL	6100.0	736.0	-1568.8	40° 14' 48.804 N	104° 38' 20.796 W	Point
Target Circle 75°FNL, 195°FWL	6765.0	736.0	-1568.8	40° 14' 48.804 N	104° 38' 20.796 W	Circle (Radius: 75.0)
Hardlines 75°N and 195°W of BHL	7705.0	811.0	-1763.8	40° 14' 49.545 N	104° 38' 23.310 W	Polygon

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	900.0	0.00	0.00	900.0	0.0	0.0	0.00	0.00	0.0	
3	2066.8	23.34	295.13	2034.8	99.5	-212.2	2.00	295.13	234.3	
4	5258.3	23.34	295.13	4965.2	636.4	-1356.7	0.00	0.00	1498.5	
5	6425.0	0.00	0.00	6100.0	736.0	-1568.8	2.00	180.00	1732.9	Target BHL 75'FNL, 195'FWL
6	8026.0	0.00	0.00	7701.0	736.0	-1568.8	0.00	0.00	1732.9	



Directional

**NOBLE ENERGY INC WELD
COUNTY CO**

SEC.11-T3N-R65W

Aristocrat PC H11-30D Pad Sec. 11-T3N-R65W

Aristocrat PC H11-30D

Wellbore #1

Plan: Noble Aristocrat PC H11-30D Plan #2 (9-22-10)

Standard Planning Report

23 September, 2010



Database: Landmark
Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.11-T3N-R65W
Site: Aristocrat PC H11-30D Pad Sec.
11-T3N-R65W
Well: Aristocrat PC H11-30D
Wellbore: Wellbore #1
Design: Noble Aristocrat PC H11-30D Plan #2 (9-22-10)

Local Co-ordinate Reference: Well Aristocrat PC H11-30D
TVD Reference: WELL @ 4781.0ft (Original Well Elev)
MD Reference: WELL @ 4781.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature

Project	SEC.11-T3N-R65W, Weld County Colorado		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		Using Well Reference Point
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site	Aristocrat PC H11-30D Pad Sec. 11-T3N-R65W				
Site Position:		Northing:	1,333,229.71 ft	Latitude:	40° 14' 41.532 N
From:	Lat/Long	Easting:	3,241,880.39 ft	Longitude:	104° 38' 0.564 W
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.56 °

Well	Aristocrat PC H11-30D					
Well Position	+N/-S	0.0 ft	Northing:	1,333,229.69 ft	Latitude:	40° 14' 41.532 N
	+E/-W	0.0 ft	Easting:	3,241,880.39 ft	Longitude:	104° 38' 0.564 W
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,768.0 ft	

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	9/23/2010	8.88	66.97	53,141

Design: Noble Aristocrat PC H11-30D Plan #2 (9-22-10)

Audit Notes:

Version: Phase: PROTOTYPE Tie On Depth: 0.0

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	295.13

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	
2,066.8	23.34	295.13	2,034.8	99.5	-212.2	2.00	2.00	0.00	295.13	
5,258.3	23.34	295.13	4,965.2	636.4	-1,356.7	0.00	0.00	0.00	0.00	
6,425.0	0.00	0.00	6,100.0	736.0	-1,568.8	2.00	-2.00	0.00	180.00	Target BHL 75'FNL
8,026.0	0.00	0.00	7,701.0	736.0	-1,568.8	0.00	0.00	0.00	0.00	

Database: Landmark
Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.11-T3N-R65W
Site: Aristocrat PC H11-30D Pad Sec.
11-T3N-R65W
Well: Aristocrat PC H11-30D
Wellbore: Wellbore #1
Design: Noble Aristocrat PC H11-30D Plan #2 (9-22-10)

Local Co-ordinate Reference: Well Aristocrat PC H11-30D
TVD Reference: WELL @ 4781.0ft (Original Well Elev)
MD Reference: WELL @ 4781.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature

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
40.0	0.00	0.00	40.0	0.0	0.0	0.0	0.00	0.00	0.00
80.0	0.00	0.00	80.0	0.0	0.0	0.0	0.00	0.00	0.00
120.0	0.00	0.00	120.0	0.0	0.0	0.0	0.00	0.00	0.00
160.0	0.00	0.00	160.0	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
240.0	0.00	0.00	240.0	0.0	0.0	0.0	0.00	0.00	0.00
280.0	0.00	0.00	280.0	0.0	0.0	0.0	0.00	0.00	0.00
320.0	0.00	0.00	320.0	0.0	0.0	0.0	0.00	0.00	0.00
360.0	0.00	0.00	360.0	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
440.0	0.00	0.00	440.0	0.0	0.0	0.0	0.00	0.00	0.00
480.0	0.00	0.00	480.0	0.0	0.0	0.0	0.00	0.00	0.00
520.0	0.00	0.00	520.0	0.0	0.0	0.0	0.00	0.00	0.00
560.0	0.00	0.00	560.0	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
640.0	0.00	0.00	640.0	0.0	0.0	0.0	0.00	0.00	0.00
680.0	0.00	0.00	680.0	0.0	0.0	0.0	0.00	0.00	0.00
720.0	0.00	0.00	720.0	0.0	0.0	0.0	0.00	0.00	0.00
760.0	0.00	0.00	760.0	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
840.0	0.00	0.00	840.0	0.0	0.0	0.0	0.00	0.00	0.00
880.0	0.00	0.00	880.0	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
920.0	0.40	295.13	920.0	0.0	-0.1	0.1	2.00	2.00	0.00
960.0	1.20	295.13	960.0	0.3	-0.6	0.6	2.00	2.00	0.00
1,000.0	2.00	295.13	1,000.0	0.7	-1.6	1.7	2.00	2.00	0.00
1,040.0	2.80	295.13	1,039.9	1.5	-3.1	3.4	2.00	2.00	0.00
1,080.0	3.60	295.13	1,079.9	2.4	-5.1	5.7	2.00	2.00	0.00
1,120.0	4.40	295.13	1,119.8	3.6	-7.6	8.4	2.00	2.00	0.00
1,160.0	5.20	295.13	1,159.6	5.0	-10.7	11.8	2.00	2.00	0.00
1,200.0	6.00	295.13	1,199.5	6.7	-14.2	15.7	2.00	2.00	0.00
1,240.0	6.80	295.13	1,239.2	8.6	-18.2	20.2	2.00	2.00	0.00
1,280.0	7.60	295.13	1,278.9	10.7	-22.8	25.2	2.00	2.00	0.00
1,320.0	8.40	295.13	1,318.5	13.1	-27.8	30.7	2.00	2.00	0.00
1,360.0	9.20	295.13	1,358.0	15.7	-33.4	36.9	2.00	2.00	0.00
1,400.0	10.00	295.13	1,397.5	18.5	-39.4	43.5	2.00	2.00	0.00
1,440.0	10.80	295.13	1,436.8	21.6	-45.9	50.7	2.00	2.00	0.00
1,480.0	11.60	295.13	1,476.0	24.9	-53.0	58.5	2.00	2.00	0.00
1,520.0	12.40	295.13	1,515.2	28.4	-60.5	66.8	2.00	2.00	0.00
1,560.0	13.20	295.13	1,554.2	32.1	-68.5	75.7	2.00	2.00	0.00
1,600.0	14.00	295.13	1,593.1	36.1	-77.0	85.1	2.00	2.00	0.00
1,640.0	14.80	295.13	1,631.8	40.4	-86.0	95.0	2.00	2.00	0.00
1,680.0	15.60	295.13	1,670.4	44.8	-95.5	105.5	2.00	2.00	0.00
1,720.0	16.40	295.13	1,708.8	49.5	-105.5	116.6	2.00	2.00	0.00
1,760.0	17.20	295.13	1,747.1	54.4	-116.0	128.1	2.00	2.00	0.00
1,800.0	18.00	295.13	1,785.3	59.5	-126.9	140.2	2.00	2.00	0.00
1,840.0	18.80	295.13	1,823.2	64.9	-138.4	152.8	2.00	2.00	0.00
1,880.0	19.60	295.13	1,861.0	70.5	-150.3	166.0	2.00	2.00	0.00
1,920.0	20.40	295.13	1,898.6	76.3	-162.7	179.7	2.00	2.00	0.00
1,960.0	21.20	295.13	1,936.0	82.3	-175.5	193.9	2.00	2.00	0.00
2,000.0	22.00	295.13	1,973.2	88.6	-188.9	208.6	2.00	2.00	0.00
2,040.0	22.80	295.13	2,010.2	95.1	-202.7	223.8	2.00	2.00	0.00

Database: Landmark
Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.11-T3N-R65W
Site: Aristocrat PC H11-30D Pad Sec.
11-T3N-R65W
Well: Aristocrat PC H11-30D
Wellbore: Wellbore #1
Design: Noble Aristocrat PC H11-30D Plan #2 (9-22-10)

Local Co-ordinate Reference: Well Aristocrat PC H11-30D
TVD Reference: WELL @ 4781.0ft (Original Well Elev)
MD Reference: WELL @ 4781.0ft (Original Well Elev)
North Reference: True

Survey Calculation Method: Minimum Curvature

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)
2,066.8	23.34	295.13	2,034.8	99.5	-212.2	234.3	2.00	2.00	0.00
2,080.0	23.34	295.13	2,046.9	101.7	-216.9	239.6	0.00	0.00	0.00
2,120.0	23.34	295.13	2,083.7	108.5	-231.2	255.4	0.00	0.00	0.00
2,160.0	23.34	295.13	2,120.4	115.2	-245.6	271.3	0.00	0.00	0.00
2,200.0	23.34	295.13	2,157.1	121.9	-259.9	287.1	0.00	0.00	0.00
2,240.0	23.34	295.13	2,193.8	128.7	-274.3	303.0	0.00	0.00	0.00
2,280.0	23.34	295.13	2,230.6	135.4	-288.6	318.8	0.00	0.00	0.00
2,320.0	23.34	295.13	2,267.3	142.1	-303.0	334.6	0.00	0.00	0.00
2,360.0	23.34	295.13	2,304.0	148.9	-317.3	350.5	0.00	0.00	0.00
2,400.0	23.34	295.13	2,340.8	155.6	-331.7	366.3	0.00	0.00	0.00
2,440.0	23.34	295.13	2,377.5	162.3	-346.0	382.2	0.00	0.00	0.00
2,480.0	23.34	295.13	2,414.2	169.0	-360.3	398.0	0.00	0.00	0.00
2,520.0	23.34	295.13	2,450.9	175.8	-374.7	413.9	0.00	0.00	0.00
2,560.0	23.34	295.13	2,487.7	182.5	-389.0	429.7	0.00	0.00	0.00
2,600.0	23.34	295.13	2,524.4	189.2	-403.4	445.6	0.00	0.00	0.00
2,640.0	23.34	295.13	2,561.1	196.0	-417.7	461.4	0.00	0.00	0.00
2,680.0	23.34	295.13	2,597.8	202.7	-432.1	477.2	0.00	0.00	0.00
2,720.0	23.34	295.13	2,634.6	209.4	-446.4	493.1	0.00	0.00	0.00
2,760.0	23.34	295.13	2,671.3	216.1	-460.8	508.9	0.00	0.00	0.00
2,800.0	23.34	295.13	2,708.0	222.9	-475.1	524.8	0.00	0.00	0.00
2,840.0	23.34	295.13	2,744.8	229.6	-489.4	540.6	0.00	0.00	0.00
2,880.0	23.34	295.13	2,781.5	236.3	-503.8	556.5	0.00	0.00	0.00
2,920.0	23.34	295.13	2,818.2	243.1	-518.1	572.3	0.00	0.00	0.00
2,960.0	23.34	295.13	2,854.9	249.8	-532.5	588.2	0.00	0.00	0.00
3,000.0	23.34	295.13	2,891.7	256.5	-546.8	604.0	0.00	0.00	0.00
3,040.0	23.34	295.13	2,928.4	263.3	-561.2	619.8	0.00	0.00	0.00
3,080.0	23.34	295.13	2,965.1	270.0	-575.5	635.7	0.00	0.00	0.00
3,120.0	23.34	295.13	3,001.9	276.7	-589.9	651.5	0.00	0.00	0.00
3,160.0	23.34	295.13	3,038.6	283.4	-604.2	667.4	0.00	0.00	0.00
3,200.0	23.34	295.13	3,075.3	290.2	-618.5	683.2	0.00	0.00	0.00
3,240.0	23.34	295.13	3,112.0	296.9	-632.9	699.1	0.00	0.00	0.00
3,280.0	23.34	295.13	3,148.8	303.6	-647.2	714.9	0.00	0.00	0.00
3,320.0	23.34	295.13	3,185.5	310.4	-661.6	730.8	0.00	0.00	0.00
3,360.0	23.34	295.13	3,222.2	317.1	-675.9	746.6	0.00	0.00	0.00
3,400.0	23.34	295.13	3,259.0	323.8	-690.3	762.5	0.00	0.00	0.00
3,440.0	23.34	295.13	3,295.7	330.5	-704.6	778.3	0.00	0.00	0.00
3,480.0	23.34	295.13	3,332.4	337.3	-719.0	794.1	0.00	0.00	0.00
3,520.0	23.34	295.13	3,369.1	344.0	-733.3	810.0	0.00	0.00	0.00
3,560.0	23.34	295.13	3,405.9	350.7	-747.6	825.8	0.00	0.00	0.00
3,600.0	23.34	295.13	3,442.6	357.5	-762.0	841.7	0.00	0.00	0.00
3,640.0	23.34	295.13	3,479.3	364.2	-776.3	857.5	0.00	0.00	0.00
3,680.0	23.34	295.13	3,516.0	370.9	-790.7	873.4	0.00	0.00	0.00
3,720.0	23.34	295.13	3,552.8	377.7	-805.0	889.2	0.00	0.00	0.00
3,760.0	23.34	295.13	3,589.5	384.4	-819.4	905.1	0.00	0.00	0.00
3,800.0	23.34	295.13	3,626.2	391.1	-833.7	920.9	0.00	0.00	0.00
3,840.0	23.34	295.13	3,663.0	397.8	-848.1	936.7	0.00	0.00	0.00
3,880.0	23.34	295.13	3,699.7	404.6	-862.4	952.6	0.00	0.00	0.00
3,920.0	23.34	295.13	3,736.4	411.3	-876.8	968.4	0.00	0.00	0.00
3,960.0	23.34	295.13	3,773.1	418.0	-891.1	984.3	0.00	0.00	0.00
4,000.0	23.34	295.13	3,809.9	424.8	-905.4	1,000.1	0.00	0.00	0.00
4,040.0	23.34	295.13	3,846.6	431.5	-919.8	1,016.0	0.00	0.00	0.00
4,080.0	23.34	295.13	3,883.3	438.2	-934.1	1,031.8	0.00	0.00	0.00
4,120.0	23.34	295.13	3,920.1	444.9	-948.5	1,047.7	0.00	0.00	0.00

Database: Landmark
Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.11-T3N-R65W
Site: Aristocrat PC H11-30D Pad Sec.
11-T3N-R65W
Well: Aristocrat PC H11-30D
Wellbore: Wellbore #1
Design: Noble Aristocrat PC H11-30D Plan #2 (9-22-10)

Local Co-ordinate Reference: Well Aristocrat PC H11-30D
TVD Reference: WELL @ 4781.0ft (Original Well Elev)
MD Reference: WELL @ 4781.0ft (Original Well Elev)
North Reference: True

Survey Calculation Method: Minimum Curvature

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)
4,160.0	23.34	295.13	3,956.8	451.7	-962.8	1,063.5	0.00	0.00	0.00
4,200.0	23.34	295.13	3,993.5	458.4	-977.2	1,079.3	0.00	0.00	0.00
4,240.0	23.34	295.13	4,030.2	465.1	-991.5	1,095.2	0.00	0.00	0.00
4,280.0	23.34	295.13	4,067.0	471.9	-1,005.9	1,111.0	0.00	0.00	0.00
4,320.0	23.34	295.13	4,103.7	478.6	-1,020.2	1,126.9	0.00	0.00	0.00
4,360.0	23.34	295.13	4,140.4	485.3	-1,034.5	1,142.7	0.00	0.00	0.00
4,400.0	23.34	295.13	4,177.1	492.1	-1,048.9	1,158.6	0.00	0.00	0.00
4,440.0	23.34	295.13	4,213.9	498.8	-1,063.2	1,174.4	0.00	0.00	0.00
4,480.0	23.34	295.13	4,250.6	505.5	-1,077.6	1,190.3	0.00	0.00	0.00
4,520.0	23.34	295.13	4,287.3	512.2	-1,091.9	1,206.1	0.00	0.00	0.00
4,560.0	23.34	295.13	4,324.1	519.0	-1,106.3	1,221.9	0.00	0.00	0.00
4,600.0	23.34	295.13	4,360.8	525.7	-1,120.6	1,237.8	0.00	0.00	0.00
4,640.0	23.34	295.13	4,397.5	532.4	-1,135.0	1,253.6	0.00	0.00	0.00
4,680.0	23.34	295.13	4,434.2	539.2	-1,149.3	1,269.5	0.00	0.00	0.00
4,720.0	23.34	295.13	4,471.0	545.9	-1,163.6	1,285.3	0.00	0.00	0.00
4,760.0	23.34	295.13	4,507.7	552.6	-1,178.0	1,301.2	0.00	0.00	0.00
4,800.0	23.34	295.13	4,544.4	559.3	-1,192.3	1,317.0	0.00	0.00	0.00
4,840.0	23.34	295.13	4,581.2	566.1	-1,206.7	1,332.9	0.00	0.00	0.00
4,880.0	23.34	295.13	4,617.9	572.8	-1,221.0	1,348.7	0.00	0.00	0.00
4,920.0	23.34	295.13	4,654.6	579.5	-1,235.4	1,364.6	0.00	0.00	0.00
4,960.0	23.34	295.13	4,691.3	586.3	-1,249.7	1,380.4	0.00	0.00	0.00
5,000.0	23.34	295.13	4,728.1	593.0	-1,264.1	1,396.2	0.00	0.00	0.00
5,040.0	23.34	295.13	4,764.8	599.7	-1,278.4	1,412.1	0.00	0.00	0.00
5,080.0	23.34	295.13	4,801.5	606.5	-1,292.8	1,427.9	0.00	0.00	0.00
5,120.0	23.34	295.13	4,838.3	613.2	-1,307.1	1,443.8	0.00	0.00	0.00
5,160.0	23.34	295.13	4,875.0	619.9	-1,321.4	1,459.6	0.00	0.00	0.00
5,200.0	23.34	295.13	4,911.7	626.6	-1,335.8	1,475.5	0.00	0.00	0.00
5,240.0	23.34	295.13	4,948.4	633.4	-1,350.1	1,491.3	0.00	0.00	0.00
5,258.3	23.34	295.13	4,965.2	636.4	-1,356.7	1,498.5	0.00	0.00	0.00
5,280.0	22.90	295.13	4,985.2	640.1	-1,364.4	1,507.1	2.00	-2.00	0.00
5,320.0	22.10	295.13	5,022.2	646.6	-1,378.3	1,522.4	2.00	-2.00	0.00
5,360.0	21.30	295.13	5,059.3	652.9	-1,391.7	1,537.2	2.00	-2.00	0.00
5,400.0	20.50	295.13	5,096.7	658.9	-1,404.6	1,551.4	2.00	-2.00	0.00
5,440.0	19.70	295.13	5,134.2	664.8	-1,417.0	1,565.2	2.00	-2.00	0.00
5,480.0	18.90	295.13	5,172.0	670.4	-1,429.0	1,578.4	2.00	-2.00	0.00
5,520.0	18.10	295.13	5,209.9	675.8	-1,440.5	1,591.1	2.00	-2.00	0.00
5,560.0	17.30	295.13	5,248.0	680.9	-1,451.5	1,603.3	2.00	-2.00	0.00
5,600.0	16.50	295.13	5,286.3	685.9	-1,462.0	1,614.9	2.00	-2.00	0.00
5,640.0	15.70	295.13	5,324.7	690.6	-1,472.1	1,626.0	2.00	-2.00	0.00
5,680.0	14.90	295.13	5,363.3	695.1	-1,481.6	1,636.5	2.00	-2.00	0.00
5,720.0	14.10	295.13	5,402.0	699.3	-1,490.7	1,646.6	2.00	-2.00	0.00
5,760.0	13.30	295.13	5,440.9	703.3	-1,499.3	1,656.0	2.00	-2.00	0.00
5,800.0	12.50	295.13	5,479.9	707.1	-1,507.3	1,665.0	2.00	-2.00	0.00
5,840.0	11.70	295.13	5,519.0	710.7	-1,514.9	1,673.4	2.00	-2.00	0.00
5,880.0	10.90	295.13	5,558.2	714.0	-1,522.0	1,681.2	2.00	-2.00	0.00
5,920.0	10.10	295.13	5,597.6	717.1	-1,528.6	1,688.5	2.00	-2.00	0.00
5,960.0	9.30	295.13	5,637.0	720.0	-1,534.7	1,695.2	2.00	-2.00	0.00
6,000.0	8.50	295.13	5,676.5	722.6	-1,540.3	1,701.4	2.00	-2.00	0.00
6,040.0	7.70	295.13	5,716.1	725.0	-1,545.4	1,707.0	2.00	-2.00	0.00
6,080.0	6.90	295.13	5,755.8	727.2	-1,550.0	1,712.1	2.00	-2.00	0.00
6,120.0	6.10	295.13	5,795.5	729.1	-1,554.1	1,716.7	2.00	-2.00	0.00
6,160.0	5.30	295.13	5,835.3	730.8	-1,557.7	1,720.6	2.00	-2.00	0.00
6,200.0	4.50	295.13	5,875.2	732.2	-1,560.8	1,724.1	2.00	-2.00	0.00

Database: Landmark
Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.11-T3N-R65W
Site: Aristocrat PC H11-30D Pad Sec.
11-T3N-R65W
Well: Aristocrat PC H11-30D
Wellbore: Wellbore #1
Design: Noble Aristocrat PC H11-30D Plan #2 (9-22-10)

Local Co-ordinate Reference: Well Aristocrat PC H11-30D
TVD Reference: WELL @ 4781.0ft (Original Well Elev)
MD Reference: WELL @ 4781.0ft (Original Well Elev)
North Reference: True

Survey Calculation Method: Minimum Curvature

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)
6,240.0	3.70	295.13	5,915.1	733.4	-1,563.4	1,726.9	2.00	-2.00	0.00
6,280.0	2.90	295.13	5,955.0	734.4	-1,565.5	1,729.2	2.00	-2.00	0.00
6,320.0	2.10	295.13	5,995.0	735.2	-1,567.1	1,731.0	2.00	-2.00	0.00
6,360.0	1.30	295.13	6,035.0	735.7	-1,568.2	1,732.1	2.00	-2.00	0.00
6,400.0	0.50	295.13	6,075.0	735.9	-1,568.7	1,732.8	2.00	-2.00	0.00
6,425.0	0.00	0.00	6,100.0	736.0	-1,568.8	1,732.9	2.00	-2.00	258.97
Target BHL 75'FNL, 195'FWL									
6,440.0	0.00	0.00	6,115.0	736.0	-1,568.8	1,732.9	0.00	0.00	0.00
6,480.0	0.00	0.00	6,155.0	736.0	-1,568.8	1,732.9	0.00	0.00	0.00
6,520.0	0.00	0.00	6,195.0	736.0	-1,568.8	1,732.9	0.00	0.00	0.00
6,560.0	0.00	0.00	6,235.0	736.0	-1,568.8	1,732.9	0.00	0.00	0.00
6,600.0	0.00	0.00	6,275.0	736.0	-1,568.8	1,732.9	0.00	0.00	0.00
6,640.0	0.00	0.00	6,315.0	736.0	-1,568.8	1,732.9	0.00	0.00	0.00
6,680.0	0.00	0.00	6,355.0	736.0	-1,568.8	1,732.9	0.00	0.00	0.00
6,720.0	0.00	0.00	6,395.0	736.0	-1,568.8	1,732.9	0.00	0.00	0.00
6,760.0	0.00	0.00	6,435.0	736.0	-1,568.8	1,732.9	0.00	0.00	0.00
6,800.0	0.00	0.00	6,475.0	736.0	-1,568.8	1,732.9	0.00	0.00	0.00
6,840.0	0.00	0.00	6,515.0	736.0	-1,568.8	1,732.9	0.00	0.00	0.00
6,880.0	0.00	0.00	6,555.0	736.0	-1,568.8	1,732.9	0.00	0.00	0.00
6,920.0	0.00	0.00	6,595.0	736.0	-1,568.8	1,732.9	0.00	0.00	0.00
6,960.0	0.00	0.00	6,635.0	736.0	-1,568.8	1,732.9	0.00	0.00	0.00
7,000.0	0.00	0.00	6,675.0	736.0	-1,568.8	1,732.9	0.00	0.00	0.00
7,040.0	0.00	0.00	6,715.0	736.0	-1,568.8	1,732.9	0.00	0.00	0.00
7,080.0	0.00	0.00	6,755.0	736.0	-1,568.8	1,732.9	0.00	0.00	0.00
7,086.0	0.00	0.00	6,761.0	736.0	-1,568.8	1,732.9	0.00	0.00	0.00
Niobrara									
7,090.0	0.00	0.00	6,765.0	736.0	-1,568.8	1,732.9	0.00	0.00	0.00
Target Circle 75'FNL, 195'FWL									
7,120.0	0.00	0.00	6,795.0	736.0	-1,568.8	1,732.9	0.00	0.00	0.00
7,160.0	0.00	0.00	6,835.0	736.0	-1,568.8	1,732.9	0.00	0.00	0.00
7,200.0	0.00	0.00	6,875.0	736.0	-1,568.8	1,732.9	0.00	0.00	0.00
7,240.0	0.00	0.00	6,915.0	736.0	-1,568.8	1,732.9	0.00	0.00	0.00
7,280.0	0.00	0.00	6,955.0	736.0	-1,568.8	1,732.9	0.00	0.00	0.00
7,320.0	0.00	0.00	6,995.0	736.0	-1,568.8	1,732.9	0.00	0.00	0.00
7,360.0	0.00	0.00	7,035.0	736.0	-1,568.8	1,732.9	0.00	0.00	0.00
7,400.0	0.00	0.00	7,075.0	736.0	-1,568.8	1,732.9	0.00	0.00	0.00
7,406.0	0.00	0.00	7,081.0	736.0	-1,568.8	1,732.9	0.00	0.00	0.00
Codell									
7,440.0	0.00	0.00	7,115.0	736.0	-1,568.8	1,732.9	0.00	0.00	0.00
7,480.0	0.00	0.00	7,155.0	736.0	-1,568.8	1,732.9	0.00	0.00	0.00
7,520.0	0.00	0.00	7,195.0	736.0	-1,568.8	1,732.9	0.00	0.00	0.00
7,560.0	0.00	0.00	7,235.0	736.0	-1,568.8	1,732.9	0.00	0.00	0.00
7,600.0	0.00	0.00	7,275.0	736.0	-1,568.8	1,732.9	0.00	0.00	0.00
7,640.0	0.00	0.00	7,315.0	736.0	-1,568.8	1,732.9	0.00	0.00	0.00
7,680.0	0.00	0.00	7,355.0	736.0	-1,568.8	1,732.9	0.00	0.00	0.00
7,720.0	0.00	0.00	7,395.0	736.0	-1,568.8	1,732.9	0.00	0.00	0.00
7,760.0	0.00	0.00	7,435.0	736.0	-1,568.8	1,732.9	0.00	0.00	0.00
7,800.0	0.00	0.00	7,475.0	736.0	-1,568.8	1,732.9	0.00	0.00	0.00
7,806.0	0.00	0.00	7,481.0	736.0	-1,568.8	1,732.9	0.00	0.00	0.00
D-Sand									
7,840.0	0.00	0.00	7,515.0	736.0	-1,568.8	1,732.9	0.00	0.00	0.00
7,876.0	0.00	0.00	7,551.0	736.0	-1,568.8	1,732.9	0.00	0.00	0.00

Database: Landmark
 Company: NOBLE ENERGY INC WELD COUNTY CO
 Project: SEC.11-T3N-R65W
 Site: Aristocrat PC H11-30D Pad Sec.
 11-T3N-R65W
 Well: Aristocrat PC H11-30D
 Wellbore: Wellbore #1
 Design: Noble Aristocrat PC H11-30D Plan #2 (9-22-10)

Local Co-ordinate Reference: Well Aristocrat PC H11-30D
 TVD Reference: WELL @ 4781.0ft (Original Well Elev)
 MD Reference: WELL @ 4781.0ft (Original Well Elev)
 North Reference: True
 Survey Calculation Method: Minimum Curvature

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)
J-Sand									
7,880.0	0.00	0.00	7,555.0	736.0	-1,568.8	1,732.9	0.00	0.00	0.00
7,920.0	0.00	0.00	7,595.0	736.0	-1,568.8	1,732.9	0.00	0.00	0.00
7,960.0	0.00	0.00	7,635.0	736.0	-1,568.8	1,732.9	0.00	0.00	0.00
8,000.0	0.00	0.00	7,675.0	736.0	-1,568.8	1,732.9	0.00	0.00	0.00
8,026.0	0.00	0.00	7,701.0	736.0	-1,568.8	1,732.9	0.00	0.00	0.00
Hardlines 75°N and 195°W of BHL									

Targets
Target Name

- hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Hardlines 75°N and 195°W of BHL	0.00	0.00	7,705.0	811.0	-1,763.8	1,334,023.38	3,240,108.83	40° 14' 49.545 N	104° 38' 23.310 W
- plan misses by 208.9ft at 8026.0ft MD (7701.0 TVD, 736.0 N, -1568.8 E)									
- Polygon									
Point 1			7,705.0	0.0	0.0	1,334,023.38	3,240,108.83		
Point 2			7,705.0	0.0	300.0	1,334,026.31	3,240,408.80		
Point 3			7,705.0	0.0	0.0	1,334,023.38	3,240,108.83		
Point 4			7,705.0	-200.0	0.0	1,333,823.40	3,240,110.78		
Target Circle 75°FNL,	0.00	0.00	6,765.0	736.0	-1,568.8	1,333,950.26	3,240,304.51	40° 14' 48.804 N	104° 38' 20.796 W
- plan hits target									
- Circle (radius 75.0)									
Target BHL 75°FNL, 1	0.00	0.00	6,100.0	736.0	-1,568.8	1,333,950.26	3,240,304.51	40° 14' 48.804 N	104° 38' 20.796 W
- plan hits target									
- Point									

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
7,086.0	6,761.0	Niobrara		0.00	
7,406.0	7,081.0	Codell		0.00	
7,806.0	7,481.0	D-Sand		0.00	
7,876.0	7,551.0	J-Sand		0.00	