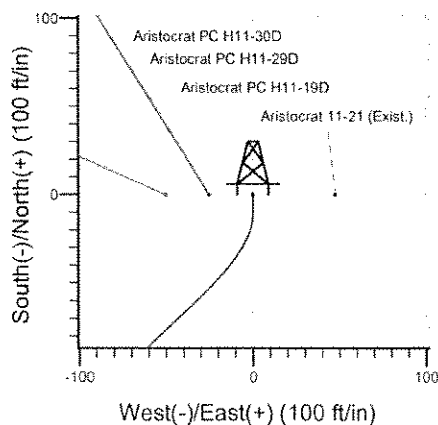
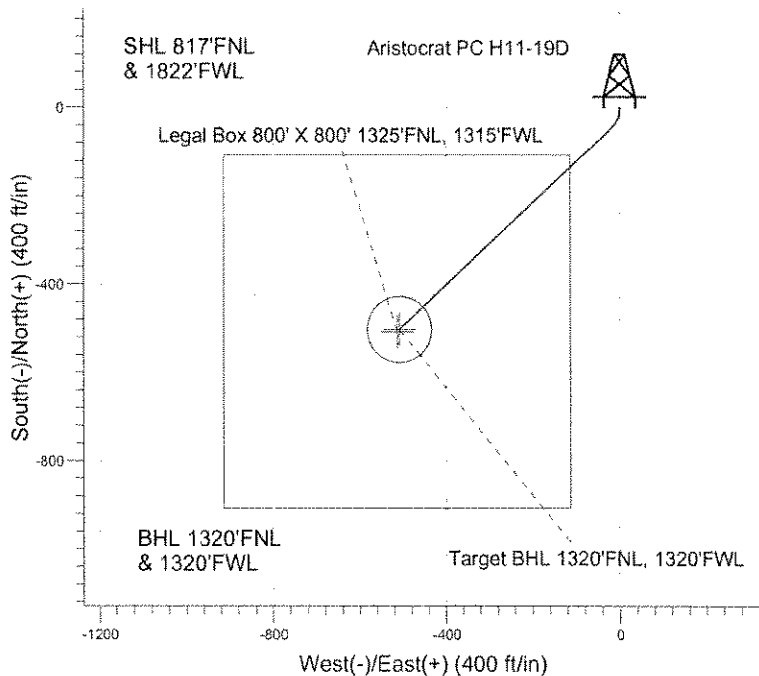
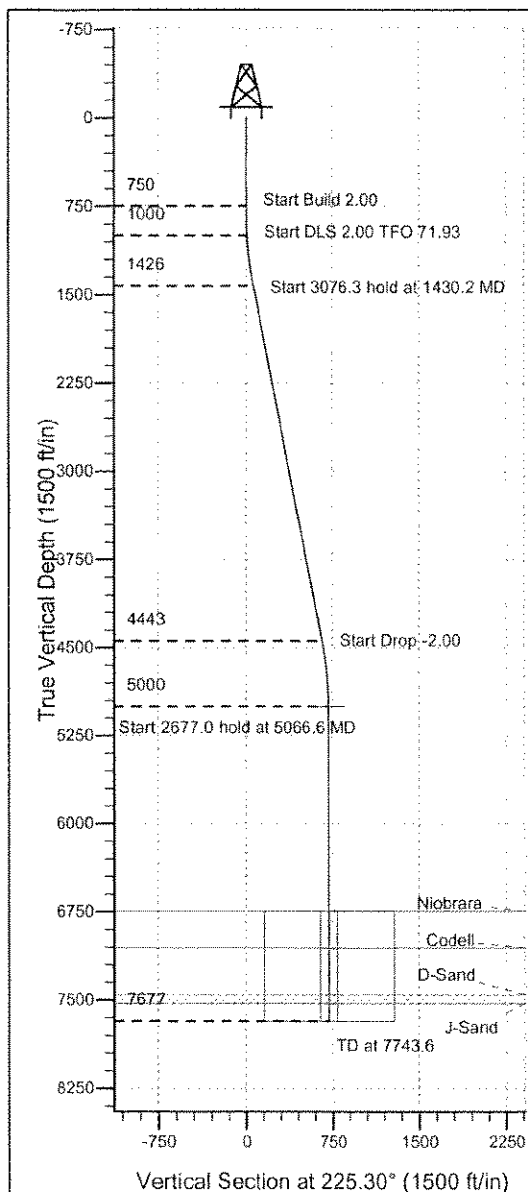


**ENSIGN****Directional**Well Name: **Aristocrat PC H11-19D**Surface Location: Aristocrat PC H11-30 Pad Sec. 11-T3N-R65W  
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone  
Ground Elevation: 4769.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1333230.19	3241930.63	40° 14' 41.532 N	104° 37' 59.916 W	
Original Well Elev WELL @ 4782.0ft (Original Well Elev)						

**NOBLE ENERGY INC WELD COUNTY CO**

Aristocrat PC H11-19D

Noble Aristocrat PC H11-19D Plan#1 (6-18-10)

8:20, June 29 2010



Azimuths to True North

Magnetic North: 8.94°

Magnetic Field

Strength: 53237.2snT

Dip Angle: 67.00°

Date: 12/31/2009

Model: IGRF200510

**WELLBORE TARGET DETAILS (LAT/LONG)**

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
Target BHL 1320'FNL, 1320'FWL	5000.0	-502.7	-508.1	40° 14' 36.564 N	104° 38' 6.468 W	Point
Legal Box 800' X 800' 1325'FNL, 1315'FWL	6742.0	-507.7	-513.1	40° 14' 36.515 N	104° 38' 6.533 W	Rectangle (Sides: L800.0 W800.0)
Target Circle 1320'FNL, 1320'FWL	6742.0	-502.7	-508.1	40° 14' 36.564 N	104° 38' 6.468 W	Circle (Radius: 75.0)

**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	750.0	0.00	0.00	750.0	0.0	0.0	0.00	0.00	0.0	
3	1000.0	5.00	180.00	999.7	-10.9	0.0	2.00	180.00	7.7	
4	1430.2	11.20	227.05	1425.7	-58.2	-30.6	2.00	71.93	62.7	
5	4506.4	11.20	227.05	4443.4	-465.5	-468.1	0.00	0.00	660.2	
6	5066.6	0.00	0.00	5000.0	-502.7	-508.1	2.00	180.00	714.8	Target BHL 1320'FNL, 1320'FWL
7	7743.6	0.00	0.00	7677.0	-502.7	-508.1	0.00	0.00	714.8	



**Directional**

## **NOBLE ENERGY INC WELD COUNTY CO**

**SEC.11-T3N-R65W**

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

**Aristocrat PC H11-19D**

**Wellbore #1**

**Plan: Noble Aristocrat PC H11-19D Plan#1 (6-18-10)**

## **Standard Planning Report**

**29 June, 2010**

# **ENSIGN** Directional

## Ensign Directional Planning Report

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Aristocrat PC H11-19D
<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>TVD Reference:</b>	WELL @ 4782.0ft (Original Well Elev)
<b>Project:</b>	SEC.11-T3N-R65W	<b>MD Reference:</b>	WELL @ 4782.0ft (Original Well Elev)
<b>Site:</b>	Aristocrat PC H11-30 Pad Sec. 11-T3N-R65W	<b>North Reference:</b>	True
<b>Well:</b>	Aristocrat PC H11-19D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Noble Aristocrat PC H11-19D Plan#1 (6-18-10)		

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

**Site** Aristocrat PC H11-30 Pad Sec. 11-T3N-R65W

<b>Site Position:</b>		<b>Northing:</b>	1,333,229.71 ft	<b>Latitude:</b>	40° 14' 41.532 N
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,241,880.39 ft	<b>Longitude:</b>	104° 38' 0.564 W
<b>Position Uncertainty:</b>	0.0 ft	<b>Slot Radius:</b>	"	<b>Grid Convergence:</b>	0.56 °

<b>Well</b>	Aristocrat PC H11-19D				
<b>Well Position</b>	<b>+N/-S</b>	0.0 ft	<b>Northing:</b>	1,333,230.19 ft	<b>Latitude:</b> 40° 14' 41.532 N
	<b>+E/-W</b>	50.2 ft	<b>Easting:</b>	3,241,930.63 ft	<b>Longitude:</b> 104° 37' 59.916 W
<b>Position Uncertainty</b>		0.0 ft	<b>Wellhead Elevation:</b>	ft	<b>Ground Level:</b> 4,769.0 ft

**Wellbore** Wellbore #1

<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF200510	12/31/2009	8.94	67.01	53,237

**Design** Noble Aristocrat PC H11-19D Plan#1 (6-18-10)

**Audit Notes:**

<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.0
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<b>Vertical Section:</b>	<b>Depth From (TVD)</b>	<b>+N/-S</b>	<b>+E/-W</b>	<b>Direction</b>
	(ft)	(ft)	(ft)	(°)
	0.0	0.0	0.0	225.30

### 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	
750.0	0.00	0.00	750.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,000.0	5.00	180.00	999.7	-10.9	0.0	2.00	2.00	0.00	180.00	
1,430.2	11.20	227.05	1,425.7	-58.2	-30.6	2.00	1.44	10.94	71.93	
4,506.4	11.20	227.05	4,443.4	-465.5	-468.1	0.00	0.00	0.00	0.00	
5,066.6	0.00	0.00	5,000.0	-502.7	-508.1	2.00	-2.00	0.00	180.00	Target BHL 1320'FI
7,743.6	0.00	0.00	7,677.0	-502.7	-508.1	0.00	0.00	0.00	0.00	

# **ENSIGN** Directional

## Ensign Directional Planning Report

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Aristocrat PC H11-19D
<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>TVD Reference:</b>	WELL @ 4782.0ft (Original Well Elev)
<b>Project:</b>	SEC.11-T3N-R65W	<b>MD Reference:</b>	WELL @ 4782.0ft (Original Well Elev)
<b>Site:</b>	Aristocrat PC H11-30 Pad Sec. 11-T3N-R65W	<b>North Reference:</b>	True
<b>Well:</b>	Aristocrat PC H11-19D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Noble Aristocrat PC H11-19D Plan#1 (6-18-10)		

### 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
750.0	0.00	0.00	750.0	0.0	0.0	0.0	0.00	0.00	0.00
760.0	0.20	180.00	760.0	0.0	0.0	0.0	2.00	2.00	0.00
800.0	1.00	180.00	800.0	-0.4	0.0	0.3	2.00	2.00	0.00
840.0	1.80	180.00	840.0	-1.4	0.0	1.0	2.00	2.00	0.00
880.0	2.60	180.00	880.0	-2.9	0.0	2.1	2.00	2.00	0.00
920.0	3.40	180.00	919.9	-5.0	0.0	3.5	2.00	2.00	0.00
960.0	4.20	180.00	959.8	-7.7	0.0	5.4	2.00	2.00	0.00
1,000.0	5.00	180.00	999.7	-10.9	0.0	7.7	2.00	2.00	0.00
1,040.0	5.30	188.26	1,039.5	-14.5	-0.3	10.4	2.00	0.76	20.64
1,080.0	5.70	195.49	1,079.3	-18.2	-1.1	13.6	2.00	1.00	18.09
1,120.0	6.18	201.70	1,119.1	-22.1	-2.4	17.3	2.00	1.19	15.52
1,160.0	6.72	206.97	1,158.9	-26.2	-4.2	21.5	2.00	1.35	13.18
1,200.0	7.31	211.43	1,198.6	-30.5	-6.1	26.2	2.00	1.47	11.15
1,240.0	7.93	215.21	1,238.2	-34.9	-9.6	31.3	2.00	1.56	9.45
1,280.0	8.58	218.44	1,277.8	-39.5	-13.0	37.0	2.00	1.63	8.05
1,320.0	9.26	221.20	1,317.3	-44.3	-17.0	43.2	2.00	1.69	6.90
1,360.0	9.95	223.58	1,356.8	-49.2	-21.5	49.9	2.00	1.74	5.96
1,400.0	10.66	225.66	1,396.1	-54.3	-26.5	57.0	2.00	1.77	5.18
1,430.2	11.20	227.05	1,425.7	-58.2	-30.6	62.7	2.00	1.80	4.61
1,440.0	11.20	227.05	1,435.4	-59.5	-32.0	64.6	0.00	0.00	0.00
1,480.0	11.20	227.05	1,474.6	-64.8	-37.7	72.4	0.00	0.00	0.00
1,520.0	11.20	227.05	1,513.9	-70.1	-43.4	80.2	0.00	0.00	0.00
1,560.0	11.20	227.05	1,553.1	-75.4	-49.1	87.9	0.00	0.00	0.00
1,600.0	11.20	227.05	1,592.3	-80.7	-54.8	95.7	0.00	0.00	0.00
1,640.0	11.20	227.05	1,631.6	-86.0	-60.5	103.5	0.00	0.00	0.00
1,680.0	11.20	227.05	1,670.8	-91.3	-66.2	111.2	0.00	0.00	0.00
1,720.0	11.20	227.05	1,710.0	-96.6	-71.9	119.0	0.00	0.00	0.00
1,760.0	11.20	227.05	1,749.3	-101.9	-77.6	126.8	0.00	0.00	0.00
1,800.0	11.20	227.05	1,788.5	-107.2	-83.2	134.6	0.00	0.00	0.00
1,840.0	11.20	227.05	1,827.8	-112.5	-88.9	142.3	0.00	0.00	0.00
1,880.0	11.20	227.05	1,867.0	-117.8	-94.6	150.1	0.00	0.00	0.00
1,920.0	11.20	227.05	1,906.2	-123.1	-100.3	157.9	0.00	0.00	0.00
1,960.0	11.20	227.05	1,945.5	-128.4	-106.0	165.6	0.00	0.00	0.00
2,000.0	11.20	227.05	1,984.7	-133.7	-111.7	173.4	0.00	0.00	0.00
2,040.0	11.20	227.05	2,023.9	-139.0	-117.4	181.2	0.00	0.00	0.00

# ENSIGN Directional

## Ensign Directional Planning Report

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Aristocrat PC H11-19D
<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>TVD Reference:</b>	WELL @ 4782.0ft (Original Well Elev)
<b>Project:</b>	SEC.11-T3N-R65W	<b>MD Reference:</b>	WELL @ 4782.0ft (Original Well Elev)
<b>Site:</b>	Aristocrat PC H11-30 Pad Sec. 11-T3N-R65W	<b>North Reference:</b>	True
<b>Well:</b>	Aristocrat PC H11-19D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Noble Aristocrat PC H11-19D Plan#1 (6-18-10)		

### 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)
2,080.0	11.20	227.05	2,063.2	-144.3	-123.1	188.9	0.00	0.00	0.00
2,120.0	11.20	227.05	2,102.4	-149.5	-128.7	196.7	0.00	0.00	0.00
2,160.0	11.20	227.05	2,141.7	-154.8	-134.4	204.5	0.00	0.00	0.00
2,200.0	11.20	227.05	2,180.9	-160.1	-140.1	212.2	0.00	0.00	0.00
2,240.0	11.20	227.05	2,220.1	-165.4	-145.8	220.0	0.00	0.00	0.00
2,280.0	11.20	227.05	2,259.4	-170.7	-151.5	227.8	0.00	0.00	0.00
2,320.0	11.20	227.05	2,298.6	-176.0	-157.2	235.5	0.00	0.00	0.00
2,360.0	11.20	227.05	2,337.8	-181.3	-162.9	243.3	0.00	0.00	0.00
2,400.0	11.20	227.05	2,377.1	-186.6	-168.6	251.1	0.00	0.00	0.00
2,440.0	11.20	227.05	2,416.3	-191.9	-174.3	258.9	0.00	0.00	0.00
2,480.0	11.20	227.05	2,455.6	-197.2	-179.9	266.6	0.00	0.00	0.00
2,520.0	11.20	227.05	2,494.8	-202.5	-185.6	274.4	0.00	0.00	0.00
2,560.0	11.20	227.05	2,534.0	-207.8	-191.3	282.2	0.00	0.00	0.00
2,600.0	11.20	227.05	2,573.3	-213.1	-197.0	289.9	0.00	0.00	0.00
2,640.0	11.20	227.05	2,612.5	-218.4	-202.7	297.7	0.00	0.00	0.00
2,680.0	11.20	227.05	2,651.7	-223.7	-208.4	305.5	0.00	0.00	0.00
2,720.0	11.20	227.05	2,691.0	-229.0	-214.1	313.2	0.00	0.00	0.00
2,760.0	11.20	227.05	2,730.2	-234.3	-219.8	321.0	0.00	0.00	0.00
2,800.0	11.20	227.05	2,769.5	-239.6	-225.4	328.8	0.00	0.00	0.00
2,840.0	11.20	227.05	2,808.7	-244.9	-231.1	336.5	0.00	0.00	0.00
2,880.0	11.20	227.05	2,847.9	-250.2	-236.8	344.3	0.00	0.00	0.00
2,920.0	11.20	227.05	2,887.2	-255.5	-242.5	352.1	0.00	0.00	0.00
2,960.0	11.20	227.05	2,926.4	-260.8	-248.2	359.8	0.00	0.00	0.00
3,000.0	11.20	227.05	2,965.6	-266.1	-253.9	367.6	0.00	0.00	0.00
3,040.0	11.20	227.05	3,004.9	-271.4	-259.6	375.4	0.00	0.00	0.00
3,080.0	11.20	227.05	3,044.1	-276.7	-265.3	383.1	0.00	0.00	0.00
3,120.0	11.20	227.05	3,083.4	-282.0	-271.0	390.9	0.00	0.00	0.00
3,160.0	11.20	227.05	3,122.6	-287.2	-276.6	398.7	0.00	0.00	0.00
3,200.0	11.20	227.05	3,161.8	-292.5	-282.3	406.5	0.00	0.00	0.00
3,240.0	11.20	227.05	3,201.1	-297.8	-288.0	414.2	0.00	0.00	0.00
3,280.0	11.20	227.05	3,240.3	-303.1	-293.7	422.0	0.00	0.00	0.00
3,320.0	11.20	227.05	3,279.5	-308.4	-299.4	429.8	0.00	0.00	0.00
3,360.0	11.20	227.05	3,318.8	-313.7	-305.1	437.5	0.00	0.00	0.00
3,400.0	11.20	227.05	3,358.0	-319.0	-310.8	445.3	0.00	0.00	0.00
3,440.0	11.20	227.05	3,397.3	-324.3	-316.5	453.1	0.00	0.00	0.00
3,480.0	11.20	227.05	3,436.5	-329.6	-322.2	460.8	0.00	0.00	0.00
3,520.0	11.20	227.05	3,475.7	-334.9	-327.8	468.6	0.00	0.00	0.00
3,560.0	11.20	227.05	3,515.0	-340.2	-333.5	476.4	0.00	0.00	0.00
3,600.0	11.20	227.05	3,554.2	-345.5	-339.2	484.1	0.00	0.00	0.00
3,640.0	11.20	227.05	3,593.4	-350.8	-344.9	491.9	0.00	0.00	0.00
3,680.0	11.20	227.05	3,632.7	-356.1	-350.6	499.7	0.00	0.00	0.00
3,720.0	11.20	227.05	3,671.9	-361.4	-356.3	507.4	0.00	0.00	0.00
3,760.0	11.20	227.05	3,711.2	-366.7	-362.0	515.2	0.00	0.00	0.00
3,800.0	11.20	227.05	3,750.4	-372.0	-367.7	523.0	0.00	0.00	0.00
3,840.0	11.20	227.05	3,789.6	-377.3	-373.3	530.8	0.00	0.00	0.00
3,880.0	11.20	227.05	3,828.9	-382.6	-379.0	538.5	0.00	0.00	0.00
3,920.0	11.20	227.05	3,868.1	-387.9	-384.7	546.3	0.00	0.00	0.00
3,960.0	11.20	227.05	3,907.4	-393.2	-390.4	554.1	0.00	0.00	0.00
4,000.0	11.20	227.05	3,946.6	-398.5	-396.1	561.8	0.00	0.00	0.00
4,040.0	11.20	227.05	3,985.8	-403.8	-401.8	569.6	0.00	0.00	0.00
4,080.0	11.20	227.05	4,025.1	-409.1	-407.5	577.4	0.00	0.00	0.00
4,120.0	11.20	227.05	4,064.3	-414.4	-413.2	585.1	0.00	0.00	0.00
4,160.0	11.20	227.05	4,103.5	-419.6	-418.9	592.9	0.00	0.00	0.00
4,200.0	11.20	227.05	4,142.8	-424.9	-424.5	600.7	0.00	0.00	0.00

# ENSIGN Directional

## Ensign Directional Planning Report

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Aristocrat PC H11-19D
<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>TVD Reference:</b>	WELL @ 4782.0ft (Original Well Elev)
<b>Project:</b>	SEC.11-T3N-R65W	<b>MD Reference:</b>	WELL @ 4782.0ft (Original Well Elev)
<b>Site:</b>	Aristocrat PC H11-30 Pad Sec. 11-T3N-R65W	<b>North Reference:</b>	True
<b>Well:</b>	Aristocrat PC H11-19D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Noble Aristocrat PC H11-19D Plan#1 (6-18-10)		

### 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)
4,240.0	11.20	227.05	4,182.0	-430.2	-430.2	608.4	0.00	0.00	0.00
4,280.0	11.20	227.05	4,221.3	-435.5	-435.9	616.2	0.00	0.00	0.00
4,320.0	11.20	227.05	4,260.5	-440.8	-441.6	624.0	0.00	0.00	0.00
4,360.0	11.20	227.05	4,299.7	-446.1	-447.3	631.7	0.00	0.00	0.00
4,400.0	11.20	227.05	4,339.0	-451.4	-453.0	639.5	0.00	0.00	0.00
4,440.0	11.20	227.05	4,378.2	-456.7	-458.7	647.3	0.00	0.00	0.00
4,480.0	11.20	227.05	4,417.4	-462.0	-464.4	655.0	0.00	0.00	0.00
4,506.4	11.20	227.05	4,443.4	-465.5	-468.1	660.2	0.00	0.00	0.00
4,520.0	10.93	227.05	4,456.7	-467.3	-470.0	662.8	2.00	-2.00	0.00
4,560.0	10.13	227.05	4,496.0	-472.3	-475.4	670.1	2.00	-2.00	0.00
4,600.0	9.33	227.05	4,535.4	-476.9	-480.3	676.9	2.00	-2.00	0.00
4,640.0	8.53	227.05	4,574.9	-481.1	-484.9	683.1	2.00	-2.00	0.00
4,680.0	7.73	227.05	4,614.5	-485.0	-489.0	688.7	2.00	-2.00	0.00
4,720.0	6.93	227.05	4,654.2	-488.4	-492.8	693.8	2.00	-2.00	0.00
4,760.0	6.13	227.05	4,694.0	-491.5	-496.1	698.4	2.00	-2.00	0.00
4,800.0	5.33	227.05	4,733.8	-494.3	-499.0	702.4	2.00	-2.00	0.00
4,840.0	4.53	227.05	4,773.6	-496.6	-501.5	705.8	2.00	-2.00	0.00
4,880.0	3.73	227.05	4,813.5	-498.6	-503.6	708.7	2.00	-2.00	0.00
4,920.0	2.93	227.05	4,853.4	-500.2	-505.3	711.0	2.00	-2.00	0.00
4,960.0	2.13	227.05	4,893.4	-501.4	-506.6	712.8	2.00	-2.00	0.00
5,000.0	1.33	227.05	4,933.4	-502.2	-507.5	714.0	2.00	-2.00	0.00
5,040.0	0.53	227.05	4,973.4	-502.6	-508.0	714.6	2.00	-2.00	0.00
5,066.6	0.00	0.00	5,000.0	-502.7	-508.1	714.8	2.00	-2.00	0.00
Target BHL 1320'FNL, 1320'FWL									
5,080.0	0.00	0.00	5,013.4	-502.7	-508.1	714.8	0.00	0.00	0.00
5,120.0	0.00	0.00	5,053.4	-502.7	-508.1	714.8	0.00	0.00	0.00
5,160.0	0.00	0.00	5,093.4	-502.7	-508.1	714.8	0.00	0.00	0.00
5,200.0	0.00	0.00	5,133.4	-502.7	-508.1	714.8	0.00	0.00	0.00
5,240.0	0.00	0.00	5,173.4	-502.7	-508.1	714.8	0.00	0.00	0.00
5,280.0	0.00	0.00	5,213.4	-502.7	-508.1	714.8	0.00	0.00	0.00
5,320.0	0.00	0.00	5,253.4	-502.7	-508.1	714.8	0.00	0.00	0.00
5,360.0	0.00	0.00	5,293.4	-502.7	-508.1	714.8	0.00	0.00	0.00
5,400.0	0.00	0.00	5,333.4	-502.7	-508.1	714.8	0.00	0.00	0.00
5,440.0	0.00	0.00	5,373.4	-502.7	-508.1	714.8	0.00	0.00	0.00
5,480.0	0.00	0.00	5,413.4	-502.7	-508.1	714.8	0.00	0.00	0.00
5,520.0	0.00	0.00	5,453.4	-502.7	-508.1	714.8	0.00	0.00	0.00
5,560.0	0.00	0.00	5,493.4	-502.7	-508.1	714.8	0.00	0.00	0.00
5,600.0	0.00	0.00	5,533.4	-502.7	-508.1	714.8	0.00	0.00	0.00
5,640.0	0.00	0.00	5,573.4	-502.7	-508.1	714.8	0.00	0.00	0.00
5,680.0	0.00	0.00	5,613.4	-502.7	-508.1	714.8	0.00	0.00	0.00
5,720.0	0.00	0.00	5,653.4	-502.7	-508.1	714.8	0.00	0.00	0.00
5,760.0	0.00	0.00	5,693.4	-502.7	-508.1	714.8	0.00	0.00	0.00
5,800.0	0.00	0.00	5,733.4	-502.7	-508.1	714.8	0.00	0.00	0.00
5,840.0	0.00	0.00	5,773.4	-502.7	-508.1	714.8	0.00	0.00	0.00
5,880.0	0.00	0.00	5,813.4	-502.7	-508.1	714.8	0.00	0.00	0.00
5,920.0	0.00	0.00	5,853.4	-502.7	-508.1	714.8	0.00	0.00	0.00
5,960.0	0.00	0.00	5,893.4	-502.7	-508.1	714.8	0.00	0.00	0.00
6,000.0	0.00	0.00	5,933.4	-502.7	-508.1	714.8	0.00	0.00	0.00
6,040.0	0.00	0.00	5,973.4	-502.7	-508.1	714.8	0.00	0.00	0.00
6,080.0	0.00	0.00	6,013.4	-502.7	-508.1	714.8	0.00	0.00	0.00
6,120.0	0.00	0.00	6,053.4	-502.7	-508.1	714.8	0.00	0.00	0.00
6,160.0	0.00	0.00	6,093.4	-502.7	-508.1	714.8	0.00	0.00	0.00
6,200.0	0.00	0.00	6,133.4	-502.7	-508.1	714.8	0.00	0.00	0.00

# ENSIGN Directional

## Ensign Directional Planning Report

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Aristocrat PC H11-19D
<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>TVD Reference:</b>	WELL @ 4782.0ft (Original Well Elev)
<b>Project:</b>	SEC.11-T3N-R65W	<b>MD Reference:</b>	WELL @ 4782.0ft (Original Well Elev)
<b>Site:</b>	Aristocrat PC H11-30 Pad Sec. 11-T3N-R65W	<b>North Reference:</b>	True
<b>Well:</b>	Aristocrat PC H11-19D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Noble Aristocrat PC H11-19D Plan#1 (6-18-10)		

### 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	0.00	0.00	6,173.4	-502.7	-508.1	714.8	0.00	0.00	0.00
6,280.0	0.00	0.00	6,213.4	-502.7	-508.1	714.8	0.00	0.00	0.00
6,320.0	0.00	0.00	6,253.4	-502.7	-508.1	714.8	0.00	0.00	0.00
6,360.0	0.00	0.00	6,293.4	-502.7	-508.1	714.8	0.00	0.00	0.00
6,400.0	0.00	0.00	6,333.4	-502.7	-508.1	714.8	0.00	0.00	0.00
6,440.0	0.00	0.00	6,373.4	-502.7	-508.1	714.8	0.00	0.00	0.00
6,480.0	0.00	0.00	6,413.4	-502.7	-508.1	714.8	0.00	0.00	0.00
6,520.0	0.00	0.00	6,453.4	-502.7	-508.1	714.8	0.00	0.00	0.00
6,560.0	0.00	0.00	6,493.4	-502.7	-508.1	714.8	0.00	0.00	0.00
6,600.0	0.00	0.00	6,533.4	-502.7	-508.1	714.8	0.00	0.00	0.00
6,640.0	0.00	0.00	6,573.4	-502.7	-508.1	714.8	0.00	0.00	0.00
6,680.0	0.00	0.00	6,613.4	-502.7	-508.1	714.8	0.00	0.00	0.00
6,720.0	0.00	0.00	6,653.4	-502.7	-508.1	714.8	0.00	0.00	0.00
6,760.0	0.00	0.00	6,693.4	-502.7	-508.1	714.8	0.00	0.00	0.00
6,800.0	0.00	0.00	6,733.4	-502.7	-508.1	714.8	0.00	0.00	0.00
6,808.6	0.00	0.00	6,742.0	-502.7	-508.1	714.8	0.00	0.00	0.00
<b>Niobrara - Legal Box 800' X 800' 1325'FNL, 1315'FWL - Target Circle 1320'FNL, 1320'FWL</b>									
6,840.0	0.00	0.00	6,773.4	-502.7	-508.1	714.8	0.00	0.00	0.00
6,880.0	0.00	0.00	6,813.4	-502.7	-508.1	714.8	0.00	0.00	0.00
6,920.0	0.00	0.00	6,853.4	-502.7	-508.1	714.8	0.00	0.00	0.00
6,960.0	0.00	0.00	6,893.4	-502.7	-508.1	714.8	0.00	0.00	0.00
7,000.0	0.00	0.00	6,933.4	-502.7	-508.1	714.8	0.00	0.00	0.00
7,040.0	0.00	0.00	6,973.4	-502.7	-508.1	714.8	0.00	0.00	0.00
7,080.0	0.00	0.00	7,013.4	-502.7	-508.1	714.8	0.00	0.00	0.00
7,120.0	0.00	0.00	7,053.4	-502.7	-508.1	714.8	0.00	0.00	0.00
7,123.6	0.00	0.00	7,057.0	-502.7	-508.1	714.8	0.00	0.00	0.00
<b>Codell</b>									
7,160.0	0.00	0.00	7,093.4	-502.7	-508.1	714.8	0.00	0.00	0.00
7,200.0	0.00	0.00	7,133.4	-502.7	-508.1	714.8	0.00	0.00	0.00
7,240.0	0.00	0.00	7,173.4	-502.7	-508.1	714.8	0.00	0.00	0.00
7,280.0	0.00	0.00	7,213.4	-502.7	-508.1	714.8	0.00	0.00	0.00
7,320.0	0.00	0.00	7,253.4	-502.7	-508.1	714.8	0.00	0.00	0.00
7,360.0	0.00	0.00	7,293.4	-502.7	-508.1	714.8	0.00	0.00	0.00
7,400.0	0.00	0.00	7,333.4	-502.7	-508.1	714.8	0.00	0.00	0.00
7,440.0	0.00	0.00	7,373.4	-502.7	-508.1	714.8	0.00	0.00	0.00
7,480.0	0.00	0.00	7,413.4	-502.7	-508.1	714.8	0.00	0.00	0.00
7,518.6	0.00	0.00	7,452.0	-502.7	-508.1	714.8	0.00	0.00	0.00
<b>D-Sand</b>									
7,520.0	0.00	0.00	7,453.4	-502.7	-508.1	714.8	0.00	0.00	0.00
7,560.0	0.00	0.00	7,493.4	-502.7	-508.1	714.8	0.00	0.00	0.00
7,593.6	0.00	0.00	7,527.0	-502.7	-508.1	714.8	0.00	0.00	0.00
<b>J-Sand</b>									
7,600.0	0.00	0.00	7,533.4	-502.7	-508.1	714.8	0.00	0.00	0.00
7,640.0	0.00	0.00	7,573.4	-502.7	-508.1	714.8	0.00	0.00	0.00
7,680.0	0.00	0.00	7,613.4	-502.7	-508.1	714.8	0.00	0.00	0.00
7,720.0	0.00	0.00	7,653.4	-502.7	-508.1	714.8	0.00	0.00	0.00
7,743.6	0.00	0.00	7,677.0	-502.7	-508.1	714.8	0.00	0.00	0.00



# Ensign Directional Planning Report

**Database:** Landmark  
**Company:** NOBLE ENERGY INC WELD COUNTY CO  
**Project:** SEC.11-T3N-R65W  
**Site:** Aristocrat PC H11-30 Pad Sec. 11-T3N-R65W  
**Well:** Aristocrat PC H11-19D  
**Wellbore:** Wellbore #1  
**Design:** Noble Aristocrat PC H11-19D Plan#1 (6-18-10)

**Local Co-ordinate Reference:** Well Aristocrat PC H11-19D  
**TVD Reference:** WELL @ 4782.0ft (Original Well Elev)  
**MD Reference:** WELL @ 4782.0ft (Original Well Elev)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature

## 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
Legal Box 800' X 800' - plan misses by 7.1ft at 6808.6ft MD (6742.0 TVD, -502.7 N, -508.1 E) - Rectangle (sides W800.0 H800.0 D935.0)	0.00	0.00	6,742.0	-507.7	-513.1	1,332,717.53	3,241,422.54	40° 14' 36.515 N	104° 38' 6.533 W
Target Circle 1320'FN - plan hits target - Circle (radius 75.0)	0.00	0.00	6,742.0	-502.7	-508.1	1,332,722.57	3,241,427.49	40° 14' 36.564 N	104° 38' 6.468 W
Target BHL 1320'FNL - plan hits target - Point	0.00	0.00	5,000.0	-502.7	-508.1	1,332,722.56	3,241,427.51	40° 14' 36.564 N	104° 38' 6.468 W

## Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
6,808.6	6,742.0	Niobrara		0.00	
7,123.6	7,057.0	Codell		0.00	
7,518.6	7,452.0	D-Sand		0.00	
7,593.6	7,527.0	J-Sand		0.00	