

ENSIGN

Directional

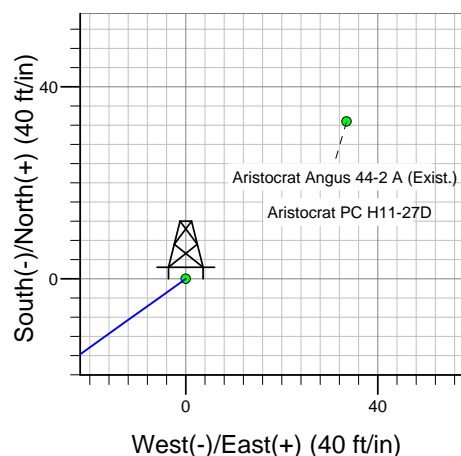
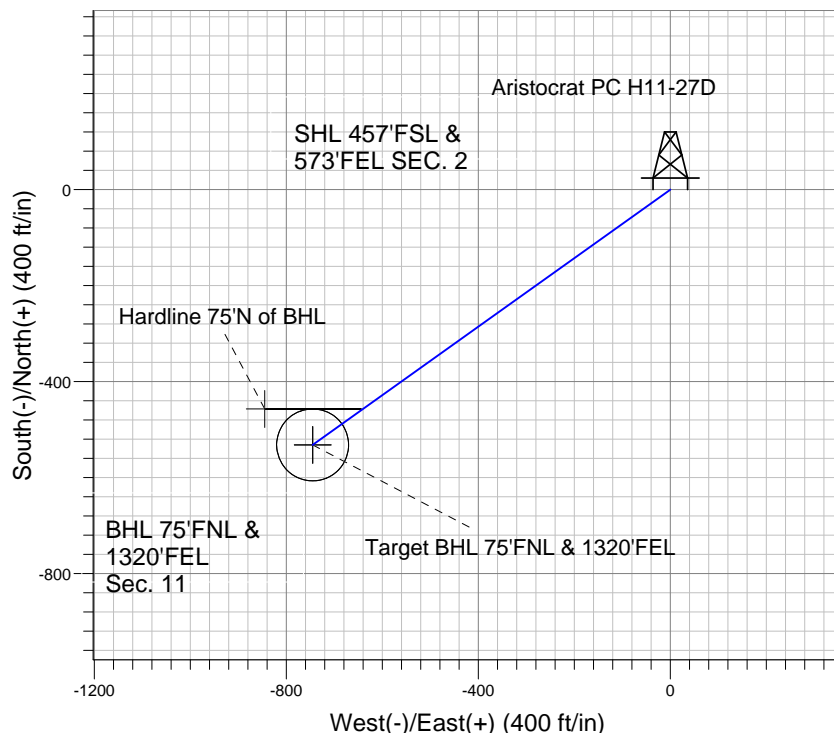
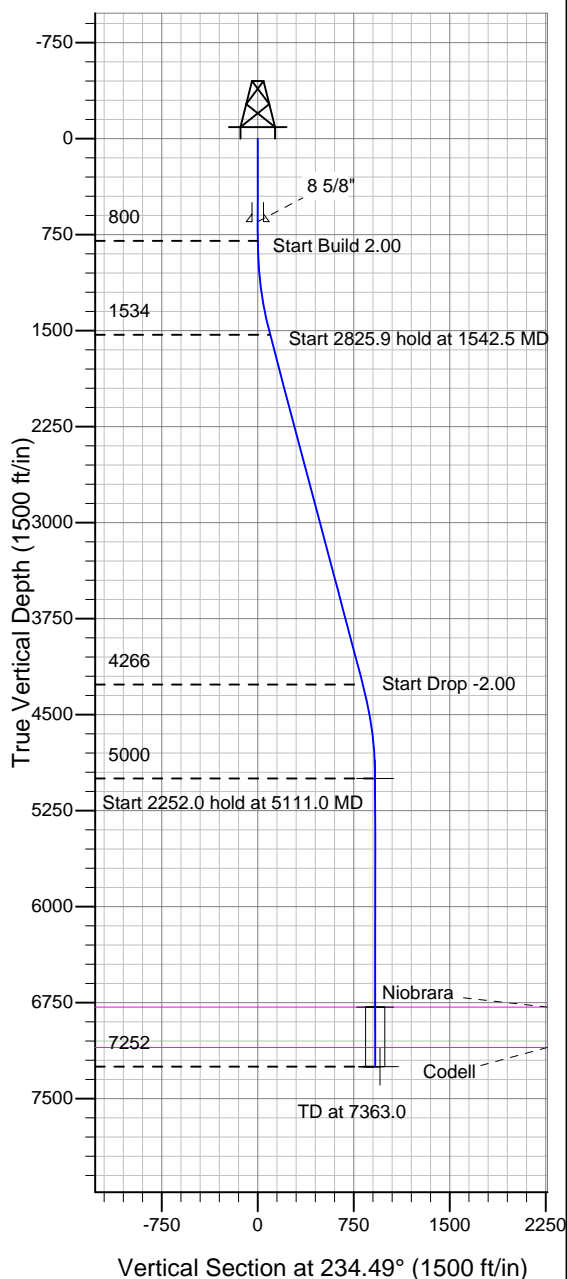
Well Name: **Aristocrat PC H11-27D**

Surface Location: Aristocrat PC H11-27D Pad Sec.2-T3N-R65W
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

Ground Elevation: 4814.0

+N/-S +E/-W Northing Easting Latitude Longitude Slot
0.0 0.0 1334537.85 3244874.01 40° 14' 54.168 N 104° 37' 21.792 W
Original Well Elev WELL @ 4827.0ft (Original Well Elev)

NOBLE ENERGY INC WELD COUNTY CO



Aristocrat PC H11-27D
Noble Aristocrat PC H11-27D Plan #1 (07-06-10)
10:29, July 08 2010



Azimuths to True North
Magnetic North: 8.93°
Magnetic Field
Strength: 53239.8snT
Dip Angle: 67.01°
Date: 12/31/2009
Model: IGRF200510

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
Target BHL 75°FNL & 1320'FEL	5000.0	-531.9	-745.3	40° 14' 48.912 N	104° 37' 31.404 W	Point
Target Circle 75°FNL, 1320'FEL	6787.0	-531.9	-745.3	40° 14' 48.912 N	104° 37' 31.404 W	Circle (Radius: 75.0)
Hardline 75°N of BHL	7252.0	-456.9	-845.3	40° 14' 49.653 N	104° 37' 32.694 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	800.0	0.00	0.00	800.0	0.0	0.0	0.00	0.00	0.0	
3	1542.5	14.85	234.49	1534.2	-55.6	-77.9	2.00	234.49	95.7	
4	4368.4	14.85	234.49	4265.8	-476.3	-667.4	0.00	0.00	820.0	
5	5111.0	0.00	0.00	5000.0	-531.9	-745.3	2.00	180.00	915.6	Target BHL 75°FNL & 1320'FEL
6	7363.0	0.00	0.00	7252.0	-531.9	-745.3	0.00	0.00	915.6	



NOBLE ENERGY INC WELD COUNTY CO

SEC.2-T3N-R65W

Aristocrat PC H11-27D Pad Sec.2-T3N-R65W

Aristocrat PC H11-27D

Wellbore #1

Plan: Noble Aristocrat PC H11-27D Plan #1 (07-06-10)

Standard Planning Report

08 July, 2010

Database:	Landmark	Local Co-ordinate Reference:	Well Aristocrat PC H11-27D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4827.0ft (Original Well Elev)
Project:	SEC.2-T3N-R65W	MD Reference:	WELL @ 4827.0ft (Original Well Elev)
Site:	Aristocrat PC H11-27D Pad Sec.2-T3N-R65W	North Reference:	True
Well:	Aristocrat PC H11-27D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Aristocrat PC H11-27D Plan #1 (07-06-1		

Project	SEC.2-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 H11-27D Pad Sec.2-T3N-R65W											
Site Position:						Northing:			1,334,537.86 ft			Latitude:			40° 14' 54.168 N		
From:			Lat/Long			Easting:			3,244,874.01 ft			Longitude:			104° 37' 21.792 W		
Position Uncertainty:			0.0 ft			Slot Radius:			"			Grid Convergence:			0.57 °		

Well	Aristocrat PC H11-27D					
Well Position	+N-S	0.0 ft	Northing:	1,334,537.85 ft	Latitude:	40° 14' 54.168 N
	+E-W	0.0 ft	Easting:	3,244,874.01 ft	Longitude:	104° 37' 21.792 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,814.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	12/31/2009	8.93	67.01	53,240

Design	Noble Aristocrat PC H11-27D Plan #1 (07-06-10)			
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	234.49

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	
800.0	0.00	0.00	800.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,542.5	14.85	234.49	1,534.2	-55.6	-77.9	2.00	2.00	0.00	234.49	
4,368.4	14.85	234.49	4,265.8	-476.3	-667.4	0.00	0.00	0.00	0.00	
5,111.0	0.00	0.00	5,000.0	-531.9	-745.3	2.00	-2.00	0.00	180.00	Target BHL 75'FNL
7,363.0	0.00	0.00	7,252.0	-531.9	-745.3	0.00	0.00	0.00	0.00	

Database: Landmark
Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.2-T3N-R65W
Site: Aristocrat PC H11-27D Pad Sec.2-T3N-R65W
Well: Aristocrat PC H11-27D
Wellbore: Wellbore #1
Design: Noble Aristocrat PC H11-27D Plan #1 (07-06-1

Local Co-ordinate Reference: Well Aristocrat PC H11-27D
TVD Reference: WELL @ 4827.0ft (Original Well Elev)
MD Reference: WELL @ 4827.0ft (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
650.0	0.00	0.00	650.0	0.0	0.0	0.0	0.00	0.00	0.00
8 5/8"									
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	0.80	234.49	840.0	-0.2	-0.2	0.3	2.00	2.00	0.00
880.0	1.60	234.49	880.0	-0.6	-0.9	1.1	2.00	2.00	0.00
920.0	2.40	234.49	920.0	-1.5	-2.0	2.5	2.00	2.00	0.00
960.0	3.20	234.49	959.9	-2.6	-3.6	4.5	2.00	2.00	0.00
1,000.0	4.00	234.49	999.8	-4.1	-5.7	7.0	2.00	2.00	0.00
1,040.0	4.80	234.49	1,039.7	-5.8	-8.2	10.0	2.00	2.00	0.00
1,080.0	5.60	234.49	1,079.6	-7.9	-11.1	13.7	2.00	2.00	0.00
1,120.0	6.40	234.49	1,119.3	-10.4	-14.5	17.9	2.00	2.00	0.00
1,160.0	7.20	234.49	1,159.1	-13.1	-18.4	22.6	2.00	2.00	0.00
1,200.0	8.00	234.49	1,198.7	-16.2	-22.7	27.9	2.00	2.00	0.00
1,240.0	8.80	234.49	1,238.3	-19.6	-27.5	33.7	2.00	2.00	0.00
1,280.0	9.60	234.49	1,277.8	-23.3	-32.7	40.1	2.00	2.00	0.00
1,320.0	10.40	234.49	1,317.1	-27.3	-38.3	47.1	2.00	2.00	0.00
1,360.0	11.20	234.49	1,356.4	-31.7	-44.4	54.6	2.00	2.00	0.00
1,400.0	12.00	234.49	1,395.6	-36.4	-51.0	62.6	2.00	2.00	0.00
1,440.0	12.80	234.49	1,434.7	-41.4	-58.0	71.2	2.00	2.00	0.00
1,480.0	13.60	234.49	1,473.6	-46.7	-65.4	80.3	2.00	2.00	0.00
1,520.0	14.40	234.49	1,512.4	-52.3	-73.3	90.0	2.00	2.00	0.00
1,542.5	14.85	234.49	1,534.2	-55.6	-77.9	95.7	2.00	2.00	0.00
1,560.0	14.85	234.49	1,551.1	-58.2	-81.5	100.2	0.00	0.00	0.00
1,600.0	14.85	234.49	1,589.8	-64.1	-89.9	110.4	0.00	0.00	0.00
1,640.0	14.85	234.49	1,628.5	-70.1	-98.2	120.7	0.00	0.00	0.00
1,680.0	14.85	234.49	1,667.1	-76.0	-106.6	130.9	0.00	0.00	0.00
1,720.0	14.85	234.49	1,705.8	-82.0	-114.9	141.2	0.00	0.00	0.00
1,760.0	14.85	234.49	1,744.5	-88.0	-123.3	151.4	0.00	0.00	0.00
1,800.0	14.85	234.49	1,783.1	-93.9	-131.6	161.7	0.00	0.00	0.00
1,840.0	14.85	234.49	1,821.8	-99.9	-140.0	171.9	0.00	0.00	0.00
1,880.0	14.85	234.49	1,860.4	-105.8	-148.3	182.2	0.00	0.00	0.00
1,920.0	14.85	234.49	1,899.1	-111.8	-156.6	192.4	0.00	0.00	0.00
1,960.0	14.85	234.49	1,937.8	-117.7	-165.0	202.7	0.00	0.00	0.00
2,000.0	14.85	234.49	1,976.4	-123.7	-173.3	212.9	0.00	0.00	0.00

Database: Landmark
Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.2-T3N-R65W
Site: Aristocrat PC H11-27D Pad Sec.2-T3N-R65W
Well: Aristocrat PC H11-27D
Wellbore: Wellbore #1
Design: Noble Aristocrat PC H11-27D Plan #1 (07-06-1

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:

Well Aristocrat PC H11-27D
 WELL @ 4827.0ft (Original Well Elev)
 WELL @ 4827.0ft (Original Well Elev)
 True
 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)
2,040.0	14.85	234.49	2,015.1	-129.6	-181.7	223.2	0.00	0.00	0.00
2,080.0	14.85	234.49	2,053.8	-135.6	-190.0	233.4	0.00	0.00	0.00
2,120.0	14.85	234.49	2,092.4	-141.6	-198.4	243.7	0.00	0.00	0.00
2,160.0	14.85	234.49	2,131.1	-147.5	-206.7	253.9	0.00	0.00	0.00
2,200.0	14.85	234.49	2,169.8	-153.5	-215.1	264.2	0.00	0.00	0.00
2,240.0	14.85	234.49	2,208.4	-159.4	-223.4	274.4	0.00	0.00	0.00
2,280.0	14.85	234.49	2,247.1	-165.4	-231.7	284.7	0.00	0.00	0.00
2,320.0	14.85	234.49	2,285.7	-171.3	-240.1	295.0	0.00	0.00	0.00
2,360.0	14.85	234.49	2,324.4	-177.3	-248.4	305.2	0.00	0.00	0.00
2,400.0	14.85	234.49	2,363.1	-183.2	-256.8	315.5	0.00	0.00	0.00
2,440.0	14.85	234.49	2,401.7	-189.2	-265.1	325.7	0.00	0.00	0.00
2,480.0	14.85	234.49	2,440.4	-195.1	-273.5	336.0	0.00	0.00	0.00
2,520.0	14.85	234.49	2,479.1	-201.1	-281.8	346.2	0.00	0.00	0.00
2,560.0	14.85	234.49	2,517.7	-207.1	-290.2	356.5	0.00	0.00	0.00
2,600.0	14.85	234.49	2,556.4	-213.0	-298.5	366.7	0.00	0.00	0.00
2,640.0	14.85	234.49	2,595.1	-219.0	-306.9	377.0	0.00	0.00	0.00
2,680.0	14.85	234.49	2,633.7	-224.9	-315.2	387.2	0.00	0.00	0.00
2,720.0	14.85	234.49	2,672.4	-230.9	-323.5	397.5	0.00	0.00	0.00
2,760.0	14.85	234.49	2,711.0	-236.8	-331.9	407.7	0.00	0.00	0.00
2,800.0	14.85	234.49	2,749.7	-242.8	-340.2	418.0	0.00	0.00	0.00
2,840.0	14.85	234.49	2,788.4	-248.7	-348.6	428.2	0.00	0.00	0.00
2,880.0	14.85	234.49	2,827.0	-254.7	-356.9	438.5	0.00	0.00	0.00
2,920.0	14.85	234.49	2,865.7	-260.6	-365.3	448.7	0.00	0.00	0.00
2,960.0	14.85	234.49	2,904.4	-266.6	-373.6	459.0	0.00	0.00	0.00
3,000.0	14.85	234.49	2,943.0	-272.6	-382.0	469.2	0.00	0.00	0.00
3,040.0	14.85	234.49	2,981.7	-278.5	-390.3	479.5	0.00	0.00	0.00
3,080.0	14.85	234.49	3,020.4	-284.5	-398.6	489.7	0.00	0.00	0.00
3,120.0	14.85	234.49	3,059.0	-290.4	-407.0	500.0	0.00	0.00	0.00
3,160.0	14.85	234.49	3,097.7	-296.4	-415.3	510.2	0.00	0.00	0.00
3,200.0	14.85	234.49	3,136.4	-302.3	-423.7	520.5	0.00	0.00	0.00
3,240.0	14.85	234.49	3,175.0	-308.3	-432.0	530.7	0.00	0.00	0.00
3,280.0	14.85	234.49	3,213.7	-314.2	-440.4	541.0	0.00	0.00	0.00
3,320.0	14.85	234.49	3,252.3	-320.2	-448.7	551.2	0.00	0.00	0.00
3,360.0	14.85	234.49	3,291.0	-326.2	-457.1	561.5	0.00	0.00	0.00
3,400.0	14.85	234.49	3,329.7	-332.1	-465.4	571.7	0.00	0.00	0.00
3,440.0	14.85	234.49	3,368.3	-338.1	-473.8	582.0	0.00	0.00	0.00
3,480.0	14.85	234.49	3,407.0	-344.0	-482.1	592.3	0.00	0.00	0.00
3,520.0	14.85	234.49	3,445.7	-350.0	-490.4	602.5	0.00	0.00	0.00
3,560.0	14.85	234.49	3,484.3	-355.9	-498.8	612.8	0.00	0.00	0.00
3,600.0	14.85	234.49	3,523.0	-361.9	-507.1	623.0	0.00	0.00	0.00
3,640.0	14.85	234.49	3,561.7	-367.8	-515.5	633.3	0.00	0.00	0.00
3,680.0	14.85	234.49	3,600.3	-373.8	-523.8	643.5	0.00	0.00	0.00
3,720.0	14.85	234.49	3,639.0	-379.7	-532.2	653.8	0.00	0.00	0.00
3,760.0	14.85	234.49	3,677.6	-385.7	-540.5	664.0	0.00	0.00	0.00
3,800.0	14.85	234.49	3,716.3	-391.7	-548.9	674.3	0.00	0.00	0.00
3,840.0	14.85	234.49	3,755.0	-397.6	-557.2	684.5	0.00	0.00	0.00
3,880.0	14.85	234.49	3,793.6	-403.6	-565.5	694.8	0.00	0.00	0.00
3,920.0	14.85	234.49	3,832.3	-409.5	-573.9	705.0	0.00	0.00	0.00
3,960.0	14.85	234.49	3,871.0	-415.5	-582.2	715.3	0.00	0.00	0.00
4,000.0	14.85	234.49	3,909.6	-421.4	-590.6	725.5	0.00	0.00	0.00
4,040.0	14.85	234.49	3,948.3	-427.4	-598.9	735.8	0.00	0.00	0.00
4,080.0	14.85	234.49	3,987.0	-433.3	-607.3	746.0	0.00	0.00	0.00
4,120.0	14.85	234.49	4,025.6	-439.3	-615.6	756.3	0.00	0.00	0.00
4,160.0	14.85	234.49	4,064.3	-445.2	-624.0	766.5	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Aristocrat PC H11-27D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4827.0ft (Original Well Elev)
Project:	SEC.2-T3N-R65W	MD Reference:	WELL @ 4827.0ft (Original Well Elev)
Site:	Aristocrat PC H11-27D Pad Sec.2-T3N-R65W	North Reference:	True
Well:	Aristocrat PC H11-27D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Aristocrat PC H11-27D Plan #1 (07-06-1		

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)
4,200.0	14.85	234.49	4,103.0	-451.2	-632.3	776.8	0.00	0.00	0.00
4,240.0	14.85	234.49	4,141.6	-457.2	-640.6	787.0	0.00	0.00	0.00
4,280.0	14.85	234.49	4,180.3	-463.1	-649.0	797.3	0.00	0.00	0.00
4,320.0	14.85	234.49	4,218.9	-469.1	-657.3	807.5	0.00	0.00	0.00
4,360.0	14.85	234.49	4,257.6	-475.0	-665.7	817.8	0.00	0.00	0.00
4,368.4	14.85	234.49	4,265.8	-476.3	-667.4	820.0	0.00	0.00	0.00
4,400.0	14.22	234.49	4,296.3	-480.9	-673.9	827.9	2.00	-2.00	0.00
4,440.0	13.42	234.49	4,335.2	-486.4	-681.7	837.4	2.00	-2.00	0.00
4,480.0	12.62	234.49	4,374.1	-491.7	-689.0	846.4	2.00	-2.00	0.00
4,520.0	11.82	234.49	4,413.2	-496.6	-695.9	854.9	2.00	-2.00	0.00
4,560.0	11.02	234.49	4,452.4	-501.2	-702.3	862.8	2.00	-2.00	0.00
4,600.0	10.22	234.49	4,491.7	-505.5	-708.3	870.2	2.00	-2.00	0.00
4,640.0	9.42	234.49	4,531.2	-509.4	-713.9	877.0	2.00	-2.00	0.00
4,680.0	8.62	234.49	4,570.7	-513.1	-719.0	883.3	2.00	-2.00	0.00
4,720.0	7.82	234.49	4,610.3	-516.4	-723.7	889.0	2.00	-2.00	0.00
4,760.0	7.02	234.49	4,649.9	-519.4	-727.9	894.2	2.00	-2.00	0.00
4,800.0	6.22	234.49	4,689.7	-522.1	-731.6	898.8	2.00	-2.00	0.00
4,840.0	5.42	234.49	4,729.4	-524.4	-734.9	902.8	2.00	-2.00	0.00
4,880.0	4.62	234.49	4,769.3	-526.5	-737.8	906.3	2.00	-2.00	0.00
4,920.0	3.82	234.49	4,809.2	-528.2	-740.2	909.3	2.00	-2.00	0.00
4,960.0	3.02	234.49	4,849.1	-529.6	-742.1	911.7	2.00	-2.00	0.00
5,000.0	2.22	234.49	4,889.1	-530.6	-743.6	913.5	2.00	-2.00	0.00
5,040.0	1.42	234.49	4,929.0	-531.4	-744.6	914.8	2.00	-2.00	0.00
5,080.0	0.62	234.49	4,969.0	-531.8	-745.2	915.5	2.00	-2.00	0.00
5,111.0	0.00	0.00	5,000.0	-531.9	-745.3	915.6	2.00	-2.00	0.00
Target BHL 75'FNL & 1320'FEL									
5,120.0	0.00	0.00	5,009.0	-531.9	-745.3	915.6	0.00	0.00	0.00
5,160.0	0.00	0.00	5,049.0	-531.9	-745.3	915.6	0.00	0.00	0.00
5,200.0	0.00	0.00	5,089.0	-531.9	-745.3	915.6	0.00	0.00	0.00
5,240.0	0.00	0.00	5,129.0	-531.9	-745.3	915.6	0.00	0.00	0.00
5,280.0	0.00	0.00	5,169.0	-531.9	-745.3	915.6	0.00	0.00	0.00
5,320.0	0.00	0.00	5,209.0	-531.9	-745.3	915.6	0.00	0.00	0.00
5,360.0	0.00	0.00	5,249.0	-531.9	-745.3	915.6	0.00	0.00	0.00
5,400.0	0.00	0.00	5,289.0	-531.9	-745.3	915.6	0.00	0.00	0.00
5,440.0	0.00	0.00	5,329.0	-531.9	-745.3	915.6	0.00	0.00	0.00
5,480.0	0.00	0.00	5,369.0	-531.9	-745.3	915.6	0.00	0.00	0.00
5,520.0	0.00	0.00	5,409.0	-531.9	-745.3	915.6	0.00	0.00	0.00
5,560.0	0.00	0.00	5,449.0	-531.9	-745.3	915.6	0.00	0.00	0.00
5,600.0	0.00	0.00	5,489.0	-531.9	-745.3	915.6	0.00	0.00	0.00
5,640.0	0.00	0.00	5,529.0	-531.9	-745.3	915.6	0.00	0.00	0.00
5,680.0	0.00	0.00	5,569.0	-531.9	-745.3	915.6	0.00	0.00	0.00
5,720.0	0.00	0.00	5,609.0	-531.9	-745.3	915.6	0.00	0.00	0.00
5,760.0	0.00	0.00	5,649.0	-531.9	-745.3	915.6	0.00	0.00	0.00
5,800.0	0.00	0.00	5,689.0	-531.9	-745.3	915.6	0.00	0.00	0.00
5,840.0	0.00	0.00	5,729.0	-531.9	-745.3	915.6	0.00	0.00	0.00
5,880.0	0.00	0.00	5,769.0	-531.9	-745.3	915.6	0.00	0.00	0.00
5,920.0	0.00	0.00	5,809.0	-531.9	-745.3	915.6	0.00	0.00	0.00
5,960.0	0.00	0.00	5,849.0	-531.9	-745.3	915.6	0.00	0.00	0.00
6,000.0	0.00	0.00	5,889.0	-531.9	-745.3	915.6	0.00	0.00	0.00
6,040.0	0.00	0.00	5,929.0	-531.9	-745.3	915.6	0.00	0.00	0.00
6,080.0	0.00	0.00	5,969.0	-531.9	-745.3	915.6	0.00	0.00	0.00
6,120.0	0.00	0.00	6,009.0	-531.9	-745.3	915.6	0.00	0.00	0.00
6,160.0	0.00	0.00	6,049.0	-531.9	-745.3	915.6	0.00	0.00	0.00
6,200.0	0.00	0.00	6,089.0	-531.9	-745.3	915.6	0.00	0.00	0.00

Database: Landmark
Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.2-T3N-R65W
Site: Aristocrat PC H11-27D Pad Sec.2-T3N-R65W
Well: Aristocrat PC H11-27D
Wellbore: Wellbore #1
Design: Noble Aristocrat PC H11-27D Plan #1 (07-06-1

Local Co-ordinate Reference: Well Aristocrat PC H11-27D
TVD Reference: WELL @ 4827.0ft (Original Well Elev)
MD Reference: WELL @ 4827.0ft (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	0.00	0.00	6,129.0	-531.9	-745.3	915.6	0.00	0.00	0.00
6,280.0	0.00	0.00	6,169.0	-531.9	-745.3	915.6	0.00	0.00	0.00
6,320.0	0.00	0.00	6,209.0	-531.9	-745.3	915.6	0.00	0.00	0.00
6,360.0	0.00	0.00	6,249.0	-531.9	-745.3	915.6	0.00	0.00	0.00
6,400.0	0.00	0.00	6,289.0	-531.9	-745.3	915.6	0.00	0.00	0.00
6,440.0	0.00	0.00	6,329.0	-531.9	-745.3	915.6	0.00	0.00	0.00
6,480.0	0.00	0.00	6,369.0	-531.9	-745.3	915.6	0.00	0.00	0.00
6,520.0	0.00	0.00	6,409.0	-531.9	-745.3	915.6	0.00	0.00	0.00
6,560.0	0.00	0.00	6,449.0	-531.9	-745.3	915.6	0.00	0.00	0.00
6,600.0	0.00	0.00	6,489.0	-531.9	-745.3	915.6	0.00	0.00	0.00
6,640.0	0.00	0.00	6,529.0	-531.9	-745.3	915.6	0.00	0.00	0.00
6,680.0	0.00	0.00	6,569.0	-531.9	-745.3	915.6	0.00	0.00	0.00
6,720.0	0.00	0.00	6,609.0	-531.9	-745.3	915.6	0.00	0.00	0.00
6,760.0	0.00	0.00	6,649.0	-531.9	-745.3	915.6	0.00	0.00	0.00
6,800.0	0.00	0.00	6,689.0	-531.9	-745.3	915.6	0.00	0.00	0.00
6,840.0	0.00	0.00	6,729.0	-531.9	-745.3	915.6	0.00	0.00	0.00
6,880.0	0.00	0.00	6,769.0	-531.9	-745.3	915.6	0.00	0.00	0.00
6,898.0	0.00	0.00	6,787.0	-531.9	-745.3	915.6	0.00	0.00	0.00
Niobrara - Target Circle 75'FNL, 1320'FEL									
6,920.0	0.00	0.00	6,809.0	-531.9	-745.3	915.6	0.00	0.00	0.00
6,960.0	0.00	0.00	6,849.0	-531.9	-745.3	915.6	0.00	0.00	0.00
7,000.0	0.00	0.00	6,889.0	-531.9	-745.3	915.6	0.00	0.00	0.00
7,040.0	0.00	0.00	6,929.0	-531.9	-745.3	915.6	0.00	0.00	0.00
7,080.0	0.00	0.00	6,969.0	-531.9	-745.3	915.6	0.00	0.00	0.00
7,120.0	0.00	0.00	7,009.0	-531.9	-745.3	915.6	0.00	0.00	0.00
7,160.0	0.00	0.00	7,049.0	-531.9	-745.3	915.6	0.00	0.00	0.00
7,200.0	0.00	0.00	7,089.0	-531.9	-745.3	915.6	0.00	0.00	0.00
7,213.0	0.00	0.00	7,102.0	-531.9	-745.3	915.6	0.00	0.00	0.00
Codell									
7,240.0	0.00	0.00	7,129.0	-531.9	-745.3	915.6	0.00	0.00	0.00
7,280.0	0.00	0.00	7,169.0	-531.9	-745.3	915.6	0.00	0.00	0.00
7,320.0	0.00	0.00	7,209.0	-531.9	-745.3	915.6	0.00	0.00	0.00
7,360.0	0.00	0.00	7,249.0	-531.9	-745.3	915.6	0.00	0.00	0.00
7,363.0	0.00	0.00	7,252.0	-531.9	-745.3	915.6	0.00	0.00	0.00
Hardline 75'N of BHL									

Database: Landmark
Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.2-T3N-R65W
Site: Aristocrat PC H11-27D Pad Sec.2-T3N-R65W
Well: Aristocrat PC H11-27D
Wellbore: Wellbore #1
Design: Noble Aristocrat PC H11-27D Plan #1 (07-06-1

Local Co-ordinate Reference: Well Aristocrat PC H11-27D
TVD Reference: WELL @ 4827.0ft (Original Well Elev)
MD Reference: WELL @ 4827.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
Target BHL 75'FNL & plan hits target	0.00	0.00	5,000.0	-531.9	-745.3	1,333,998.66	3,244,134.01	40° 14' 48.912 N	104° 37' 31.404 W
- Point									
Target Circle 75'FNL, plan misses by 0.1ft at 6898.0ft MD (6787.0 TVD, -531.9 N, -745.3 E)	0.00	0.00	6,787.0	-531.9	-745.3	1,333,998.62	3,244,134.04	40° 14' 48.912 N	104° 37' 31.404 W
- Circle (radius 75.0)									
Hardline 75'N of BHL plan misses by 125.0ft at 7363.0ft MD (7252.0 TVD, -531.9 N, -745.3 E)	0.00	0.00	7,252.0	-456.9	-845.3	1,334,072.63	3,244,033.27	40° 14' 49.653 N	104° 37' 32.694 W
- Polygon									
Point 1			7,252.0	0.0	0.0	1,334,072.63	3,244,033.27		
Point 2			7,252.0	0.0	200.0	1,334,074.61	3,244,233.26		

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
650.0	650.0	8 5/8"	8-5/8	12-1/4	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
6,898.0	6,787.0	Niobrara		0.00	
7,213.0	7,102.0	Codell		0.00	