

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	400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.0	
3	1784.0	27.68	108.31	1730.8	-103.0	311.3	2.00	108.31	327.9	
4	5215.1	27.68	108.31	4769.2	-603.7	1824.5	0.00	0.00	1921.7	
5	6599.1	0.00	0.00	6100.0	-706.6	2135.7	2.00	180.00	2249.6	Target BHL 2550'FNL, 1320'FEL
6	8199.1	0.00	0.00	7700.0	-706.6	2135.7	0.00	0.00	2249.6	



Directional

NOBLE ENERGY INC WELD COUNTY CO

SEC.11-T3N-R65W

Aristocrat PC H11-18D Pad Sec. 11-T3N-R65W

Aristocrat PC H11-22D

Wellbore #1

Plan: Noble Aristocrat PC H11-22D Plan #2 (8-18-10)

Standard Planning Report

18 August, 2010



Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well Aristocrat PC H11-22D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4785.0ft (Original Well Elev)
Project:	SEC.11-T3N-R65W	MD Reference:	WELL @ 4785.0ft (Original Well Elev)
Site:	Aristocrat PC H11-18D Pad Sec. 11-T3N-R65W	North Reference:	True
Well:	Aristocrat PC H11-22D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Aristocrat PC H11-22D Plan #2 (8-18-10)		

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 H11-18D Pad Sec. 11-T3N-R65W				
Site Position:		Northing:	1,332,210.42 ft	Latitude:	40° 14' 31.452 N
From:	Lat/Long	Easting:	3,241,957.35 ft	Longitude:	104° 37' 59.700 W
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.56 °

Well	Aristocrat PC H11-22D					
Well Position	+N/-S	0.0 ft	Northing:	1,332,210.90 ft	Latitude:	40° 14' 31.452 N
	+E/-W	50.3 ft	Easting:	3,242,007.60 ft	Longitude:	104° 37' 59.052 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,772.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	8/18/2010	8.89	66.97	53,150

Design	Noble Aristocrat PC H11-22D Plan #2 (8-18-10)			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	108.31

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	
400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,784.0	27.68	108.31	1,730.8	-103.0	311.3	2.00	2.00	0.00	108.31	
5,215.1	27.68	108.31	4,769.2	-603.7	1,824.5	0.00	0.00	0.00	0.00	
6,599.1	0.00	0.00	6,100.0	-706.6	2,135.7	2.00	-2.00	0.00	180.00	Target BHL 2550'FI
8,199.1	0.00	0.00	7,700.0	-706.6	2,135.7	0.00	0.00	0.00	0.00	

Database: EDM den0-adp01 Server Data
Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.11-T3N-R65W
Site: Aristocrat PC H11-18D Pad Sec.
11-T3N-R65W
Well: Aristocrat PC H11-22D
Wellbore: Wellbore #1
Design: Noble Aristocrat PC H11-22D Plan #2 (8-18-10)

Local Co-ordinate Reference: Well Aristocrat PC H11-22D
TVD Reference: WELL @ 4785.0ft (Original Well Elev)
MD Reference: WELL @ 4785.0ft (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	0.80	108.31	440.0	-0.1	0.3	0.3	2.00	2.00	0.00
480.0	1.60	108.31	480.0	-0.4	1.1	1.1	2.00	2.00	0.00
520.0	2.40	108.31	520.0	-0.8	2.4	2.5	2.00	2.00	0.00
560.0	3.20	108.31	559.9	-1.4	4.2	4.5	2.00	2.00	0.00
600.0	4.00	108.31	599.8	-2.2	6.6	7.0	2.00	2.00	0.00
640.0	4.80	108.31	639.7	-3.2	9.5	10.0	2.00	2.00	0.00
650.3	5.01	108.31	650.0	-3.4	10.4	10.9	2.00	2.00	0.00
8 5/8"									
680.0	5.60	108.31	679.6	-4.3	13.0	13.7	2.00	2.00	0.00
720.0	6.40	108.31	719.3	-5.6	16.9	17.9	2.00	2.00	0.00
760.0	7.20	108.31	759.1	-7.1	21.4	22.6	2.00	2.00	0.00
800.0	8.00	108.31	798.7	-8.8	26.5	27.9	2.00	2.00	0.00
840.0	8.80	108.31	838.3	-10.6	32.0	33.7	2.00	2.00	0.00
880.0	9.60	108.31	877.8	-12.6	38.1	40.1	2.00	2.00	0.00
920.0	10.40	108.31	917.1	-14.8	44.7	47.1	2.00	2.00	0.00
960.0	11.20	108.31	956.4	-17.1	51.8	54.6	2.00	2.00	0.00
1,000.0	12.00	108.31	995.6	-19.7	59.4	62.6	2.00	2.00	0.00
1,040.0	12.80	108.31	1,034.7	-22.4	67.6	71.2	2.00	2.00	0.00
1,080.0	13.60	108.31	1,073.6	-25.2	76.3	80.3	2.00	2.00	0.00
1,120.0	14.40	108.31	1,112.4	-28.3	85.4	90.0	2.00	2.00	0.00
1,160.0	15.20	108.31	1,151.1	-31.5	95.1	100.2	2.00	2.00	0.00
1,200.0	16.00	108.31	1,189.6	-34.9	105.4	111.0	2.00	2.00	0.00
1,240.0	16.80	108.31	1,228.0	-38.4	116.1	122.3	2.00	2.00	0.00
1,280.0	17.60	108.31	1,266.2	-42.1	127.3	134.1	2.00	2.00	0.00
1,320.0	18.40	108.31	1,304.3	-46.0	139.0	146.5	2.00	2.00	0.00
1,360.0	19.20	108.31	1,342.1	-50.1	151.3	159.3	2.00	2.00	0.00
1,400.0	20.00	108.31	1,379.8	-54.3	164.0	172.8	2.00	2.00	0.00
1,440.0	20.80	108.31	1,417.3	-58.6	177.3	186.7	2.00	2.00	0.00
1,480.0	21.60	108.31	1,454.6	-63.2	191.0	201.2	2.00	2.00	0.00
1,520.0	22.40	108.31	1,491.7	-67.9	205.2	216.2	2.00	2.00	0.00
1,560.0	23.20	108.31	1,528.6	-72.8	219.9	231.7	2.00	2.00	0.00
1,600.0	24.00	108.31	1,565.2	-77.8	235.1	247.7	2.00	2.00	0.00
1,640.0	24.80	108.31	1,601.6	-83.0	250.8	264.2	2.00	2.00	0.00
1,680.0	25.60	108.31	1,637.8	-88.3	267.0	281.2	2.00	2.00	0.00
1,720.0	26.40	108.31	1,673.8	-93.8	283.6	298.8	2.00	2.00	0.00
1,760.0	27.20	108.31	1,709.5	-99.5	300.8	316.8	2.00	2.00	0.00
1,784.0	27.68	108.31	1,730.8	-103.0	311.3	327.9	2.00	2.00	0.00
1,800.0	27.68	108.31	1,745.0	-105.3	318.3	335.3	0.00	0.00	0.00
1,840.0	27.68	108.31	1,780.4	-111.2	336.0	353.9	0.00	0.00	0.00
1,880.0	27.68	108.31	1,815.8	-117.0	353.6	372.5	0.00	0.00	0.00
1,920.0	27.68	108.31	1,851.2	-122.8	371.2	391.0	0.00	0.00	0.00
1,960.0	27.68	108.31	1,886.6	-128.7	388.9	409.6	0.00	0.00	0.00

Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well Aristocrat PC H11-22D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4785.0ft (Original Well Elev)
Project:	SEC.11-T3N-R65W	MD Reference:	WELL @ 4785.0ft (Original Well Elev)
Site:	Aristocrat PC H11-18D Pad Sec. 11-T3N-R65W	North Reference:	True
Well:	Aristocrat PC H11-22D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Aristocrat PC H11-22D Plan #2 (8-18-10)		

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)
2,000.0	27.68	108.31	1,922.1	-134.5	406.5	428.2	0.00	0.00	0.00
2,040.0	27.68	108.31	1,957.5	-140.3	424.2	446.8	0.00	0.00	0.00
2,080.0	27.68	108.31	1,992.9	-146.2	441.8	465.4	0.00	0.00	0.00
2,120.0	27.68	108.31	2,028.3	-152.0	459.4	483.9	0.00	0.00	0.00
2,160.0	27.68	108.31	2,063.8	-157.9	477.1	502.5	0.00	0.00	0.00
2,200.0	27.68	108.31	2,099.2	-163.7	494.7	521.1	0.00	0.00	0.00
2,240.0	27.68	108.31	2,134.6	-169.5	512.4	539.7	0.00	0.00	0.00
2,280.0	27.68	108.31	2,170.0	-175.4	530.0	558.3	0.00	0.00	0.00
2,320.0	27.68	108.31	2,205.4	-181.2	547.7	576.9	0.00	0.00	0.00
2,360.0	27.68	108.31	2,240.9	-187.0	565.3	595.4	0.00	0.00	0.00
2,400.0	27.68	108.31	2,276.3	-192.9	582.9	614.0	0.00	0.00	0.00
2,440.0	27.68	108.31	2,311.7	-198.7	600.6	632.6	0.00	0.00	0.00
2,480.0	27.68	108.31	2,347.1	-204.5	618.2	651.2	0.00	0.00	0.00
2,520.0	27.68	108.31	2,382.6	-210.4	635.9	669.8	0.00	0.00	0.00
2,560.0	27.68	108.31	2,418.0	-216.2	653.5	688.3	0.00	0.00	0.00
2,600.0	27.68	108.31	2,453.4	-222.1	671.1	706.9	0.00	0.00	0.00
2,640.0	27.68	108.31	2,488.8	-227.9	688.8	725.5	0.00	0.00	0.00
2,680.0	27.68	108.31	2,524.2	-233.7	706.4	744.1	0.00	0.00	0.00
2,720.0	27.68	108.31	2,559.7	-239.6	724.1	762.7	0.00	0.00	0.00
2,760.0	27.68	108.31	2,595.1	-245.4	741.7	781.2	0.00	0.00	0.00
2,800.0	27.68	108.31	2,630.5	-251.2	759.3	799.8	0.00	0.00	0.00
2,840.0	27.68	108.31	2,665.9	-257.1	777.0	818.4	0.00	0.00	0.00
2,880.0	27.68	108.31	2,701.4	-262.9	794.6	837.0	0.00	0.00	0.00
2,920.0	27.68	108.31	2,736.8	-268.8	812.3	855.6	0.00	0.00	0.00
2,960.0	27.68	108.31	2,772.2	-274.6	829.9	874.2	0.00	0.00	0.00
3,000.0	27.68	108.31	2,807.6	-280.4	847.5	892.7	0.00	0.00	0.00
3,040.0	27.68	108.31	2,843.0	-286.3	865.2	911.3	0.00	0.00	0.00
3,080.0	27.68	108.31	2,878.5	-292.1	882.8	929.9	0.00	0.00	0.00
3,120.0	27.68	108.31	2,913.9	-297.9	900.5	948.5	0.00	0.00	0.00
3,160.0	27.68	108.31	2,949.3	-303.8	918.1	967.1	0.00	0.00	0.00
3,200.0	27.68	108.31	2,984.7	-309.6	935.8	985.6	0.00	0.00	0.00
3,240.0	27.68	108.31	3,020.2	-315.4	953.4	1,004.2	0.00	0.00	0.00
3,280.0	27.68	108.31	3,055.6	-321.3	971.0	1,022.8	0.00	0.00	0.00
3,320.0	27.68	108.31	3,091.0	-327.1	988.7	1,041.4	0.00	0.00	0.00
3,360.0	27.68	108.31	3,126.4	-333.0	1,006.3	1,060.0	0.00	0.00	0.00
3,400.0	27.68	108.31	3,161.8	-338.8	1,024.0	1,078.6	0.00	0.00	0.00
3,440.0	27.68	108.31	3,197.3	-344.6	1,041.6	1,097.1	0.00	0.00	0.00
3,480.0	27.68	108.31	3,232.7	-350.5	1,059.2	1,115.7	0.00	0.00	0.00
3,520.0	27.68	108.31	3,268.1	-356.3	1,076.9	1,134.3	0.00	0.00	0.00
3,560.0	27.68	108.31	3,303.5	-362.1	1,094.5	1,152.9	0.00	0.00	0.00
3,600.0	27.68	108.31	3,339.0	-368.0	1,112.2	1,171.5	0.00	0.00	0.00
3,640.0	27.68	108.31	3,374.4	-373.8	1,129.8	1,190.0	0.00	0.00	0.00
3,680.0	27.68	108.31	3,409.8	-379.7	1,147.4	1,208.6	0.00	0.00	0.00
3,720.0	27.68	108.31	3,445.2	-385.5	1,165.1	1,227.2	0.00	0.00	0.00
3,760.0	27.68	108.31	3,480.6	-391.3	1,182.7	1,245.8	0.00	0.00	0.00
3,800.0	27.68	108.31	3,516.1	-397.2	1,200.4	1,264.4	0.00	0.00	0.00
3,840.0	27.68	108.31	3,551.5	-403.0	1,218.0	1,282.9	0.00	0.00	0.00
3,880.0	27.68	108.31	3,586.9	-408.8	1,235.7	1,301.5	0.00	0.00	0.00
3,920.0	27.68	108.31	3,622.3	-414.7	1,253.3	1,320.1	0.00	0.00	0.00
3,960.0	27.68	108.31	3,657.8	-420.5	1,270.9	1,338.7	0.00	0.00	0.00
4,000.0	27.68	108.31	3,693.2	-426.3	1,288.6	1,357.3	0.00	0.00	0.00
4,040.0	27.68	108.31	3,728.6	-432.2	1,306.2	1,375.9	0.00	0.00	0.00
4,080.0	27.68	108.31	3,764.0	-438.0	1,323.9	1,394.4	0.00	0.00	0.00

Database: EDM den0-adp01 Server Data
Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.11-T3N-R65W
Site: Aristocrat PC H11-18D Pad Sec.
11-T3N-R65W
Well: Aristocrat PC H11-22D
Wellbore: Wellbore #1
Design: Noble Aristocrat PC H11-22D Plan #2 (8-18-10)

Local Co-ordinate Reference: Well Aristocrat PC H11-22D
TVD Reference: WELL @ 4785.0ft (Original Well Elev)
MD Reference: WELL @ 4785.0ft (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)
4,120.0	27.68	108.31	3,799.4	-443.9	1,341.5	1,413.0	0.00	0.00	0.00
4,160.0	27.68	108.31	3,834.9	-449.7	1,359.1	1,431.6	0.00	0.00	0.00
4,200.0	27.68	108.31	3,870.3	-455.5	1,376.8	1,450.2	0.00	0.00	0.00
4,240.0	27.68	108.31	3,905.7	-461.4	1,394.4	1,468.8	0.00	0.00	0.00
4,280.0	27.68	108.31	3,941.1	-467.2	1,412.1	1,487.3	0.00	0.00	0.00
4,320.0	27.68	108.31	3,976.6	-473.0	1,429.7	1,505.9	0.00	0.00	0.00
4,360.0	27.68	108.31	4,012.0	-478.9	1,447.3	1,524.5	0.00	0.00	0.00
4,400.0	27.68	108.31	4,047.4	-484.7	1,465.0	1,543.1	0.00	0.00	0.00
4,440.0	27.68	108.31	4,082.8	-490.6	1,482.6	1,561.7	0.00	0.00	0.00
4,480.0	27.68	108.31	4,118.2	-496.4	1,500.3	1,580.3	0.00	0.00	0.00
4,520.0	27.68	108.31	4,153.7	-502.2	1,517.9	1,598.8	0.00	0.00	0.00
4,560.0	27.68	108.31	4,189.1	-508.1	1,535.5	1,617.4	0.00	0.00	0.00
4,600.0	27.68	108.31	4,224.5	-513.9	1,553.2	1,636.0	0.00	0.00	0.00
4,640.0	27.68	108.31	4,259.9	-519.7	1,570.8	1,654.6	0.00	0.00	0.00
4,680.0	27.68	108.31	4,295.4	-525.6	1,588.5	1,673.2	0.00	0.00	0.00
4,720.0	27.68	108.31	4,330.8	-531.4	1,606.1	1,691.7	0.00	0.00	0.00
4,760.0	27.68	108.31	4,366.2	-537.2	1,623.8	1,710.3	0.00	0.00	0.00
4,800.0	27.68	108.31	4,401.6	-543.1	1,641.4	1,728.9	0.00	0.00	0.00
4,840.0	27.68	108.31	4,437.0	-548.9	1,659.0	1,747.5	0.00	0.00	0.00
4,880.0	27.68	108.31	4,472.5	-554.8	1,676.7	1,766.1	0.00	0.00	0.00
4,920.0	27.68	108.31	4,507.9	-560.6	1,694.3	1,784.6	0.00	0.00	0.00
4,960.0	27.68	108.31	4,543.3	-566.4	1,712.0	1,803.2	0.00	0.00	0.00
5,000.0	27.68	108.31	4,578.7	-572.3	1,729.6	1,821.8	0.00	0.00	0.00
5,040.0	27.68	108.31	4,614.2	-578.1	1,747.2	1,840.4	0.00	0.00	0.00
5,080.0	27.68	108.31	4,649.6	-583.9	1,764.9	1,859.0	0.00	0.00	0.00
5,120.0	27.68	108.31	4,685.0	-589.8	1,782.5	1,877.6	0.00	0.00	0.00
5,160.0	27.68	108.31	4,720.4	-595.6	1,800.2	1,896.1	0.00	0.00	0.00
5,200.0	27.68	108.31	4,755.8	-601.5	1,817.8	1,914.7	0.00	0.00	0.00
5,215.1	27.68	108.31	4,769.2	-603.7	1,824.5	1,921.7	0.00	0.00	0.00
5,240.0	27.18	108.31	4,791.3	-607.3	1,835.4	1,933.2	2.00	-2.00	0.00
5,280.0	26.38	108.31	4,827.0	-612.9	1,852.5	1,951.2	2.00	-2.00	0.00
5,320.0	25.58	108.31	4,863.0	-618.4	1,869.1	1,968.8	2.00	-2.00	0.00
5,360.0	24.78	108.31	4,899.2	-623.8	1,885.3	1,985.8	2.00	-2.00	0.00
5,400.0	23.98	108.31	4,935.6	-629.0	1,900.9	2,002.3	2.00	-2.00	0.00
5,440.0	23.18	108.31	4,972.3	-634.0	1,916.1	2,018.3	2.00	-2.00	0.00
5,480.0	22.38	108.31	5,009.1	-638.8	1,930.8	2,033.8	2.00	-2.00	0.00
5,520.0	21.58	108.31	5,046.2	-643.6	1,945.0	2,048.7	2.00	-2.00	0.00
5,560.0	20.78	108.31	5,083.5	-648.1	1,958.8	2,063.2	2.00	-2.00	0.00
5,600.0	19.98	108.31	5,121.0	-652.5	1,972.0	2,077.1	2.00	-2.00	0.00
5,640.0	19.18	108.31	5,158.7	-656.7	1,984.7	2,090.5	2.00	-2.00	0.00
5,680.0	18.38	108.31	5,196.6	-660.7	1,996.9	2,103.4	2.00	-2.00	0.00
5,720.0	17.58	108.31	5,234.6	-664.6	2,008.7	2,115.8	2.00	-2.00	0.00
5,760.0	16.78	108.31	5,272.8	-668.3	2,019.9	2,127.6	2.00	-2.00	0.00
5,800.0	15.98	108.31	5,311.2	-671.9	2,030.6	2,138.9	2.00	-2.00	0.00
5,840.0	15.18	108.31	5,349.8	-675.2	2,040.8	2,149.6	2.00	-2.00	0.00
5,880.0	14.38	108.31	5,388.4	-678.4	2,050.5	2,159.8	2.00	-2.00	0.00
5,920.0	13.58	108.31	5,427.2	-681.5	2,059.7	2,169.5	2.00	-2.00	0.00
5,960.0	12.78	108.31	5,466.2	-684.3	2,068.3	2,178.6	2.00	-2.00	0.00
6,000.0	11.98	108.31	5,505.3	-687.0	2,076.5	2,187.2	2.00	-2.00	0.00
6,040.0	11.18	108.31	5,544.4	-689.6	2,084.1	2,195.2	2.00	-2.00	0.00
6,080.0	10.38	108.31	5,583.7	-691.9	2,091.2	2,202.7	2.00	-2.00	0.00
6,120.0	9.58	108.31	5,623.1	-694.1	2,097.8	2,209.6	2.00	-2.00	0.00
6,160.0	8.78	108.31	5,662.6	-696.1	2,103.8	2,216.0	2.00	-2.00	0.00

Database: EDM den0-adp01 Server Data
Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.11-T3N-R65W
Site: Aristocrat PC H11-18D Pad Sec.
11-T3N-R65W
Well: Aristocrat PC H11-22D
Wellbore: Wellbore #1
Design: Noble Aristocrat PC H11-22D Plan #2 (8-18-10)

Local Co-ordinate Reference: Well Aristocrat PC H11-22D
TVD Reference: WELL @ 4785.0ft (Original Well Elev)
MD Reference: WELL @ 4785.0ft (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)
6,200.0	7.98	108.31	5,702.2	-697.9	2,109.4	2,221.8	2.00	-2.00	0.00
6,240.0	7.18	108.31	5,741.8	-699.6	2,114.4	2,227.1	2.00	-2.00	0.00
6,280.0	6.38	108.31	5,781.6	-701.1	2,118.9	2,231.8	2.00	-2.00	0.00
6,320.0	5.58	108.31	5,821.3	-702.4	2,122.8	2,236.0	2.00	-2.00	0.00
6,360.0	4.78	108.31	5,861.2	-703.5	2,126.3	2,239.6	2.00	-2.00	0.00
6,400.0	3.98	108.31	5,901.1	-704.5	2,129.2	2,242.7	2.00	-2.00	0.00
6,440.0	3.18	108.31	5,941.0	-705.3	2,131.5	2,245.2	2.00	-2.00	0.00
6,480.0	2.38	108.31	5,980.9	-705.9	2,133.4	2,247.1	2.00	-2.00	0.00
6,520.0	1.58	108.31	6,020.9	-706.3	2,134.7	2,248.5	2.00	-2.00	0.00
6,560.0	0.78	108.31	6,060.9	-706.6	2,135.5	2,249.3	2.00	-2.00	0.00
6,599.1	0.00	0.00	6,100.0	-706.6	2,135.7	2,249.6	2.00	-2.00	0.00
Target BHL 2550'FNL, 1320'FEL									
6,600.0	0.00	0.00	6,100.9	-706.6	2,135.7	2,249.6	0.00	0.00	0.00
6,640.0	0.00	0.00	6,140.9	-706.6	2,135.7	2,249.6	0.00	0.00	0.00
6,680.0	0.00	0.00	6,180.9	-706.6	2,135.7	2,249.6	0.00	0.00	0.00
6,720.0	0.00	0.00	6,220.9	-706.6	2,135.7	2,249.6	0.00	0.00	0.00
6,760.0	0.00	0.00	6,260.9	-706.6	2,135.7	2,249.6	0.00	0.00	0.00
6,800.0	0.00	0.00	6,300.9	-706.6	2,135.7	2,249.6	0.00	0.00	0.00
6,840.0	0.00	0.00	6,340.9	-706.6	2,135.7	2,249.6	0.00	0.00	0.00
6,880.0	0.00	0.00	6,380.9	-706.6	2,135.7	2,249.6	0.00	0.00	0.00
6,920.0	0.00	0.00	6,420.9	-706.6	2,135.7	2,249.6	0.00	0.00	0.00
6,960.0	0.00	0.00	6,460.9	-706.6	2,135.7	2,249.6	0.00	0.00	0.00
7,000.0	0.00	0.00	6,500.9	-706.6	2,135.7	2,249.6	0.00	0.00	0.00
7,040.0	0.00	0.00	6,540.9	-706.6	2,135.7	2,249.6	0.00	0.00	0.00
7,080.0	0.00	0.00	6,580.9	-706.6	2,135.7	2,249.6	0.00	0.00	0.00
7,120.0	0.00	0.00	6,620.9	-706.6	2,135.7	2,249.6	0.00	0.00	0.00
7,160.0	0.00	0.00	6,660.9	-706.6	2,135.7	2,249.6	0.00	0.00	0.00
7,200.0	0.00	0.00	6,700.9	-706.6	2,135.7	2,249.6	0.00	0.00	0.00
7,240.0	0.00	0.00	6,740.9	-706.6	2,135.7	2,249.6	0.00	0.00	0.00
7,259.1	0.00	0.00	6,760.0	-706.6	2,135.7	2,249.6	0.00	0.00	0.00
Niobrara - Target Circle 2550'FNL, 1320'FEL									
7,280.0	0.00	0.00	6,780.9	-706.6	2,135.7	2,249.6	0.00	0.00	0.00
7,320.0	0.00	0.00	6,820.9	-706.6	2,135.7	2,249.6	0.00	0.00	0.00
7,360.0	0.00	0.00	6,860.9	-706.6	2,135.7	2,249.6	0.00	0.00	0.00
7,400.0	0.00	0.00	6,900.9	-706.6	2,135.7	2,249.6	0.00	0.00	0.00
7,440.0	0.00	0.00	6,940.9	-706.6	2,135.7	2,249.6	0.00	0.00	0.00
7,480.0	0.00	0.00	6,980.9	-706.6	2,135.7	2,249.6	0.00	0.00	0.00
7,520.0	0.00	0.00	7,020.9	-706.6	2,135.7	2,249.6	0.00	0.00	0.00
7,559.1	0.00	0.00	7,060.0	-706.6	2,135.7	2,249.6	0.00	0.00	0.00
Codell									
7,560.0	0.00	0.00	7,060.9	-706.6	2,135.7	2,249.6	0.00	0.00	0.00
7,600.0	0.00	0.00	7,100.9	-706.6	2,135.7	2,249.6	0.00	0.00	0.00
7,640.0	0.00	0.00	7,140.9	-706.6	2,135.7	2,249.6	0.00	0.00	0.00
7,680.0	0.00	0.00	7,180.9	-706.6	2,135.7	2,249.6	0.00	0.00	0.00
7,720.0	0.00	0.00	7,220.9	-706.6	2,135.7	2,249.6	0.00	0.00	0.00
7,760.0	0.00	0.00	7,260.9	-706.6	2,135.7	2,249.6	0.00	0.00	0.00
7,800.0	0.00	0.00	7,300.9	-706.6	2,135.7	2,249.6	0.00	0.00	0.00
7,840.0	0.00	0.00	7,340.9	-706.6	2,135.7	2,249.6	0.00	0.00	0.00
7,880.0	0.00	0.00	7,380.9	-706.6	2,135.7	2,249.6	0.00	0.00	0.00
7,920.0	0.00	0.00	7,420.9	-706.6	2,135.7	2,249.6	0.00	0.00	0.00
7,960.0	0.00	0.00	7,460.9	-706.6	2,135.7	2,249.6	0.00	0.00	0.00
8,000.0	0.00	0.00	7,500.9	-706.6	2,135.7	2,249.6	0.00	0.00	0.00
8,040.0	0.00	0.00	7,540.9	-706.6	2,135.7	2,249.6	0.00	0.00	0.00

Database:	EDM den0-adp01 Server Data	Local Co-ordinate Reference:	Well Aristocrat PC H11-22D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4785.0ft (Original Well Elev)
Project:	SEC.11-T3N-R65W	MD Reference:	WELL @ 4785.0ft (Original Well Elev)
Site:	Aristocrat PC H11-18D Pad Sec. 11-T3N-R65W	North Reference:	True
Well:	Aristocrat PC H11-22D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Aristocrat PC H11-22D Plan #2 (8-18-10)		

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)
8,080.0	0.00	0.00	7,580.9	-706.6	2,135.7	2,249.6	0.00	0.00	0.00
8,120.0	0.00	0.00	7,620.9	-706.6	2,135.7	2,249.6	0.00	0.00	0.00
8,160.0	0.00	0.00	7,660.9	-706.6	2,135.7	2,249.6	0.00	0.00	0.00
8,199.1	0.00	0.00	7,700.0	-706.6	2,135.7	2,249.6	0.00	0.00	0.00

Hardline 120'S 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
Target Circle 2550'FN - plan hits target center - Circle (radius 75.0)	0.00	0.00	6,760.0	-706.6	2,135.7	1,331,525.24	3,244,150.00	40° 14' 24.468 N	104° 37' 31.512 W
Target BHL 2550'FNL - plan hits target center - Point	0.00	0.00	6,100.0	-706.6	2,135.7	1,331,525.20	3,244,150.03	40° 14' 24.468 N	104° 37' 31.512 W
Hardline 120'S of BHL - plan misses target center by 156.2ft at 8199.1ft MD (7700.0 TVD, -706.6 N, 2135.7 E) - Polygon	0.00	0.00	7,700.0	-826.6	2,035.7	1,331,404.27	3,244,051.19	40° 14' 23.283 N	104° 37' 32.802 W
Point 1			7,700.0	0.0	0.0	1,331,404.27	3,244,051.19		
Point 2			7,700.0	0.0	200.0	1,331,406.23	3,244,251.17		

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
650.3	650.0	8 5/8"	8-5/8	12-1/4

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
7,259.1	6,760.0	Niobrara		0.00	
7,559.1	7,060.0	Codell		0.00	



Directional

NOBLE ENERGY INC WELD COUNTY CO

SEC.11-T3N-R65W

Aristocrat PC H11-18D Pad Sec. 11-T3N-R65W

Aristocrat PC H11-22D

Wellbore #1

Noble Aristocrat PC H11-22D Plan #2 (8-18-10)

Anticollision Report

18 August, 2010



Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Aristocrat PC H11-22D
Project:	SEC.11-T3N-R65W	TVD Reference:	WELL @ 4785.0ft (Original Well Elev)
Reference Site:	Aristocrat PC H11-18D Pad Sec. 11-T3N-R65W	MD Reference:	WELL @ 4785.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Aristocrat PC H11-22D	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM den0-adp01 Server Data
Reference Design:	Noble Aristocrat PC H11-22D Plan #2 (8-18-10)	Offset TVD Reference:	Offset Datum

Reference	Noble Aristocrat PC H11-22D Plan #		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.0ft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 2,000.0ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program	Date 8/18/2010			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	8,199.1	Noble Aristocrat PC H11-22D Plan #2 (8-1 MWD		MWD - Standard

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Aristocrat PC H11-18D Pad Sec. 11-T3N-R65W						
Aristocrat PC H11-18D - Wellbore #1 - Noble Aristocrat F	400.0	399.0	50.3	48.7	31.984	CC, ES
Aristocrat PC H11-18D - Wellbore #1 - Noble Aristocrat F	700.0	698.5	65.3	62.5	22.723	SF
Aristocrat PC H11-32D - Wellbore #1 - Noble Aristocrat F	400.0	399.0	25.1	23.6	15.992	CC, ES
Aristocrat PC H11-32D - Wellbore #1 - Noble Aristocrat F	600.0	598.8	31.8	29.4	13.061	SF

Offset Design Aristocrat PC H11-18D Pad Sec. 11-T3N-R65W - Aristocrat PC H11-18D - Wellbore #1 - Noble Aristocra														Offset Site Error:	0.0ft
Survey Program: 0-MWD														Offset Well Error:	0.0ft
Reference	Offset	Semi Major Axis		Distance		Minimum Separation		Warning							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
0.0	0.0	0.0	0.0	0.0	0.0	-90.02	0.0	-50.3	50.3						
100.0	100.0	99.0	99.0	0.1	0.1	-90.02	0.0	-50.3	50.3	50.0	0.22	224.691			
200.0	200.0	199.0	199.0	0.3	0.3	-90.02	0.0	-50.3	50.3	49.6	0.67	74.773			
300.0	300.0	299.0	299.0	0.6	0.6	-90.02	0.0	-50.3	50.3	49.1	1.12	44.804			
400.0	400.0	399.0	399.0	0.8	0.8	-90.02	0.0	-50.3	50.3	48.7	1.57	31.984 CC, ES			
500.0	500.0	499.0	499.0	1.0	1.0	162.27	0.0	-50.3	51.9	49.9	2.01	25.870			
600.0	599.8	598.8	598.8	1.2	1.2	163.85	0.0	-50.3	56.9	54.5	2.44	23.358			
700.0	699.5	698.5	698.5	1.4	1.5	165.93	0.0	-50.3	65.3	62.5	2.88	22.723 SF			
800.0	798.7	797.7	797.7	1.7	1.7	168.08	0.0	-50.3	77.2	73.9	3.32	23.266			
900.0	897.5	896.5	896.5	2.0	1.9	170.03	0.0	-50.3	92.6	88.8	3.77	24.588			
1,000.0	995.6	997.6	997.5	2.4	2.1	172.26	0.8	-48.8	110.2	106.0	4.21	26.195			
1,100.0	1,093.1	1,098.9	1,098.7	2.8	2.4	175.11	3.3	-44.2	128.7	124.1	4.64	27.741			
1,200.0	1,189.6	1,200.2	1,199.6	3.3	2.6	178.28	7.5	-36.4	148.4	143.3	5.09	29.158			
1,300.0	1,285.3	1,301.4	1,300.1	3.9	2.9	-178.39	13.4	-25.6	169.5	163.9	5.58	30.390			
1,400.0	1,379.8	1,402.4	1,399.8	4.5	3.3	-175.02	20.9	-11.6	192.2	186.1	6.13	31.339			
1,500.0	1,473.2	1,503.1	1,498.6	5.2	3.8	-171.69	30.1	5.3	216.8	210.0	6.79	31.908			
1,600.0	1,565.2	1,603.3	1,596.3	6.0	4.3	-168.46	40.9	25.2	243.3	235.7	7.59	32.053			
1,700.0	1,655.8	1,700.8	1,690.5	6.8	5.0	-165.47	52.9	47.2	272.0	263.5	8.53	31.907			
1,800.0	1,745.0	1,794.9	1,781.4	7.8	5.7	-163.19	64.6	68.8	304.2	294.6	9.55	31.850			
1,900.0	1,833.5	1,888.7	1,871.9	8.8	6.4	-161.52	76.3	90.3	337.7	327.0	10.69	31.596			
2,000.0	1,922.1	1,982.5	1,962.4	9.8	7.1	-160.16	87.9	111.9	371.5	359.6	11.88	31.282			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.11-T3N-R65W
Reference Site: Aristocrat PC H11-18D Pad Sec. 11-T3N-R65W
Site Error: 0.0ft
Reference Well: Aristocrat PC H11-22D
Well Error: 0.0ft
Reference Wellbore: Wellbore #1
Reference Design: Noble Aristocrat PC H11-22D Plan #2 (8-18-10)

Local Co-ordinate Reference: Well Aristocrat PC H11-22D
TVD Reference: WELL @ 4785.0ft (Original Well Elev)
MD Reference: WELL @ 4785.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM den0-adp01 Server Data
Offset TVD Reference: Offset Datum

Offset Design Aristocrat PC H11-18D Pad Sec. 11-T3N-R65W - Aristocrat PC H11-18D - Wellbore #1 - Noble Aristocra													Offset Site Error:	0.0ft
Survey Program: 0-MWD													Offset Well Error:	0.0ft
Reference	Offset	Semi Major Axis		Distance		Warning								
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
2,100.0	2,010.6	2,076.3	2,053.0	10.8	7.8	-159.03	99.6	133.4	405.4	392.3	13.10	30.958		
2,200.0	2,099.2	2,170.1	2,143.5	11.8	8.6	-158.07	111.3	154.9	439.5	425.1	14.34	30.644		
2,300.0	2,187.7	2,263.9	2,234.0	12.8	9.3	-157.24	123.0	176.4	473.6	458.0	15.61	30.347		
2,400.0	2,276.3	2,357.7	2,324.6	13.8	10.1	-156.53	134.7	198.0	507.8	490.9	16.89	30.071		
2,500.0	2,364.8	2,451.5	2,415.1	14.8	10.9	-155.91	146.3	219.5	542.1	523.9	18.18	29.817		
2,600.0	2,453.4	2,545.2	2,505.6	15.8	11.6	-155.36	158.0	241.0	576.4	557.0	19.49	29.583		
2,700.0	2,542.0	2,639.0	2,596.2	16.8	12.4	-154.87	169.7	262.6	610.8	590.0	20.80	29.370		
2,800.0	2,630.5	2,732.8	2,686.7	17.8	13.2	-154.43	181.4	284.1	645.2	623.1	22.12	29.174		
2,900.0	2,719.1	2,826.6	2,777.2	18.9	13.9	-154.04	193.0	305.6	679.6	656.2	23.44	28.994		
3,000.0	2,807.6	2,920.4	2,867.8	19.9	14.7	-153.69	204.7	327.1	714.1	689.3	24.77	28.829		
3,100.0	2,896.2	3,014.2	2,958.3	20.9	15.5	-153.37	216.4	348.7	748.6	722.5	26.10	28.677		
3,200.0	2,984.7	3,108.0	3,048.8	21.9	16.2	-153.07	228.1	370.2	783.1	755.6	27.44	28.537		
3,300.0	3,073.3	3,201.8	3,139.4	23.0	17.0	-152.81	239.8	391.7	817.6	788.8	28.78	28.408		
3,400.0	3,161.8	3,295.5	3,229.9	24.0	17.8	-152.56	251.4	413.2	852.1	822.0	30.12	28.288		
3,500.0	3,250.4	3,389.3	3,320.5	25.0	18.6	-152.33	263.1	434.8	886.7	855.2	31.47	28.177		
3,600.0	3,339.0	3,483.1	3,411.0	26.0	19.4	-152.12	274.8	456.3	921.2	888.4	32.82	28.073		
3,700.0	3,427.5	3,576.9	3,501.5	27.1	20.1	-151.93	286.5	477.8	955.8	921.6	34.16	27.976		
3,800.0	3,516.1	3,670.7	3,592.1	28.1	20.9	-151.74	298.2	499.4	990.4	954.8	35.51	27.886		
3,900.0	3,604.6	3,764.5	3,682.6	29.1	21.7	-151.57	309.8	520.9	1,024.9	988.1	36.87	27.801		
4,000.0	3,693.2	3,858.3	3,773.1	30.1	22.5	-151.42	321.5	542.4	1,059.5	1,021.3	38.22	27.722		
4,100.0	3,781.7	3,952.1	3,863.7	31.2	23.3	-151.27	333.2	563.9	1,094.1	1,054.6	39.57	27.647		
4,200.0	3,870.3	4,045.9	3,954.2	32.2	24.0	-151.13	344.9	585.5	1,128.7	1,087.8	40.93	27.577		
4,300.0	3,958.8	4,139.6	4,044.7	33.2	24.8	-151.00	356.6	607.0	1,163.3	1,121.0	42.29	27.511		
4,400.0	4,047.4	4,233.4	4,135.3	34.2	25.6	-150.87	368.2	628.5	1,197.9	1,154.3	43.64	27.449		
4,500.0	4,136.0	4,327.2	4,225.8	35.3	26.4	-150.76	379.9	650.1	1,232.6	1,187.6	45.00	27.389		
4,600.0	4,224.5	4,421.0	4,316.3	36.3	27.2	-150.65	391.6	671.6	1,267.2	1,220.8	46.36	27.334		
4,700.0	4,313.1	4,514.8	4,406.9	37.3	28.0	-150.54	403.3	693.1	1,301.8	1,254.1	47.72	27.280		
4,800.0	4,401.6	4,608.6	4,497.4	38.4	28.7	-150.44	414.9	714.6	1,336.4	1,287.4	49.08	27.230		
4,900.0	4,490.2	4,702.4	4,587.9	39.4	29.5	-150.35	426.6	736.2	1,371.1	1,320.6	50.44	27.182		
5,000.0	4,578.7	4,796.2	4,678.5	40.4	30.3	-150.26	438.3	757.7	1,405.7	1,353.9	51.80	27.137		
5,100.0	4,667.3	4,890.0	4,769.0	41.4	31.1	-150.18	450.0	779.2	1,440.3	1,387.2	53.16	27.093		
5,200.0	4,755.8	4,983.7	4,859.5	42.5	31.9	-150.10	461.7	800.7	1,475.0	1,420.5	54.53	27.052		
5,300.0	4,845.0	5,077.9	4,950.4	43.4	32.7	-150.29	473.4	822.4	1,508.6	1,452.6	55.97	26.955		
5,400.0	4,935.6	5,161.2	5,031.1	44.2	33.0	-150.52	483.2	840.5	1,539.7	1,482.8	56.98	27.022		
5,500.0	5,027.7	5,244.7	5,112.6	44.9	33.3	-150.75	492.0	856.6	1,568.7	1,510.9	57.86	27.114		
5,600.0	5,121.0	5,328.7	5,195.0	45.5	33.6	-150.99	499.6	870.6	1,595.6	1,536.9	58.64	27.211		
5,700.0	5,215.6	5,413.0	5,278.2	46.1	33.9	-151.24	506.1	882.6	1,620.2	1,560.9	59.31	27.315		
5,800.0	5,311.2	5,500.0	5,364.5	46.6	34.1	-151.50	511.6	892.7	1,642.6	1,582.7	59.89	27.427		
5,900.0	5,407.8	5,582.3	5,446.4	47.0	34.3	-151.76	515.6	900.2	1,662.8	1,602.5	60.34	27.555		
6,000.0	5,505.3	5,667.3	5,531.1	47.4	34.4	-152.04	518.6	905.7	1,680.8	1,620.1	60.70	27.692		
6,100.0	5,603.4	5,752.3	5,616.0	47.7	34.5	-152.32	520.4	909.0	1,696.5	1,635.6	60.94	27.840		
6,200.0	5,702.2	5,837.5	5,701.2	48.0	34.6	-152.62	521.0	910.1	1,710.0	1,648.9	61.07	27.998		
6,300.0	5,801.4	5,936.7	5,800.4	48.2	34.7	-152.90	521.0	910.1	1,720.8	1,659.7	61.14	28.144		
6,400.0	5,901.1	6,036.4	5,900.1	48.4	34.7	-153.10	521.0	910.1	1,728.6	1,667.4	61.20	28.245		
6,500.0	6,000.9	6,136.2	5,999.9	48.5	34.8	-153.22	521.0	910.1	1,733.2	1,672.0	61.24	28.301		
6,600.0	6,100.9	6,236.2	6,099.9	48.6	34.9	-44.95	521.0	910.1	1,734.7	1,673.5	61.27	28.311		
6,700.0	6,200.9	6,336.2	6,199.9	48.6	35.0	-44.95	521.0	910.1	1,734.7	1,673.3	61.45	28.229		
6,800.0	6,300.9	6,436.2	6,299.9	48.7	35.1	-44.95	521.0	910.1	1,734.7	1,673.1	61.63	28.145		
6,900.0	6,400.9	6,536.2	6,399.9	48.8	35.2	-44.95	521.0	910.1	1,734.7	1,672.9	61.82	28.060		
7,000.0	6,500.9	6,636.2	6,499.9	48.8	35.3	-44.95	521.0	910.1	1,734.7	1,672.7	62.01	27.975		
7,100.0	6,600.9	6,736.2	6,599.9	48.9	35.4	-44.95	521.0	910.1	1,734.7	1,672.5	62.20	27.889		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.11-T3N-R65W
Reference Site: Aristocrat PC H11-18D Pad Sec.
11-T3N-R65W
Site Error: 0.0ft
Reference Well: Aristocrat PC H11-22D
Well Error: 0.0ft
Reference Wellbore: Wellbore #1
Reference Design: Noble Aristocrat PC H11-22D Plan #2
(8-18-10)

Local Co-ordinate Reference: Well Aristocrat PC H11-22D
TVD Reference: WELL @ 4785.0ft (Original Well Elev)
MD Reference: WELL @ 4785.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM den0-adp01 Server Data
Offset TVD Reference: Offset Datum

Offset Design Aristocrat PC H11-18D Pad Sec. 11-T3N-R65W - Aristocrat PC H11-18D - Wellbore #1 - Noble Aristocra													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
7,200.0	6,700.9	6,836.2	6,699.9	49.0	35.5	-44.95	521.0	910.1	1,734.7	1,672.3	62.40	27.802		
7,300.0	6,800.9	6,936.2	6,799.9	49.0	35.5	-44.95	521.0	910.1	1,734.7	1,672.1	62.59	27.715		
7,400.0	6,900.9	7,036.2	6,899.9	49.1	35.6	-44.95	521.0	910.1	1,734.7	1,671.9	62.79	27.627		
7,500.0	7,000.9	7,136.2	6,999.9	49.1	35.7	-44.95	521.0	910.1	1,734.7	1,671.7	62.99	27.538		
7,600.0	7,100.9	7,236.2	7,099.9	49.2	35.8	-44.95	521.0	910.1	1,734.7	1,671.5	63.20	27.449		
7,700.0	7,200.9	7,336.2	7,199.9	49.3	35.9	-44.95	521.0	910.1	1,734.7	1,671.3	63.40	27.360		
7,800.0	7,300.9	7,350.3	7,214.0	49.3	35.9	-44.95	521.0	910.1	1,736.8	1,673.3	63.53	27.340		
7,900.0	7,400.9	7,350.3	7,214.0	49.4	35.9	-44.95	521.0	910.1	1,744.7	1,681.0	63.64	27.416		
8,000.0	7,500.9	7,350.3	7,214.0	49.5	35.9	-44.95	521.0	910.1	1,758.1	1,694.4	63.75	27.579		
8,100.0	7,600.9	7,350.3	7,214.0	49.6	35.9	-44.95	521.0	910.1	1,777.1	1,713.3	63.86	27.828		
8,199.1	7,700.0	7,350.3	7,214.0	49.6	35.9	-44.95	521.0	910.1	1,801.2	1,737.3	63.97	28.156		

Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.11-T3N-R65W
Reference Site: Aristocrat PC H11-18D Pad Sec.
11-T3N-R65W
Site Error: 0.0ft
Reference Well: Aristocrat PC H11-22D
Well Error: 0.0ft
Reference Wellbore: Wellbore #1
Reference Design: Noble Aristocrat PC H11-22D Plan #2
(8-18-10)

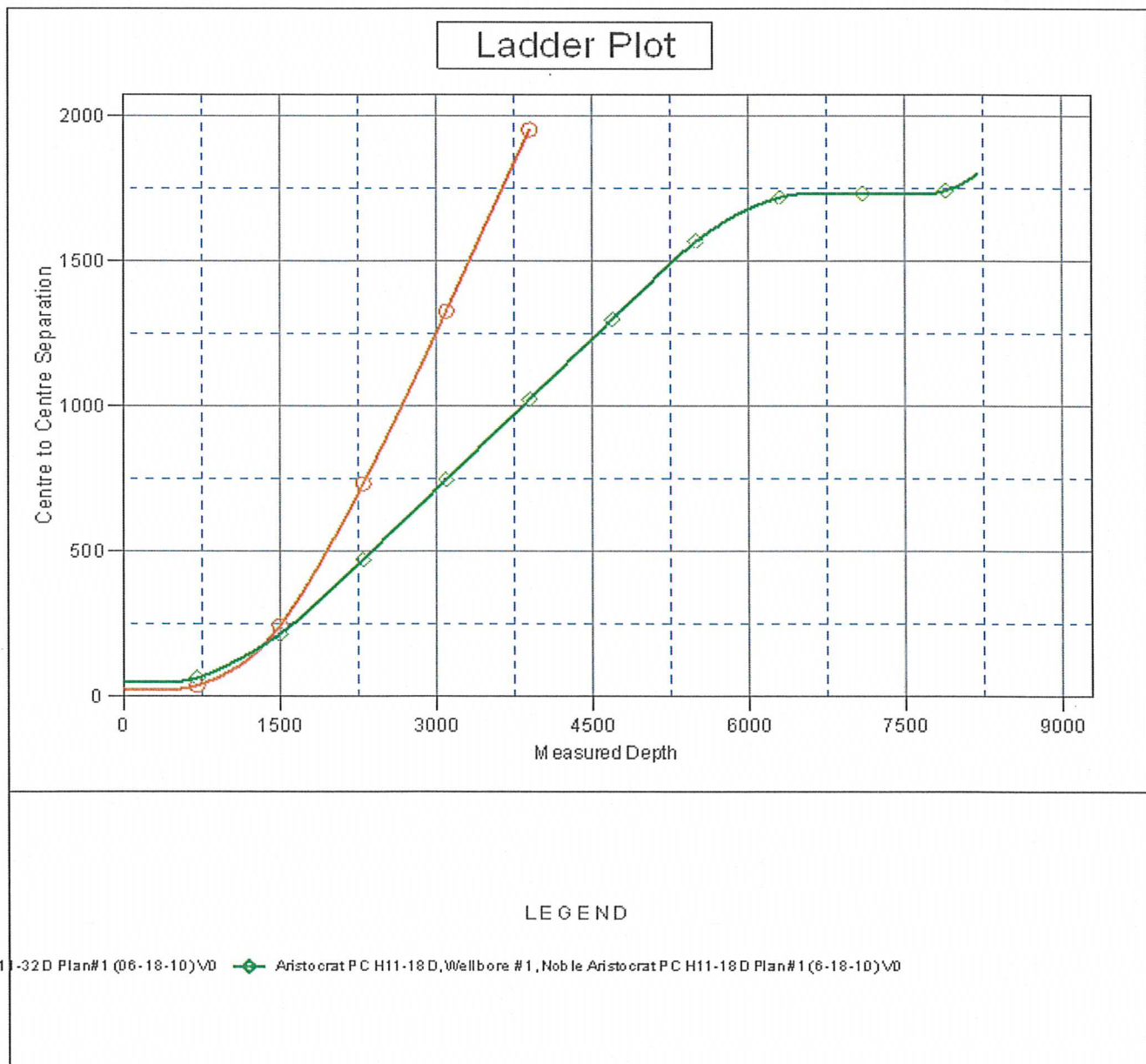
Local Co-ordinate Reference: Well Aristocrat PC H11-22D
TVD Reference: WELL @ 4785.0ft (Original Well Elev)
MD Reference: WELL @ 4785.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM den0-adp01 Server Data
Offset TVD Reference: Offset Datum

Offset Design Aristocrat PC H11-18D Pad Sec. 11-T3N-R65W - Aristocrat PC H11-32D - Wellbore #1 - Noble Aristocra													Offset Site Error: 0.0ft
Survey Program: 0-MWD													Offset Well Error: 0.0ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-90.01	0.0	-25.1	25.1				
100.0	100.0	99.0	99.0	0.1	0.1	-90.01	0.0	-25.1	25.1	24.9	0.22	112.346	
200.0	200.0	199.0	199.0	0.3	0.3	-90.01	0.0	-25.1	25.1	24.5	0.67	37.386	
300.0	300.0	299.0	299.0	0.6	0.6	-90.01	0.0	-25.1	25.1	24.0	1.12	22.402	
400.0	400.0	399.0	399.0	0.8	0.8	-90.01	0.0	-25.1	25.1	23.6	1.57	15.992 CC, ES	
500.0	500.0	499.0	499.0	1.0	1.0	162.85	0.0	-25.1	26.8	24.8	2.01	13.350	
600.0	599.8	598.8	598.8	1.2	1.2	165.60	0.0	-25.1	31.8	29.4	2.44	13.061 SF	
700.0	699.5	698.5	698.5	1.4	1.5	168.65	0.0	-25.1	40.3	37.5	2.87	14.027	
800.0	798.7	797.8	797.8	1.7	1.7	170.81	-0.4	-25.1	52.3	49.0	3.30	15.821	
900.0	897.5	897.0	897.0	2.0	1.8	170.03	-3.8	-25.1	67.2	63.5	3.70	18.140	
1,000.0	995.6	995.7	995.4	2.4	2.0	167.62	-10.5	-25.1	85.1	80.9	4.13	20.597	
1,100.0	1,093.1	1,093.6	1,092.8	2.8	2.2	164.60	-20.6	-25.1	106.1	101.5	4.60	23.078	
1,200.0	1,189.6	1,186.5	1,185.0	3.3	2.5	162.15	-32.0	-26.4	131.9	126.8	5.11	25.812	
1,300.0	1,285.3	1,276.6	1,274.2	3.9	2.7	160.71	-43.3	-30.5	164.0	158.3	5.66	28.989	
1,400.0	1,379.8	1,363.5	1,360.1	4.5	2.9	159.89	-54.4	-37.2	202.1	195.9	6.22	32.472	
1,500.0	1,473.2	1,446.9	1,442.4	5.2	3.2	159.44	-65.3	-46.0	245.9	239.1	6.80	36.144	
1,600.0	1,565.2	1,526.4	1,520.5	6.0	3.5	159.17	-75.8	-56.7	295.1	287.7	7.39	39.916	
1,700.0	1,655.8	1,600.0	1,592.4	6.8	3.7	158.98	-85.6	-68.5	349.4	341.4	7.99	43.741	
1,800.0	1,745.0	1,673.2	1,663.6	7.8	4.0	158.91	-95.5	-82.1	408.5	399.9	8.61	47.449	
1,900.0	1,833.5	1,741.2	1,729.6	8.8	4.3	159.22	-104.8	-96.3	470.4	461.2	9.26	50.814	
2,000.0	1,922.1	1,800.0	1,786.1	9.8	4.6	159.42	-112.9	-109.9	534.2	524.3	9.89	54.000	
2,100.0	2,010.6	1,870.0	1,853.1	10.8	4.9	159.60	-122.7	-127.6	599.6	589.1	10.56	56.761	
2,200.0	2,099.2	1,930.8	1,911.0	11.8	5.2	159.70	-131.2	-144.3	666.7	655.5	11.21	59.454	
2,300.0	2,187.7	1,989.3	1,966.3	12.8	5.6	159.78	-139.4	-161.6	735.3	723.4	11.87	61.924	
2,400.0	2,276.3	2,045.6	2,019.1	13.8	5.9	159.83	-147.4	-179.2	805.3	792.8	12.53	64.270	
2,500.0	2,364.8	2,100.0	2,069.9	14.8	6.3	159.87	-155.2	-197.3	876.7	863.5	13.18	66.522	
2,600.0	2,453.4	2,151.9	2,117.9	15.8	6.6	159.89	-162.6	-215.4	949.4	935.6	13.83	68.646	
2,700.0	2,542.0	2,200.0	2,162.2	16.8	6.9	159.90	-169.6	-233.0	1,023.3	1,008.8	14.47	70.718	
2,800.0	2,630.5	2,250.4	2,208.2	17.8	7.3	159.90	-176.9	-252.2	1,098.3	1,083.2	15.12	72.631	
2,900.0	2,719.1	2,300.0	2,253.1	18.9	7.7	159.90	-184.0	-271.9	1,174.4	1,158.7	15.77	74.467	
3,000.0	2,807.6	2,341.7	2,290.7	19.9	8.1	159.89	-190.1	-289.1	1,251.5	1,235.1	16.40	76.298	
3,100.0	2,896.2	2,391.7	2,335.3	20.9	8.5	159.88	-197.4	-310.3	1,329.6	1,312.5	17.06	77.936	
3,200.0	2,984.7	2,454.0	2,390.9	21.9	9.0	159.86	-206.5	-337.0	1,407.8	1,390.1	17.75	79.332	
3,300.0	3,073.3	2,516.3	2,446.5	23.0	9.6	159.85	-215.6	-363.6	1,486.0	1,467.6	18.43	80.630	
3,400.0	3,161.8	2,578.6	2,502.0	24.0	10.1	159.84	-224.7	-390.2	1,564.3	1,545.2	19.12	81.819	
3,500.0	3,250.4	2,640.9	2,557.6	25.0	10.7	159.82	-233.8	-416.8	1,642.5	1,622.7	19.81	82.913	
3,600.0	3,339.0	2,703.1	2,613.2	26.0	11.2	159.81	-242.8	-443.5	1,720.7	1,700.2	20.50	83.930	
3,700.0	3,427.5	2,765.4	2,668.7	27.1	11.8	159.80	-251.9	-470.1	1,799.0	1,777.8	21.20	84.864	
3,800.0	3,516.1	2,827.7	2,724.3	28.1	12.4	159.80	-261.0	-496.7	1,877.2	1,855.3	21.90	85.735	
3,900.0	3,604.6	2,890.0	2,779.9	29.1	13.0	159.79	-270.1	-523.3	1,955.4	1,932.8	22.59	86.546	

Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.11-T3N-R65W
Reference Site: Aristocrat PC H11-18D Pad Sec.
11-T3N-R65W
Site Error: 0.0ft
Reference Well: Aristocrat PC H11-22D
Well Error: 0.0ft
Reference Wellbore: Wellbore #1
Reference Design: Noble Aristocrat PC H11-22D Plan #2
(8-18-10)

Local Co-ordinate Reference: Well Aristocrat PC H11-22D
TVD Reference: WELL @ 4785.0ft (Original Well Elev)
MD Reference: WELL @ 4785.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM den0-adp01 Server Data
Offset TVD Reference: Offset Datum

Reference Depths are relative to WELL @ 4785.0ft (Original Well Elev) Coordinates are relative to: Aristocrat PC H11-22D
Offset Depths are relative to Offset Datum
Central Meridian is 105° 30' 0.000 W °
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.56°

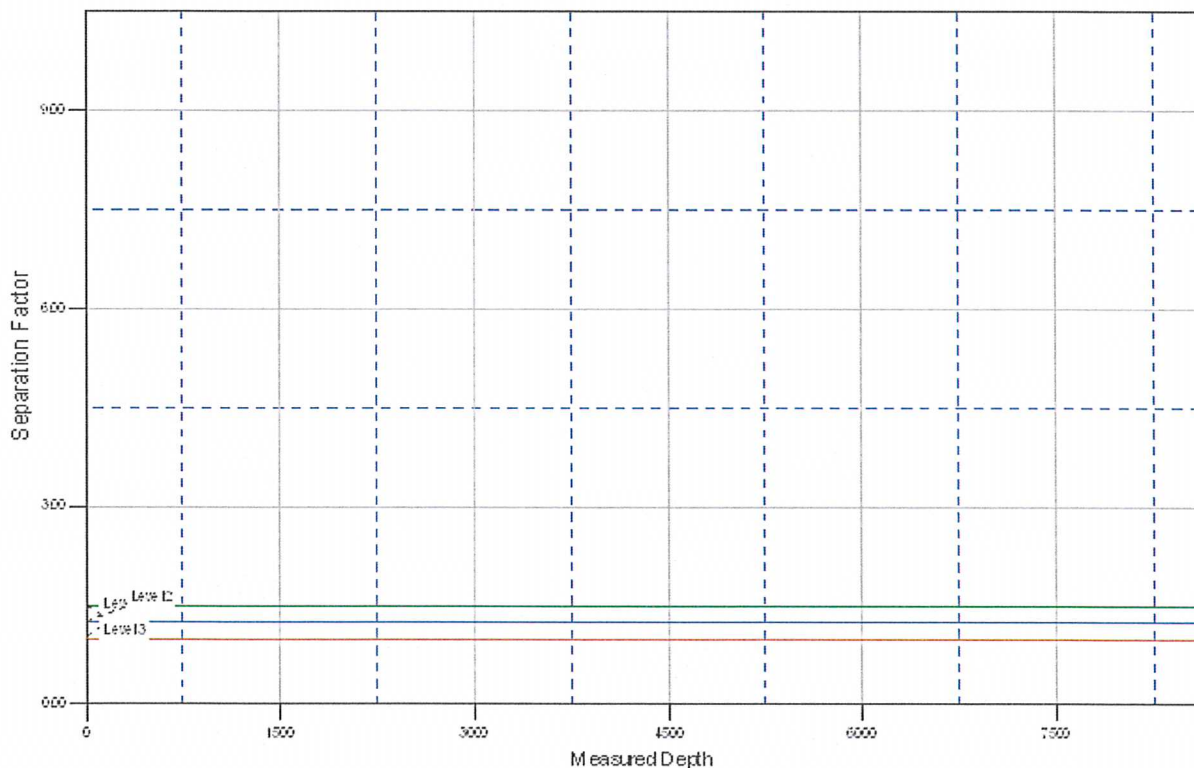


Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.11-T3N-R65W
Reference Site: Aristocrat PC H11-18D Pad Sec.
11-T3N-R65W
Site Error: 0.0ft
Reference Well: Aristocrat PC H11-22D
Well Error: 0.0ft
Reference Wellbore: Wellbore #1
Reference Design: Noble Aristocrat PC H11-22D Plan #2
(8-18-10)

Local Co-ordinate Reference: Well Aristocrat PC H11-22D
TVD Reference: WELL @ 4785.0ft (Original Well Elev)
MD Reference: WELL @ 4785.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM den0-adp01 Server Data
Offset TVD Reference: Offset Datum

Reference Depths are relative to WELL @ 4785.0ft (Original Well Elev) Coordinates are relative to: Aristocrat PC H11-22D
Offset Depths are relative to Offset Datum
Central Meridian is 105° 30' 0.000 W °
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.56°

Separation Factor Plot



LEGEND

-11-32D Plan#1 (06-18-10)VD Aristocrat PC H11-18D, Wellbore #1, Noble Aristocrat PC H11-18D Plan#1 (6-18-10)VD