

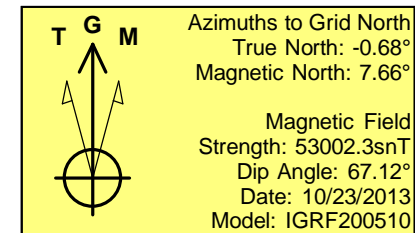
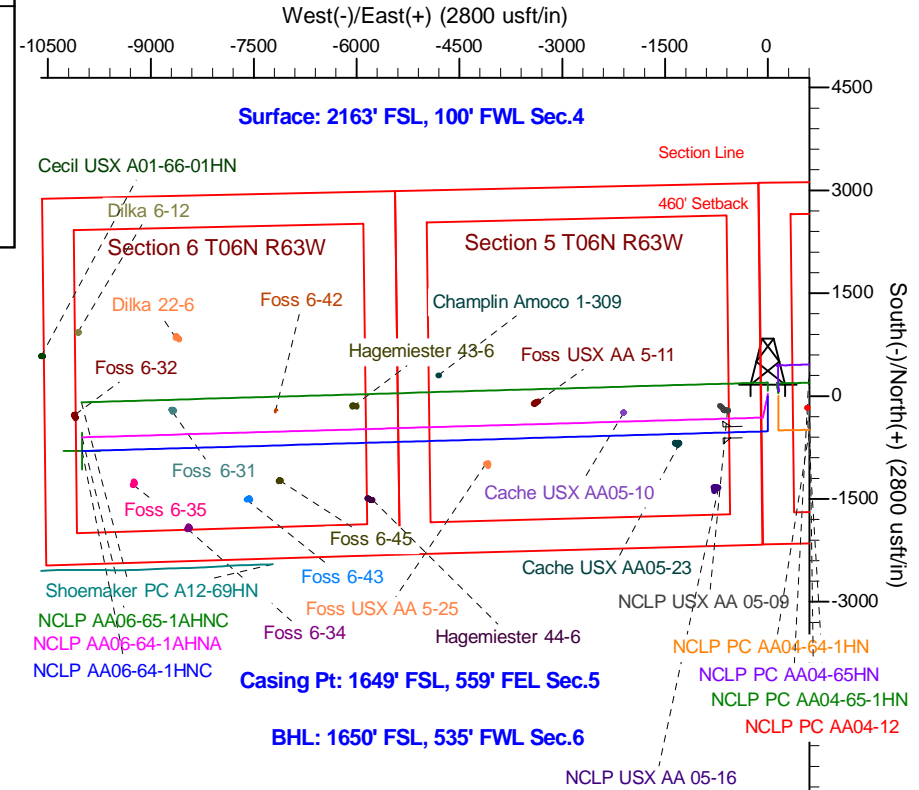
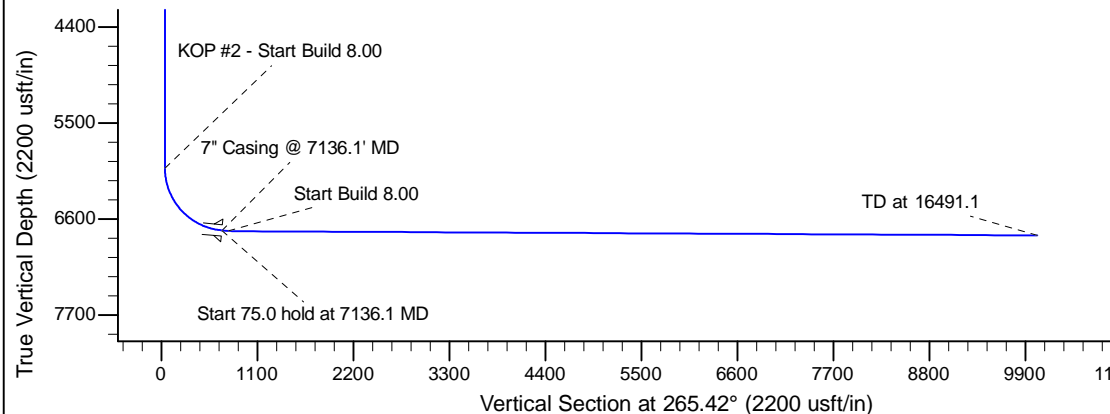
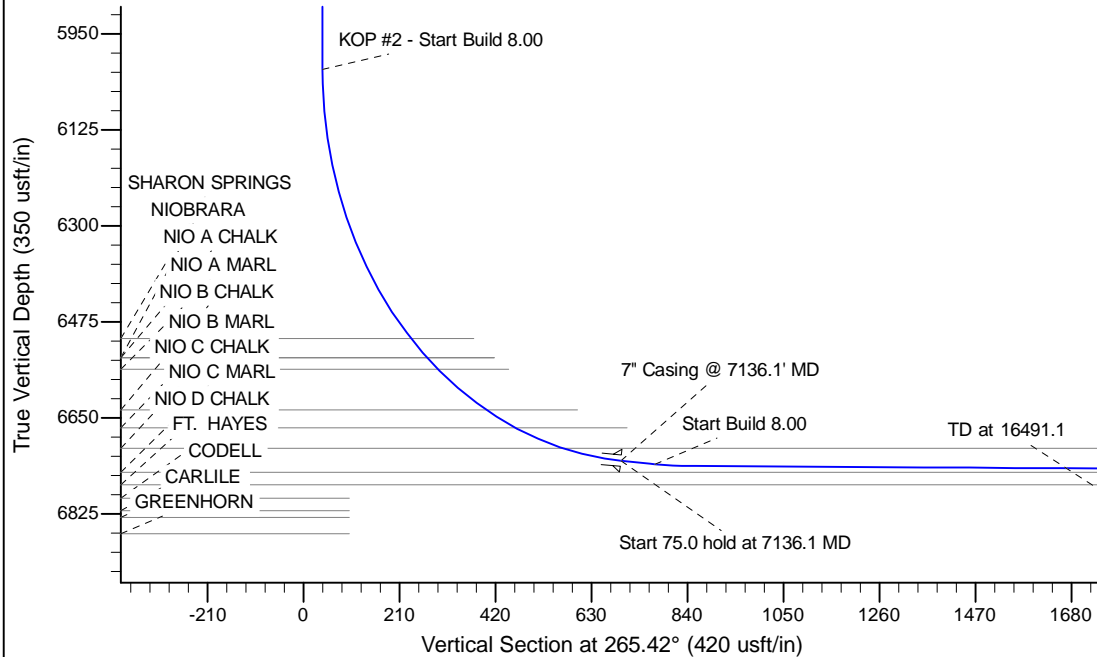
Project: Wattenberg Field
Site: AA (Sec.4-T06N-R63W) Weld County, CO
Well: NCLP AA06-64-1HNC
Wellbore: Original Drilling
Design: APD - Rev 0

Northern Region Drilling - Working

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Colorado Northern Zone
System Datum: Mean Sea Level

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	1500.0	0.00	0.00	1500.0	0.0	0.0	0.00	0.00	0.0	
3	2252.3	15.05	180.00	2243.7	-98.2	0.0	2.00	180.00	7.8	
4	3471.7	15.05	180.00	3421.3	-414.8	0.0	0.00	0.00	33.1	
5	4224.0	0.00	0.00	4165.0	-513.0	0.0	2.00	180.00	41.0	
6	6073.6	0.00	0.00	6014.6	-513.0	0.0	0.00	0.00	41.0	
7	7136.1	85.00	268.35	6728.1	-531.8	-653.5	8.00	268.35	693.9	
8	7211.1	85.00	268.35	6734.6	-534.0	-728.2	0.00	0.00	768.5	
9	7269.9	89.70	268.35	6737.3	-535.7	-786.8	8.00	0.00	827.1	
10	16491.1	89.70	268.35	6785.6	-801.3	-10004.0	0.00	0.00	10036.1	NCLP AA06-64-1HNC BHL 1650'FSL, 535'FWL



WELL DETAILS: NCLP AA06-64-1HNC

Ground Level: 4711.0					
	Northing	Easting	Latitude	Longitude	
0.0	0.0	1431983.95	3291696.21	40.514460	-104.450860

Plan: APD - Rev 0 (NCLP AA06-64-1HNC/Original Drilling)

Created By: Shailey Jewell Date: 13:49, December 04 2013

Checked: _____ Date: _____

Reviewed: _____ Date: _____

Approved: _____ Date: _____

Northern Region Drilling - Working

Wattenberg Field

AA (06N-63W)

NCLP AA06-64-1HNC

Original Drilling

Plan: APD - Rev 0

Standard Planning Report

04 December, 2013

Noble Energy Inc

Planning Report

Database:	EDM Production	Local Co-ordinate Reference:	Well NCLP AA06-64-1HNC
Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4735.0usft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4735.0usft (Original Well Elev)
Site:	AA (06N-63W)	North Reference:	Grid
Well:	NCLP AA06-64-1HNC	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Drilling		
Design:	APD - Rev 0		

Project	Wattenberg Field, Weld County CO		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site		AA (06N-63W)			
Site Position:		Northing:	1,427,844.88 usft	Latitude:	40.502740
From:	Lat/Long	Easting:	3,302,558.01 usft	Longitude:	-104.411980
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.70 °

Well	NCLP AA06-64-1HNC					
Well Position	+N/-S	4,139.2 usft	Northing:	1,431,983.95 usft	Latitude:	40.514460
	+E/-W	-10,862.2 usft	Easting:	3,291,696.21 usft	Longitude:	-104.450860
Position Uncertainty		0.0 usft	Wellhead Elevation:		Ground Level:	4,711.0 usft

Wellbore	Original Drilling				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	10/23/2013	8.33	67.12	53,002

Design	APD - Rev 0			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	265.42

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,252.3	15.05	180.00	2,243.7	-98.2	0.0	2.00	2.00	0.00	180.00	
3,471.7	15.05	180.00	3,421.3	-414.8	0.0	0.00	0.00	0.00	0.00	
4,224.0	0.00	0.00	4,165.0	-513.0	0.0	2.00	-2.00	0.00	180.00	
6,073.6	0.00	0.00	6,014.6	-513.0	0.0	0.00	0.00	0.00	0.00	
7,136.1	85.00	268.35	6,728.1	-531.8	-653.5	8.00	8.00	0.00	268.35	
7,211.1	85.00	268.35	6,734.6	-534.0	-728.2	0.00	0.00	0.00	0.00	
7,269.9	89.70	268.35	6,737.3	-535.7	-786.8	8.00	8.00	0.00	0.00	
16,491.1	89.70	268.35	6,785.6	-801.3	-10,004.0	0.00	0.00	0.00	0.00	NCLP AA06-64-1HNC

Noble Energy Inc

Planning Report

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Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4735.0usft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4735.0usft (Original Well Elev)
Site:	AA (06N-63W)	North Reference:	Grid
Well:	NCLP AA06-64-1HNC	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Drilling		
Design:	APD - Rev 0		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
50.0	0.00	0.00	50.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
150.0	0.00	0.00	150.0	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
250.0	0.00	0.00	250.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
350.0	0.00	0.00	350.0	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
450.0	0.00	0.00	450.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
550.0	0.00	0.00	550.0	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
650.0	0.00	0.00	650.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	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
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
850.0	0.00	0.00	850.0	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
950.0	0.00	0.00	950.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,038.0	0.00	0.00	1,038.0	0.0	0.0	0.0	0.00	0.00	0.00
PIERRE									
1,050.0	0.00	0.00	1,050.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,150.0	0.00	0.00	1,150.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,250.0	0.00	0.00	1,250.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,350.0	0.00	0.00	1,350.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,450.0	0.00	0.00	1,450.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
KOP - Start Build 2.00									
1,550.0	1.00	180.00	1,550.0	-0.4	0.0	0.0	2.00	2.00	0.00
1,600.0	2.00	180.00	1,600.0	-1.7	0.0	0.1	2.00	2.00	0.00
1,650.0	3.00	180.00	1,649.9	-3.9	0.0	0.3	2.00	2.00	0.00
1,700.0	4.00	180.00	1,699.8	-7.0	0.0	0.6	2.00	2.00	0.00
1,750.0	5.00	180.00	1,749.7	-10.9	0.0	0.9	2.00	2.00	0.00
1,800.0	6.00	180.00	1,799.5	-15.7	0.0	1.3	2.00	2.00	0.00
1,850.0	7.00	180.00	1,849.1	-21.4	0.0	1.7	2.00	2.00	0.00
1,900.0	8.00	180.00	1,898.7	-27.9	0.0	2.2	2.00	2.00	0.00
1,950.0	9.00	180.00	1,948.2	-35.3	0.0	2.8	2.00	2.00	0.00
2,000.0	10.00	180.00	1,997.5	-43.5	0.0	3.5	2.00	2.00	0.00
2,050.0	11.00	180.00	2,046.6	-52.6	0.0	4.2	2.00	2.00	0.00
2,100.0	12.00	180.00	2,095.6	-62.6	0.0	5.0	2.00	2.00	0.00
2,150.0	13.00	180.00	2,144.4	-73.4	0.0	5.9	2.00	2.00	0.00
2,200.0	14.00	180.00	2,193.1	-85.1	0.0	6.8	2.00	2.00	0.00
2,250.0	15.00	180.00	2,241.5	-97.6	0.0	7.8	2.00	2.00	0.00
2,252.3	15.05	180.00	2,243.7	-98.2	0.0	7.8	2.00	2.00	0.00
2,300.0	15.05	180.00	2,289.7	-110.6	0.0	8.8	0.00	0.00	0.00
2,350.0	15.05	180.00	2,338.0	-123.6	0.0	9.9	0.00	0.00	0.00
2,400.0	15.05	180.00	2,386.3	-136.6	0.0	10.9	0.00	0.00	0.00
2,450.0	15.05	180.00	2,434.6	-149.5	0.0	11.9	0.00	0.00	0.00

Noble Energy Inc

Planning Report

Database:	EDM Production	Local Co-ordinate Reference:	Well NCLP AA06-64-1HNC
Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4735.0usft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4735.0usft (Original Well Elev)
Site:	AA (06N-63W)	North Reference:	Grid
Well:	NCLP AA06-64-1HNC	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Drilling		
Design:	APD - Rev 0		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
2,500.0	15.05	180.00	2,482.9	-162.5	0.0	13.0	0.00	0.00	0.00	
2,550.0	15.05	180.00	2,531.2	-175.5	0.0	14.0	0.00	0.00	0.00	
2,600.0	15.05	180.00	2,579.5	-188.5	0.0	15.0	0.00	0.00	0.00	
2,650.0	15.05	180.00	2,627.7	-201.5	0.0	16.1	0.00	0.00	0.00	
2,700.0	15.05	180.00	2,676.0	-214.4	0.0	17.1	0.00	0.00	0.00	
2,750.0	15.05	180.00	2,724.3	-227.4	0.0	18.2	0.00	0.00	0.00	
2,800.0	15.05	180.00	2,772.6	-240.4	0.0	19.2	0.00	0.00	0.00	
2,850.0	15.05	180.00	2,820.9	-253.4	0.0	20.2	0.00	0.00	0.00	
2,900.0	15.05	180.00	2,869.2	-266.4	0.0	21.3	0.00	0.00	0.00	
2,950.0	15.05	180.00	2,917.5	-279.3	0.0	22.3	0.00	0.00	0.00	
3,000.0	15.05	180.00	2,965.7	-292.3	0.0	23.3	0.00	0.00	0.00	
3,050.0	15.05	180.00	3,014.0	-305.3	0.0	24.4	0.00	0.00	0.00	
3,100.0	15.05	180.00	3,062.3	-318.3	0.0	25.4	0.00	0.00	0.00	
3,150.0	15.05	180.00	3,110.6	-331.3	0.0	26.4	0.00	0.00	0.00	
3,200.0	15.05	180.00	3,158.9	-344.2	0.0	27.5	0.00	0.00	0.00	
3,250.0	15.05	180.00	3,207.2	-357.2	0.0	28.5	0.00	0.00	0.00	
3,300.0	15.05	180.00	3,255.5	-370.2	0.0	29.6	0.00	0.00	0.00	
3,350.0	15.05	180.00	3,303.7	-383.2	0.0	30.6	0.00	0.00	0.00	
3,400.0	15.05	180.00	3,352.0	-396.2	0.0	31.6	0.00	0.00	0.00	
3,450.0	15.05	180.00	3,400.3	-409.1	0.0	32.7	0.00	0.00	0.00	
3,471.7	15.05	180.00	3,421.3	-414.8	0.0	33.1	0.00	0.00	0.00	
Start Drop -2.00										
3,500.0	14.48	180.00	3,448.6	-422.0	0.0	33.7	2.00	-2.00	0.00	
3,550.0	13.48	180.00	3,497.2	-434.1	0.0	34.7	2.00	-2.00	0.00	
3,576.5	12.95	180.00	3,523.0	-440.1	0.0	35.1	2.00	-2.00	0.00	
PARKMAN										
3,600.0	12.48	180.00	3,545.9	-445.3	0.0	35.6	2.00	-2.00	0.00	
3,650.0	11.48	180.00	3,594.8	-455.7	0.0	36.4	2.00	-2.00	0.00	
3,700.0	10.48	180.00	3,643.9	-465.2	0.0	37.1	2.00	-2.00	0.00	
3,750.0	9.48	180.00	3,693.1	-473.9	0.0	37.8	2.00	-2.00	0.00	
3,800.0	8.48	180.00	3,742.5	-481.7	0.0	38.5	2.00	-2.00	0.00	
3,850.0	7.48	180.00	3,792.0	-488.6	0.0	39.0	2.00	-2.00	0.00	
3,900.0	6.48	180.00	3,841.6	-494.7	0.0	39.5	2.00	-2.00	0.00	
3,950.0	5.48	180.00	3,891.4	-499.9	0.0	39.9	2.00	-2.00	0.00	
4,000.0	4.48	180.00	3,941.2	-504.2	0.0	40.3	2.00	-2.00	0.00	
4,050.0	3.48	180.00	3,991.1	-507.7	0.0	40.5	2.00	-2.00	0.00	
4,100.0	2.48	180.00	4,041.0	-510.3	0.0	40.7	2.00	-2.00	0.00	
4,150.0	1.48	180.00	4,091.0	-512.0	0.0	40.9	2.00	-2.00	0.00	
4,200.0	0.48	180.00	4,141.0	-512.9	0.0	41.0	2.00	-2.00	0.00	
4,224.0	0.00	0.00	4,165.0	-513.0	0.0	41.0	2.00	-2.00	0.00	
4,250.0	0.00	0.00	4,191.0	-513.0	0.0	41.0	0.00	0.00	0.00	
4,300.0	0.00	0.00	4,241.0	-513.0	0.0	41.0	0.00	0.00	0.00	
4,350.0	0.00	0.00	4,291.0	-513.0	0.0	41.0	0.00	0.00	0.00	
4,382.0	0.00	0.00	4,323.0	-513.0	0.0	41.0	0.00	0.00	0.00	
SUSSEX										
4,400.0	0.00	0.00	4,341.0	-513.0	0.0	41.0	0.00	0.00	0.00	
4,450.0	0.00	0.00	4,391.0	-513.0	0.0	41.0	0.00	0.00	0.00	
4,500.0	0.00	0.00	4,441.0	-513.0	0.0	41.0	0.00	0.00	0.00	
4,550.0	0.00	0.00	4,491.0	-513.0	0.0	41.0	0.00	0.00	0.00	
4,600.0	0.00	0.00	4,541.0	-513.0	0.0	41.0	0.00	0.00	0.00	
4,650.0	0.00	0.00	4,591.0	-513.0	0.0	41.0	0.00	0.00	0.00	
4,700.0	0.00	0.00	4,641.0	-513.0	0.0	41.0	0.00	0.00	0.00	
4,750.0	0.00	0.00	4,691.0	-513.0	0.0	41.0	0.00	0.00	0.00	

Noble Energy Inc

Planning Report

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Well:	NCLP AA06-64-1HNC	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Drilling		
Design:	APD - Rev 0		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,800.0	0.00	0.00	4,741.0	-513.0	0.0	41.0	0.00	0.00	0.00
4,850.0	0.00	0.00	4,791.0	-513.0	0.0	41.0	0.00	0.00	0.00
4,900.0	0.00	0.00	4,841.0	-513.0	0.0	41.0	0.00	0.00	0.00
4,950.0	0.00	0.00	4,891.0	-513.0	0.0	41.0	0.00	0.00	0.00
4,962.0	0.00	0.00	4,903.0	-513.0	0.0	41.0	0.00	0.00	0.00
SHANNON									
5,000.0	0.00	0.00	4,941.0	-513.0	0.0	41.0	0.00	0.00	0.00
5,050.0	0.00	0.00	4,991.0	-513.0	0.0	41.0	0.00	0.00	0.00
5,100.0	0.00	0.00	5,041.0	-513.0	0.0	41.0	0.00	0.00	0.00
5,150.0	0.00	0.00	5,091.0	-513.0	0.0	41.0	0.00	0.00	0.00
5,200.0	0.00	0.00	5,141.0	-513.0	0.0	41.0	0.00	0.00	0.00
5,250.0	0.00	0.00	5,191.0	-513.0	0.0	41.0	0.00	0.00	0.00
5,300.0	0.00	0.00	5,241.0	-513.0	0.0	41.0	0.00	0.00	0.00
5,350.0	0.00	0.00	5,291.0	-513.0	0.0	41.0	0.00	0.00	0.00
5,400.0	0.00	0.00	5,341.0	-513.0	0.0	41.0	0.00	0.00	0.00
5,450.0	0.00	0.00	5,391.0	-513.0	0.0	41.0	0.00	0.00	0.00
5,500.0	0.00	0.00	5,441.0	-513.0	0.0	41.0	0.00	0.00	0.00
5,550.0	0.00	0.00	5,491.0	-513.0	0.0	41.0	0.00	0.00	0.00
5,600.0	0.00	0.00	5,541.0	-513.0	0.0	41.0	0.00	0.00	0.00
5,650.0	0.00	0.00	5,591.0	-513.0	0.0	41.0	0.00	0.00	0.00
5,700.0	0.00	0.00	5,641.0	-513.0	0.0	41.0	0.00	0.00	0.00
5,750.0	0.00	0.00	5,691.0	-513.0	0.0	41.0	0.00	0.00	0.00
5,800.0	0.00	0.00	5,741.0	-513.0	0.0	41.0	0.00	0.00	0.00
5,826.0	0.00	0.00	5,767.0	-513.0	0.0	41.0	0.00	0.00	0.00
TEEPEE BUTTES									
5,850.0	0.00	0.00	5,791.0	-513.0	0.0	41.0	0.00	0.00	0.00
5,900.0	0.00	0.00	5,841.0	-513.0	0.0	41.0	0.00	0.00	0.00
5,950.0	0.00	0.00	5,891.0	-513.0	0.0	41.0	0.00	0.00	0.00
6,000.0	0.00	0.00	5,941.0	-513.0	0.0	41.0	0.00	0.00	0.00
6,050.0	0.00	0.00	5,991.0	-513.0	0.0	41.0	0.00	0.00	0.00
6,073.6	0.00	0.00	6,014.6	-513.0	0.0	41.0	0.00	0.00	0.00
KOP #2 - Start Build 8.00									
6,100.0	2.11	268.35	6,041.0	-513.0	-0.5	41.4	7.99	7.99	0.00
6,150.0	6.11	268.35	6,090.8	-513.1	-4.1	45.0	8.00	8.00	0.00
6,200.0	10.11	268.35	6,140.3	-513.3	-11.1	52.1	8.00	8.00	0.00
6,250.0	14.11	268.35	6,189.2	-513.6	-21.6	62.5	8.00	8.00	0.00
6,300.0	18.11	268.35	6,237.2	-514.0	-35.5	76.4	8.00	8.00	0.00
6,350.0	22.11	268.35	6,284.1	-514.5	-52.6	93.6	8.00	8.00	0.00
6,400.0	26.11	268.35	6,329.8	-515.1	-73.1	113.9	8.00	8.00	0.00
6,450.0	30.11	268.35	6,373.9	-515.8	-96.6	137.5	8.00	8.00	0.00
6,500.0	34.11	268.35	6,416.2	-516.5	-123.2	164.0	8.00	8.00	0.00
6,550.0	38.11	268.35	6,456.6	-517.4	-152.6	193.4	8.00	8.00	0.00
6,600.0	42.11	268.35	6,494.8	-518.3	-184.8	225.6	8.00	8.00	0.00
6,613.8	43.21	268.35	6,505.0	-518.6	-194.2	234.9	8.00	8.00	0.00
SHARON SPRINGS									
6,650.0	46.11	268.35	6,530.7	-519.3	-219.6	260.3	8.00	8.00	0.00
6,663.5	47.19	268.35	6,540.0	-519.6	-229.4	270.1	8.00	8.00	0.00
NIOBRARA - NIO A CHALK									
6,695.2	49.72	268.35	6,561.0	-520.3	-253.1	293.8	8.00	8.00	0.00
NIO A MARL									
6,700.0	50.11	268.35	6,564.1	-520.4	-256.8	297.5	8.00	8.00	0.00
6,750.0	54.11	268.35	6,594.8	-521.5	-296.2	336.9	8.00	8.00	0.00
6,800.0	58.11	268.35	6,622.7	-522.7	-337.7	378.3	8.00	8.00	0.00

Noble Energy Inc

Planning Report

Database:	EDM Production	Local Co-ordinate Reference:	Well NCLP AA06-64-1HNC
Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4735.0usft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4735.0usft (Original Well Elev)
Site:	AA (06N-63W)	North Reference:	Grid
Well:	NCLP AA06-64-1HNC	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Drilling		
Design:	APD - Rev 0		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
6,824.0	60.03	268.35	6,635.0	-523.3	-358.2	398.9	8.00	8.00	0.00
NIO B CHALK									
6,850.0	62.11	268.35	6,647.6	-524.0	-381.0	421.6	8.00	8.00	0.00
6,896.5	65.83	268.35	6,668.0	-525.2	-422.8	463.3	8.00	8.00	0.00
NIO B MARL									
6,900.0	66.11	268.35	6,669.4	-525.3	-426.0	466.5	8.00	8.00	0.00
6,950.0	70.11	268.35	6,688.1	-526.6	-472.3	512.9	8.00	8.00	0.00
7,000.0	74.11	268.35	6,703.4	-528.0	-519.9	560.4	8.00	8.00	0.00
7,005.8	74.58	268.35	6,705.0	-528.1	-525.5	566.0	8.00	8.00	0.00
NIO C CHALK									
7,050.0	78.11	268.35	6,715.4	-529.4	-568.4	608.8	8.00	8.00	0.00
7,100.0	82.11	268.35	6,724.0	-530.8	-617.6	658.0	8.00	8.00	0.00
7,136.1	85.00	268.35	6,728.1	-531.8	-653.5	693.8	8.00	8.00	0.00
Start 75.0 hold at 7136.1 MD - 7" Casing @ 7136.1' MD									
7,150.0	85.00	268.35	6,729.3	-532.2	-667.3	707.7	0.02	0.02	0.00
7,200.0	85.00	268.35	6,733.6	-533.7	-717.1	757.4	0.00	0.00	0.00
7,211.1	85.00	268.35	6,734.6	-534.0	-728.2	768.5	0.00	0.00	0.00
Start Build 8.00									
7,250.0	88.11	268.35	6,736.9	-535.1	-767.0	807.2	7.99	7.99	0.00
7,269.9	89.70	268.35	6,737.3	-535.7	-786.8	827.1	8.00	8.00	0.00
7,300.0	89.70	268.35	6,737.5	-536.5	-816.9	857.2	0.00	0.00	0.00
7,350.0	89.70	268.35	6,737.7	-538.0	-866.9	907.1	0.00	0.00	0.00
7,400.0	89.70	268.35	6,738.0	-539.4	-916.9	957.0	0.00	0.00	0.00
7,450.0	89.70	268.35	6,738.3	-540.9	-966.9	1,007.0	0.00	0.00	0.00
7,500.0	89.70	268.35	6,738.5	-542.3	-1,016.8	1,056.9	0.00	0.00	0.00
7,550.0	89.70	268.35	6,738.8	-543.7	-1,066.8	1,106.8	0.00	0.00	0.00
7,600.0	89.70	268.35	6,739.0	-545.2	-1,116.8	1,156.8	0.00	0.00	0.00
7,650.0	89.70	268.35	6,739.3	-546.6	-1,166.8	1,206.7	0.00	0.00	0.00
7,700.0	89.70	268.35	6,739.6	-548.1	-1,216.8	1,256.6	0.00	0.00	0.00
7,750.0	89.70	268.35	6,739.8	-549.5	-1,266.7	1,306.6	0.00	0.00	0.00
7,800.0	89.70	268.35	6,740.1	-550.9	-1,316.7	1,356.5	0.00	0.00	0.00
7,850.0	89.70	268.35	6,740.4	-552.4	-1,366.7	1,406.4	0.00	0.00	0.00
7,900.0	89.70	268.35	6,740.6	-553.8	-1,416.7	1,456.4	0.00	0.00	0.00
7,950.0	89.70	268.35	6,740.9	-555.3	-1,466.7	1,506.3	0.00	0.00	0.00
8,000.0	89.70	268.35	6,741.1	-556.7	-1,516.6	1,556.2	0.00	0.00	0.00
8,050.0	89.70	268.35	6,741.4	-558.1	-1,566.6	1,606.2	0.00	0.00	0.00
8,100.0	89.70	268.35	6,741.7	-559.6	-1,616.6	1,656.1	0.00	0.00	0.00
8,150.0	89.70	268.35	6,741.9	-561.0	-1,666.6	1,706.0	0.00	0.00	0.00
8,200.0	89.70	268.35	6,742.2	-562.5	-1,716.5	1,756.0	0.00	0.00	0.00
8,250.0	89.70	268.35	6,742.5	-563.9	-1,766.5	1,805.9	0.00	0.00	0.00
8,300.0	89.70	268.35	6,742.7	-565.3	-1,816.5	1,855.8	0.00	0.00	0.00
8,350.0	89.70	268.35	6,743.0	-566.8	-1,866.5	1,905.8	0.00	0.00	0.00
8,400.0	89.70	268.35	6,743.2	-568.2	-1,916.5	1,955.7	0.00	0.00	0.00
8,450.0	89.70	268.35	6,743.5	-569.7	-1,966.4	2,005.6	0.00	0.00	0.00
8,500.0	89.70	268.35	6,743.8	-571.1	-2,016.4	2,055.6	0.00	0.00	0.00
8,550.0	89.70	268.35	6,744.0	-572.5	-2,066.4	2,105.5	0.00	0.00	0.00
8,600.0	89.70	268.35	6,744.3	-574.0	-2,116.4	2,155.4	0.00	0.00	0.00
8,650.0	89.70	268.35	6,744.5	-575.4	-2,166.4	2,205.4	0.00	0.00	0.00
8,700.0	89.70	268.35	6,744.8	-576.9	-2,216.3	2,255.3	0.00	0.00	0.00
8,750.0	89.70	268.35	6,745.1	-578.3	-2,266.3	2,305.3	0.00	0.00	0.00
8,800.0	89.70	268.35	6,745.3	-579.7	-2,316.3	2,355.2	0.00	0.00	0.00
8,850.0	89.70	268.35	6,745.6	-581.2	-2,366.3	2,405.1	0.00	0.00	0.00
8,900.0	89.70	268.35	6,745.9	-582.6	-2,416.2	2,455.1	0.00	0.00	0.00

Noble Energy Inc

Planning Report

Database:	EDM Production	Local Co-ordinate Reference:	Well NCLP AA06-64-1HNC
Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4735.0usft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4735.0usft (Original Well Elev)
Site:	AA (06N-63W)	North Reference:	Grid
Well:	NCLP AA06-64-1HNC	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Drilling		
Design:	APD - Rev 0		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
8,950.0	89.70	268.35	6,746.1	-584.1	-2,466.2	2,505.0	0.00	0.00	0.00	
9,000.0	89.70	268.35	6,746.4	-585.5	-2,516.2	2,554.9	0.00	0.00	0.00	
9,050.0	89.70	268.35	6,746.6	-587.0	-2,566.2	2,604.9	0.00	0.00	0.00	
9,100.0	89.70	268.35	6,746.9	-588.4	-2,616.2	2,654.8	0.00	0.00	0.00	
9,150.0	89.70	268.35	6,747.2	-589.8	-2,666.1	2,704.7	0.00	0.00	0.00	
9,200.0	89.70	268.35	6,747.4	-591.3	-2,716.1	2,754.7	0.00	0.00	0.00	
9,250.0	89.70	268.35	6,747.7	-592.7	-2,766.1	2,804.6	0.00	0.00	0.00	
9,300.0	89.70	268.35	6,747.9	-594.2	-2,816.1	2,854.5	0.00	0.00	0.00	
9,350.0	89.70	268.35	6,748.2	-595.6	-2,866.1	2,904.5	0.00	0.00	0.00	
9,400.0	89.70	268.35	6,748.5	-597.0	-2,916.0	2,954.4	0.00	0.00	0.00	
9,450.0	89.70	268.35	6,748.7	-598.5	-2,966.0	3,004.3	0.00	0.00	0.00	
9,500.0	89.70	268.35	6,749.0	-599.9	-3,016.0	3,054.3	0.00	0.00	0.00	
9,500.9	89.70	268.35	6,749.0	-599.9	-3,016.9	3,055.2	0.00	0.00	0.00	
NIO C MARL										
9,550.0	89.70	268.35	6,749.3	-601.4	-3,066.0	3,104.2	0.00	0.00	0.00	
9,600.0	89.70	268.35	6,749.5	-602.8	-3,115.9	3,154.1	0.00	0.00	0.00	
9,650.0	89.70	268.35	6,749.8	-604.2	-3,165.9	3,204.1	0.00	0.00	0.00	
9,700.0	89.70	268.35	6,750.0	-605.7	-3,215.9	3,254.0	0.00	0.00	0.00	
9,750.0	89.70	268.35	6,750.3	-607.1	-3,265.9	3,303.9	0.00	0.00	0.00	
9,800.0	89.70	268.35	6,750.6	-608.6	-3,315.9	3,353.9	0.00	0.00	0.00	
9,850.0	89.70	268.35	6,750.8	-610.0	-3,365.8	3,403.8	0.00	0.00	0.00	
9,900.0	89.70	268.35	6,751.1	-611.4	-3,415.8	3,453.7	0.00	0.00	0.00	
9,950.0	89.70	268.35	6,751.4	-612.9	-3,465.8	3,503.7	0.00	0.00	0.00	
10,000.0	89.70	268.35	6,751.6	-614.3	-3,515.8	3,553.6	0.00	0.00	0.00	
10,050.0	89.70	268.35	6,751.9	-615.8	-3,565.8	3,603.5	0.00	0.00	0.00	
10,100.0	89.70	268.35	6,752.1	-617.2	-3,615.7	3,653.5	0.00	0.00	0.00	
10,150.0	89.70	268.35	6,752.4	-618.6	-3,665.7	3,703.4	0.00	0.00	0.00	
10,200.0	89.70	268.35	6,752.7	-620.1	-3,715.7	3,753.3	0.00	0.00	0.00	
10,250.0	89.70	268.35	6,752.9	-621.5	-3,765.7	3,803.3	0.00	0.00	0.00	
10,300.0	89.70	268.35	6,753.2	-623.0	-3,815.6	3,853.2	0.00	0.00	0.00	
10,350.0	89.70	268.35	6,753.4	-624.4	-3,865.6	3,903.1	0.00	0.00	0.00	
10,400.0	89.70	268.35	6,753.7	-625.8	-3,915.6	3,953.1	0.00	0.00	0.00	
10,450.0	89.70	268.35	6,754.0	-627.3	-3,965.6	4,003.0	0.00	0.00	0.00	
10,500.0	89.70	268.35	6,754.2	-628.7	-4,015.6	4,052.9	0.00	0.00	0.00	
10,550.0	89.70	268.35	6,754.5	-630.2	-4,065.5	4,102.9	0.00	0.00	0.00	
10,578.6	89.70	268.35	6,754.6	-631.0	-4,094.1	4,131.4	0.00	0.00	0.00	
Foss USX AA 5-25										
10,600.0	89.70	268.35	6,754.8	-631.6	-4,115.5	4,152.8	0.00	0.00	0.00	
10,650.0	89.70	268.35	6,755.0	-633.0	-4,165.5	4,202.7	0.00	0.00	0.00	
10,700.0	89.70	268.35	6,755.3	-634.5	-4,215.5	4,252.7	0.00	0.00	0.00	
10,750.0	89.70	268.35	6,755.5	-635.9	-4,265.5	4,302.6	0.00	0.00	0.00	
10,800.0	89.70	268.35	6,755.8	-637.4	-4,315.4	4,352.5	0.00	0.00	0.00	
10,850.0	89.70	268.35	6,756.1	-638.8	-4,365.4	4,402.5	0.00	0.00	0.00	
10,900.0	89.70	268.35	6,756.3	-640.2	-4,415.4	4,452.4	0.00	0.00	0.00	
10,950.0	89.70	268.35	6,756.6	-641.7	-4,465.4	4,502.3	0.00	0.00	0.00	
11,000.0	89.70	268.35	6,756.8	-643.1	-4,515.3	4,552.3	0.00	0.00	0.00	
11,050.0	89.70	268.35	6,757.1	-644.6	-4,565.3	4,602.2	0.00	0.00	0.00	
11,100.0	89.70	268.35	6,757.4	-646.0	-4,615.3	4,652.1	0.00	0.00	0.00	
11,150.0	89.70	268.35	6,757.6	-647.4	-4,665.3	4,702.1	0.00	0.00	0.00	
11,186.9	89.70	268.35	6,757.8	-648.5	-4,702.2	4,739.0	0.00	0.00	0.00	
Foss USX AA 5-5										
11,200.0	89.70	268.35	6,757.9	-648.9	-4,715.3	4,752.0	0.00	0.00	0.00	
11,250.0	89.70	268.35	6,758.2	-650.3	-4,765.2	4,802.0	0.00	0.00	0.00	

Noble Energy Inc

Planning Report

Database:	EDM Production	Local Co-ordinate Reference:	Well NCLP AA06-64-1HNC
Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4735.0usft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4735.0usft (Original Well Elev)
Site:	AA (06N-63W)	North Reference:	Grid
Well:	NCLP AA06-64-1HNC	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Drilling		
Design:	APD - Rev 0		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
11,270.6	89.70	268.35	6,758.3	-650.9	-4,785.8	4,822.5	0.00	0.00	0.00
Champlin Amoco 1-309									
11,300.0	89.70	268.35	6,758.4	-651.8	-4,815.2	4,851.9	0.00	0.00	0.00
11,350.0	89.70	268.35	6,758.7	-653.2	-4,865.2	4,901.8	0.00	0.00	0.00
11,400.0	89.70	268.35	6,758.9	-654.6	-4,915.2	4,951.8	0.00	0.00	0.00
11,450.0	89.70	268.35	6,759.2	-656.1	-4,965.2	5,001.7	0.00	0.00	0.00
11,500.0	89.70	268.35	6,759.5	-657.5	-5,015.1	5,051.6	0.00	0.00	0.00
11,550.0	89.70	268.35	6,759.7	-659.0	-5,065.1	5,101.6	0.00	0.00	0.00
11,600.0	89.70	268.35	6,760.0	-660.4	-5,115.1	5,151.5	0.00	0.00	0.00
11,650.0	89.70	268.35	6,760.3	-661.8	-5,165.1	5,201.4	0.00	0.00	0.00
11,700.0	89.70	268.35	6,760.5	-663.3	-5,215.0	5,251.4	0.00	0.00	0.00
11,750.0	89.70	268.35	6,760.8	-664.7	-5,265.0	5,301.3	0.00	0.00	0.00
11,800.0	89.70	268.35	6,761.0	-666.2	-5,315.0	5,351.2	0.00	0.00	0.00
11,850.0	89.70	268.35	6,761.3	-667.6	-5,365.0	5,401.2	0.00	0.00	0.00
11,900.0	89.70	268.35	6,761.6	-669.0	-5,415.0	5,451.1	0.00	0.00	0.00
11,950.0	89.70	268.35	6,761.8	-670.5	-5,464.9	5,501.0	0.00	0.00	0.00
12,000.0	89.70	268.35	6,762.1	-671.9	-5,514.9	5,551.0	0.00	0.00	0.00
12,050.0	89.70	268.35	6,762.3	-673.4	-5,564.9	5,600.9	0.00	0.00	0.00
12,100.0	89.70	268.35	6,762.6	-674.8	-5,614.9	5,650.8	0.00	0.00	0.00
12,150.0	89.70	268.35	6,762.9	-676.2	-5,664.9	5,700.8	0.00	0.00	0.00
12,200.0	89.70	268.35	6,763.1	-677.7	-5,714.8	5,750.7	0.00	0.00	0.00
12,250.0	89.70	268.35	6,763.4	-679.1	-5,764.8	5,800.6	0.00	0.00	0.00
12,300.0	89.70	268.35	6,763.7	-680.6	-5,814.8	5,850.6	0.00	0.00	0.00
12,350.0	89.70	268.35	6,763.9	-682.0	-5,864.8	5,900.5	0.00	0.00	0.00
12,400.0	89.70	268.35	6,764.2	-683.4	-5,914.7	5,950.4	0.00	0.00	0.00
12,450.0	89.70	268.35	6,764.4	-684.9	-5,964.7	6,000.4	0.00	0.00	0.00
12,500.0	89.70	268.35	6,764.7	-686.3	-6,014.7	6,050.3	0.00	0.00	0.00
12,550.0	89.70	268.35	6,765.0	-687.8	-6,064.7	6,100.2	0.00	0.00	0.00
12,600.0	89.70	268.35	6,765.2	-689.2	-6,114.7	6,150.2	0.00	0.00	0.00
12,650.0	89.70	268.35	6,765.5	-690.6	-6,164.6	6,200.1	0.00	0.00	0.00
12,700.0	89.70	268.35	6,765.8	-692.1	-6,214.6	6,250.0	0.00	0.00	0.00
12,750.0	89.70	268.35	6,766.0	-693.5	-6,264.6	6,300.0	0.00	0.00	0.00
12,800.0	89.70	268.35	6,766.3	-695.0	-6,314.6	6,349.9	0.00	0.00	0.00
12,850.0	89.70	268.35	6,766.5	-696.4	-6,364.6	6,399.8	0.00	0.00	0.00
12,900.0	89.70	268.35	6,766.8	-697.9	-6,414.5	6,449.8	0.00	0.00	0.00
12,950.0	89.70	268.35	6,767.1	-699.3	-6,464.5	6,499.7	0.00	0.00	0.00
13,000.0	89.70	268.35	6,767.3	-700.7	-6,514.5	6,549.6	0.00	0.00	0.00
13,050.0	89.70	268.35	6,767.6	-702.2	-6,564.5	6,599.6	0.00	0.00	0.00
13,100.0	89.70	268.35	6,767.8	-703.6	-6,614.4	6,649.5	0.00	0.00	0.00
13,150.0	89.70	268.35	6,768.1	-705.1	-6,664.4	6,699.4	0.00	0.00	0.00
13,200.0	89.70	268.35	6,768.4	-706.5	-6,714.4	6,749.4	0.00	0.00	0.00
13,250.0	89.70	268.35	6,768.6	-707.9	-6,764.4	6,799.3	0.00	0.00	0.00
13,300.0	89.70	268.35	6,768.9	-709.4	-6,814.4	6,849.2	0.00	0.00	0.00
13,350.0	89.70	268.35	6,769.2	-710.8	-6,864.3	6,899.2	0.00	0.00	0.00
13,400.0	89.70	268.35	6,769.4	-712.3	-6,914.3	6,949.1	0.00	0.00	0.00
13,450.0	89.70	268.35	6,769.7	-713.7	-6,964.3	6,999.0	0.00	0.00	0.00
13,500.0	89.70	268.35	6,769.9	-715.1	-7,014.3	7,049.0	0.00	0.00	0.00
13,550.0	89.70	268.35	6,770.2	-716.6	-7,064.3	7,098.9	0.00	0.00	0.00
13,600.0	89.70	268.35	6,770.5	-718.0	-7,114.2	7,148.9	0.00	0.00	0.00
13,650.0	89.70	268.35	6,770.7	-719.5	-7,164.2	7,198.8	0.00	0.00	0.00
13,700.0	89.70	268.35	6,771.0	-720.9	-7,214.2	7,248.7	0.00	0.00	0.00
13,750.0	89.70	268.35	6,771.2	-722.3	-7,264.2	7,298.7	0.00	0.00	0.00
13,800.0	89.70	268.35	6,771.5	-723.8	-7,314.1	7,348.6	0.00	0.00	0.00
13,850.0	89.70	268.35	6,771.8	-725.2	-7,364.1	7,398.5	0.00	0.00	0.00

Noble Energy Inc

Planning Report

Database:	EDM Production	Local Co-ordinate Reference:	Well NCLP AA06-64-1HNC
Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4735.0usft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4735.0usft (Original Well Elev)
Site:	AA (06N-63W)	North Reference:	Grid
Well:	NCLP AA06-64-1HNC	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Drilling		
Design:	APD - Rev 0		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
13,893.6	89.70	268.35	6,772.0	-726.5	-7,407.7	7,442.1	0.00	0.00	0.00
NIO D CHALK									
13,900.0	89.70	268.35	6,772.0	-726.7	-7,414.1	7,448.5	0.00	0.00	0.00
13,950.0	89.70	268.35	6,772.3	-728.1	-7,464.1	7,498.4	0.00	0.00	0.00
14,000.0	89.70	268.35	6,772.6	-729.5	-7,514.1	7,548.3	0.00	0.00	0.00
14,050.0	89.70	268.35	6,772.8	-731.0	-7,564.0	7,598.3	0.00	0.00	0.00
14,100.0	89.70	268.35	6,773.1	-732.4	-7,614.0	7,648.2	0.00	0.00	0.00
14,150.0	89.70	268.35	6,773.3	-733.9	-7,664.0	7,698.1	0.00	0.00	0.00
14,200.0	89.70	268.35	6,773.6	-735.3	-7,714.0	7,748.1	0.00	0.00	0.00
14,250.0	89.70	268.35	6,773.9	-736.7	-7,764.0	7,798.0	0.00	0.00	0.00
14,300.0	89.70	268.35	6,774.1	-738.2	-7,813.9	7,847.9	0.00	0.00	0.00
14,350.0	89.70	268.35	6,774.4	-739.6	-7,863.9	7,897.9	0.00	0.00	0.00
14,400.0	89.70	268.35	6,774.7	-741.1	-7,913.9	7,947.8	0.00	0.00	0.00
14,450.0	89.70	268.35	6,774.9	-742.5	-7,963.9	7,997.7	0.00	0.00	0.00
14,500.0	89.70	268.35	6,775.2	-743.9	-8,013.8	8,047.7	0.00	0.00	0.00
14,550.0	89.70	268.35	6,775.4	-745.4	-8,063.8	8,097.6	0.00	0.00	0.00
14,600.0	89.70	268.35	6,775.7	-746.8	-8,113.8	8,147.5	0.00	0.00	0.00
14,650.0	89.70	268.35	6,776.0	-748.3	-8,163.8	8,197.5	0.00	0.00	0.00
14,700.0	89.70	268.35	6,776.2	-749.7	-8,213.8	8,247.4	0.00	0.00	0.00
14,750.0	89.70	268.35	6,776.5	-751.1	-8,263.7	8,297.3	0.00	0.00	0.00
14,800.0	89.70	268.35	6,776.7	-752.6	-8,313.7	8,347.3	0.00	0.00	0.00
14,850.0	89.70	268.35	6,777.0	-754.0	-8,363.7	8,397.2	0.00	0.00	0.00
14,900.0	89.70	268.35	6,777.3	-755.5	-8,413.7	8,447.1	0.00	0.00	0.00
14,950.0	89.70	268.35	6,777.5	-756.9	-8,463.7	8,497.1	0.00	0.00	0.00
15,000.0	89.70	268.35	6,777.8	-758.3	-8,513.6	8,547.0	0.00	0.00	0.00
15,050.0	89.70	268.35	6,778.1	-759.8	-8,563.6	8,596.9	0.00	0.00	0.00
15,100.0	89.70	268.35	6,778.3	-761.2	-8,613.6	8,646.9	0.00	0.00	0.00
15,150.0	89.70	268.35	6,778.6	-762.7	-8,663.6	8,696.8	0.00	0.00	0.00
15,200.0	89.70	268.35	6,778.8	-764.1	-8,713.5	8,746.7	0.00	0.00	0.00
15,250.0	89.70	268.35	6,779.1	-765.5	-8,763.5	8,796.7	0.00	0.00	0.00
15,300.0	89.70	268.35	6,779.4	-767.0	-8,813.5	8,846.6	0.00	0.00	0.00
15,350.0	89.70	268.35	6,779.6	-768.4	-8,863.5	8,896.5	0.00	0.00	0.00
15,400.0	89.70	268.35	6,779.9	-769.9	-8,913.5	8,946.5	0.00	0.00	0.00
15,450.0	89.70	268.35	6,780.1	-771.3	-8,963.4	8,996.4	0.00	0.00	0.00
15,500.0	89.70	268.35	6,780.4	-772.7	-9,013.4	9,046.3	0.00	0.00	0.00
15,550.0	89.70	268.35	6,780.7	-774.2	-9,063.4	9,096.3	0.00	0.00	0.00
15,600.0	89.70	268.35	6,780.9	-775.6	-9,113.4	9,146.2	0.00	0.00	0.00
15,650.0	89.70	268.35	6,781.2	-777.1	-9,163.4	9,196.1	0.00	0.00	0.00
15,700.0	89.70	268.35	6,781.5	-778.5	-9,213.3	9,246.1	0.00	0.00	0.00
15,750.0	89.70	268.35	6,781.7	-779.9	-9,263.3	9,296.0	0.00	0.00	0.00
15,800.0	89.70	268.35	6,782.0	-781.4	-9,313.3	9,345.9	0.00	0.00	0.00
15,850.0	89.70	268.35	6,782.2	-782.8	-9,363.3	9,395.9	0.00	0.00	0.00
15,900.0	89.70	268.35	6,782.5	-784.3	-9,413.2	9,445.8	0.00	0.00	0.00
15,950.0	89.70	268.35	6,782.8	-785.7	-9,463.2	9,495.7	0.00	0.00	0.00
16,000.0	89.70	268.35	6,783.0	-787.1	-9,513.2	9,545.7	0.00	0.00	0.00
16,050.0	89.70	268.35	6,783.3	-788.6	-9,563.2	9,595.6	0.00	0.00	0.00
16,100.0	89.70	268.35	6,783.6	-790.0	-9,613.2	9,645.6	0.00	0.00	0.00
16,150.0	89.70	268.35	6,783.8	-791.5	-9,663.1	9,695.5	0.00	0.00	0.00
16,200.0	89.70	268.35	6,784.1	-792.9	-9,713.1	9,745.4	0.00	0.00	0.00
16,250.0	89.70	268.35	6,784.3	-794.3	-9,763.1	9,795.4	0.00	0.00	0.00
16,300.0	89.70	268.35	6,784.6	-795.8	-9,813.1	9,845.3	0.00	0.00	0.00
16,350.0	89.70	268.35	6,784.9	-797.2	-9,863.1	9,895.2	0.00	0.00	0.00
16,400.0	89.70	268.35	6,785.1	-798.7	-9,913.0	9,945.2	0.00	0.00	0.00

Noble Energy Inc

Planning Report

Database:	EDM Production	Local Co-ordinate Reference:	Well NCLP AA06-64-1HNC
Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4735.0usft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4735.0usft (Original Well Elev)
Site:	AA (06N-63W)	North Reference:	Grid
Well:	NCLP AA06-64-1HNC	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Drilling		
Design:	APD - Rev 0		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
16,450.0	89.70	268.35	6,785.4	-800.1	-9,963.0	9,995.1	0.00	0.00	0.00
16,491.1	89.70	268.35	6,785.6	-801.3	-10,004.0	10,036.1	0.00	0.00	0.00
TD at 16491.1 - NCLP AA06-64-1HNC BHL 1650'FSL, 535'FWL									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
NCLP AA06-64-1HNC B	0.00	0.00	6,785.6	-801.3	-10,004.0	1,431,182.69	3,281,692.49	40.512580	-104.486870
- plan hits target center									
- Point									

Casing Points									
Measured Depth (usft)	Vertical Depth (usft)	Name				Casing Diameter (")	Hole Diameter (")		
7,136.1	6,728.1	7" Casing @ 7136.1' MD				7	8-3/4		

Formations									
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)				
1,038.0	1,038.0	PIERRE		0.00					
3,576.5	3,523.0	PARKMAN		0.00					
4,382.0	4,323.0	SUSSEX		0.00					
4,962.0	4,903.0	SHANNON		0.00					
5,826.0	5,767.0	TEEPEE BUTTES		0.00					
6,613.8	6,505.0	SHARON SPRINGS		0.00					
6,663.5	6,540.0	NIOBRARA		0.00					
6,663.5	6,540.0	NIO A CHALK		0.00					
6,695.2	6,561.0	NIO A MARL		0.00					
6,824.0	6,635.0	NIO B CHALK		0.00					
6,896.5	6,668.0	NIO B MARL		0.00					
7,005.8	6,705.0	NIO C CHALK		0.00					
9,500.9	6,749.0	NIO C MARL		0.00					
13,893.6	6,772.0	NIO D CHALK		0.00					

Noble Energy Inc

Planning Report

Database:	EDM Production	Local Co-ordinate Reference:	Well NCLP AA06-64-1HNC
Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4735.0usft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4735.0usft (Original Well Elev)
Site:	AA (06N-63W)	North Reference:	Grid
Well:	NCLP AA06-64-1HNC	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Drilling		
Design:	APD - Rev 0		

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,500.0	1,500.0	0.0	0.0	KOP - Start Build 2.00
3,471.7	3,421.3	-414.8	0.0	Start Drop -2.00
6,073.6	6,014.6	-513.0	0.0	KOP #2 - Start Build 8.00
7,136.1	6,728.1	-531.8	-653.5	Start 75.0 hold at 7136.1 MD
7,211.1	6,734.6	-534.0	-728.2	Start Build 8.00
16,491.1	6,785.6	-801.3	-10,004.0	TD at 16491.1

Northern Region Drilling - Working

Wattenberg Field

AA (06N-63W)

NCLP AA06-64-1HNC

Original Drilling

APD - Rev 0

Anticollision Summary Report

04 December, 2013

Noble Energy Inc

Anticollision Summary Report

Company:	Northern Region Drilling - Working	Local Co-ordinate Reference:	Well NCLP AA06-64-1HNC
Project:	Wattenberg Field	TVD Reference:	WELL @ 4735.0usft (Original Well Elev)
Reference Site:	AA (06N-63W)	MD Reference:	WELL @ 4735.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	NCLP AA06-64-1HNC	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	EDM Production
Reference Design:	APD - Rev 0	Offset TVD Reference:	Offset Datum

Reference	APD - Rev 0		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 10,000.0 usft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program	Date	12/4/2013		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	16,491.1	APD - Rev 0 (Original Drilling)	MWD+IFR1+MS_WY	Fixed:v2:Rockies, crustal dec + 3-axis correction

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
A (06N-64W)						
Cecil USX A01-09 - Wellbore #1 - Wellbore #1-As Drilled	16,491.1	6,822.2	1,253.7	1,105.7	8.468	CC, ES, SF
Cecil USX A01-63-1HN - Original Drilling - Original Drilling	16,491.1	11,175.0	1,285.4	992.0	4.381	CC, ES, SF
Cecil USX A01-63HN - Original Drilling - Original Drilling	16,491.1	11,181.0	1,141.4	848.2	3.894	CC, ES, SF
Cecil USX A01-64-1HN - Original Drilling - Original Drilling	16,491.1	11,185.0	1,068.8	946.4	8.737	CC, ES, SF
Cecil USX A01-65-1HN - Original Drilling - Original Drilling	16,491.1	6,558.4	1,061.4	926.5	7.869	CC, ES, SF
Cecil USX A01-66-01HN - Original Drilling - Original Drilling	16,491.1	6,522.1	1,563.3	1,417.4	10.717	CC, ES, SF
Cecil USX A1-16 - Original Drilling - Original Drilling	16,491.1	6,800.0	1,583.2	1,433.0	10.538	CC, ES, SF
Shoemaker PC A12-69HN - Original Drilling - Original Drilling	13,762.7	11,918.0	1,733.2	1,443.1	5.973	CC, ES, SF
AA (06N-63W)						
Cache USX AA05-10 - Wellbore #1 - Wellbore #1 - As Drilled	8,578.5	6,726.3	333.6	290.8	7.791	CC, ES
Cache USX AA05-10 - Wellbore #1 - Wellbore #1 - As Drilled	8,600.0	6,726.3	334.3	291.2	7.760	SF
Cache USX AA05-23 - Wellbore #1 - Wellbore #1 - As Drilled	7,777.2	6,700.0	142.5	108.6	4.202	CC, ES, SF
Champlin Amoco 1-309 - Wellbore #1 - Wellbore #1 - As Drilled	11,266.7	6,723.2	953.3	753.0	4.760	CC, ES
Champlin Amoco 1-309 - Wellbore #1 - Wellbore #1 - As Drilled	11,300.0	6,723.4	953.9	753.2	4.753	SF
Dilka 22-6 - Wellbore #1 - Wellbore #1 - As Drilled	15,075.9	6,780.9	1,608.5	1,479.8	12.504	CC
Dilka 22-6 - Wellbore #1 - Wellbore #1 - As Drilled	15,100.0	6,780.9	1,608.7	1,479.7	12.473	ES
Dilka 22-6 - Wellbore #1 - Wellbore #1 - As Drilled	15,300.0	6,780.5	1,624.0	1,492.3	12.334	SF
Dilka 6-12 - Wellbore #1 - Wellbore #1 - As Drilled	16,491.1	6,755.7	1,731.6	1,583.8	11.718	CC, ES, SF
Foss 6-31 - Wellbore #1 - Wellbore #1 - As Drilled	15,152.6	6,750.0	534.4	404.7	4.119	CC, ES
Foss 6-31 - Wellbore #1 - Wellbore #1 - As Drilled	15,200.0	6,750.0	536.5	406.1	4.115	SF
Foss 6-32 - Wellbore #1 - Wellbore #1 - As Drilled	16,491.1	6,750.0	542.9	395.0	3.671	CC, ES, SF
Foss 6-34 - Wellbore #1 - Wellbore #1 - As Drilled	14,987.7	6,740.0	1,175.5	1,047.9	9.213	CC
Foss 6-34 - Wellbore #1 - Wellbore #1 - As Drilled	15,000.0	6,739.9	1,175.5	1,047.8	9.201	ES
Foss 6-34 - Wellbore #1 - Wellbore #1 - As Drilled	15,100.0	6,739.3	1,180.8	1,051.7	9.146	SF
Foss 6-35 - Wellbore #1 - Wellbore #1 - As Drilled	15,757.1	6,750.0	516.7	378.7	3.743	CC, ES
Foss 6-35 - Wellbore #1 - Wellbore #1 - As Drilled	15,800.0	6,750.0	518.5	379.9	3.740	SF
Foss 6-42 - Wellbore #1 - Wellbore #1 - As Drilled	13,657.6	6,600.0	511.9	404.6	4.772	CC, ES
Foss 6-42 - Wellbore #1 - Wellbore #1 - As Drilled	13,700.0	6,600.0	513.7	405.8	4.763	SF
Foss 6-43 - Wellbore #1 - Wellbore #1 - As Drilled	14,110.7	6,600.0	787.2	672.4	6.858	CC, ES
Foss 6-43 - Wellbore #1 - Wellbore #1 - As Drilled	14,200.0	6,600.0	792.2	676.3	6.831	SF
Foss 6-45 - Wellbore #1 - Wellbore #1 - As Drilled	13,622.6	6,600.0	526.1	418.6	4.893	CC, ES, SF
Foss USX AA 5-11 - Wellbore #1 - Wellbore #1 - As Drilled	9,830.1	6,743.2	528.0	469.5	9.016	CC, ES
Foss USX AA 5-11 - Wellbore #1 - Wellbore #1 - As Drilled	9,900.0	6,739.8	532.6	473.2	8.959	SF
Foss USX AA 5-25 - Wellbore #1 - Wellbore #1 - As Drilled	10,600.7	6,718.6	361.0	292.3	5.257	CC, ES, SF
Hagemister 43-6 - Wellbore #1 - Wellbore #1 - As Drilled	12,523.6	5,885.0	1,006.8	935.1	14.026	CC, ES
Hagemister 43-6 - Wellbore #1 - Wellbore #1 - As Drilled	12,700.0	5,885.0	1,022.2	948.7	13.919	SF

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

Noble Energy Inc
Anticollision Summary Report

Company:	Northern Region Drilling - Working	Local Co-ordinate Reference:	Well NCLP AA06-64-1HNC
Project:	Wattenberg Field	TVD Reference:	WELL @ 4735.0usft (Original Well Elev)
Reference Site:	AA (06N-63W)	MD Reference:	WELL @ 4735.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	NCLP AA06-64-1HNC	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	EDM Production
Reference Design:	APD - Rev 0	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
AA (06N-63W)						
Hagemiester 44-6 - Wellbore #1 - Wellbore #1 - As Drille	12,276.0	6,718.9	834.1	743.1	9.171	CC, ES
Hagemiester 44-6 - Wellbore #1 - Wellbore #1 - As Drille	12,400.0	6,718.9	843.2	750.6	9.105	SF
NCLP AA06-64-1AHNA - Original Drilling - APD - Rev 0	1,500.0	1,500.0	36.4	30.0	5.637	CC
NCLP AA06-64-1AHNA - Original Drilling - APD - Rev 0	16,491.1	16,273.2	252.2	19.2	1.083	Level 2, ES, SF
NCLP AA06-65-1AHNC - Original Drilling - APD - Rev 0	1,500.0	1,500.0	76.5	70.0	11.835	CC, ES
NCLP AA06-65-1AHNC - Original Drilling - APD - Rev 0	16,491.1	16,448.6	710.4	438.1	2.609	SF
NCLP PC AA04-12 - Original Drilling - As Drilled	2,535.8	2,493.5	566.5	511.2	10.249	CC
NCLP PC AA04-12 - Original Drilling - As Drilled	2,700.0	2,652.0	568.1	509.2	9.648	ES
NCLP PC AA04-12 - Original Drilling - As Drilled	6,100.0	6,017.0	661.7	528.1	4.952	SF
NCLP PC AA04-64-1HN - Original Drilling - APD - Rev 0	3,943.1	3,943.8	150.1	131.6	8.100	CC
NCLP PC AA04-64-1HN - Original Drilling - APD - Rev 0	6,000.0	5,999.3	150.6	125.3	5.940	ES
NCLP PC AA04-64-1HN - Original Drilling - APD - Rev 0	6,100.0	6,081.4	157.5	130.7	5.882	SF
NCLP PC AA04-65-1HN - Original Drilling - Original Drilli	0.0	0.0	155.4			
NCLP PC AA04-65-1HN - Original Drilling - Original Drilli	1,000.0	999.7	156.4	152.7	43.225	ES
NCLP PC AA04-65-1HN - Original Drilling - Original Drilli	2,000.0	1,996.0	179.3	172.3	25.616	SF
NCLP PC AA04-65HN - Original Drilling - Original Drilling	0.0	0.0	168.5			
NCLP PC AA04-65HN - Original Drilling - Original Drilling	914.5	914.6	171.3	167.9	50.397	ES
NCLP PC AA04-65HN - Original Drilling - Original Drilling	1,900.0	1,894.6	204.7	198.1	30.855	SF
NCLP USX AA 05-09 - Wellbore #1 - Wellbore #1 - As Dr	7,062.6	6,702.2	318.9	291.1	11.467	CC, ES
NCLP USX AA 05-09 - Wellbore #1 - Wellbore #1 - As Dr	7,100.0	6,708.4	321.0	293.0	11.437	SF
NCLP USX AA 05-16 - Wellbore #1 - Wellbore #1 - As Dr	7,228.6	6,700.0	804.8	775.8	27.839	CC, ES
NCLP USX AA 05-16 - Wellbore #1 - Wellbore #1 - As Dr	7,400.0	6,700.0	822.6	792.4	27.196	SF

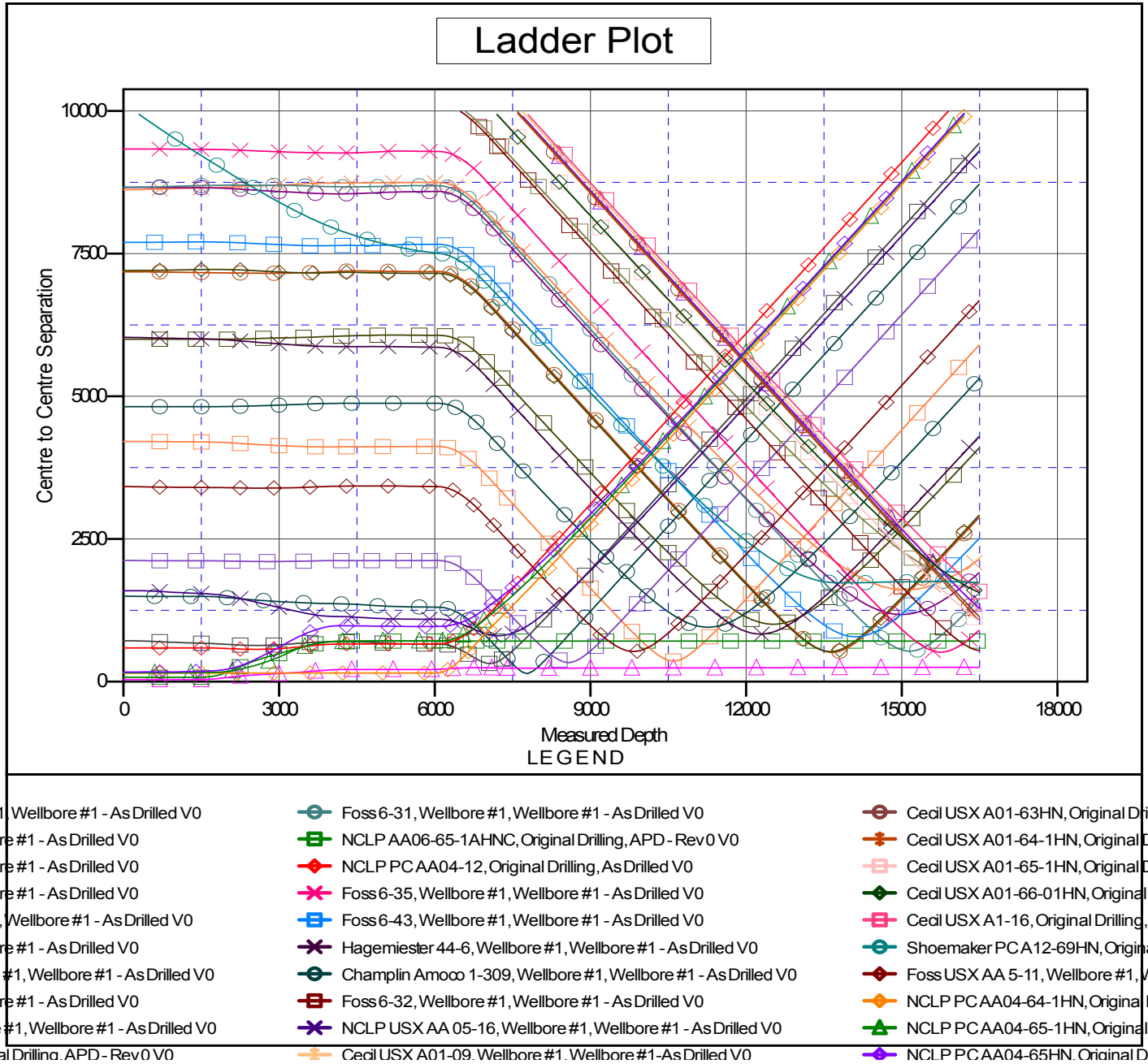
Noble Energy Inc

Anticollision Summary Report

Company:	Northern Region Drilling - Working	Local Co-ordinate Reference:	Well NCLP AA06-64-1HNC
Project:	Wattenberg Field	TVD Reference:	WELL @ 4735.0usft (Original Well Elev)
Reference Site:	AA (06N-63W)	MD Reference:	WELL @ 4735.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	NCLP AA06-64-1HNC	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	EDM Production
Reference Design:	APD - Rev 0	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4735.0usft (Original Well Ele
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000

Coordinates are relative to: NCLP AA06-64-1HNC
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.68°



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

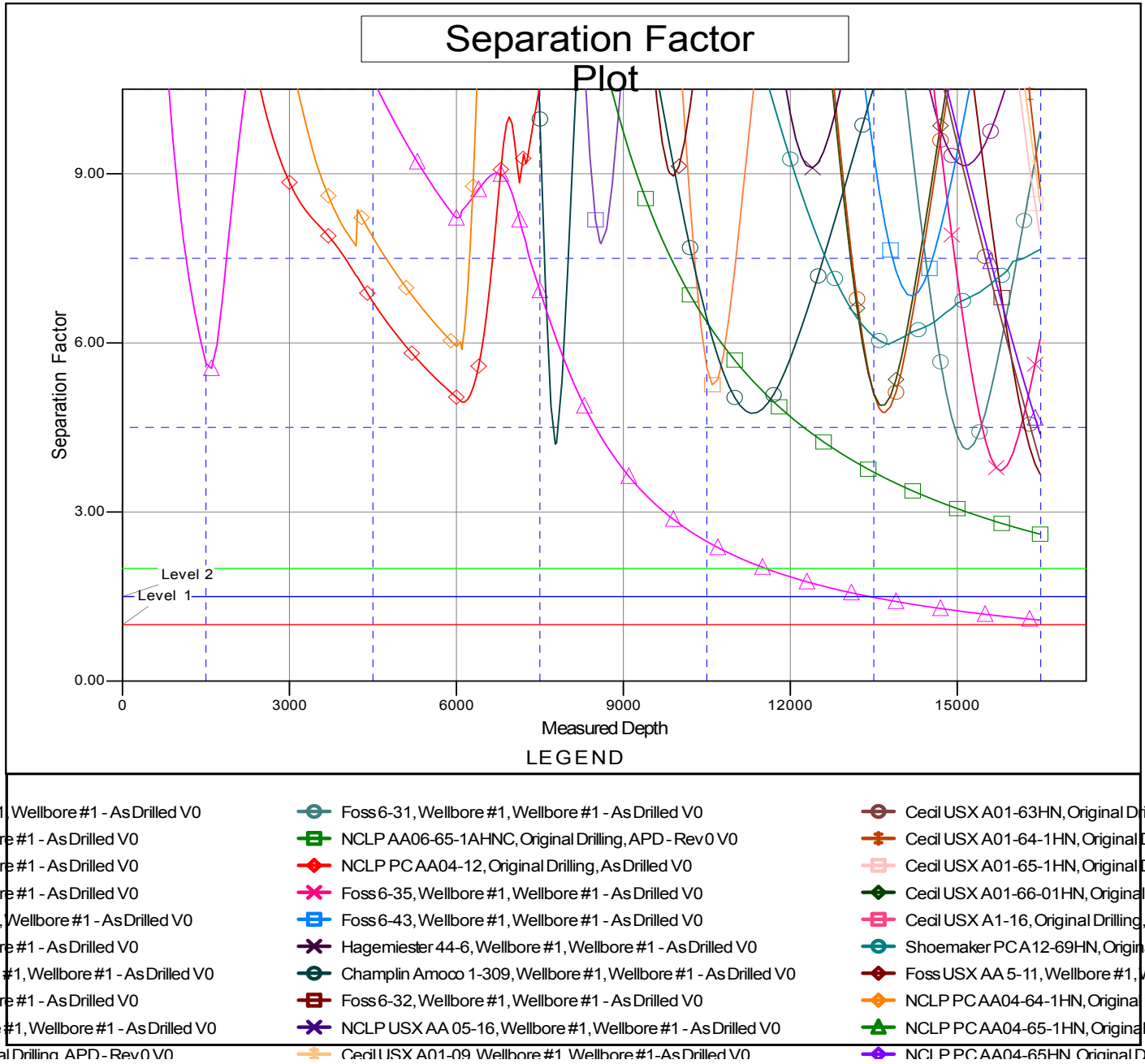
Noble Energy Inc

Anticollision Summary Report

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Reference Depths are relative to WELL @ 4735.0usft (Original Well Ele
Offset Depths are relative to Offset Datum
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