

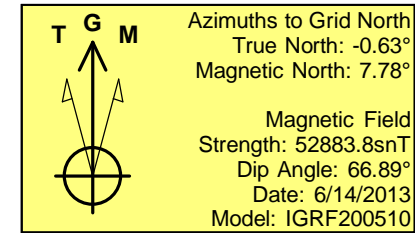
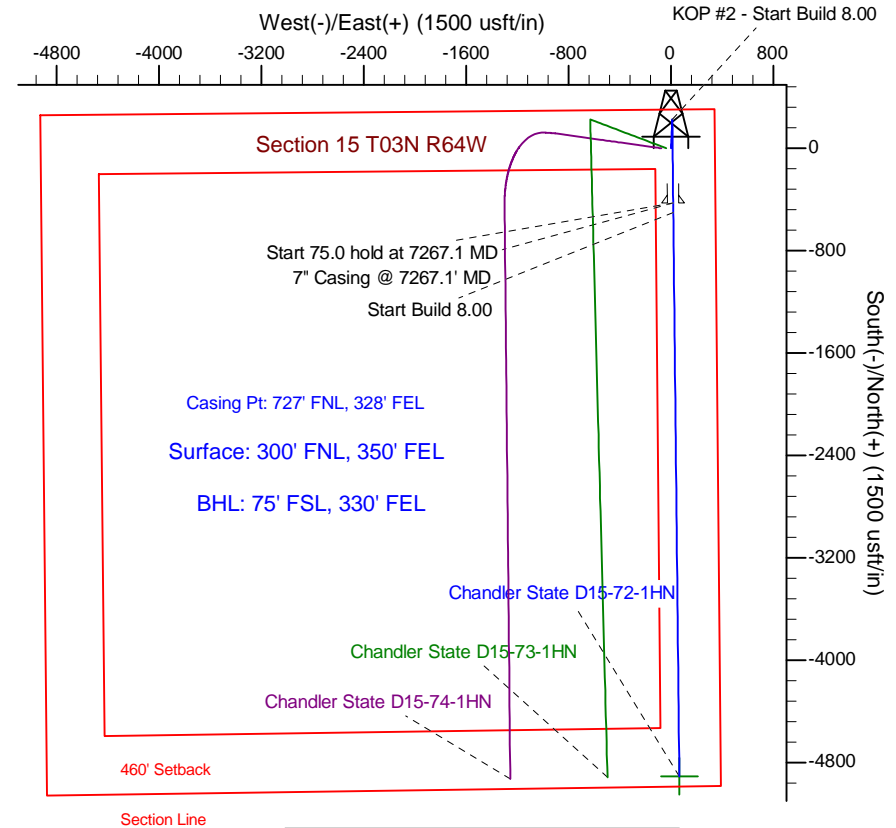
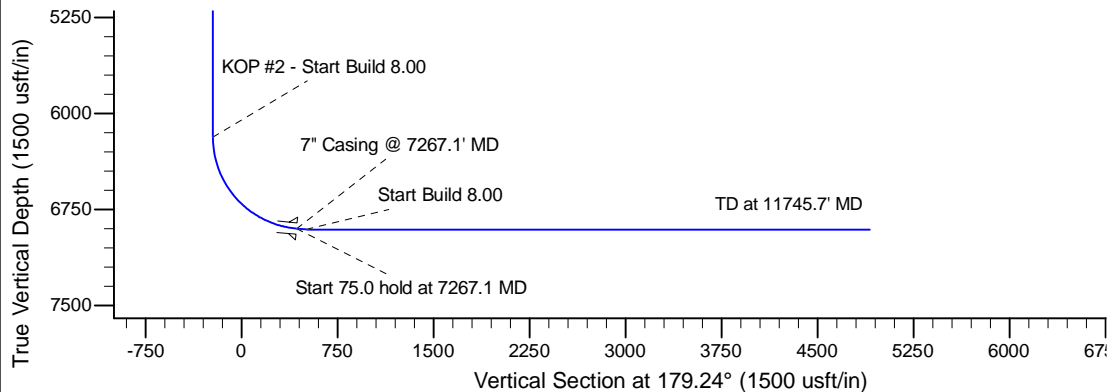
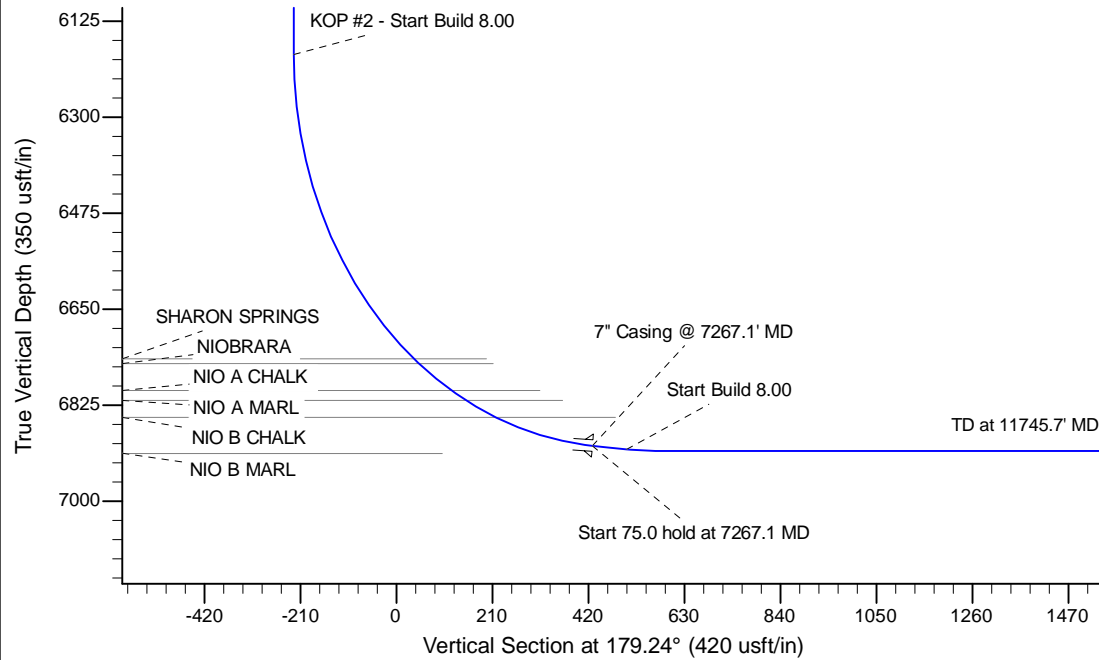
Project: Wattenberg Field
Site: D (Sec.15-T03N-R64W) Weld County, CO
Well: Chandler State D15-72-1HN
Wellbore: Original Drilling
Design: APD - Rev 0

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	V Sect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	1800.0	0.00	0.00	1800.0	0.0	0.0	0.00	0.00	0.0	
3	2402.2	12.04	2.54	2397.8	63.0	2.8	2.00	2.54	-63.0	
4	2877.1	12.04	2.54	2862.2	162.0	7.2	0.00	0.00	-161.9	
5	3479.3	0.00	0.00	3460.0	225.0	10.0	2.00	180.00	-224.8	
6	6204.6	0.00	0.00	6185.3	225.0	10.0	0.00	0.00	-224.8	
7	7267.1	85.00	179.39	6898.7	-428.7	17.0	8.00	179.39	428.9	
8	7342.1	85.00	179.39	6905.3	-503.4	17.8	0.00	0.00	503.6	
9	7404.6	90.00	179.39	6908.0	-565.9	18.5	8.00	0.00	566.1	
10	11745.7	90.00	179.39	6908.0	-4906.7	64.9	0.00	0.00	4907.1	Chandler State D15-72-1HN BHL 75'FSL, 330'FEL



WELL DETAILS: Chandler State D15-72-1HN

		Ground Level: 4786.0	
0.0	0.0	Northing	Easting
		1328781.64	3271073.85
		Latitude	Longitude
		40.231830	-104.529090

Plan: APD - Rev 0 (Chandler State D15-72-1HN/Original Drilling)

Created By: Shailey Jewell Date: 12:15, June 17 2013

Checked: _____ Date: _____

Reviewed: _____ Date: _____

Approved: _____ Date: _____

Northern Region Drilling - Working

Wattenberg Field

D (03N-64W)

Chandler State D15-72-1HN

Original Drilling

Plan: APD - Rev 0

Standard Planning Report

17 June, 2013

Noble Energy Inc

Planning Report

Database:	EDM Production	Local Co-ordinate Reference:	Well Chandler State D15-72-1HN
Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4802.0usft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4802.0usft (Original Well Elev)
Site:	D (03N-64W)	North Reference:	Grid
Well:	Chandler State D15-72-1HN	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		D (03N-64W)			
Site Position:		Northing:	1,325,084.76 usft	Latitude:	40.221831
From:	Map	Easting:	3,266,093.41 usft	Longitude:	-104.547070
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.62 °

Well		Chandler State D15-72-1HN				
Well Position	+N/-S	3,697.0 usft	Northing:	1,328,781.64 usft	Latitude:	40.231830
	+E/-W	4,980.7 usft	Easting:	3,271,073.85 usft	Longitude:	-104.529090
Position Uncertainty		0.0 usft	Wellhead Elevation:		Ground Level:	4,786.0 usft

Wellbore	Original Drilling				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	6/14/2013	8.41	66.89	52,884

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	179.24

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	
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,402.2	12.04	2.54	2,397.8	63.0	2.8	2.00	2.00	0.00	2.54	
2,877.1	12.04	2.54	2,862.2	162.0	7.2	0.00	0.00	0.00	0.00	
3,479.3	0.00	0.00	3,460.0	225.0	10.0	2.00	-2.00	0.00	180.00	
6,204.6	0.00	0.00	6,185.3	225.0	10.0	0.00	0.00	0.00	0.00	
7,267.1	85.00	179.39	6,898.7	-428.7	17.0	8.00	8.00	0.00	179.39	
7,342.1	85.00	179.39	6,905.3	-503.4	17.8	0.00	0.00	0.00	0.00	
7,404.6	90.00	179.39	6,908.0	-565.9	18.5	8.00	8.00	0.00	0.00	
11,745.7	90.00	179.39	6,908.0	-4,906.7	64.9	0.00	0.00	0.00	0.00	Chandler State D15-7

Noble Energy Inc

Planning Report

Database:	EDM Production	Local Co-ordinate Reference:	Well Chandler State D15-72-1HN
Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4802.0usft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4802.0usft (Original Well Elev)
Site:	D (03N-64W)	North Reference:	Grid
Well:	Chandler State D15-72-1HN	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
1,050.0	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
1,550.0	0.00	0.00	1,550.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,650.0	0.00	0.00	1,650.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,750.0	0.00	0.00	1,750.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
KOP - Start Build 2.00									
1,850.0	1.00	2.54	1,850.0	0.4	0.0	-0.4	2.00	2.00	0.00
1,900.0	2.00	2.54	1,900.0	1.7	0.1	-1.7	2.00	2.00	0.00
1,950.0	3.00	2.54	1,949.9	3.9	0.2	-3.9	2.00	2.00	0.00
2,000.0	4.00	2.54	1,999.8	7.0	0.3	-7.0	2.00	2.00	0.00
2,050.0	5.00	2.54	2,049.7	10.9	0.5	-10.9	2.00	2.00	0.00
2,100.0	6.00	2.54	2,099.5	15.7	0.7	-15.7	2.00	2.00	0.00
2,150.0	7.00	2.54	2,149.1	21.3	0.9	-21.3	2.00	2.00	0.00
2,200.0	8.00	2.54	2,198.7	27.9	1.2	-27.8	2.00	2.00	0.00
2,250.0	9.00	2.54	2,248.2	35.2	1.6	-35.2	2.00	2.00	0.00
2,300.0	10.00	2.54	2,297.5	43.5	1.9	-43.5	2.00	2.00	0.00
2,350.0	11.00	2.54	2,346.6	52.6	2.3	-52.5	2.00	2.00	0.00
2,400.0	12.00	2.54	2,395.6	62.5	2.8	-62.5	2.00	2.00	0.00
2,402.2	12.04	2.54	2,397.8	63.0	2.8	-63.0	2.00	2.00	0.00
2,450.0	12.04	2.54	2,444.5	73.0	3.2	-72.9	0.00	0.00	0.00
2,500.0	12.04	2.54	2,493.4	83.4	3.7	-83.3	0.00	0.00	0.00
2,550.0	12.04	2.54	2,542.3	93.8	4.2	-93.7	0.00	0.00	0.00

Noble Energy Inc

Planning Report

Database:	EDM Production	Local Co-ordinate Reference:	Well Chandler State D15-72-1HN
Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4802.0usft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4802.0usft (Original Well Elev)
Site:	D (03N-64W)	North Reference:	Grid
Well:	Chandler State D15-72-1HN	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)
2,600.0	12.04	2.54	2,591.2	104.2	4.6	-104.2	0.00	0.00	0.00
2,650.0	12.04	2.54	2,640.1	114.7	5.1	-114.6	0.00	0.00	0.00
2,700.0	12.04	2.54	2,689.0	125.1	5.6	-125.0	0.00	0.00	0.00
2,750.0	12.04	2.54	2,737.9	135.5	6.0	-135.4	0.00	0.00	0.00
2,800.0	12.04	2.54	2,786.8	145.9	6.5	-145.8	0.00	0.00	0.00
2,850.0	12.04	2.54	2,835.7	156.4	6.9	-156.2	0.00	0.00	0.00
2,877.1	12.04	2.54	2,862.2	162.0	7.2	-161.9	0.00	0.00	0.00
Start Drop -2.00									
2,900.0	11.59	2.54	2,884.6	166.7	7.4	-166.6	2.00	-2.00	0.00
2,950.0	10.59	2.54	2,933.7	176.3	7.8	-176.2	2.00	-2.00	0.00
3,000.0	9.59	2.54	2,982.9	185.0	8.2	-184.9	2.00	-2.00	0.00
3,050.0	8.59	2.54	3,032.3	192.9	8.6	-192.8	2.00	-2.00	0.00
3,100.0	7.59	2.54	3,081.8	200.0	8.9	-199.8	2.00	-2.00	0.00
3,150.0	6.59	2.54	3,131.4	206.1	9.2	-206.0	2.00	-2.00	0.00
3,200.0	5.59	2.54	3,181.1	211.4	9.4	-211.3	2.00	-2.00	0.00
3,250.0	4.59	2.54	3,230.9	215.8	9.6	-215.7	2.00	-2.00	0.00
3,300.0	3.59	2.54	3,280.8	219.4	9.8	-219.2	2.00	-2.00	0.00
3,350.0	2.59	2.54	3,330.7	222.1	9.9	-221.9	2.00	-2.00	0.00
3,400.0	1.59	2.54	3,380.7	223.9	10.0	-223.8	2.00	-2.00	0.00
3,418.3	1.22	2.54	3,399.0	224.4	10.0	-224.2	2.00	-2.00	0.00
PIERRE									
3,450.0	0.59	2.54	3,430.7	224.9	10.0	-224.7	2.00	-2.00	0.00
3,479.3	0.00	0.00	3,460.0	225.0	10.0	-224.8	2.00	-2.00	0.00
3,500.0	0.00	0.00	3,480.7	225.0	10.0	-224.8	0.00	0.00	0.00
3,550.0	0.00	0.00	3,530.7	225.0	10.0	-224.8	0.00	0.00	0.00
3,600.0	0.00	0.00	3,580.7	225.0	10.0	-224.8	0.00	0.00	0.00
3,650.0	0.00	0.00	3,630.7	225.0	10.0	-224.8	0.00	0.00	0.00
3,700.0	0.00	0.00	3,680.7	225.0	10.0	-224.8	0.00	0.00	0.00
3,750.0	0.00	0.00	3,730.7	225.0	10.0	-224.8	0.00	0.00	0.00
3,800.0	0.00	0.00	3,780.7	225.0	10.0	-224.8	0.00	0.00	0.00
3,850.0	0.00	0.00	3,830.7	225.0	10.0	-224.8	0.00	0.00	0.00
3,900.0	0.00	0.00	3,880.7	225.0	10.0	-224.8	0.00	0.00	0.00
3,950.0	0.00	0.00	3,930.7	225.0	10.0	-224.8	0.00	0.00	0.00
4,000.0	0.00	0.00	3,980.7	225.0	10.0	-224.8	0.00	0.00	0.00
4,050.0	0.00	0.00	4,030.7	225.0	10.0	-224.8	0.00	0.00	0.00
4,100.0	0.00	0.00	4,080.7	225.0	10.0	-224.8	0.00	0.00	0.00
4,150.0	0.00	0.00	4,130.7	225.0	10.0	-224.8	0.00	0.00	0.00
4,200.0	0.00	0.00	4,180.7	225.0	10.0	-224.8	0.00	0.00	0.00
4,250.0	0.00	0.00	4,230.7	225.0	10.0	-224.8	0.00	0.00	0.00
4,300.0	0.00	0.00	4,280.7	225.0	10.0	-224.8	0.00	0.00	0.00
4,350.0	0.00	0.00	4,330.7	225.0	10.0	-224.8	0.00	0.00	0.00
4,400.0	0.00	0.00	4,380.7	225.0	10.0	-224.8	0.00	0.00	0.00
4,450.0	0.00	0.00	4,430.7	225.0	10.0	-224.8	0.00	0.00	0.00
4,458.3	0.00	0.00	4,439.0	225.0	10.0	-224.8	0.00	0.00	0.00
PARKMAN									
4,500.0	0.00	0.00	4,480.7	225.0	10.0	-224.8	0.00	0.00	0.00
4,550.0	0.00	0.00	4,530.7	225.0	10.0	-224.8	0.00	0.00	0.00
4,600.0	0.00	0.00	4,580.7	225.0	10.0	-224.8	0.00	0.00	0.00
4,650.0	0.00	0.00	4,630.7	225.0	10.0	-224.8	0.00	0.00	0.00
4,700.0	0.00	0.00	4,680.7	225.0	10.0	-224.8	0.00	0.00	0.00
4,750.0	0.00	0.00	4,730.7	225.0	10.0	-224.8	0.00	0.00	0.00
4,800.0	0.00	0.00	4,780.7	225.0	10.0	-224.8	0.00	0.00	0.00
4,850.0	0.00	0.00	4,830.7	225.0	10.0	-224.8	0.00	0.00	0.00

Noble Energy Inc

Planning Report

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Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4802.0usft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4802.0usft (Original Well Elev)
Site:	D (03N-64W)	North Reference:	Grid
Well:	Chandler State D15-72-1HN	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)
4,900.0	0.00	0.00	4,880.7	225.0	10.0	-224.8	0.00	0.00	0.00
4,950.0	0.00	0.00	4,930.7	225.0	10.0	-224.8	0.00	0.00	0.00
5,000.0	0.00	0.00	4,980.7	225.0	10.0	-224.8	0.00	0.00	0.00
5,050.0	0.00	0.00	5,030.7	225.0	10.0	-224.8	0.00	0.00	0.00
5,087.3	0.00	0.00	5,068.0	225.0	10.0	-224.8	0.00	0.00	0.00
SUSSEX									
5,100.0	0.00	0.00	5,080.7	225.0	10.0	-224.8	0.00	0.00	0.00
5,150.0	0.00	0.00	5,130.7	225.0	10.0	-224.8	0.00	0.00	0.00
5,200.0	0.00	0.00	5,180.7	225.0	10.0	-224.8	0.00	0.00	0.00
5,250.0	0.00	0.00	5,230.7	225.0	10.0	-224.8	0.00	0.00	0.00
5,300.0	0.00	0.00	5,280.7	225.0	10.0	-224.8	0.00	0.00	0.00
5,350.0	0.00	0.00	5,330.7	225.0	10.0	-224.8	0.00	0.00	0.00
5,400.0	0.00	0.00	5,380.7	225.0	10.0	-224.8	0.00	0.00	0.00
5,450.0	0.00	0.00	5,430.7	225.0	10.0	-224.8	0.00	0.00	0.00
5,500.0	0.00	0.00	5,480.7	225.0	10.0	-224.8	0.00	0.00	0.00
5,523.3	0.00	0.00	5,504.0	225.0	10.0	-224.8	0.00	0.00	0.00
SHANNON									
5,550.0	0.00	0.00	5,530.7	225.0	10.0	-224.8	0.00	0.00	0.00
5,600.0	0.00	0.00	5,580.7	225.0	10.0	-224.8	0.00	0.00	0.00
5,650.0	0.00	0.00	5,630.7	225.0	10.0	-224.8	0.00	0.00	0.00
5,700.0	0.00	0.00	5,680.7	225.0	10.0	-224.8	0.00	0.00	0.00
5,750.0	0.00	0.00	5,730.7	225.0	10.0	-224.8	0.00	0.00	0.00
5,800.0	0.00	0.00	5,780.7	225.0	10.0	-224.8	0.00	0.00	0.00
5,850.0	0.00	0.00	5,830.7	225.0	10.0	-224.8	0.00	0.00	0.00
5,900.0	0.00	0.00	5,880.7	225.0	10.0	-224.8	0.00	0.00	0.00
5,950.0	0.00	0.00	5,930.7	225.0	10.0	-224.8	0.00	0.00	0.00
6,000.0	0.00	0.00	5,980.7	225.0	10.0	-224.8	0.00	0.00	0.00
6,050.0	0.00	0.00	6,030.7	225.0	10.0	-224.8	0.00	0.00	0.00
6,098.3	0.00	0.00	6,079.0	225.0	10.0	-224.8	0.00	0.00	0.00
TEEPEE BUTTES									
6,100.0	0.00	0.00	6,080.7	225.0	10.0	-224.8	0.00	0.00	0.00
6,150.0	0.00	0.00	6,130.7	225.0	10.0	-224.8	0.00	0.00	0.00
6,200.0	0.00	0.00	6,180.7	225.0	10.0	-224.8	0.00	0.00	0.00
6,204.6	0.00	0.00	6,185.3	225.0	10.0	-224.8	0.00	0.00	0.00
KOP #2 - Start Build 8.00									
6,250.0	3.63	179.39	6,230.7	223.6	10.0	-223.4	8.01	8.01	0.00
6,300.0	7.63	179.39	6,280.4	218.7	10.1	-218.5	8.00	8.00	0.00
6,350.0	11.63	179.39	6,329.7	210.3	10.2	-210.1	8.00	8.00	0.00
6,400.0	15.63	179.39	6,378.3	198.5	10.3	-198.3	8.00	8.00	0.00
6,450.0	19.63	179.39	6,425.9	183.4	10.4	-183.2	8.00	8.00	0.00
6,500.0	23.63	179.39	6,472.4	164.9	10.6	-164.8	8.00	8.00	0.00
6,550.0	27.63	179.39	6,517.5	143.3	10.9	-143.1	8.00	8.00	0.00
6,600.0	31.63	179.39	6,560.9	118.6	11.1	-118.4	8.00	8.00	0.00
6,650.0	35.63	179.39	6,602.5	90.9	11.4	-90.7	8.00	8.00	0.00
6,700.0	39.63	179.39	6,642.1	60.4	11.8	-60.2	8.00	8.00	0.00
6,750.0	43.63	179.39	6,679.5	27.2	12.1	-27.0	8.00	8.00	0.00
6,800.0	47.63	179.39	6,714.4	-8.6	12.5	8.7	8.00	8.00	0.00
6,839.1	50.76	179.39	6,740.0	-38.2	12.8	38.3	8.00	8.00	0.00
SHARON SPRINGS									
6,850.0	51.63	179.39	6,746.8	-46.7	12.9	46.8	8.00	8.00	0.00
6,853.5	51.92	179.39	6,749.0	-49.4	12.9	49.6	8.00	8.00	0.00
NIOBRARA									
6,900.0	55.63	179.39	6,776.5	-86.9	13.3	87.1	8.00	8.00	0.00

Noble Energy Inc

Planning Report

Database:	EDM Production	Local Co-ordinate Reference:	Well Chandler State D15-72-1HN
Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4802.0usft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4802.0usft (Original Well Elev)
Site:	D (03N-64W)	North Reference:	Grid
Well:	Chandler State D15-72-1HN	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)	
6,939.8	58.82	179.39	6,798.0	-120.4	13.7	120.5	8.00	8.00	0.00	
NIO A CHALK										
6,950.0	59.63	179.39	6,803.2	-129.1	13.8	129.3	8.00	8.00	0.00	
6,976.1	61.72	179.39	6,816.0	-151.9	14.0	152.1	8.00	8.00	0.00	
NIO A MARL										
7,000.0	63.63	179.39	6,827.0	-173.1	14.3	173.3	8.00	8.00	0.00	
7,048.5	67.51	179.39	6,847.0	-217.2	14.7	217.4	8.00	8.00	0.00	
NIO B CHALK										
7,050.0	67.63	179.39	6,847.6	-218.6	14.7	218.8	8.00	8.00	0.00	
7,100.0	71.63	179.39	6,865.0	-265.5	15.2	265.7	8.00	8.00	0.00	
7,150.0	75.63	179.39	6,879.1	-313.5	15.8	313.7	8.00	8.00	0.00	
7,200.0	79.63	179.39	6,889.8	-362.3	16.3	362.5	8.00	8.00	0.00	
7,250.0	83.63	179.39	6,897.0	-411.8	16.8	411.9	8.00	8.00	0.00	
7,267.1	85.00	179.39	6,898.7	-428.8	17.0	429.0	7.99	7.99	0.00	
Start 75.0 hold at 7267.1 MD - 7" Casing @ 7267.1' MD										
7,300.0	85.00	179.39	6,901.6	-461.5	17.3	461.7	0.00	0.00	0.00	
7,342.1	85.00	179.39	6,905.3	-503.5	17.8	503.7	0.00	0.00	0.00	
Start Build 8.00										
7,350.0	85.63	179.39	6,905.9	-511.4	17.9	511.5	8.03	8.03	0.00	
7,400.0	89.63	179.39	6,908.0	-561.3	18.4	561.5	8.00	8.00	0.00	
7,404.6	90.00	179.39	6,908.0	-565.9	18.5	566.1	8.00	8.00	0.00	
7,450.0	90.00	179.39	6,908.0	-611.3	18.9	611.5	0.00	0.00	0.00	
7,500.0	90.00	179.39	6,908.0	-661.3	19.5	661.5	0.00	0.00	0.00	
7,550.0	90.00	179.39	6,908.0	-711.3	20.0	711.5	0.00	0.00	0.00	
7,600.0	90.00	179.39	6,908.0	-761.3	20.6	761.5	0.00	0.00	0.00	
7,650.0	90.00	179.39	6,908.0	-811.3	21.1	811.5	0.00	0.00	0.00	
7,700.0	90.00	179.39	6,908.0	-861.3	21.6	861.5	0.00	0.00	0.00	
7,750.0	90.00	179.39	6,908.0	-911.3	22.2	911.5	0.00	0.00	0.00	
7,800.0	90.00	179.39	6,908.0	-961.3	22.7	961.5	0.00	0.00	0.00	
7,850.0	90.00	179.39	6,908.0	-1,011.3	23.2	1,011.5	0.00	0.00	0.00	
7,900.0	90.00	179.39	6,908.0	-1,061.3	23.8	1,061.5	0.00	0.00	0.00	
7,950.0	90.00	179.39	6,908.0	-1,111.3	24.3	1,111.5	0.00	0.00	0.00	
8,000.0	90.00	179.39	6,908.0	-1,161.3	24.8	1,161.5	0.00	0.00	0.00	
8,050.0	90.00	179.39	6,908.0	-1,211.3	25.4	1,211.5	0.00	0.00	0.00	
8,100.0	90.00	179.39	6,908.0	-1,261.3	25.9	1,261.5	0.00	0.00	0.00	
8,150.0	90.00	179.39	6,908.0	-1,311.3	26.4	1,311.5	0.00	0.00	0.00	
8,200.0	90.00	179.39	6,908.0	-1,361.2	27.0	1,361.5	0.00	0.00	0.00	
8,250.0	90.00	179.39	6,908.0	-1,411.2	27.5	1,411.5	0.00	0.00	0.00	
8,300.0	90.00	179.39	6,908.0	-1,461.2	28.0	1,461.5	0.00	0.00	0.00	
8,350.0	90.00	179.39	6,908.0	-1,511.2	28.6	1,511.5	0.00	0.00	0.00	
8,400.0	90.00	179.39	6,908.0	-1,561.2	29.1	1,561.5	0.00	0.00	0.00	
8,450.0	90.00	179.39	6,908.0	-1,611.2	29.6	1,611.5	0.00	0.00	0.00	
8,500.0	90.00	179.39	6,908.0	-1,661.2	30.2	1,661.5	0.00	0.00	0.00	
8,550.0	90.00	179.39	6,908.0	-1,711.2	30.7	1,711.5	0.00	0.00	0.00	
8,600.0	90.00	179.39	6,908.0	-1,761.2	31.2	1,761.5	0.00	0.00	0.00	
8,650.0	90.00	179.39	6,908.0	-1,811.2	31.8	1,811.5	0.00	0.00	0.00	
8,700.0	90.00	179.39	6,908.0	-1,861.2	32.3	1,861.5	0.00	0.00	0.00	
8,750.0	90.00	179.39	6,908.0	-1,911.2	32.9	1,911.5	0.00	0.00	0.00	
8,800.0	90.00	179.39	6,908.0	-1,961.2	33.4	1,961.5	0.00	0.00	0.00	
8,850.0	90.00	179.39	6,908.0	-2,011.2	33.9	2,011.5	0.00	0.00	0.00	
8,900.0	90.00	179.39	6,908.0	-2,061.2	34.5	2,061.5	0.00	0.00	0.00	
8,950.0	90.00	179.39	6,908.0	-2,111.2	35.0	2,111.5	0.00	0.00	0.00	
9,000.0	90.00	179.39	6,908.0	-2,161.2	35.5	2,161.5	0.00	0.00	0.00	
9,050.0	90.00	179.39	6,908.0	-2,211.2	36.1	2,211.5	0.00	0.00	0.00	

Noble Energy Inc

Planning Report

Database:	EDM Production	Local Co-ordinate Reference:	Well Chandler State D15-72-1HN
Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4802.0usft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4802.0usft (Original Well Elev)
Site:	D (03N-64W)	North Reference:	Grid
Well:	Chandler State D15-72-1HN	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)	
9,100.0	90.00	179.39	6,908.0	-2,261.2	36.6	2,261.5	0.00	0.00	0.00	
9,150.0	90.00	179.39	6,908.0	-2,311.2	37.1	2,311.5	0.00	0.00	0.00	
9,200.0	90.00	179.39	6,908.0	-2,361.2	37.7	2,361.5	0.00	0.00	0.00	
9,250.0	90.00	179.39	6,908.0	-2,411.2	38.2	2,411.5	0.00	0.00	0.00	
9,300.0	90.00	179.39	6,908.0	-2,461.2	38.7	2,461.5	0.00	0.00	0.00	
9,350.0	90.00	179.39	6,908.0	-2,511.2	39.3	2,511.5	0.00	0.00	0.00	
9,400.0	90.00	179.39	6,908.0	-2,561.2	39.8	2,561.5	0.00	0.00	0.00	
9,450.0	90.00	179.39	6,908.0	-2,611.2	40.3	2,611.5	0.00	0.00	0.00	
9,500.0	90.00	179.39	6,908.0	-2,661.2	40.9	2,661.5	0.00	0.00	0.00	
9,550.0	90.00	179.39	6,908.0	-2,711.2	41.4	2,711.5	0.00	0.00	0.00	
9,600.0	90.00	179.39	6,908.0	-2,761.2	41.9	2,761.5	0.00	0.00	0.00	
9,650.0	90.00	179.39	6,908.0	-2,811.2	42.5	2,811.5	0.00	0.00	0.00	
9,700.0	90.00	179.39	6,908.0	-2,861.2	43.0	2,861.5	0.00	0.00	0.00	
9,750.0	90.00	179.39	6,908.0	-2,911.2	43.5	2,911.5	0.00	0.00	0.00	
9,800.0	90.00	179.39	6,908.0	-2,961.2	44.1	2,961.5	0.00	0.00	0.00	
9,850.0	90.00	179.39	6,908.0	-3,011.2	44.6	3,011.5	0.00	0.00	0.00	
9,900.0	90.00	179.39	6,908.0	-3,061.2	45.2	3,061.5	0.00	0.00	0.00	
9,950.0	90.00	179.39	6,908.0	-3,111.1	45.7	3,111.5	0.00	0.00	0.00	
10,000.0	90.00	179.39	6,908.0	-3,161.1	46.2	3,161.5	0.00	0.00	0.00	
10,050.0	90.00	179.39	6,908.0	-3,211.1	46.8	3,211.5	0.00	0.00	0.00	
10,100.0	90.00	179.39	6,908.0	-3,261.1	47.3	3,261.5	0.00	0.00	0.00	
10,150.0	90.00	179.39	6,908.0	-3,311.1	47.8	3,311.5	0.00	0.00	0.00	
10,200.0	90.00	179.39	6,908.0	-3,361.1	48.4	3,361.5	0.00	0.00	0.00	
10,250.0	90.00	179.39	6,908.0	-3,411.1	48.9	3,411.5	0.00	0.00	0.00	
10,300.0	90.00	179.39	6,908.0	-3,461.1	49.4	3,461.5	0.00	0.00	0.00	
10,350.0	90.00	179.39	6,908.0	-3,511.1	50.0	3,511.5	0.00	0.00	0.00	
10,400.0	90.00	179.39	6,908.0	-3,561.1	50.5	3,561.5	0.00	0.00	0.00	
10,450.0	90.00	179.39	6,908.0	-3,611.1	51.0	3,611.5	0.00	0.00	0.00	
10,500.0	90.00	179.39	6,908.0	-3,661.1	51.6	3,661.5	0.00	0.00	0.00	
10,550.0	90.00	179.39	6,908.0	-3,711.1	52.1	3,711.5	0.00	0.00	0.00	
10,600.0	90.00	179.39	6,908.0	-3,761.1	52.6	3,761.5	0.00	0.00	0.00	
10,650.0	90.00	179.39	6,908.0	-3,811.1	53.2	3,811.5	0.00	0.00	0.00	
10,700.0	90.00	179.39	6,908.0	-3,861.1	53.7	3,861.5	0.00	0.00	0.00	
10,750.0	90.00	179.39	6,908.0	-3,911.1	54.2	3,911.5	0.00	0.00	0.00	
10,800.0	90.00	179.39	6,908.0	-3,961.1	54.8	3,961.5	0.00	0.00	0.00	
10,850.0	90.00	179.39	6,908.0	-4,011.1	55.3	4,011.5	0.00	0.00	0.00	
10,900.0	90.00	179.39	6,908.0	-4,061.1	55.9	4,061.5	0.00	0.00	0.00	
10,950.0	90.00	179.39	6,908.0	-4,111.1	56.4	4,111.5	0.00	0.00	0.00	
11,000.0	90.00	179.39	6,908.0	-4,161.1	56.9	4,161.5	0.00	0.00	0.00	
11,050.0	90.00	179.39	6,908.0	-4,211.1	57.5	4,211.5	0.00	0.00	0.00	
11,100.0	90.00	179.39	6,908.0	-4,261.1	58.0	4,261.5	0.00	0.00	0.00	
11,150.0	90.00	179.39	6,908.0	-4,311.1	58.5	4,311.5	0.00	0.00	0.00	
11,200.0	90.00	179.39	6,908.0	-4,361.1	59.1	4,361.5	0.00	0.00	0.00	
11,250.0	90.00	179.39	6,908.0	-4,411.1	59.6	4,411.5	0.00	0.00	0.00	
11,300.0	90.00	179.39	6,908.0	-4,461.1	60.1	4,461.5	0.00	0.00	0.00	
11,350.0	90.00	179.39	6,908.0	-4,511.1	60.7	4,511.5	0.00	0.00	0.00	
11,400.0	90.00	179.39	6,908.0	-4,561.1	61.2	4,561.5	0.00	0.00	0.00	
11,450.0	90.00	179.39	6,908.0	-4,611.1	61.7	4,611.5	0.00	0.00	0.00	
11,500.0	90.00	179.39	6,908.0	-4,661.1	62.3	4,661.5	0.00	0.00	0.00	
11,550.0	90.00	179.39	6,908.0	-4,711.1	62.8	4,711.5	0.00	0.00	0.00	
11,600.0	90.00	179.39	6,908.0	-4,761.1	63.3	4,761.5	0.00	0.00	0.00	
11,650.0	90.00	179.39	6,908.0	-4,811.1	63.9	4,811.5	0.00	0.00	0.00	
11,700.0	90.00	179.39	6,908.0	-4,861.0	64.4	4,861.5	0.00	0.00	0.00	
11,745.7	90.00	179.39	6,908.0	-4,906.7	64.9	4,907.1	0.00	0.00	0.00	

Noble Energy Inc

Planning Report

Database:	EDM Production	Local Co-ordinate Reference:	Well Chandler State D15-72-1HN
Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4802.0usft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4802.0usft (Original Well Elev)
Site:	D (03N-64W)	North Reference:	Grid
Well:	Chandler State D15-72-1HN	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)
TD at 11745.7 - Chandler State D15-72-1HN BHL 75'FSL, 330'FEL									

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									
Chandler State D15-72-1	0.00	0.00	6,908.0	-4,906.7	64.9	1,323,875.15	3,271,138.74	40.218360	-104.529050
- plan hits target center									
- Point									

Casing Points						Casing Diameter (")	Hole Diameter (")
Measured Depth (usft)	Vertical Depth (usft)	Name					
7,267.1	6,898.7	7" Casing @ 7267.1' MD				7	8-3/4

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,418.3	3,399.0	PIERRE		0.00		
4,458.3	4,439.0	PARKMAN		0.00		
5,087.3	5,068.0	SUSSEX		0.00		
5,523.3	5,504.0	SHANNON		0.00		
6,098.3	6,079.0	TEEPEE BUTTES		0.00		
6,839.1	6,740.0	SHARON SPRINGS		0.00		
6,853.5	6,749.0	NIOBRARA		0.00		
6,939.8	6,798.0	NIO A CHALK		0.00		
6,976.1	6,816.0	NIO A MARL		0.00		
7,048.5	6,847.0	NIO B CHALK		0.00		

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
1,800.0	1,800.0	0.0	0.0	KOP - Start Build 2.00	
2,877.1	2,862.2	63.0	2.8	Start Drop -2.00	
6,204.6	6,185.3	162.0	7.2	KOP #2 - Start Build 8.00	
7,267.1	6,898.7	225.0	10.0	Start 75.0 hold at 7267.1 MD	
7,342.1	6,905.3	225.0	10.0	Start Build 8.00	
11,745.7	6,908.0	-428.7	17.0	TD at 11745.7	

Northern Region Drilling - Working

Wattenberg Field

D (03N-64W)

Chandler State D15-72-1HN

Original Drilling

APD - Rev 0

Anticollision Summary Report

17 June, 2013

Noble Energy Inc
Anticollision Summary Report

Company:	Northern Region Drilling - Working	Local Co-ordinate Reference:	Well Chandler State D15-72-1HN
Project:	Wattenberg Field	TVD Reference:	WELL @ 4802.0usft (Original Well Elev)
Reference Site:	D (03N-64W)	MD Reference:	WELL @ 4802.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Chandler State D15-72-1HN	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	6/17/2013		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	11,745.5	APD - Rev 0 (Original Drilling)	MWD	MWD - Standard

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						
D (03N-64W)						
Chandler State D15-73-1HN - Original Drilling - APD - Re	1,500.0	1,500.0	36.3	29.8	5.600	CC, ES
Chandler State D15-73-1HN - Original Drilling - APD - Re	11,745.7	11,881.4	565.6	374.7	2.964	SF
Chandler State D15-74-1HN - Original Drilling - APD - Re	1,166.3	1,167.3	75.4	70.4	15.124	CC
Chandler State D15-74-1HN - Original Drilling - APD - Re	1,200.0	1,200.0	75.4	70.3	14.686	ES
Chandler State D15-74-1HN - Original Drilling - APD - Re	11,745.7	11,862.8	1,320.9	1,129.7	6.906	SF

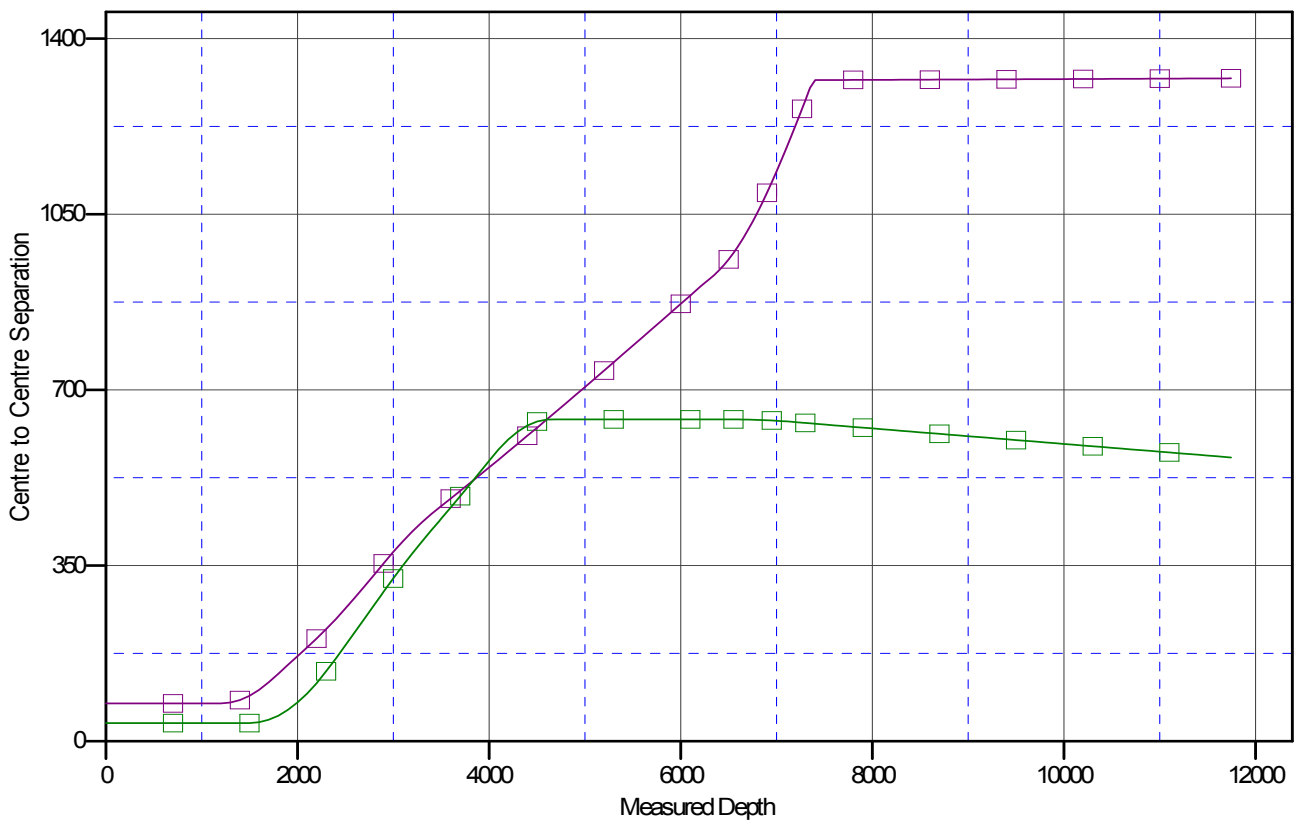
Noble Energy Inc
Anticollision Summary Report

Company:	Northern Region Drilling - Working	Local Co-ordinate Reference:	Well Chandler State D15-72-1HN
Project:	Wattenberg Field	TVD Reference:	WELL @ 4802.0usft (Original Well Elev)
Reference Site:	D (03N-64W)	MD Reference:	WELL @ 4802.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Chandler State D15-72-1HN	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 @ 4802.0usft (Original Well Ele)
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000

Coordinates are relative to: Chandler State D15-72-1HN
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.63°

Ladder Plot



LEGEND

te D15-74-1HN, Original Drilling, APD - Rev0 V0 ■ Chandler State D15-73-1HN, Original Drilling, APD - Rev0 V0

Noble Energy Inc
Anticollision Summary Report

Company:	Northern Region Drilling - Working	Local Co-ordinate Reference:	Well Chandler State D15-72-1HN
Project:	Wattenberg Field	TVD Reference:	WELL @ 4802.0usft (Original Well Elev)
Reference Site:	D (03N-64W)	MD Reference:	WELL @ 4802.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Chandler State D15-72-1HN	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 @ 4802.0usft (Original Well Ele
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000

Coordinates are relative to: Chandler State D15-72-1HN
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.63°

