

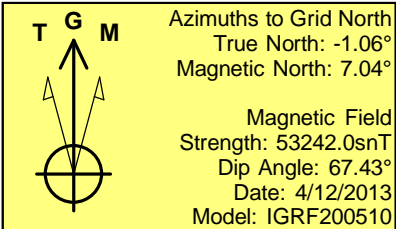
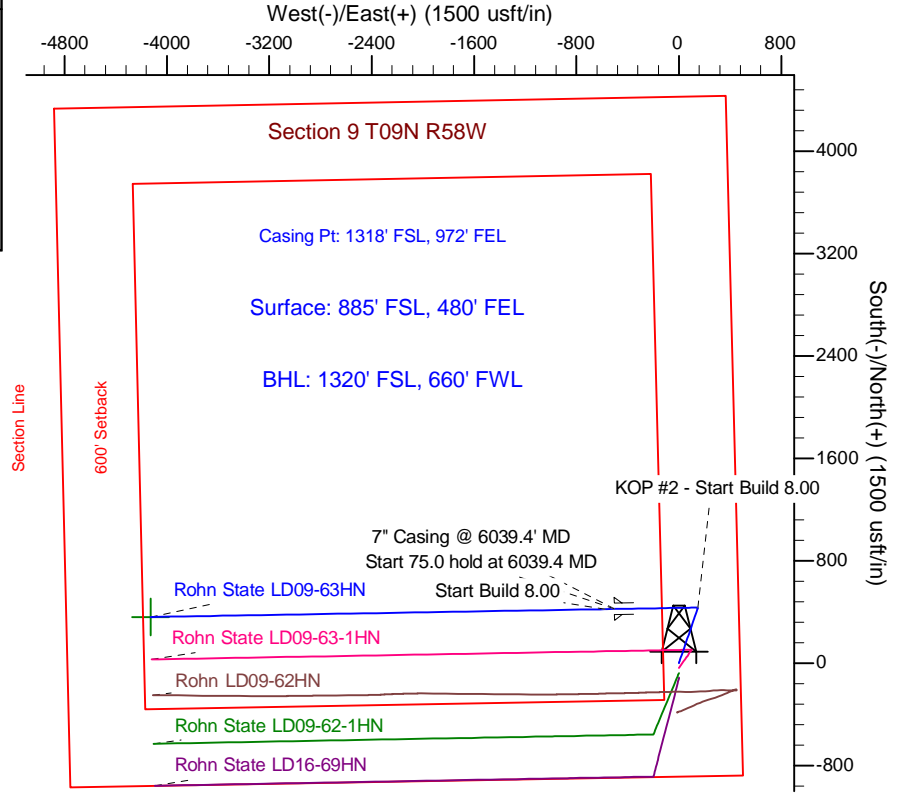
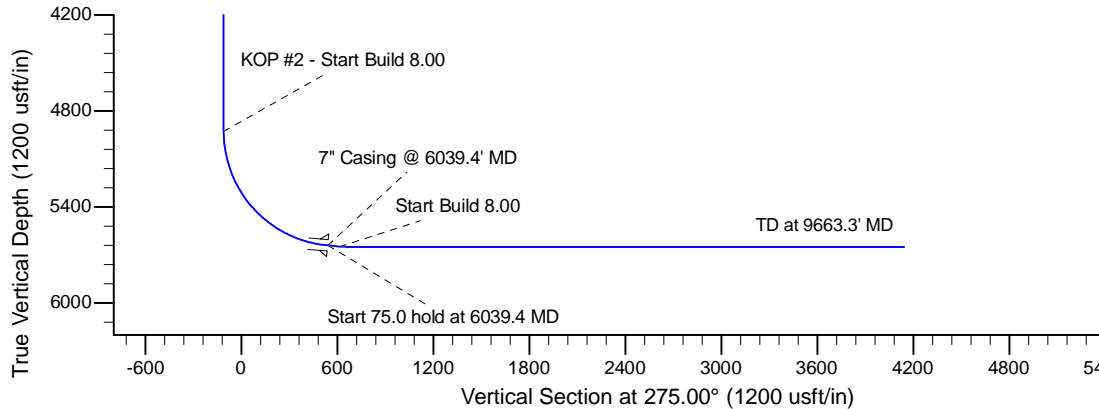
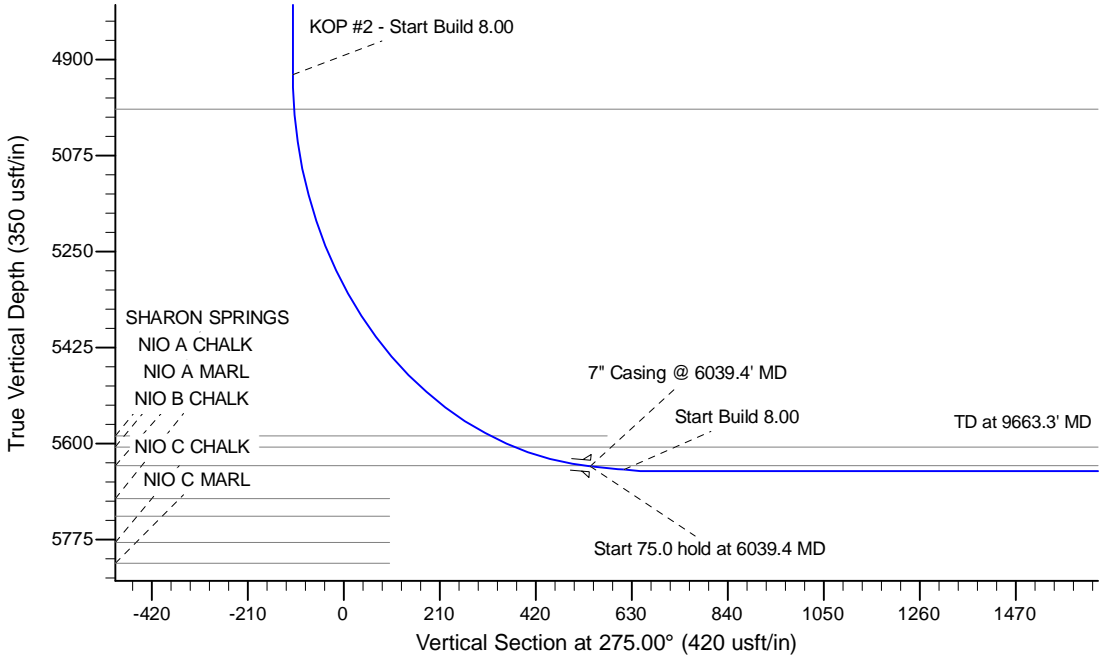
Project: Wattenberg Field  
Site: LD (Sec.9-T09N-R58W) Weld County, CO  
Well: Rohn State LD09-63HN  
Wellbore: Original Drilling  
Design: APD - Rev 0

# Northern Region Drilling

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	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	1200.0	0.00	0.00	1200.0	0.0	0.0	0.00	0.00	0.0	
3	1902.3	14.05	19.03	1895.3	81.0	27.9	2.00	19.03	-20.8	
4	3092.3	14.05	19.03	3049.7	354.0	122.1	0.00	0.00	-90.7	
5	3794.6	0.00	0.00	3745.0	435.0	150.0	2.00	180.00	-111.5	
6	4976.9	0.00	0.00	4927.3	435.0	150.0	0.00	0.00	-111.5	
7	6039.4	85.00	269.01	5640.7	423.7	-503.7	8.00	269.01	538.7	
8	6114.4	85.00	269.01	5647.3	422.5	-578.4	0.00	0.00	613.0	
9	6176.9	90.00	269.01	5650.0	421.4	-640.8	8.00	0.00	675.1	
10	9663.3	90.00	269.01	5650.0	361.4	-4126.7	0.00	0.00	4142.5	Rohn State LD09-63HN BHL 1320'FSL, 660'FWL



WELL DETAILS: Rohn State LD09-63HN				
Ground Level: 4716.0				
0.0	0.0	1524274.17	3453852.73	-103.861610

Plan: APD - Rev 0 (Rohn State LD09-63HN/Original Drilling)	
Created By: Shailey Jewell	Date: 12:05, April 22 2013

OK to submit with 2A as per Noble Drilling  
4/24/13 6:02

# **Northern Region Drilling**

**Wattenberg Field**

**LD (09N-58W)**

**Rohn State LD09-63HN**

**Original Drilling**

**Plan: APD - Rev 0**

## **Standard Planning Report**

**22 April, 2013**

# Noble Energy Inc

## Planning Report

<b>Database:</b>	EDM Production	<b>Local Co-ordinate Reference:</b>	Well Rohn State LD09-63HN
<b>Company:</b>	Northern Region Drilling	<b>TVD Reference:</b>	WELL @ 4746.0usft (Original Well Elev)
<b>Project:</b>	Wattenberg Field	<b>MD Reference:</b>	WELL @ 4746.0usft (Original Well Elev)
<b>Site:</b>	LD (09N-58W)	<b>North Reference:</b>	Grid
<b>Well:</b>	Rohn State LD09-63HN	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Drilling		
<b>Design:</b>	APD - Rev 0		

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

Site		LD (09N-58W)			
Site Position:		Northing:	1,523,557.18 usft	Latitude:	40.759270
From:	Lat/Long	Easting:	3,449,341.23 usft	Longitude:	-103.877940
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	1.05 °

Well	Rohn State LD09-63HN					
Well Position	+N/-S	717.0 usft	Northing:	1,524,274.18 usft	Latitude:	40.761010
	+E/-W	4,511.5 usft	Easting:	3,453,852.73 usft	Longitude:	-103.861610
Position Uncertainty		0.0 usft	Wellhead Elevation:		Ground Level:	4,716.0 usft

<b>Wellbore</b>	Original Drilling				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF200510	4/12/2013	8.10	67.43	53,242

<b>Design</b>	APD - Rev 0			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	275.00

<b>Plan Sections</b>										
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	
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,902.3	14.05	19.03	1,895.3	81.0	27.9	2.00	2.00	0.00	19.03	
3,092.3	14.05	19.03	3,049.7	354.0	122.1	0.00	0.00	0.00	0.00	
3,794.6	0.00	0.00	3,745.0	435.0	150.0	2.00	-2.00	0.00	180.00	
4,976.9	0.00	0.00	4,927.3	435.0	150.0	0.00	0.00	0.00	0.00	
6,039.4	85.00	269.01	5,640.7	423.7	-503.7	8.00	8.00	0.00	269.01	
6,114.4	85.00	269.01	5,647.3	422.5	-578.4	0.00	0.00	0.00	0.00	
6,176.9	90.00	269.01	5,650.0	421.4	-640.8	8.00	8.00	0.00	0.00	
9,663.3	90.00	269.01	5,650.0	361.4	-4,126.7	0.00	0.00	0.00	0.00	Rohn State LD09-63H-

# Noble Energy Inc

## Planning Report

<b>Database:</b>	EDM Production	<b>Local Co-ordinate Reference:</b>	Well Rohn State LD09-63HN
<b>Company:</b>	Northern Region Drilling	<b>TVD Reference:</b>	WELL @ 4746.0usft (Original Well Elev)
<b>Project:</b>	Wattenberg Field	<b>MD Reference:</b>	WELL @ 4746.0usft (Original Well Elev)
<b>Site:</b>	LD (09N-58W)	<b>North Reference:</b>	Grid
<b>Well:</b>	Rohn State LD09-63HN	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Drilling		
<b>Design:</b>	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
1,078.0	0.00	0.00	1,078.0	0.0	0.0	0.0	0.00	0.00	0.00
PIERRE									
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
KOP - Start Build 2.00									
1,250.0	1.00	19.03	1,250.0	0.4	0.1	-0.1	2.00	2.00	0.00
1,300.0	2.00	19.03	1,300.0	1.6	0.6	-0.4	2.00	2.00	0.00
1,350.0	3.00	19.03	1,349.9	3.7	1.3	-1.0	2.00	2.00	0.00
1,400.0	4.00	19.03	1,399.8	6.6	2.3	-1.7	2.00	2.00	0.00
1,450.0	5.00	19.03	1,449.7	10.3	3.6	-2.6	2.00	2.00	0.00
1,500.0	6.00	19.03	1,499.5	14.8	5.1	-3.8	2.00	2.00	0.00
1,550.0	7.00	19.03	1,549.1	20.2	7.0	-5.2	2.00	2.00	0.00
1,600.0	8.00	19.03	1,598.7	26.4	9.1	-6.8	2.00	2.00	0.00
1,650.0	9.00	19.03	1,648.2	33.3	11.5	-8.5	2.00	2.00	0.00
1,700.0	10.00	19.03	1,697.5	41.1	14.2	-10.5	2.00	2.00	0.00
1,750.0	11.00	19.03	1,746.6	49.8	17.2	-12.8	2.00	2.00	0.00
1,800.0	12.00	19.03	1,795.6	59.2	20.4	-15.2	2.00	2.00	0.00
1,850.0	13.00	19.03	1,844.4	69.4	23.9	-17.8	2.00	2.00	0.00
1,900.0	14.00	19.03	1,893.1	80.4	27.7	-20.6	2.00	2.00	0.00
1,902.3	14.05	19.03	1,895.3	81.0	27.9	-20.8	2.00	2.00	0.00
1,950.0	14.05	19.03	1,941.6	91.9	31.7	-23.6	0.00	0.00	0.00
2,000.0	14.05	19.03	1,990.1	103.4	35.7	-26.5	0.00	0.00	0.00
2,050.0	14.05	19.03	2,038.6	114.9	39.6	-29.4	0.00	0.00	0.00
2,100.0	14.05	19.03	2,087.1	126.3	43.6	-32.4	0.00	0.00	0.00
2,150.0	14.05	19.03	2,135.6	137.8	47.5	-35.3	0.00	0.00	0.00
2,200.0	14.05	19.03	2,184.1	149.3	51.5	-38.3	0.00	0.00	0.00
2,250.0	14.05	19.03	2,232.6	160.8	55.4	-41.2	0.00	0.00	0.00
2,300.0	14.05	19.03	2,281.1	172.2	59.4	-44.1	0.00	0.00	0.00
2,350.0	14.05	19.03	2,329.6	183.7	63.3	-47.1	0.00	0.00	0.00
2,400.0	14.05	19.03	2,378.1	195.2	67.3	-50.0	0.00	0.00	0.00
2,450.0	14.05	19.03	2,426.6	206.6	71.3	-53.0	0.00	0.00	0.00

# Noble Energy Inc

## Planning Report

<b>Database:</b>	EDM Production	<b>Local Co-ordinate Reference:</b>	Well Rohn State LD09-63HN
<b>Company:</b>	Northern Region Drilling	<b>TVD Reference:</b>	WELL @ 4746.0usft (Original Well Elev)
<b>Project:</b>	Wattenberg Field	<b>MD Reference:</b>	WELL @ 4746.0usft (Original Well Elev)
<b>Site:</b>	LD (09N-58W)	<b>North Reference:</b>	Grid
<b>Well:</b>	Rohn State LD09-63HN	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Drilling		
<b>Design:</b>	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	14.05	19.03	2,475.1	218.1	75.2	-55.9	0.00	0.00	0.00
2,550.0	14.05	19.03	2,523.6	229.6	79.2	-58.8	0.00	0.00	0.00
2,600.0	14.05	19.03	2,572.1	241.1	83.1	-61.8	0.00	0.00	0.00
2,650.0	14.05	19.03	2,620.6	252.5	87.1	-64.7	0.00	0.00	0.00
2,700.0	14.05	19.03	2,669.1	264.0	91.0	-67.7	0.00	0.00	0.00
2,750.0	14.05	19.03	2,717.6	275.5	95.0	-70.6	0.00	0.00	0.00
2,800.0	14.05	19.03	2,766.1	287.0	98.9	-73.5	0.00	0.00	0.00
2,850.0	14.05	19.03	2,814.6	298.4	102.9	-76.5	0.00	0.00	0.00
2,900.0	14.05	19.03	2,863.2	309.9	106.9	-79.4	0.00	0.00	0.00
2,950.0	14.05	19.03	2,911.7	321.4	110.8	-82.4	0.00	0.00	0.00
3,000.0	14.05	19.03	2,960.2	332.8	114.8	-85.3	0.00	0.00	0.00
3,050.0	14.05	19.03	3,008.7	344.3	118.7	-88.2	0.00	0.00	0.00
3,092.3	14.05	19.03	3,049.7	354.0	122.1	-90.7	0.00	0.00	0.00
Start Drop -2.00									
3,100.0	13.89	19.03	3,057.2	355.8	122.7	-91.2	2.01	-2.01	0.00
3,150.0	12.89	19.03	3,105.8	366.7	126.5	-94.0	2.00	-2.00	0.00
3,200.0	11.89	19.03	3,154.7	376.9	130.0	-96.6	2.00	-2.00	0.00
3,231.0	11.27	19.03	3,185.0	382.8	132.0	-98.1	2.00	-2.00	0.00
PARKMAN									
3,250.0	10.89	19.03	3,203.7	386.2	133.2	-99.0	2.00	-2.00	0.00
3,300.0	9.89	19.03	3,252.8	394.7	136.1	-101.2	2.00	-2.00	0.00
3,350.0	8.89	19.03	3,302.2	402.4	138.8	-103.1	2.00	-2.00	0.00
3,400.0	7.89	19.03	3,351.6	409.3	141.2	-104.9	2.00	-2.00	0.00
3,450.0	6.89	19.03	3,401.2	415.4	143.3	-106.5	2.00	-2.00	0.00
3,500.0	5.89	19.03	3,450.9	420.7	145.1	-107.8	2.00	-2.00	0.00
3,550.0	4.89	19.03	3,500.7	425.1	146.6	-109.0	2.00	-2.00	0.00
3,600.0	3.89	19.03	3,550.5	428.8	147.8	-109.9	2.00	-2.00	0.00
3,650.0	2.89	19.03	3,600.5	431.6	148.8	-110.6	2.00	-2.00	0.00
3,663.6	2.62	19.03	3,614.0	432.2	149.0	-110.8	2.00	-2.00	0.00
SUSSEX									
3,700.0	1.89	19.03	3,650.4	433.5	149.5	-111.1	2.00	-2.00	0.00
3,750.0	0.89	19.03	3,700.4	434.7	149.9	-111.4	2.00	-2.00	0.00
3,794.6	0.00	0.00	3,745.0	435.0	150.0	-111.5	2.00	-2.00	0.00
3,800.0	0.00	0.00	3,750.4	435.0	150.0	-111.5	0.00	0.00	0.00
3,850.0	0.00	0.00	3,800.4	435.0	150.0	-111.5	0.00	0.00	0.00
3,900.0	0.00	0.00	3,850.4	435.0	150.0	-111.5	0.00	0.00	0.00
3,950.0	0.00	0.00	3,900.4	435.0	150.0	-111.5	0.00	0.00	0.00
4,000.0	0.00	0.00	3,950.4	435.0	150.0	-111.5	0.00	0.00	0.00
4,050.0	0.00	0.00	4,000.4	435.0	150.0	-111.5	0.00	0.00	0.00
4,100.0	0.00	0.00	4,050.4	435.0	150.0	-111.5	0.00	0.00	0.00
4,150.0	0.00	0.00	4,100.4	435.0	150.0	-111.5	0.00	0.00	0.00
4,200.0	0.00	0.00	4,150.4	435.0	150.0	-111.5	0.00	0.00	0.00
4,250.0	0.00	0.00	4,200.4	435.0	150.0	-111.5	0.00	0.00	0.00
4,300.0	0.00	0.00	4,250.4	435.0	150.0	-111.5	0.00	0.00	0.00
4,350.0	0.00	0.00	4,300.4	435.0	150.0	-111.5	0.00	0.00	0.00
4,350.6	0.00	0.00	4,301.0	435.0	150.0	-111.5	0.00	0.00	0.00
SHANNON									
4,400.0	0.00	0.00	4,350.4	435.0	150.0	-111.5	0.00	0.00	0.00
4,450.0	0.00	0.00	4,400.4	435.0	150.0	-111.5	0.00	0.00	0.00
4,500.0	0.00	0.00	4,450.4	435.0	150.0	-111.5	0.00	0.00	0.00
4,550.0	0.00	0.00	4,500.4	435.0	150.0	-111.5	0.00	0.00	0.00
4,600.0	0.00	0.00	4,550.4	435.0	150.0	-111.5	0.00	0.00	0.00
4,650.0	0.00	0.00	4,600.4	435.0	150.0	-111.5	0.00	0.00	0.00

# Noble Energy Inc

## Planning Report

<b>Database:</b>	EDM Production	<b>Local Co-ordinate Reference:</b>	Well Rohn State LD09-63HN
<b>Company:</b>	Northern Region Drilling	<b>TVD Reference:</b>	WELL @ 4746.0usft (Original Well Elev)
<b>Project:</b>	Wattenberg Field	<b>MD Reference:</b>	WELL @ 4746.0usft (Original Well Elev)
<b>Site:</b>	LD (09N-58W)	<b>North Reference:</b>	Grid
<b>Well:</b>	Rohn State LD09-63HN	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Drilling		
<b>Design:</b>	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)
4,700.0	0.00	0.00	4,650.4	435.0	150.0	-111.5	0.00	0.00	0.00
4,750.0	0.00	0.00	4,700.4	435.0	150.0	-111.5	0.00	0.00	0.00
4,800.0	0.00	0.00	4,750.4	435.0	150.0	-111.5	0.00	0.00	0.00
4,850.0	0.00	0.00	4,800.4	435.0	150.0	-111.5	0.00	0.00	0.00
4,900.0	0.00	0.00	4,850.4	435.0	150.0	-111.5	0.00	0.00	0.00
4,950.0	0.00	0.00	4,900.4	435.0	150.0	-111.5	0.00	0.00	0.00
4,976.9	0.00	0.00	4,927.3	435.0	150.0	-111.5	0.00	0.00	0.00
<b>KOP #2 - Start Build 8.00</b>									
5,000.0	1.85	269.01	4,950.4	435.0	149.6	-111.1	8.01	8.01	0.00
5,039.7	5.03	269.01	4,990.0	435.0	147.2	-108.7	8.00	8.00	0.00
<b>TEEPEE BUTTES</b>									
5,050.0	5.85	269.01	5,000.3	434.9	146.3	-107.8	8.00	8.00	0.00
5,100.0	9.85	269.01	5,049.8	434.8	139.4	-101.0	8.00	8.00	0.00
5,150.0	13.85	269.01	5,098.7	434.6	129.2	-90.8	8.00	8.00	0.00
5,200.0	17.85	269.01	5,146.8	434.4	115.5	-77.2	8.00	8.00	0.00
5,250.0	21.85	269.01	5,193.8	434.1	98.6	-60.3	8.00	8.00	0.00
5,300.0	25.85	269.01	5,239.5	433.8	78.3	-40.2	8.00	8.00	0.00
5,350.0	29.85	269.01	5,283.7	433.4	55.0	-17.0	8.00	8.00	0.00
5,400.0	33.85	269.01	5,326.2	432.9	28.6	9.3	8.00	8.00	0.00
5,450.0	37.85	269.01	5,366.7	432.4	-0.7	38.4	8.00	8.00	0.00
5,500.0	41.85	269.01	5,405.1	431.9	-32.7	70.2	8.00	8.00	0.00
5,550.0	45.85	269.01	5,441.2	431.3	-67.3	104.7	8.00	8.00	0.00
5,600.0	49.85	269.01	5,474.7	430.6	-104.4	141.5	8.00	8.00	0.00
5,650.0	53.85	269.01	5,505.6	429.9	-143.7	180.6	8.00	8.00	0.00
5,700.0	57.85	269.01	5,533.6	429.2	-185.0	221.8	8.00	8.00	0.00
5,750.0	61.85	269.01	5,558.7	428.5	-228.3	264.8	8.00	8.00	0.00
5,800.0	65.85	269.01	5,580.8	427.7	-273.1	309.4	8.00	8.00	0.00
5,813.0	66.89	269.01	5,586.0	427.5	-285.0	321.3	8.00	8.00	0.00
<b>SHARON SPRINGS</b>									
5,850.0	69.85	269.01	5,599.6	426.9	-319.4	355.4	8.00	8.00	0.00
5,869.2	71.39	269.01	5,606.0	426.6	-337.5	373.5	8.00	8.00	0.00
<b>NIO A CHALK</b>									
5,900.0	73.85	269.01	5,615.2	426.1	-366.9	402.7	8.00	8.00	0.00
5,950.0	77.85	269.01	5,627.4	425.3	-415.4	450.9	8.00	8.00	0.00
6,000.0	81.85	269.01	5,636.2	424.4	-464.6	499.8	8.00	8.00	0.00
6,031.4	84.36	269.01	5,640.0	423.9	-495.8	530.8	8.00	8.00	0.00
<b>NIO A MARL</b>									
6,039.4	85.00	269.01	5,640.7	423.7	-503.7	538.7	7.98	7.98	0.00
<b>Start 75.0 hold at 6039.4 MD - 7" Casing @ 6039.4' MD</b>									
6,050.0	85.00	269.01	5,641.7	423.6	-514.3	549.3	0.00	0.00	0.00
6,100.0	85.00	269.01	5,646.0	422.7	-564.1	598.8	0.00	0.00	0.00
6,114.4	85.00	269.01	5,647.3	422.5	-578.4	613.1	0.00	0.00	0.00
<b>Start Build 8.00</b>									
6,150.0	87.85	269.01	5,649.5	421.8	-613.9	648.4	8.01	8.01	0.00
6,176.9	90.00	269.01	5,650.0	421.4	-640.8	675.1	8.00	8.00	0.00
6,200.0	90.00	269.01	5,650.0	421.0	-663.9	698.1	0.00	0.00	0.00
6,250.0	90.00	269.01	5,650.0	420.1	-713.9	747.8	0.00	0.00	0.00
6,300.0	90.00	269.01	5,650.0	419.3	-763.9	797.6	0.00	0.00	0.00
6,350.0	90.00	269.01	5,650.0	418.4	-813.9	847.3	0.00	0.00	0.00
6,400.0	90.00	269.01	5,650.0	417.5	-863.9	897.0	0.00	0.00	0.00
6,450.0	90.00	269.01	5,650.0	416.7	-913.9	946.7	0.00	0.00	0.00
6,500.0	90.00	269.01	5,650.0	415.8	-963.9	996.5	0.00	0.00	0.00
6,550.0	90.00	269.01	5,650.0	415.0	-1,013.9	1,046.2	0.00	0.00	0.00

# Noble Energy Inc

## Planning Report

<b>Database:</b>	EDM Production	<b>Local Co-ordinate Reference:</b>	Well Rohn State LD09-63HN
<b>Company:</b>	Northern Region Drilling	<b>TVD Reference:</b>	WELL @ 4746.0usft (Original Well Elev)
<b>Project:</b>	Wattenberg Field	<b>MD Reference:</b>	WELL @ 4746.0usft (Original Well Elev)
<b>Site:</b>	LD (09N-58W)	<b>North Reference:</b>	Grid
<b>Well:</b>	Rohn State LD09-63HN	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Drilling		
<b>Design:</b>	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)	
6,600.0	90.00	269.01	5,650.0	414.1	-1,063.9	1,095.9	0.00	0.00	0.00	
6,650.0	90.00	269.01	5,650.0	413.2	-1,113.8	1,145.7	0.00	0.00	0.00	
6,700.0	90.00	269.01	5,650.0	412.4	-1,163.8	1,195.4	0.00	0.00	0.00	
6,750.0	90.00	269.01	5,650.0	411.5	-1,213.8	1,245.1	0.00	0.00	0.00	
6,800.0	90.00	269.01	5,650.0	410.7	-1,263.8	1,294.8	0.00	0.00	0.00	
6,850.0	90.00	269.01	5,650.0	409.8	-1,313.8	1,344.6	0.00	0.00	0.00	
6,900.0	90.00	269.01	5,650.0	408.9	-1,363.8	1,394.3	0.00	0.00	0.00	
6,950.0	90.00	269.01	5,650.0	408.1	-1,413.8	1,444.0	0.00	0.00	0.00	
7,000.0	90.00	269.01	5,650.0	407.2	-1,463.8	1,493.7	0.00	0.00	0.00	
7,050.0	90.00	269.01	5,650.0	406.4	-1,513.8	1,543.5	0.00	0.00	0.00	
7,100.0	90.00	269.01	5,650.0	405.5	-1,563.8	1,593.2	0.00	0.00	0.00	
7,150.0	90.00	269.01	5,650.0	404.6	-1,613.8	1,642.9	0.00	0.00	0.00	
7,200.0	90.00	269.01	5,650.0	403.8	-1,663.8	1,692.6	0.00	0.00	0.00	
7,250.0	90.00	269.01	5,650.0	402.9	-1,713.8	1,742.4	0.00	0.00	0.00	
7,300.0	90.00	269.01	5,650.0	402.1	-1,763.8	1,792.1	0.00	0.00	0.00	
7,350.0	90.00	269.01	5,650.0	401.2	-1,813.7	1,841.8	0.00	0.00	0.00	
7,400.0	90.00	269.01	5,650.0	400.3	-1,863.7	1,891.6	0.00	0.00	0.00	
7,450.0	90.00	269.01	5,650.0	399.5	-1,913.7	1,941.3	0.00	0.00	0.00	
7,500.0	90.00	269.01	5,650.0	398.6	-1,963.7	1,991.0	0.00	0.00	0.00	
7,550.0	90.00	269.01	5,650.0	397.7	-2,013.7	2,040.7	0.00	0.00	0.00	
7,600.0	90.00	269.01	5,650.0	396.9	-2,063.7	2,090.5	0.00	0.00	0.00	
7,650.0	90.00	269.01	5,650.0	396.0	-2,113.7	2,140.2	0.00	0.00	0.00	
7,700.0	90.00	269.01	5,650.0	395.2	-2,163.7	2,189.9	0.00	0.00	0.00	
7,750.0	90.00	269.01	5,650.0	394.3	-2,213.7	2,239.6	0.00	0.00	0.00	
7,800.0	90.00	269.01	5,650.0	393.4	-2,263.7	2,289.4	0.00	0.00	0.00	
7,850.0	90.00	269.01	5,650.0	392.6	-2,313.7	2,339.1	0.00	0.00	0.00	
7,900.0	90.00	269.01	5,650.0	391.7	-2,363.7	2,388.8	0.00	0.00	0.00	
7,950.0	90.00	269.01	5,650.0	390.9	-2,413.7	2,438.6	0.00	0.00	0.00	
8,000.0	90.00	269.01	5,650.0	390.0	-2,463.6	2,488.3	0.00	0.00	0.00	
8,050.0	90.00	269.01	5,650.0	389.1	-2,513.6	2,538.0	0.00	0.00	0.00	
8,100.0	90.00	269.01	5,650.0	388.3	-2,563.6	2,587.7	0.00	0.00	0.00	
8,150.0	90.00	269.01	5,650.0	387.4	-2,613.6	2,637.5	0.00	0.00	0.00	
8,200.0	90.00	269.01	5,650.0	386.6	-2,663.6	2,687.2	0.00	0.00	0.00	
8,250.0	90.00	269.01	5,650.0	385.7	-2,713.6	2,736.9	0.00	0.00	0.00	
8,300.0	90.00	269.01	5,650.0	384.8	-2,763.6	2,786.6	0.00	0.00	0.00	
8,350.0	90.00	269.01	5,650.0	384.0	-2,813.6	2,836.4	0.00	0.00	0.00	
8,400.0	90.00	269.01	5,650.0	383.1	-2,863.6	2,886.1	0.00	0.00	0.00	
8,450.0	90.00	269.01	5,650.0	382.3	-2,913.6	2,935.8	0.00	0.00	0.00	
8,500.0	90.00	269.01	5,650.0	381.4	-2,963.6	2,985.5	0.00	0.00	0.00	
8,550.0	90.00	269.01	5,650.0	380.5	-3,013.6	3,035.3	0.00	0.00	0.00	
8,600.0	90.00	269.01	5,650.0	379.7	-3,063.6	3,085.0	0.00	0.00	0.00	
8,650.0	90.00	269.01	5,650.0	378.8	-3,113.6	3,134.7	0.00	0.00	0.00	
8,700.0	90.00	269.01	5,650.0	378.0	-3,163.5	3,184.5	0.00	0.00	0.00	
8,750.0	90.00	269.01	5,650.0	377.1	-3,213.5	3,234.2	0.00	0.00	0.00	
8,800.0	90.00	269.01	5,650.0	376.2	-3,263.5	3,283.9	0.00	0.00	0.00	
8,850.0	90.00	269.01	5,650.0	375.4	-3,313.5	3,333.6	0.00	0.00	0.00	
8,900.0	90.00	269.01	5,650.0	374.5	-3,363.5	3,383.4	0.00	0.00	0.00	
8,950.0	90.00	269.01	5,650.0	373.6	-3,413.5	3,433.1	0.00	0.00	0.00	
9,000.0	90.00	269.01	5,650.0	372.8	-3,463.5	3,482.8	0.00	0.00	0.00	
9,050.0	90.00	269.01	5,650.0	371.9	-3,513.5	3,532.5	0.00	0.00	0.00	
9,100.0	90.00	269.01	5,650.0	371.1	-3,563.5	3,582.3	0.00	0.00	0.00	
9,150.0	90.00	269.01	5,650.0	370.2	-3,613.5	3,632.0	0.00	0.00	0.00	
9,200.0	90.00	269.01	5,650.0	369.3	-3,663.5	3,681.7	0.00	0.00	0.00	
9,250.0	90.00	269.01	5,650.0	368.5	-3,713.5	3,731.5	0.00	0.00	0.00	

# Noble Energy Inc

## Planning Report

<b>Database:</b>	EDM Production	<b>Local Co-ordinate Reference:</b>	Well Rohn State LD09-63HN
<b>Company:</b>	Northern Region Drilling	<b>TVD Reference:</b>	WELL @ 4746.0usft (Original Well Elev)
<b>Project:</b>	Wattenberg Field	<b>MD Reference:</b>	WELL @ 4746.0usft (Original Well Elev)
<b>Site:</b>	LD (09N-58W)	<b>North Reference:</b>	Grid
<b>Well:</b>	Rohn State LD09-63HN	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Drilling		
<b>Design:</b>	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)	
9,300.0	90.00	269.01	5,650.0	367.6	-3,763.5	3,781.2	0.00	0.00	0.00	
9,350.0	90.00	269.01	5,650.0	366.8	-3,813.4	3,830.9	0.00	0.00	0.00	
9,400.0	90.00	269.01	5,650.0	365.9	-3,863.4	3,880.6	0.00	0.00	0.00	
9,450.0	90.00	269.01	5,650.0	365.0	-3,913.4	3,930.4	0.00	0.00	0.00	
9,500.0	90.00	269.01	5,650.0	364.2	-3,963.4	3,980.1	0.00	0.00	0.00	
9,550.0	90.00	269.01	5,650.0	363.3	-4,013.4	4,029.8	0.00	0.00	0.00	
9,600.0	90.00	269.01	5,650.0	362.5	-4,063.4	4,079.5	0.00	0.00	0.00	
9,650.0	90.00	269.01	5,650.0	361.6	-4,113.4	4,129.3	0.00	0.00	0.00	
9,663.3	90.00	269.01	5,650.0	361.4	-4,126.7	4,142.5	0.00	0.00	0.00	
TD at 9663.3 - Rohn State LD09-63HN BHL 1320°FSL, 660°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										
Rohn State LD09-63HN	0.00	0.00	5,650.0	361.4	-4,126.7	1,524,635.54	3,449,726.02	40.762210	-103.876480	
- plan hits target center										
- Point										

Casing Points										
Measured Depth (usft)	Vertical Depth (usft)	Name					Casing Diameter (")	Hole Diameter (")		
6,039.4	5,640.7	7" Casing @ 6039.4' MD					7	8-3/4		

Formations										
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)					
1,078.0	1,078.0	PIERRE		0.00						
3,231.0	3,185.0	PARKMAN		0.00						
3,663.6	3,614.0	SUSSEX		0.00						
4,350.6	4,301.0	SHANNON		0.00						
5,039.7	4,990.0	TEEPEE BUTTES		0.00						
5,813.0	5,586.0	SHARON SPRINGS		0.00						
5,869.2	5,606.0	NIO A CHALK		0.00						
6,031.4	5,640.0	NIO A MARL		0.00						



# Noble Energy Inc

## Planning Report

<b>Database:</b>	EDM Production	<b>Local Co-ordinate Reference:</b>	Well Rohn State LD09-63HN
<b>Company:</b>	Northern Region Drilling	<b>TVD Reference:</b>	WELL @ 4746.0usft (Original Well Elev)
<b>Project:</b>	Wattenberg Field	<b>MD Reference:</b>	WELL @ 4746.0usft (Original Well Elev)
<b>Site:</b>	LD (09N-58W)	<b>North Reference:</b>	Grid
<b>Well:</b>	Rohn State LD09-63HN	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Drilling		
<b>Design:</b>	APD - Rev 0		

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,200.0	1,200.0	0.0	0.0	KOP - Start Build 2.00
3,092.3	3,049.7	81.0	27.9	Start Drop -2.00
4,976.9	4,927.3	354.0	122.1	KOP #2 - Start Build 8.00
6,039.4	5,640.7	435.0	150.0	Start 75.0 hold at 6039.4 MD
6,114.4	5,647.3	435.0	150.0	Start Build 8.00
9,663.3	5,650.0	423.7	-503.7	TD at 9663.3

# **Northern Region Drilling**

**Wattenberg Field**

**LD (09N-58W)**

**Rohn State LD09-63HN**

**Original Drilling**

**APD - Rev 0**

## **Anticollision Summary Report**

**22 April, 2013**

**Noble Energy Inc**  
Anticollision Summary Report

<b>Company:</b>	Northern Region Drilling	<b>Local Co-ordinate Reference:</b>	Well Rohn State LD09-63HN
<b>Project:</b>	Wattenberg Field	<b>TVD Reference:</b>	WELL @ 4746.0usft (Original Well Elev)
<b>Reference Site:</b>	LD (09N-58W)	<b>MD Reference:</b>	WELL @ 4746.0usft (Original Well Elev)
<b>Site Error:</b>	0.0 usft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Rohn State LD09-63HN	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 usft	<b>Output errors are at</b>	2.54 sigma
<b>Reference Wellbore</b>	Original Drilling	<b>Database:</b>	EDM Production
<b>Reference Design:</b>	APD - Rev 0	<b>Offset TVD Reference:</b>	Offset Datum

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

<b>Survey Tool Program</b>	<b>Date</b>	4/22/2013		
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.0	9,663.2	APD - Rev 0 (Original Drilling)	MWD	MWD - Standard

<b>Summary</b>						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
<b>Offset Well - Wellbore - Design</b>						
LD (09N-58W)						
Rohn LD09-62HN - Original Drilling - As Drilled	1,474.0	1,501.0	397.9	394.8	126.034	CC
Rohn LD09-62HN - Original Drilling - As Drilled	9,663.3	9,981.0	610.7	341.0	2.265	ES, SF
Rohn State LD09-62-1HN - Original Drilling - APD - Rev	1,200.0	1,201.0	76.5	71.4	14.989	CC, ES
Rohn State LD09-62-1HN - Original Drilling - APD - Rev	9,663.3	9,384.3	994.4	767.4	4.381	SF
Rohn State LD09-63-1HN - Original Drilling - APD - Rev	1,200.0	1,201.0	36.4	31.3	7.138	CC, ES
Rohn State LD09-63-1HN - Original Drilling - APD - Rev	9,663.3	9,652.4	341.5	114.6	1.505	SF
Rohn State LD16-69HN - Original Drilling - APD - Rev 0	1,166.3	1,167.3	112.9	108.0	22.803	CC
Rohn State LD16-69HN - Original Drilling - APD - Rev 0	1,200.0	1,200.0	112.9	107.8	22.137	ES
Rohn State LD16-69HN - Original Drilling - APD - Rev 0	9,663.3	9,423.9	1,321.5	1,094.4	5.821	SF

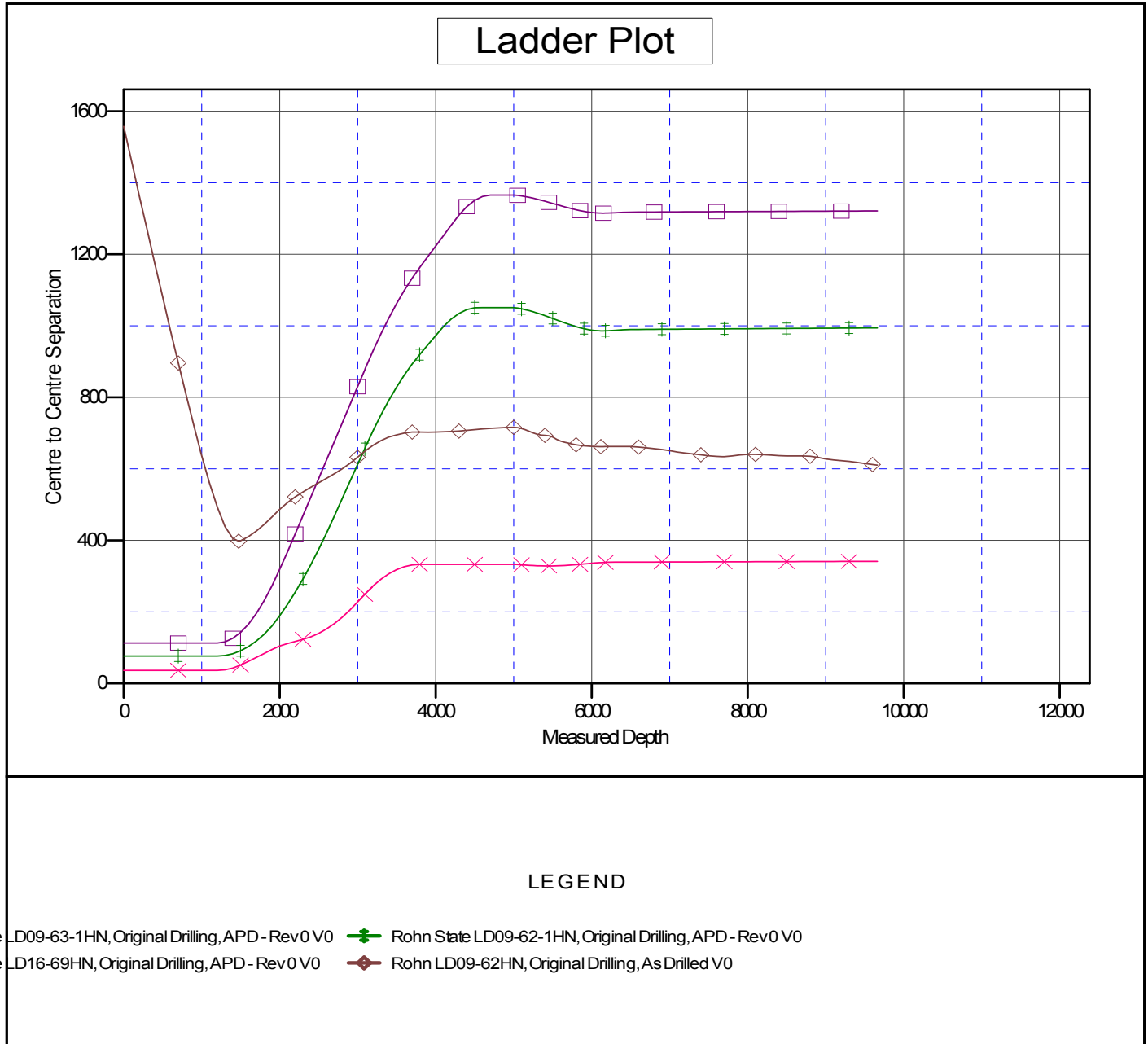
# Noble Energy Inc

## Anticollision Summary Report

<b>Company:</b>	Northern Region Drilling	<b>Local Co-ordinate Reference:</b>	Well Rohn State LD09-63HN
<b>Project:</b>	Wattenberg Field	<b>TVD Reference:</b>	WELL @ 4746.0usft (Original Well Elev)
<b>Reference Site:</b>	LD (09N-58W)	<b>MD Reference:</b>	WELL @ 4746.0usft (Original Well Elev)
<b>Site Error:</b>	0.0 usft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Rohn State LD09-63HN	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 usft	<b>Output errors are at</b>	2.54 sigma
<b>Reference Wellbore</b>	Original Drilling	<b>Database:</b>	EDM Production
<b>Reference Design:</b>	APD - Rev 0	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4746.0usft (Original Well Ele)  
Offset Depths are relative to Offset Datum  
Central Meridian is -105.500000

Coordinates are relative to: Rohn State LD09-63HN  
Coordinate System is US State Plane 1983, Colorado Northern Zone  
Grid Convergence at Surface is: 1.06°



**Noble Energy Inc**  
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<b>Company:</b>	Northern Region Drilling	<b>Local Co-ordinate Reference:</b>	Well Rohn State LD09-63HN
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<b>Site Error:</b>	0.0 usft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Rohn State LD09-63HN	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 usft	<b>Output errors are at</b>	2.54 sigma
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