

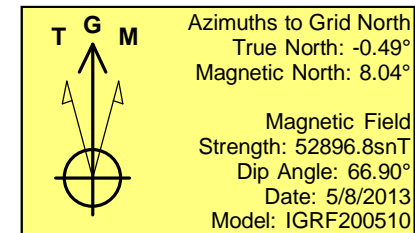
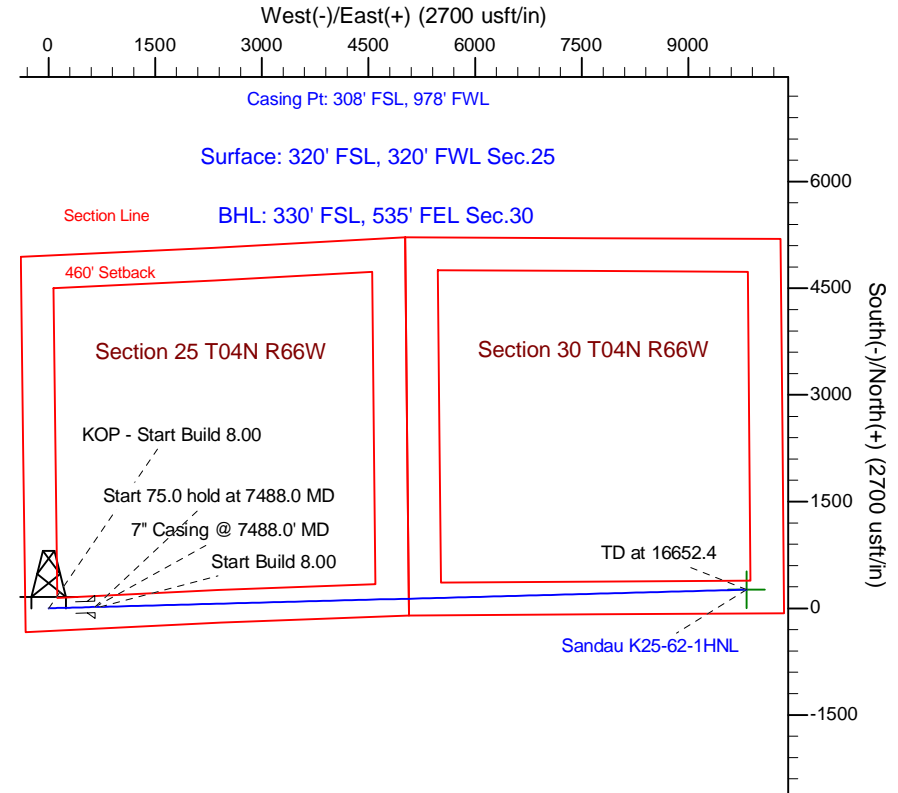
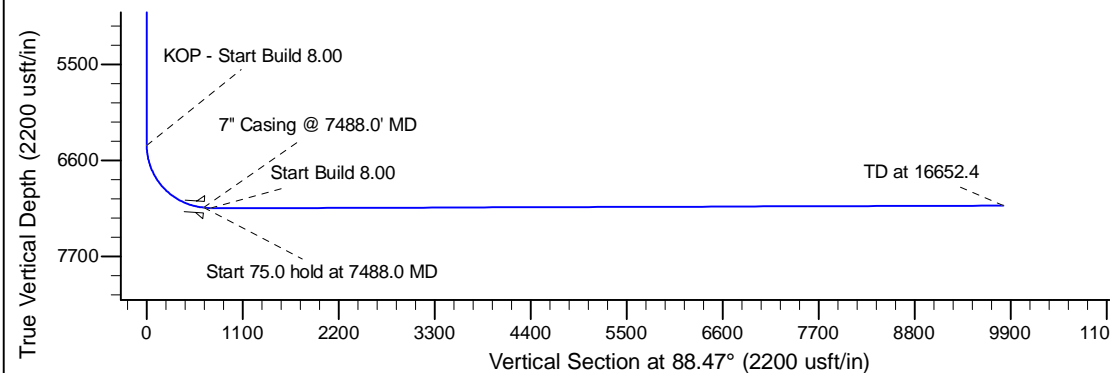
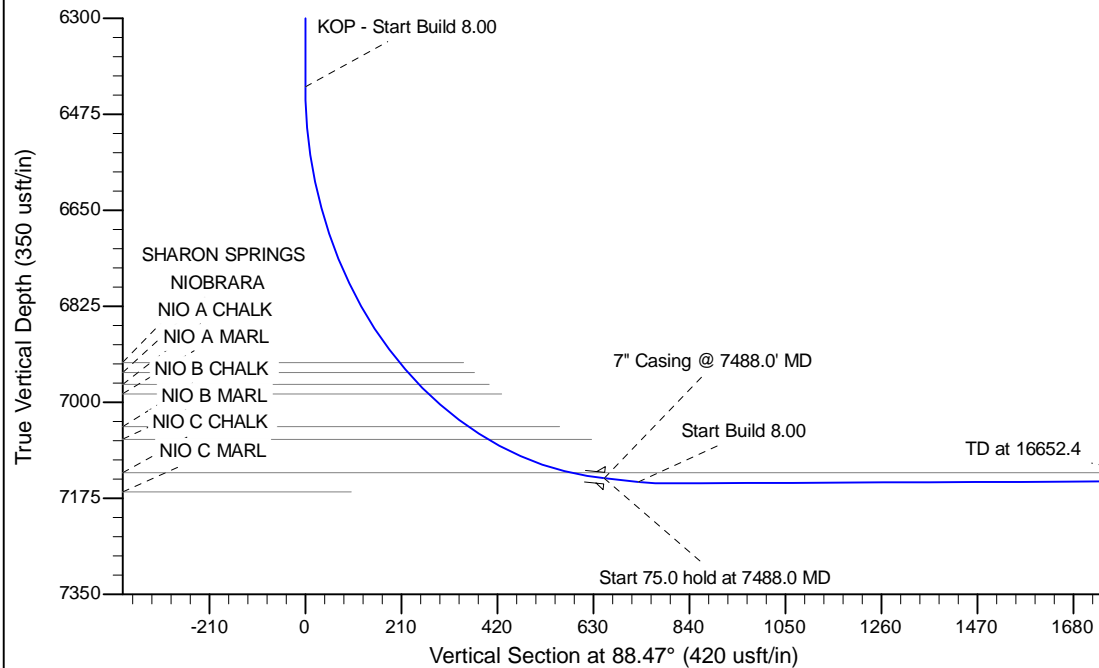
Project: Wattenberg Field  
 Site: K (Sec.25-T04-R66W) Weld County, CO  
 Well: Sandau K25-62-1HNL  
 Wellbore: Original Drilling  
 Design: APD - Rev 0

# 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	6425.5	0.00	0.00	6425.5	0.0	0.0	0.00	0.00	0.0	
3	7488.0	85.00	88.47	7138.9	17.4	653.5	8.00	88.47	653.8	
4	7563.0	85.00	88.47	7145.5	19.4	728.2	0.00	0.00	728.5	
5	7628.0	90.20	88.47	7148.2	21.1	793.1	8.00	0.00	793.4	
6	16652.4	90.20	88.47	7116.7	261.6	9814.3	0.00	0.00	9817.8	Sandau K25-62-1HNL BHL 330'FSL, 535'FEL



WELL DETAILS: Sandau K25-62-1HNL					
Ground Level: 4798.0					
0.0	0.0	Northing	Easting	Latitude	Longitude
		1344534.20	3213808.27	40.276610	-104.733700
Plan: APD - Rev 0 (Sandau K25-62-1HNL/Original Drilling)					
Created By: Shailey Jewell			Date: 16:28, May 08 2013		
Checked: _____			Date: _____		
Reviewed: _____			Date: _____		
Approved: _____			Date: _____		

# **Northern Region Drilling**

**Wattenberg Field**

**K (04-66W)**

**Sandau K25-62-1HNL**

**Original Drilling**

**Plan: APD - Rev 0**

## **Standard Planning Report**

**08 May, 2013**

# Noble Energy Inc

## Planning Report

<b>Database:</b>	EDM Production	<b>Local Co-ordinate Reference:</b>	Well Sandau K25-62-1HNL
<b>Company:</b>	Northern Region Drilling	<b>TVD Reference:</b>	WELL @ 4822.0usft (Original Well Elev)
<b>Project:</b>	Wattenberg Field	<b>MD Reference:</b>	WELL @ 4822.0usft (Original Well Elev)
<b>Site:</b>	K (04-66W)	<b>North Reference:</b>	Grid
<b>Well:</b>	Sandau K25-62-1HNL	<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

<b>Site</b>	K (04-66W)		
<b>Site Position:</b>		<b>Northing:</b>	1,345,613.68 usft
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,203,135.01 usft
<b>Position Uncertainty:</b>	0.0 usft	<b>Slot Radius:</b>	13-3/16 "
		<b>Latitude:</b>	40.279820
		<b>Longitude:</b>	-104.771920
		<b>Grid Convergence:</b>	0.47 °

<b>Well</b>	Sandau K25-62-1HNL		
<b>Well Position</b>	<b>+N/-S</b>	-1,079.5 usft	<b>Northing:</b> 1,344,534.20 usft
	<b>+E/-W</b>	10,673.7 usft	<b>Easting:</b> 3,213,808.27 usft
<b>Position Uncertainty</b>	0.0 usft	<b>Wellhead Elevation:</b>	<b>Latitude:</b> 40.276610
			<b>Longitude:</b> -104.733700
			<b>Ground Level:</b> 4,798.0 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	5/8/2013	8.53	66.90	52,897

<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	88.47

<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	
6,425.5	0.00	0.00	6,425.5	0.0	0.0	0.00	0.00	0.00	0.00	
7,488.0	85.00	88.47	7,138.9	17.4	653.5	8.00	8.00	0.00	88.47	
7,563.0	85.00	88.47	7,145.5	19.4	728.2	0.00	0.00	0.00	0.00	
7,628.0	90.20	88.47	7,148.2	21.1	793.1	8.00	8.00	0.00	0.00	
16,652.4	90.20	88.47	7,116.7	261.6	9,814.3	0.00	0.00	0.00	0.00	Sandau K25-62-1HNL

# Noble Energy Inc

## Planning Report

<b>Database:</b>	EDM Production	<b>Local Co-ordinate Reference:</b>	Well Sandau K25-62-1HNL
<b>Company:</b>	Northern Region Drilling	<b>TVD Reference:</b>	WELL @ 4822.0usft (Original Well Elev)
<b>Project:</b>	Wattenberg Field	<b>MD Reference:</b>	WELL @ 4822.0usft (Original Well Elev)
<b>Site:</b>	K (04-66W)	<b>North Reference:</b>	Grid
<b>Well:</b>	Sandau K25-62-1HNL	<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
1,100.0	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
1,447.0	0.00	0.00	1,447.0	0.0	0.0	0.0	0.00	0.00	0.00
PIERRE									
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
1,850.0	0.00	0.00	1,850.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,950.0	0.00	0.00	1,950.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,050.0	0.00	0.00	2,050.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,150.0	0.00	0.00	2,150.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,250.0	0.00	0.00	2,250.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,350.0	0.00	0.00	2,350.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,450.0	0.00	0.00	2,450.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,550.0	0.00	0.00	2,550.0	0.0	0.0	0.0	0.00	0.00	0.00

# Noble Energy Inc

## Planning Report

<b>Database:</b>	EDM Production	<b>Local Co-ordinate Reference:</b>	Well Sandau K25-62-1HNL
<b>Company:</b>	Northern Region Drilling	<b>TVD Reference:</b>	WELL @ 4822.0usft (Original Well Elev)
<b>Project:</b>	Wattenberg Field	<b>MD Reference:</b>	WELL @ 4822.0usft (Original Well Elev)
<b>Site:</b>	K (04-66W)	<b>North Reference:</b>	Grid
<b>Well:</b>	Sandau K25-62-1HNL	<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)
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,650.0	0.00	0.00	2,650.0	0.0	0.0	0.0	0.00	0.00	0.00
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00
2,750.0	0.00	0.00	2,750.0	0.0	0.0	0.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
2,850.0	0.00	0.00	2,850.0	0.0	0.0	0.0	0.00	0.00	0.00
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,950.0	0.00	0.00	2,950.0	0.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
3,050.0	0.00	0.00	3,050.0	0.0	0.0	0.0	0.00	0.00	0.00
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	0.00
3,150.0	0.00	0.00	3,150.0	0.0	0.0	0.0	0.00	0.00	0.00
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	0.00
3,250.0	0.00	0.00	3,250.0	0.0	0.0	0.0	0.00	0.00	0.00
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	0.00
3,350.0	0.00	0.00	3,350.0	0.0	0.0	0.0	0.00	0.00	0.00
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00
3,450.0	0.00	0.00	3,450.0	0.0	0.0	0.0	0.00	0.00	0.00
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	0.00
3,550.0	0.00	0.00	3,550.0	0.0	0.0	0.0	0.00	0.00	0.00
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	0.00
3,650.0	0.00	0.00	3,650.0	0.0	0.0	0.0	0.00	0.00	0.00
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	0.00
3,750.0	0.00	0.00	3,750.0	0.0	0.0	0.0	0.00	0.00	0.00
3,776.0	0.00	0.00	3,776.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>PARKMAN</b>									
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	0.00
3,850.0	0.00	0.00	3,850.0	0.0	0.0	0.0	0.00	0.00	0.00
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	0.00
3,950.0	0.00	0.00	3,950.0	0.0	0.0	0.0	0.00	0.00	0.00
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	0.00
4,050.0	0.00	0.00	4,050.0	0.0	0.0	0.0	0.00	0.00	0.00
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	0.00
4,150.0	0.00	0.00	4,150.0	0.0	0.0	0.0	0.00	0.00	0.00
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	0.00
4,250.0	0.00	0.00	4,250.0	0.0	0.0	0.0	0.00	0.00	0.00
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.0	0.00	0.00	0.00
4,350.0	0.00	0.00	4,350.0	0.0	0.0	0.0	0.00	0.00	0.00
4,400.0	0.00	0.00	4,400.0	0.0	0.0	0.0	0.00	0.00	0.00
4,408.0	0.00	0.00	4,408.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>SUSSEX</b>									
4,450.0	0.00	0.00	4,450.0	0.0	0.0	0.0	0.00	0.00	0.00
4,500.0	0.00	0.00	4,500.0	0.0	0.0	0.0	0.00	0.00	0.00
4,550.0	0.00	0.00	4,550.0	0.0	0.0	0.0	0.00	0.00	0.00
4,600.0	0.00	0.00	4,600.0	0.0	0.0	0.0	0.00	0.00	0.00
4,650.0	0.00	0.00	4,650.0	0.0	0.0	0.0	0.00	0.00	0.00
4,700.0	0.00	0.00	4,700.0	0.0	0.0	0.0	0.00	0.00	0.00
4,750.0	0.00	0.00	4,750.0	0.0	0.0	0.0	0.00	0.00	0.00
4,800.0	0.00	0.00	4,800.0	0.0	0.0	0.0	0.00	0.00	0.00
4,850.0	0.00	0.00	4,850.0	0.0	0.0	0.0	0.00	0.00	0.00
4,878.0	0.00	0.00	4,878.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>SHANNON</b>									
4,900.0	0.00	0.00	4,900.0	0.0	0.0	0.0	0.00	0.00	0.00

# Noble Energy Inc

## Planning Report

<b>Database:</b>	EDM Production	<b>Local Co-ordinate Reference:</b>	Well Sandau K25-62-1HNL
<b>Company:</b>	Northern Region Drilling	<b>TVD Reference:</b>	WELL @ 4822.0usft (Original Well Elev)
<b>Project:</b>	Wattenberg Field	<b>MD Reference:</b>	WELL @ 4822.0usft (Original Well Elev)
<b>Site:</b>	K (04-66W)	<b>North Reference:</b>	Grid
<b>Well:</b>	Sandau K25-62-1HNL	<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)
4,950.0	0.00	0.00	4,950.0	0.0	0.0	0.0	0.00	0.00	0.00
5,000.0	0.00	0.00	5,000.0	0.0	0.0	0.0	0.00	0.00	0.00
5,050.0	0.00	0.00	5,050.0	0.0	0.0	0.0	0.00	0.00	0.00
5,100.0	0.00	0.00	5,100.0	0.0	0.0	0.0	0.00	0.00	0.00
5,150.0	0.00	0.00	5,150.0	0.0	0.0	0.0	0.00	0.00	0.00
5,200.0	0.00	0.00	5,200.0	0.0	0.0	0.0	0.00	0.00	0.00
5,250.0	0.00	0.00	5,250.0	0.0	0.0	0.0	0.00	0.00	0.00
5,300.0	0.00	0.00	5,300.0	0.0	0.0	0.0	0.00	0.00	0.00
5,350.0	0.00	0.00	5,350.0	0.0	0.0	0.0	0.00	0.00	0.00
5,400.0	0.00	0.00	5,400.0	0.0	0.0	0.0	0.00	0.00	0.00
5,450.0	0.00	0.00	5,450.0	0.0	0.0	0.0	0.00	0.00	0.00
5,500.0	0.00	0.00	5,500.0	0.0	0.0	0.0	0.00	0.00	0.00
5,550.0	0.00	0.00	5,550.0	0.0	0.0	0.0	0.00	0.00	0.00
5,600.0	0.00	0.00	5,600.0	0.0	0.0	0.0	0.00	0.00	0.00
5,650.0	0.00	0.00	5,650.0	0.0	0.0	0.0	0.00	0.00	0.00
5,700.0	0.00	0.00	5,700.0	0.0	0.0	0.0	0.00	0.00	0.00
5,750.0	0.00	0.00	5,750.0	0.0	0.0	0.0	0.00	0.00	0.00
5,800.0	0.00	0.00	5,800.0	0.0	0.0	0.0	0.00	0.00	0.00
5,850.0	0.00	0.00	5,850.0	0.0	0.0	0.0	0.00	0.00	0.00
5,900.0	0.00	0.00	5,900.0	0.0	0.0	0.0	0.00	0.00	0.00
5,950.0	0.00	0.00	5,950.0	0.0	0.0	0.0	0.00	0.00	0.00
6,000.0	0.00	0.00	6,000.0	0.0	0.0	0.0	0.00	0.00	0.00
6,049.0	0.00	0.00	6,049.0	0.0	0.0	0.0	0.00	0.00	0.00
TEEPEE BUTTES									
6,050.0	0.00	0.00	6,050.0	0.0	0.0	0.0	0.00	0.00	0.00
6,100.0	0.00	0.00	6,100.0	0.0	0.0	0.0	0.00	0.00	0.00
6,150.0	0.00	0.00	6,150.0	0.0	0.0	0.0	0.00	0.00	0.00
6,200.0	0.00	0.00	6,200.0	0.0	0.0	0.0	0.00	0.00	0.00
6,250.0	0.00	0.00	6,250.0	0.0	0.0	0.0	0.00	0.00	0.00
6,300.0	0.00	0.00	6,300.0	0.0	0.0	0.0	0.00	0.00	0.00
6,350.0	0.00	0.00	6,350.0	0.0	0.0	0.0	0.00	0.00	0.00
6,400.0	0.00	0.00	6,400.0	0.0	0.0	0.0	0.00	0.00	0.00
6,425.5	0.00	0.00	6,425.5	0.0	0.0	0.0	0.00	0.00	0.00
KOP - Start Build 8.00									
6,450.0	1.96	88.47	6,450.0	0.0	0.4	0.4	8.00	8.00	0.00
6,500.0	5.96	88.47	6,499.9	0.1	3.9	3.9	8.00	8.00	0.00
6,550.0	9.96	88.47	6,549.4	0.3	10.8	10.8	8.00	8.00	0.00
6,600.0	13.96	88.47	6,598.3	0.6	21.2	21.2	8.00	8.00	0.00
6,650.0	17.96	88.47	6,646.3	0.9	34.9	34.9	8.00	8.00	0.00
6,700.0	21.96	88.47	6,693.3	1.4	52.0	52.0	8.00	8.00	0.00
6,750.0	25.96	88.47	6,739.0	1.9	72.3	72.3	8.00	8.00	0.00
6,800.0	29.96	88.47	6,783.2	2.6	95.7	95.7	8.00	8.00	0.00
6,850.0	33.96	88.47	6,825.6	3.3	122.1	122.2	8.00	8.00	0.00
6,900.0	37.96	88.47	6,866.0	4.0	151.5	151.5	8.00	8.00	0.00
6,950.0	41.96	88.47	6,904.4	4.9	183.6	183.6	8.00	8.00	0.00
6,982.5	44.56	88.47	6,928.0	5.5	205.8	205.9	8.00	8.00	0.00
SHARON SPRINGS									
7,000.0	45.96	88.47	6,940.3	5.8	218.3	218.3	8.00	8.00	0.00
7,008.2	46.62	88.47	6,946.0	6.0	224.2	224.3	8.00	8.00	0.00
NIOBRARA									
7,041.0	49.25	88.47	6,968.0	6.6	248.6	248.6	8.00	8.00	0.00
NIO A CHALK									
7,050.0	49.96	88.47	6,973.8	6.8	255.4	255.5	8.00	8.00	0.00

# Noble Energy Inc

## Planning Report

<b>Database:</b>	EDM Production	<b>Local Co-ordinate Reference:</b>	Well Sandau K25-62-1HNL
<b>Company:</b>	Northern Region Drilling	<b>TVD Reference:</b>	WELL @ 4822.0usft (Original Well Elev)
<b>Project:</b>	Wattenberg Field	<b>MD Reference:</b>	WELL @ 4822.0usft (Original Well Elev)
<b>Site:</b>	K (04-66W)	<b>North Reference:</b>	Grid
<b>Well:</b>	Sandau K25-62-1HNL	<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)
7,067.7	51.38	88.47	6,985.0	7.2	269.0	269.1	8.00	8.00	0.00
<b>NIO A MARL</b>									
7,100.0	53.96	88.47	7,004.6	7.9	294.7	294.8	8.00	8.00	0.00
7,150.0	57.96	88.47	7,032.6	9.0	336.2	336.3	8.00	8.00	0.00
7,174.0	59.89	88.47	7,045.0	9.5	356.7	356.9	8.00	8.00	0.00
<b>NIO B CHALK</b>									
7,200.0	61.96	88.47	7,057.6	10.1	379.4	379.5	8.00	8.00	0.00
7,222.8	63.78	88.47	7,068.0	10.7	399.7	399.8	8.00	8.00	0.00
<b>NIO B MARL</b>									
7,250.0	65.96	88.47	7,079.6	11.3	424.3	424.5	8.00	8.00	0.00
7,300.0	69.96	88.47	7,098.3	12.5	470.6	470.8	8.00	8.00	0.00
7,350.0	73.96	88.47	7,113.8	13.8	518.1	518.3	8.00	8.00	0.00
7,400.0	77.96	88.47	7,125.9	15.1	566.6	566.8	8.00	8.00	0.00
7,415.6	79.21	88.47	7,129.0	15.5	581.9	582.1	8.00	8.00	0.00
<b>NIO C CHALK</b>									
7,450.0	81.96	88.47	7,134.6	16.4	615.8	616.1	8.00	8.00	0.00
7,488.0	85.00	88.47	7,138.9	17.4	653.6	653.8	7.99	7.99	0.00
<b>Start 75.0 hold at 7488.0 MD - 7" Casing @ 7488.0' MD</b>									
7,500.0	85.00	88.47	7,140.0	17.7	665.5	665.8	0.00	0.00	0.00
7,550.0	85.00	88.47	7,144.3	19.1	715.3	715.6	0.00	0.00	0.00
7,563.0	85.00	88.47	7,145.5	19.4	728.2	728.5	0.00	0.00	0.00
<b>Start Build 8.00</b>									
7,600.0	87.96	88.47	7,147.8	20.4	765.2	765.4	8.00	8.00	0.00
7,628.0	90.20	88.47	7,148.2	21.1	793.1	793.4	8.00	8.00	0.00
7,650.0	90.20	88.47	7,148.1	21.7	815.2	815.4	0.00	0.00	0.00
7,700.0	90.20	88.47	7,147.9	23.1	865.1	865.4	0.00	0.00	0.00
7,750.0	90.20	88.47	7,147.8	24.4	915.1	915.4	0.00	0.00	0.00
7,800.0	90.20	88.47	7,147.6	25.7	965.1	965.4	0.00	0.00	0.00
7,850.0	90.20	88.47	7,147.4	27.1	1,015.1	1,015.4	0.00	0.00	0.00
7,900.0	90.20	88.47	7,147.3	28.4	1,065.1	1,065.4	0.00	0.00	0.00
7,950.0	90.20	88.47	7,147.1	29.7	1,115.0	1,115.4	0.00	0.00	0.00
8,000.0	90.20	88.47	7,146.9	31.1	1,165.0	1,165.4	0.00	0.00	0.00
8,050.0	90.20	88.47	7,146.7	32.4	1,215.0	1,215.4	0.00	0.00	0.00
8,100.0	90.20	88.47	7,146.6	33.7	1,265.0	1,265.4	0.00	0.00	0.00
8,150.0	90.20	88.47	7,146.4	35.1	1,315.0	1,315.4	0.00	0.00	0.00
8,200.0	90.20	88.47	7,146.2	36.4	1,365.0	1,365.4	0.00	0.00	0.00
8,250.0	90.20	88.47	7,146.0	37.7	1,414.9	1,415.4	0.00	0.00	0.00
8,300.0	90.20	88.47	7,145.9	39.1	1,464.9	1,465.4	0.00	0.00	0.00
8,350.0	90.20	88.47	7,145.7	40.4	1,514.9	1,515.4	0.00	0.00	0.00
8,400.0	90.20	88.47	7,145.5	41.7	1,564.9	1,565.4	0.00	0.00	0.00
8,450.0	90.20	88.47	7,145.3	43.1	1,614.9	1,615.4	0.00	0.00	0.00
8,500.0	90.20	88.47	7,145.2	44.4	1,664.8	1,665.4	0.00	0.00	0.00
8,550.0	90.20	88.47	7,145.0	45.7	1,714.8	1,715.4	0.00	0.00	0.00
8,600.0	90.20	88.47	7,144.8	47.0	1,764.8	1,765.4	0.00	0.00	0.00
8,650.0	90.20	88.47	7,144.6	48.4	1,814.8	1,815.4	0.00	0.00	0.00
8,700.0	90.20	88.47	7,144.5	49.7	1,864.8	1,865.4	0.00	0.00	0.00
8,750.0	90.20	88.47	7,144.3	51.0	1,914.8	1,915.4	0.00	0.00	0.00
8,800.0	90.20	88.47	7,144.1	52.4	1,964.7	1,965.4	0.00	0.00	0.00
8,850.0	90.20	88.47	7,143.9	53.7	2,014.7	2,015.4	0.00	0.00	0.00
8,900.0	90.20	88.47	7,143.8	55.0	2,064.7	2,065.4	0.00	0.00	0.00
8,950.0	90.20	88.47	7,143.6	56.4	2,114.7	2,115.4	0.00	0.00	0.00
9,000.0	90.20	88.47	7,143.4	57.7	2,164.7	2,165.4	0.00	0.00	0.00
9,050.0	90.20	88.47	7,143.2	59.0	2,214.6	2,215.4	0.00	0.00	0.00

# Noble Energy Inc

## Planning Report

<b>Database:</b>	EDM Production	<b>Local Co-ordinate Reference:</b>	Well Sandau K25-62-1HNL
<b>Company:</b>	Northern Region Drilling	<b>TVD Reference:</b>	WELL @ 4822.0usft (Original Well Elev)
<b>Project:</b>	Wattenberg Field	<b>MD Reference:</b>	WELL @ 4822.0usft (Original Well Elev)
<b>Site:</b>	K (04-66W)	<b>North Reference:</b>	Grid
<b>Well:</b>	Sandau K25-62-1HNL	<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)	
9,100.0	90.20	88.47	7,143.1	60.4	2,264.6	2,265.4	0.00	0.00	0.00	
9,150.0	90.20	88.47	7,142.9	61.7	2,314.6	2,315.4	0.00	0.00	0.00	
9,200.0	90.20	88.47	7,142.7	63.0	2,364.6	2,365.4	0.00	0.00	0.00	
9,250.0	90.20	88.47	7,142.5	64.4	2,414.6	2,415.4	0.00	0.00	0.00	
9,300.0	90.20	88.47	7,142.4	65.7	2,464.6	2,465.4	0.00	0.00	0.00	
9,350.0	90.20	88.47	7,142.2	67.0	2,514.5	2,515.4	0.00	0.00	0.00	
9,400.0	90.20	88.47	7,142.0	68.4	2,564.5	2,565.4	0.00	0.00	0.00	
9,450.0	90.20	88.47	7,141.8	69.7	2,614.5	2,615.4	0.00	0.00	0.00	
9,500.0	90.20	88.47	7,141.7	71.0	2,664.5	2,665.4	0.00	0.00	0.00	
9,550.0	90.20	88.47	7,141.5	72.4	2,714.5	2,715.4	0.00	0.00	0.00	
9,600.0	90.20	88.47	7,141.3	73.7	2,764.4	2,765.4	0.00	0.00	0.00	
9,650.0	90.20	88.47	7,141.1	75.0	2,814.4	2,815.4	0.00	0.00	0.00	
9,700.0	90.20	88.47	7,141.0	76.4	2,864.4	2,865.4	0.00	0.00	0.00	
9,750.0	90.20	88.47	7,140.8	77.7	2,914.4	2,915.4	0.00	0.00	0.00	
9,800.0	90.20	88.47	7,140.6	79.0	2,964.4	2,965.4	0.00	0.00	0.00	
9,850.0	90.20	88.47	7,140.4	80.4	3,014.4	3,015.4	0.00	0.00	0.00	
9,900.0	90.20	88.47	7,140.3	81.7	3,064.3	3,065.4	0.00	0.00	0.00	
9,950.0	90.20	88.47	7,140.1	83.0	3,114.3	3,115.4	0.00	0.00	0.00	
10,000.0	90.20	88.47	7,139.9	84.4	3,164.3	3,165.4	0.00	0.00	0.00	
10,050.0	90.20	88.47	7,139.7	85.7	3,214.3	3,215.4	0.00	0.00	0.00	
10,100.0	90.20	88.47	7,139.6	87.0	3,264.3	3,265.4	0.00	0.00	0.00	
10,150.0	90.20	88.47	7,139.4	88.4	3,314.2	3,315.4	0.00	0.00	0.00	
10,200.0	90.20	88.47	7,139.2	89.7	3,364.2	3,365.4	0.00	0.00	0.00	
10,250.0	90.20	88.47	7,139.0	91.0	3,414.2	3,415.4	0.00	0.00	0.00	
10,300.0	90.20	88.47	7,138.9	92.4	3,464.2	3,465.4	0.00	0.00	0.00	
10,350.0	90.20	88.47	7,138.7	93.7	3,514.2	3,515.4	0.00	0.00	0.00	
10,400.0	90.20	88.47	7,138.5	95.0	3,564.2	3,565.4	0.00	0.00	0.00	
10,450.0	90.20	88.47	7,138.4	96.3	3,614.1	3,615.4	0.00	0.00	0.00	
10,500.0	90.20	88.47	7,138.2	97.7	3,664.1	3,665.4	0.00	0.00	0.00	
10,550.0	90.20	88.47	7,138.0	99.0	3,714.1	3,715.4	0.00	0.00	0.00	
10,600.0	90.20	88.47	7,137.8	100.3	3,764.1	3,765.4	0.00	0.00	0.00	
10,650.0	90.20	88.47	7,137.7	101.7	3,814.1	3,815.4	0.00	0.00	0.00	
10,700.0	90.20	88.47	7,137.5	103.0	3,864.0	3,865.4	0.00	0.00	0.00	
10,750.0	90.20	88.47	7,137.3	104.3	3,914.0	3,915.4	0.00	0.00	0.00	
10,800.0	90.20	88.47	7,137.1	105.7	3,964.0	3,965.4	0.00	0.00	0.00	
10,850.0	90.20	88.47	7,137.0	107.0	4,014.0	4,015.4	0.00	0.00	0.00	
10,900.0	90.20	88.47	7,136.8	108.3	4,064.0	4,065.4	0.00	0.00	0.00	
10,950.0	90.20	88.47	7,136.6	109.7	4,114.0	4,115.4	0.00	0.00	0.00	
11,000.0	90.20	88.47	7,136.4	111.0	4,163.9	4,165.4	0.00	0.00	0.00	
11,050.0	90.20	88.47	7,136.3	112.3	4,213.9	4,215.4	0.00	0.00	0.00	
11,100.0	90.20	88.47	7,136.1	113.7	4,263.9	4,265.4	0.00	0.00	0.00	
11,150.0	90.20	88.47	7,135.9	115.0	4,313.9	4,315.4	0.00	0.00	0.00	
11,200.0	90.20	88.47	7,135.7	116.3	4,363.9	4,365.4	0.00	0.00	0.00	
11,250.0	90.20	88.47	7,135.6	117.7	4,413.9	4,415.4	0.00	0.00	0.00	
11,300.0	90.20	88.47	7,135.4	119.0	4,463.8	4,465.4	0.00	0.00	0.00	
11,350.0	90.20	88.47	7,135.2	120.3	4,513.8	4,515.4	0.00	0.00	0.00	
11,400.0	90.20	88.47	7,135.0	121.7	4,563.8	4,565.4	0.00	0.00	0.00	
11,450.0	90.20	88.47	7,134.9	123.0	4,613.8	4,615.4	0.00	0.00	0.00	
11,500.0	90.20	88.47	7,134.7	124.3	4,663.8	4,665.4	0.00	0.00	0.00	
11,550.0	90.20	88.47	7,134.5	125.7	4,713.7	4,715.4	0.00	0.00	0.00	
11,600.0	90.20	88.47	7,134.3	127.0	4,763.7	4,765.4	0.00	0.00	0.00	
11,650.0	90.20	88.47	7,134.2	128.3	4,813.7	4,815.4	0.00	0.00	0.00	
11,700.0	90.20	88.47	7,134.0	129.7	4,863.7	4,865.4	0.00	0.00	0.00	
11,750.0	90.20	88.47	7,133.8	131.0	4,913.7	4,915.4	0.00	0.00	0.00	



# Noble Energy Inc

## Planning Report

<b>Database:</b>	EDM Production	<b>Local Co-ordinate Reference:</b>	Well Sandau K25-62-1HNL
<b>Company:</b>	Northern Region Drilling	<b>TVD Reference:</b>	WELL @ 4822.0usft (Original Well Elev)
<b>Project:</b>	Wattenberg Field	<b>MD Reference:</b>	WELL @ 4822.0usft (Original Well Elev)
<b>Site:</b>	K (04-66W)	<b>North Reference:</b>	Grid
<b>Well:</b>	Sandau K25-62-1HNL	<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)
11,800.0	90.20	88.47	7,133.6	132.3	4,963.7	4,965.4	0.00	0.00	0.00
11,850.0	90.20	88.47	7,133.5	133.7	5,013.6	5,015.4	0.00	0.00	0.00
11,900.0	90.20	88.47	7,133.3	135.0	5,063.6	5,065.4	0.00	0.00	0.00
11,950.0	90.20	88.47	7,133.1	136.3	5,113.6	5,115.4	0.00	0.00	0.00
12,000.0	90.20	88.47	7,132.9	137.7	5,163.6	5,165.4	0.00	0.00	0.00
12,050.0	90.20	88.47	7,132.8	139.0	5,213.6	5,215.4	0.00	0.00	0.00
12,100.0	90.20	88.47	7,132.6	140.3	5,263.5	5,265.4	0.00	0.00	0.00
12,150.0	90.20	88.47	7,132.4	141.7	5,313.5	5,315.4	0.00	0.00	0.00
12,200.0	90.20	88.47	7,132.2	143.0	5,363.5	5,365.4	0.00	0.00	0.00
12,250.0	90.20	88.47	7,132.1	144.3	5,413.5	5,415.4	0.00	0.00	0.00
12,300.0	90.20	88.47	7,131.9	145.6	5,463.5	5,465.4	0.00	0.00	0.00
12,350.0	90.20	88.47	7,131.7	147.0	5,513.5	5,515.4	0.00	0.00	0.00
12,400.0	90.20	88.47	7,131.5	148.3	5,563.4	5,565.4	0.00	0.00	0.00
12,450.0	90.20	88.47	7,131.4	149.6	5,613.4	5,615.4	0.00	0.00	0.00
12,500.0	90.20	88.47	7,131.2	151.0	5,663.4	5,665.4	0.00	0.00	0.00
12,550.0	90.20	88.47	7,131.0	152.3	5,713.4	5,715.4	0.00	0.00	0.00
12,600.0	90.20	88.47	7,130.8	153.6	5,763.4	5,765.4	0.00	0.00	0.00
12,650.0	90.20	88.47	7,130.7	155.0	5,813.3	5,815.4	0.00	0.00	0.00
12,700.0	90.20	88.47	7,130.5	156.3	5,863.3	5,865.4	0.00	0.00	0.00
12,750.0	90.20	88.47	7,130.3	157.6	5,913.3	5,915.4	0.00	0.00	0.00
12,800.0	90.20	88.47	7,130.1	159.0	5,963.3	5,965.4	0.00	0.00	0.00
12,850.0	90.20	88.47	7,130.0	160.3	6,013.3	6,015.4	0.00	0.00	0.00
12,900.0	90.20	88.47	7,129.8	161.6	6,063.3	6,065.4	0.00	0.00	0.00
12,950.0	90.20	88.47	7,129.6	163.0	6,113.2	6,115.4	0.00	0.00	0.00
13,000.0	90.20	88.47	7,129.4	164.3	6,163.2	6,165.4	0.00	0.00	0.00
13,050.0	90.20	88.47	7,129.3	165.6	6,213.2	6,215.4	0.00	0.00	0.00
13,100.0	90.20	88.47	7,129.1	167.0	6,263.2	6,265.4	0.00	0.00	0.00
13,150.0	90.20	88.47	7,128.9	168.3	6,313.2	6,315.4	0.00	0.00	0.00
13,200.0	90.20	88.47	7,128.8	169.6	6,363.1	6,365.4	0.00	0.00	0.00
13,250.0	90.20	88.47	7,128.6	171.0	6,413.1	6,415.4	0.00	0.00	0.00
13,300.0	90.20	88.47	7,128.4	172.3	6,463.1	6,465.4	0.00	0.00	0.00
13,350.0	90.20	88.47	7,128.2	173.6	6,513.1	6,515.4	0.00	0.00	0.00
13,400.0	90.20	88.47	7,128.1	175.0	6,563.1	6,565.4	0.00	0.00	0.00
13,450.0	90.20	88.47	7,127.9	176.3	6,613.1	6,615.4	0.00	0.00	0.00
13,500.0	90.20	88.47	7,127.7	177.6	6,663.0	6,665.4	0.00	0.00	0.00
13,550.0	90.20	88.47	7,127.5	179.0	6,713.0	6,715.4	0.00	0.00	0.00
13,600.0	90.20	88.47	7,127.4	180.3	6,763.0	6,765.4	0.00	0.00	0.00
13,650.0	90.20	88.47	7,127.2	181.6	6,813.0	6,815.4	0.00	0.00	0.00
13,700.0	90.20	88.47	7,127.0	183.0	6,863.0	6,865.4	0.00	0.00	0.00
13,750.0	90.20	88.47	7,126.8	184.3	6,912.9	6,915.4	0.00	0.00	0.00
13,800.0	90.20	88.47	7,126.7	185.6	6,962.9	6,965.4	0.00	0.00	0.00
13,850.0	90.20	88.47	7,126.5	187.0	7,012.9	7,015.4	0.00	0.00	0.00
13,900.0	90.20	88.47	7,126.3	188.3	7,062.9	7,065.4	0.00	0.00	0.00
13,950.0	90.20	88.47	7,126.1	189.6	7,112.9	7,115.4	0.00	0.00	0.00
14,000.0	90.20	88.47	7,126.0	191.0	7,162.9	7,165.4	0.00	0.00	0.00
14,050.0	90.20	88.47	7,125.8	192.3	7,212.8	7,215.4	0.00	0.00	0.00
14,100.0	90.20	88.47	7,125.6	193.6	7,262.8	7,265.4	0.00	0.00	0.00
14,150.0	90.20	88.47	7,125.4	195.0	7,312.8	7,315.4	0.00	0.00	0.00
14,200.0	90.20	88.47	7,125.3	196.3	7,362.8	7,365.4	0.00	0.00	0.00
14,250.0	90.20	88.47	7,125.1	197.6	7,412.8	7,415.4	0.00	0.00	0.00
14,300.0	90.20	88.47	7,124.9	198.9	7,462.7	7,465.4	0.00	0.00	0.00
14,350.0	90.20	88.47	7,124.7	200.3	7,512.7	7,515.4	0.00	0.00	0.00
14,400.0	90.20	88.47	7,124.6	201.6	7,562.7	7,565.4	0.00	0.00	0.00
14,450.0	90.20	88.47	7,124.4	202.9	7,612.7	7,615.4	0.00	0.00	0.00

# Noble Energy Inc

## Planning Report

<b>Database:</b>	EDM Production	<b>Local Co-ordinate Reference:</b>	Well Sandau K25-62-1HNL
<b>Company:</b>	Northern Region Drilling	<b>TVD Reference:</b>	WELL @ 4822.0usft (Original Well Elev)
<b>Project:</b>	Wattenberg Field	<b>MD Reference:</b>	WELL @ 4822.0usft (Original Well Elev)
<b>Site:</b>	K (04-66W)	<b>North Reference:</b>	Grid
<b>Well:</b>	Sandau K25-62-1HNL	<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)
14,500.0	90.20	88.47	7,124.2	204.3	7,662.7	7,665.4	0.00	0.00	0.00
14,550.0	90.20	88.47	7,124.0	205.6	7,712.7	7,715.4	0.00	0.00	0.00
14,600.0	90.20	88.47	7,123.9	206.9	7,762.6	7,765.4	0.00	0.00	0.00
14,650.0	90.20	88.47	7,123.7	208.3	7,812.6	7,815.4	0.00	0.00	0.00
14,700.0	90.20	88.47	7,123.5	209.6	7,862.6	7,865.4	0.00	0.00	0.00
14,750.0	90.20	88.47	7,123.3	210.9	7,912.6	7,915.4	0.00	0.00	0.00
14,800.0	90.20	88.47	7,123.2	212.3	7,962.6	7,965.4	0.00	0.00	0.00
14,850.0	90.20	88.47	7,123.0	213.6	8,012.5	8,015.4	0.00	0.00	0.00
14,900.0	90.20	88.47	7,122.8	214.9	8,062.5	8,065.4	0.00	0.00	0.00
14,950.0	90.20	88.47	7,122.6	216.3	8,112.5	8,115.4	0.00	0.00	0.00
15,000.0	90.20	88.47	7,122.5	217.6	8,162.5	8,165.4	0.00	0.00	0.00
15,050.0	90.20	88.47	7,122.3	218.9	8,212.5	8,215.4	0.00	0.00	0.00
15,100.0	90.20	88.47	7,122.1	220.3	8,262.5	8,265.4	0.00	0.00	0.00
15,150.0	90.20	88.47	7,121.9	221.6	8,312.4	8,315.4	0.00	0.00	0.00
15,200.0	90.20	88.47	7,121.8	222.9	8,362.4	8,365.4	0.00	0.00	0.00
15,250.0	90.20	88.47	7,121.6	224.3	8,412.4	8,415.4	0.00	0.00	0.00
15,300.0	90.20	88.47	7,121.4	225.6	8,462.4	8,465.4	0.00	0.00	0.00
15,350.0	90.20	88.47	7,121.2	226.9	8,512.4	8,515.4	0.00	0.00	0.00
15,400.0	90.20	88.47	7,121.1	228.3	8,562.4	8,565.4	0.00	0.00	0.00
15,450.0	90.20	88.47	7,120.9	229.6	8,612.3	8,615.4	0.00	0.00	0.00
15,500.0	90.20	88.47	7,120.7	230.9	8,662.3	8,665.4	0.00	0.00	0.00
15,550.0	90.20	88.47	7,120.5	232.3	8,712.3	8,715.4	0.00	0.00	0.00
15,600.0	90.20	88.47	7,120.4	233.6	8,762.3	8,765.4	0.00	0.00	0.00
15,650.0	90.20	88.47	7,120.2	234.9	8,812.3	8,815.4	0.00	0.00	0.00
15,700.0	90.20	88.47	7,120.0	236.3	8,862.2	8,865.4	0.00	0.00	0.00
15,750.0	90.20	88.47	7,119.8	237.6	8,912.2	8,915.4	0.00	0.00	0.00
15,800.0	90.20	88.47	7,119.7	238.9	8,962.2	8,965.4	0.00	0.00	0.00
15,850.0	90.20	88.47	7,119.5	240.3	9,012.2	9,015.4	0.00	0.00	0.00
15,900.0	90.20	88.47	7,119.3	241.6	9,062.2	9,065.4	0.00	0.00	0.00
15,950.0	90.20	88.47	7,119.2	242.9	9,112.2	9,115.4	0.00	0.00	0.00
16,000.0	90.20	88.47	7,119.0	244.3	9,162.1	9,165.4	0.00	0.00	0.00
16,050.0	90.20	88.47	7,118.8	245.6	9,212.1	9,215.4	0.00	0.00	0.00
16,100.0	90.20	88.47	7,118.6	246.9	9,262.1	9,265.4	0.00	0.00	0.00
16,150.0	90.20	88.47	7,118.5	248.2	9,312.1	9,315.4	0.00	0.00	0.00
16,200.0	90.20	88.47	7,118.3	249.6	9,362.1	9,365.4	0.00	0.00	0.00
16,250.0	90.20	88.47	7,118.1	250.9	9,412.0	9,415.4	0.00	0.00	0.00
16,300.0	90.20	88.47	7,117.9	252.2	9,462.0	9,465.4	0.00	0.00	0.00
16,350.0	90.20	88.47	7,117.8	253.6	9,512.0	9,515.4	0.00	0.00	0.00
16,400.0	90.20	88.47	7,117.6	254.9	9,562.0	9,565.4	0.00	0.00	0.00
16,450.0	90.20	88.47	7,117.4	256.2	9,612.0	9,615.4	0.00	0.00	0.00
16,500.0	90.20	88.47	7,117.2	257.6	9,662.0	9,665.4	0.00	0.00	0.00
16,550.0	90.20	88.47	7,117.1	258.9	9,711.9	9,715.4	0.00	0.00	0.00
16,600.0	90.20	88.47	7,116.9	260.2	9,761.9	9,765.4	0.00	0.00	0.00
16,650.0	90.20	88.47	7,116.7	261.6	9,811.9	9,815.4	0.00	0.00	0.00
16,652.4	90.20	88.47	7,116.7	261.6	9,814.3	9,817.8	0.00	0.00	0.00
TD at 16652.4 - Sandau K25-62-1HNL BHL 330°FSL, 535°FEL									

# Noble Energy Inc

## Planning Report

<b>Database:</b>	EDM Production	<b>Local Co-ordinate Reference:</b>	Well Sandau K25-62-1HNL
<b>Company:</b>	Northern Region Drilling	<b>TVD Reference:</b>	WELL @ 4822.0usft (Original Well Elev)
<b>Project:</b>	Wattenberg Field	<b>MD Reference:</b>	WELL @ 4822.0usft (Original Well Elev)
<b>Site:</b>	K (04-66W)	<b>North Reference:</b>	Grid
<b>Well:</b>	Sandau K25-62-1HNL	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Drilling		
<b>Design:</b>	APD - Rev 0		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
- Shape									
Sandau K25-62-1HNL B	0.00	0.00	7,116.7	261.6	9,814.3	1,344,795.83	3,223,622.13	40.277090	-104.698520
- plan hits target center									
- Point									

Casing Points				
Measured Depth	Vertical Depth	Name	Casing Diameter	Hole Diameter
(usft)	(usft)		(")	(")
7,488.0	7,138.9	7" Casing @ 7488.0' MD	7	8-3/4

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(usft)	(usft)			(°)	(°)	
1,447.0	1,447.0	PIERRE		0.00		
3,776.0	3,776.0	PARKMAN		0.00		
4,408.0	4,408.0	SUSSEX		0.00		
4,878.0	4,878.0	SHANNON		0.00		
6,049.0	6,049.0	TEEPEE BUTTES		0.00		
6,982.5	6,928.0	SHARON SPRINGS		0.00		
7,008.2	6,946.0	NIOBRARA		0.00		
7,041.0	6,968.0	NIO A CHALK		0.00		
7,067.7	6,985.0	NIO A MARL		0.00		
7,174.0	7,045.0	NIO B CHALK		0.00		
7,222.8	7,068.0	NIO B MARL		0.00		
7,415.6	7,129.0	NIO C CHALK		0.00		

Plan Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(usft)	(usft)	+N/-S	+E/-W	
(usft)	(usft)	(usft)	(usft)	
6,425.5	6,425.5	0.0	0.0	KOP - Start Build 8.00
7,488.0	7,138.9	17.4	653.5	Start 75.0 hold at 7488.0 MD
7,563.0	7,145.5	19.4	728.2	Start Build 8.00
16,652.4	7,116.7	21.1	793.1	TD at 16652.4