

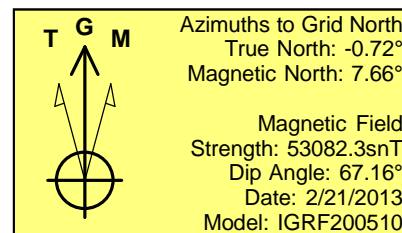
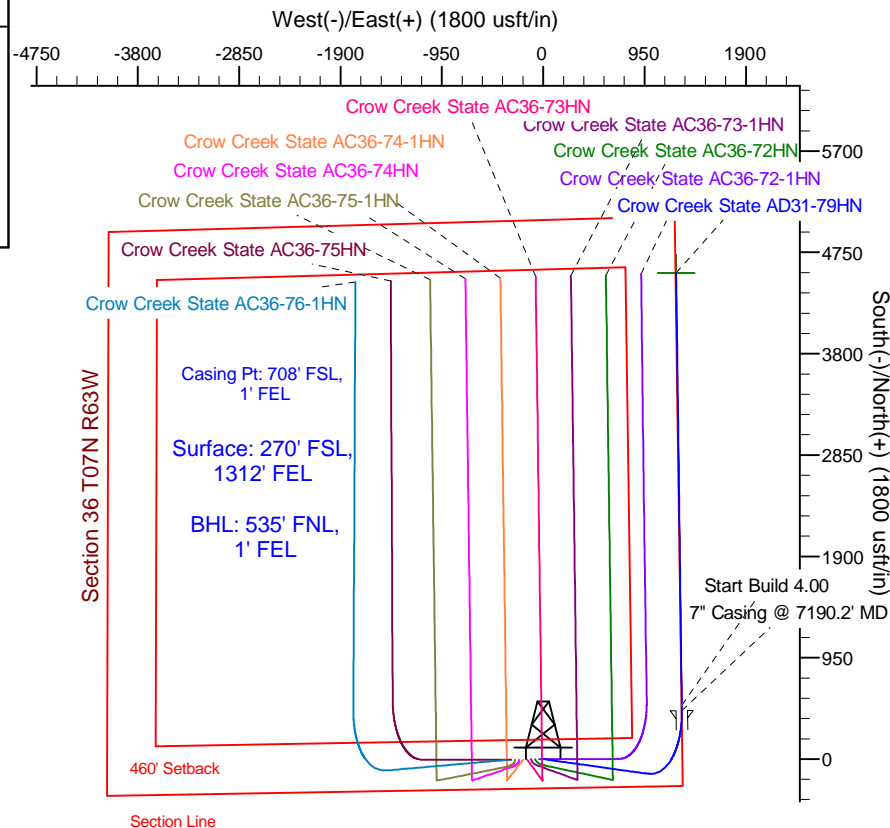
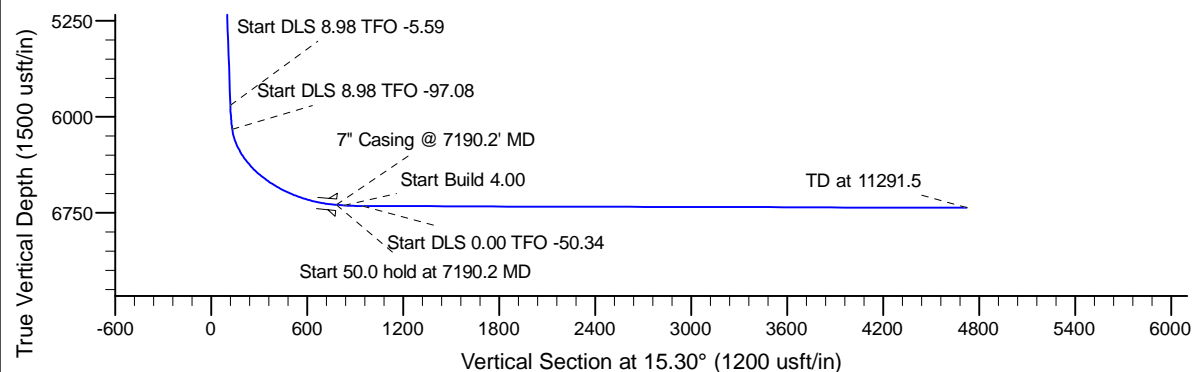
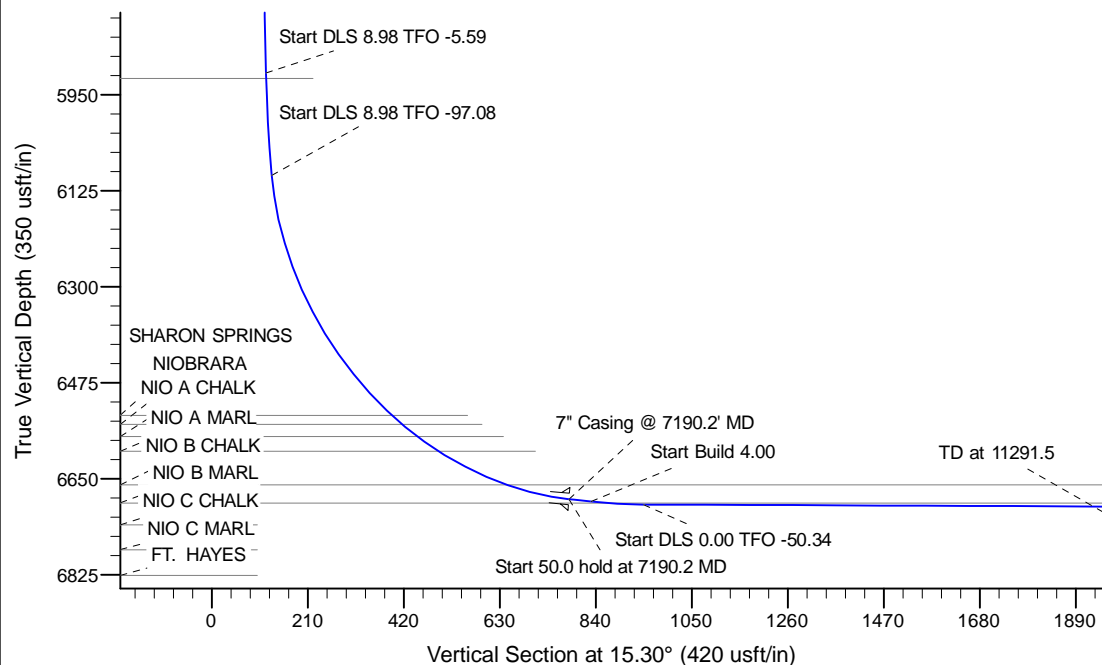
Project: Wattenberg Field  
Site: AC (Sec.36-T07N-R63W) Weld County, CO  
Well: Crow Creek State AD31-79HN  
Wellbore: Original Drilling  
Design: APD - Rev 0

# 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	VSec	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	1800.0	12.00	98.00	1795.6	-8.7	62.0	2.00	98.00	8.0	
4	6006.3	12.00	98.00	5910.0	-130.4	928.0	0.00	0.00	119.1	
5	6207.1	30.01	94.54	6096.7	-137.4	999.3	8.98	-5.59	131.2	
6	7190.2	85.00	359.25	6687.0	455.0	1300.0	8.98	-97.08	781.9	
7	7240.2	85.00	359.25	6691.4	504.8	1299.3	0.00	0.00	829.8	
8	7360.2	89.80	359.25	6696.8	624.6	1297.8	4.00	0.00	944.9	
9	11291.5	89.80	359.25	6710.4	4555.6	1246.2	0.00	-50.34	4722.9	Crow Creek State AD31-79HN BHL 535'FNL, 1'FEL



## WELL DETAILS: Crow Creek State AD31-79HN

Ground Level: 4851.0			
Northing	Easting	Latitude	Longitude
0.0	0.0	1435563.25	3311476.82
		40.523620	-104.379560

Plan: APD - Rev 0 (Crow Creek State AD31-79HN/Original Drilling)

Created By: Shailey Jewell Date: 14:36, March 08 2013

Checked: \_\_\_\_\_ Date: \_\_\_\_\_

Reviewed: \_\_\_\_\_ Date: \_\_\_\_\_

Approved: \_\_\_\_\_ Date: \_\_\_\_\_

# **Northern Region Drilling**

**Wattenberg Field**

**AC (07N-63W)**

**Crow Creek State AD31-79HN**

**Original Drilling**

**Plan: APD - Rev 0**

## **Standard Planning Report**

**08 March, 2013**

# Noble Energy Inc

## Planning Report

<b>Database:</b>	edm10p	<b>Local Co-ordinate Reference:</b>	Well Crow Creek State AD31-79HN
<b>Company:</b>	Northern Region Drilling	<b>TVD Reference:</b>	WELL @ 4881.0usft (Original Well Elev)
<b>Project:</b>	Wattenberg Field	<b>MD Reference:</b>	WELL @ 4881.0usft (Original Well Elev)
<b>Site:</b>	AC (07N-63W)	<b>North Reference:</b>	Grid
<b>Well:</b>	Crow Creek State AD31-79HN	<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>	AC (07N-63W)		
<b>Site Position:</b>		<b>Northing:</b>	1,435,093.74 usft
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,291,559.33 usft
<b>Position Uncertainty:</b>	0.0 usft	<b>Slot Radius:</b>	13-3/16 "
		<b>Latitude:</b>	40.523000
		<b>Longitude:</b>	-104.451220
		<b>Grid Convergence:</b>	0.68 °

<b>Well</b>	Crow Creek State AD31-79HN		
<b>Well Position</b>	<b>+N/-S</b>	469.5 usft	<b>Northing:</b>
	<b>+E/-W</b>	19,918.1 usft	<b>Easting:</b>
<b>Position Uncertainty</b>	0.0 usft		<b>Wellhead Elevation:</b>
			<b>Latitude:</b>
			<b>Longitude:</b>
			<b>Ground Level:</b>

<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	2/21/2013	8.39	67.16	53,082

<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	15.30

<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	
1,800.0	12.00	98.00	1,795.6	-8.7	62.0	2.00	2.00	0.00	98.00	
6,006.3	12.00	98.00	5,910.0	-130.4	928.0	0.00	0.00	0.00	0.00	
6,207.1	30.01	94.54	6,096.7	-137.4	999.3	8.98	8.97	-1.72	-5.59	
7,190.2	85.00	359.25	6,687.0	455.0	1,300.0	8.98	5.59	-9.69	-97.08	
7,240.2	85.00	359.25	6,691.4	504.8	1,299.3	0.00	0.00	0.00	0.00	
7,360.2	89.80	359.25	6,696.8	624.6	1,297.8	4.00	4.00	0.00	0.00	
11,291.5	89.80	359.25	6,710.4	4,555.6	1,246.2	0.00	0.00	0.00	-50.34	Crow Creek State AD

# Noble Energy Inc

## Planning Report

<b>Database:</b>	edm10p	<b>Local Co-ordinate Reference:</b>	Well Crow Creek State AD31-79HN
<b>Company:</b>	Northern Region Drilling	<b>TVD Reference:</b>	WELL @ 4881.0usft (Original Well Elev)
<b>Project:</b>	Wattenberg Field	<b>MD Reference:</b>	WELL @ 4881.0usft (Original Well Elev)
<b>Site:</b>	AC (07N-63W)	<b>North Reference:</b>	Grid
<b>Well:</b>	Crow Creek State AD31-79HN	<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
KOP - Start Build 2.00									
1,250.0	1.00	98.00	1,250.0	-0.1	0.4	0.1	2.00	2.00	0.00
1,300.0	2.00	98.00	1,300.0	-0.2	1.7	0.2	2.00	2.00	0.00
1,350.0	3.00	98.00	1,349.9	-0.5	3.9	0.5	2.00	2.00	0.00
1,400.0	4.00	98.00	1,399.8	-1.0	6.9	0.9	2.00	2.00	0.00
1,450.0	5.00	98.00	1,449.7	-1.5	10.8	1.4	2.00	2.00	0.00
1,500.0	6.00	98.00	1,499.5	-2.2	15.5	2.0	2.00	2.00	0.00
1,550.0	7.00	98.00	1,549.1	-3.0	21.1	2.7	2.00	2.00	0.00
1,600.0	8.00	98.00	1,598.7	-3.9	27.6	3.5	2.00	2.00	0.00
1,650.0	9.00	98.00	1,648.2	-4.9	34.9	4.5	2.00	2.00	0.00
1,700.0	10.00	98.00	1,697.5	-6.1	43.1	5.5	2.00	2.00	0.00
1,750.0	11.00	98.00	1,746.6	-7.3	52.1	6.7	2.00	2.00	0.00
1,800.0	12.00	98.00	1,795.6	-8.7	62.0	8.0	2.00	2.00	0.00
1,850.0	12.00	98.00	1,844.5	-10.2	72.3	9.3	0.00	0.00	0.00
1,900.0	12.00	98.00	1,893.4	-11.6	82.6	10.6	0.00	0.00	0.00
1,950.0	12.00	98.00	1,942.3	-13.1	92.9	11.9	0.00	0.00	0.00
2,000.0	12.00	98.00	1,991.3	-14.5	103.2	13.2	0.00	0.00	0.00
2,050.0	12.00	98.00	2,040.2	-15.9	113.5	14.6	0.00	0.00	0.00
2,100.0	12.00	98.00	2,089.1	-17.4	123.8	15.9	0.00	0.00	0.00
2,150.0	12.00	98.00	2,138.0	-18.8	134.1	17.2	0.00	0.00	0.00
2,200.0	12.00	98.00	2,186.9	-20.3	144.3	18.5	0.00	0.00	0.00
2,250.0	12.00	98.00	2,235.8	-21.7	154.6	19.8	0.00	0.00	0.00
2,300.0	12.00	98.00	2,284.7	-23.2	164.9	21.2	0.00	0.00	0.00
2,350.0	12.00	98.00	2,333.6	-24.6	175.2	22.5	0.00	0.00	0.00
2,400.0	12.00	98.00	2,382.5	-26.1	185.5	23.8	0.00	0.00	0.00
2,450.0	12.00	98.00	2,431.4	-27.5	195.8	25.1	0.00	0.00	0.00
2,500.0	12.00	98.00	2,480.3	-29.0	206.1	26.4	0.00	0.00	0.00
2,550.0	12.00	98.00	2,529.2	-30.4	216.4	27.8	0.00	0.00	0.00
2,569.2	12.00	98.00	2,548.0	-31.0	220.4	28.3	0.00	0.00	0.00

# Noble Energy Inc

## Planning Report

<b>Database:</b>	edm10p	<b>Local Co-ordinate Reference:</b>	Well Crow Creek State AD31-79HN
<b>Company:</b>	Northern Region Drilling	<b>TVD Reference:</b>	WELL @ 4881.0usft (Original Well Elev)
<b>Project:</b>	Wattenberg Field	<b>MD Reference:</b>	WELL @ 4881.0usft (Original Well Elev)
<b>Site:</b>	AC (07N-63W)	<b>North Reference:</b>	Grid
<b>Well:</b>	Crow Creek State AD31-79HN	<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)
<b>PIERRE</b>									
2,600.0	12.00	98.00	2,578.1	-31.9	226.7	29.1	0.00	0.00	0.00
2,650.0	12.00	98.00	2,627.0	-33.3	237.0	30.4	0.00	0.00	0.00
2,700.0	12.00	98.00	2,676.0	-34.8	247.3	31.7	0.00	0.00	0.00
2,750.0	12.00	98.00	2,724.9	-36.2	257.6	33.0	0.00	0.00	0.00
2,800.0	12.00	98.00	2,773.8	-37.6	267.9	34.4	0.00	0.00	0.00
2,850.0	12.00	98.00	2,822.7	-39.1	278.2	35.7	0.00	0.00	0.00
2,900.0	12.00	98.00	2,871.6	-40.5	288.5	37.0	0.00	0.00	0.00
2,950.0	12.00	98.00	2,920.5	-42.0	298.8	38.3	0.00	0.00	0.00
3,000.0	12.00	98.00	2,969.4	-43.4	309.1	39.7	0.00	0.00	0.00
3,050.0	12.00	98.00	3,018.3	-44.9	319.4	41.0	0.00	0.00	0.00
3,100.0	12.00	98.00	3,067.2	-46.3	329.6	42.3	0.00	0.00	0.00
3,150.0	12.00	98.00	3,116.1	-47.8	339.9	43.6	0.00	0.00	0.00
3,200.0	12.00	98.00	3,165.0	-49.2	350.2	44.9	0.00	0.00	0.00
3,250.0	12.00	98.00	3,213.9	-50.7	360.5	46.3	0.00	0.00	0.00
3,300.0	12.00	98.00	3,262.8	-52.1	370.8	47.6	0.00	0.00	0.00
3,350.0	12.00	98.00	3,311.8	-53.6	381.1	48.9	0.00	0.00	0.00
3,400.0	12.00	98.00	3,360.7	-55.0	391.4	50.2	0.00	0.00	0.00
3,450.0	12.00	98.00	3,409.6	-56.5	401.7	51.5	0.00	0.00	0.00
3,500.0	12.00	98.00	3,458.5	-57.9	412.0	52.9	0.00	0.00	0.00
3,550.0	12.00	98.00	3,507.4	-59.4	422.3	54.2	0.00	0.00	0.00
3,600.0	12.00	98.00	3,556.3	-60.8	432.6	55.5	0.00	0.00	0.00
3,650.0	12.00	98.00	3,605.2	-62.2	442.9	56.8	0.00	0.00	0.00
3,658.0	12.00	98.00	3,613.0	-62.5	444.5	57.0	0.00	0.00	0.00
<b>PARKMAN</b>									
3,700.0	12.00	98.00	3,654.1	-63.7	453.2	58.1	0.00	0.00	0.00
3,750.0	12.00	98.00	3,703.0	-65.1	463.5	59.5	0.00	0.00	0.00
3,800.0	12.00	98.00	3,751.9	-66.6	473.8	60.8	0.00	0.00	0.00
3,850.0	12.00	98.00	3,800.8	-68.0	484.1	62.1	0.00	0.00	0.00
3,900.0	12.00	98.00	3,849.7	-69.5	494.4	63.4	0.00	0.00	0.00
3,950.0	12.00	98.00	3,898.6	-70.9	504.7	64.7	0.00	0.00	0.00
4,000.0	12.00	98.00	3,947.5	-72.4	514.9	66.1	0.00	0.00	0.00
4,050.0	12.00	98.00	3,996.5	-73.8	525.2	67.4	0.00	0.00	0.00
4,100.0	12.00	98.00	4,045.4	-75.3	535.5	68.7	0.00	0.00	0.00
4,150.0	12.00	98.00	4,094.3	-76.7	545.8	70.0	0.00	0.00	0.00
4,200.0	12.00	98.00	4,143.2	-78.2	556.1	71.3	0.00	0.00	0.00
4,250.0	12.00	98.00	4,192.1	-79.6	566.4	72.7	0.00	0.00	0.00
4,300.0	12.00	98.00	4,241.0	-81.1	576.7	74.0	0.00	0.00	0.00
4,350.0	12.00	98.00	4,289.9	-82.5	587.0	75.3	0.00	0.00	0.00
4,400.0	12.00	98.00	4,338.8	-83.9	597.3	76.6	0.00	0.00	0.00
4,447.2	12.00	98.00	4,385.0	-85.3	607.0	77.9	0.00	0.00	0.00
<b>SUSSEX</b>									
4,450.0	12.00	98.00	4,387.7	-85.4	607.6	78.0	0.00	0.00	0.00
4,500.0	12.00	98.00	4,436.6	-86.8	617.9	79.3	0.00	0.00	0.00
4,550.0	12.00	98.00	4,485.5	-88.3	628.2	80.6	0.00	0.00	0.00
4,600.0	12.00	98.00	4,534.4	-89.7	638.5	81.9	0.00	0.00	0.00
4,650.0	12.00	98.00	4,583.3	-91.2	648.8	83.2	0.00	0.00	0.00
4,700.0	12.00	98.00	4,632.3	-92.6	659.1	84.6	0.00	0.00	0.00
4,750.0	12.00	98.00	4,681.2	-94.1	669.4	85.9	0.00	0.00	0.00
4,800.0	12.00	98.00	4,730.1	-95.5	679.7	87.2	0.00	0.00	0.00
4,850.0	12.00	98.00	4,779.0	-97.0	690.0	88.5	0.00	0.00	0.00
4,900.0	12.00	98.00	4,827.9	-98.4	700.2	89.8	0.00	0.00	0.00
4,950.0	12.00	98.00	4,876.8	-99.9	710.5	91.2	0.00	0.00	0.00

# Noble Energy Inc

## Planning Report

<b>Database:</b>	edm10p	<b>Local Co-ordinate Reference:</b>	Well Crow Creek State AD31-79HN
<b>Company:</b>	Northern Region Drilling	<b>TVD Reference:</b>	WELL @ 4881.0usft (Original Well Elev)
<b>Project:</b>	Wattenberg Field	<b>MD Reference:</b>	WELL @ 4881.0usft (Original Well Elev)
<b>Site:</b>	AC (07N-63W)	<b>North Reference:</b>	Grid
<b>Well:</b>	Crow Creek State AD31-79HN	<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)
5,000.0	12.00	98.00	4,925.7	-101.3	720.8	92.5	0.00	0.00	0.00
5,050.0	12.00	98.00	4,974.6	-102.8	731.1	93.8	0.00	0.00	0.00
5,099.5	12.00	98.00	5,023.0	-104.2	741.3	95.1	0.00	0.00	0.00
<b>SHANNON</b>									
5,100.0	12.00	98.00	5,023.5	-104.2	741.4	95.1	0.00	0.00	0.00
5,150.0	12.00	98.00	5,072.4	-105.6	751.7	96.4	0.00	0.00	0.00
5,200.0	12.00	98.00	5,121.3	-107.1	762.0	97.8	0.00	0.00	0.00
5,250.0	12.00	98.00	5,170.2	-108.5	772.3	99.1	0.00	0.00	0.00
5,300.0	12.00	98.00	5,219.1	-110.0	782.6	100.4	0.00	0.00	0.00
5,350.0	12.00	98.00	5,268.0	-111.4	792.9	101.7	0.00	0.00	0.00
5,400.0	12.00	98.00	5,317.0	-112.9	803.2	103.0	0.00	0.00	0.00
5,450.0	12.00	98.00	5,365.9	-114.3	813.5	104.4	0.00	0.00	0.00
5,500.0	12.00	98.00	5,414.8	-115.8	823.8	105.7	0.00	0.00	0.00
5,550.0	12.00	98.00	5,463.7	-117.2	834.1	107.0	0.00	0.00	0.00
5,600.0	12.00	98.00	5,512.6	-118.7	844.4	108.3	0.00	0.00	0.00
5,650.0	12.00	98.00	5,561.5	-120.1	854.7	109.6	0.00	0.00	0.00
5,700.0	12.00	98.00	5,610.4	-121.6	865.0	111.0	0.00	0.00	0.00
5,750.0	12.00	98.00	5,659.3	-123.0	875.3	112.3	0.00	0.00	0.00
5,800.0	12.00	98.00	5,708.2	-124.5	885.5	113.6	0.00	0.00	0.00
5,850.0	12.00	98.00	5,757.1	-125.9	895.8	114.9	0.00	0.00	0.00
5,900.0	12.00	98.00	5,806.0	-127.3	906.1	116.3	0.00	0.00	0.00
5,950.0	12.00	98.00	5,854.9	-128.8	916.4	117.6	0.00	0.00	0.00
6,000.0	12.00	98.00	5,903.8	-130.2	926.7	118.9	0.00	0.00	0.00
6,006.3	12.00	98.00	5,910.0	-130.4	928.0	119.1	0.00	0.00	0.00
<b>Start DLS 8.98 TFO -5.59</b>									
6,016.5	12.92	97.60	5,920.0	-130.7	930.2	119.3	8.99	8.95	-3.92
<b>TEEPEE BUTTES</b>									
6,050.0	15.91	96.61	5,952.4	-131.7	938.5	120.5	8.98	8.95	-2.97
6,100.0	20.39	95.65	5,999.9	-133.4	954.0	123.0	8.98	8.96	-1.90
6,150.0	24.88	95.03	6,046.0	-135.2	973.1	126.4	8.98	8.97	-1.24
6,200.0	29.37	94.59	6,090.5	-137.1	995.8	130.5	8.98	8.97	-0.88
6,207.1	30.00	94.54	6,096.7	-137.4	999.3	131.2	8.98	8.97	-0.74
<b>Start DLS 8.98 TFO -97.08</b>									
6,250.0	29.75	86.82	6,133.9	-137.6	1,020.7	136.6	8.97	-0.58	-17.99
6,300.0	30.03	77.82	6,177.3	-134.3	1,045.3	146.3	8.98	0.55	-18.00
6,350.0	30.90	69.13	6,220.4	-127.1	1,069.5	159.6	8.98	1.75	-17.39
6,400.0	32.32	60.99	6,263.0	-116.0	1,093.2	176.6	8.98	2.84	-16.27
6,450.0	34.22	53.57	6,304.8	-101.2	1,116.2	196.9	8.98	3.80	-14.85
6,500.0	36.53	46.90	6,345.6	-82.6	1,138.4	220.7	8.98	4.60	-13.33
6,550.0	39.16	40.97	6,385.1	-60.5	1,159.7	247.6	8.98	5.27	-11.87
6,600.0	42.06	35.69	6,423.1	-35.0	1,179.8	277.5	8.98	5.80	-10.54
6,650.0	45.18	31.00	6,459.3	-6.2	1,198.7	310.3	8.98	6.23	-9.38
6,700.0	48.46	26.81	6,493.5	25.7	1,216.3	345.7	8.98	6.58	-8.40
6,750.0	51.89	23.02	6,525.5	60.5	1,232.4	383.6	8.98	6.85	-7.57
6,763.9	52.87	22.03	6,534.0	70.7	1,236.7	394.5	8.98	7.00	-7.11
<b>SHARON SPRINGS</b>									
6,792.8	54.91	20.06	6,551.0	92.5	1,245.0	417.7	8.98	7.09	-6.83
<b>NIORARA</b>									
6,800.0	55.43	19.58	6,555.1	98.1	1,247.0	423.6	8.98	7.15	-6.62
6,832.5	57.77	17.51	6,573.0	123.7	1,255.6	450.7	8.98	7.22	-6.40
<b>NIO A CHALK</b>									
6,850.0	59.05	16.43	6,582.2	138.0	1,260.0	465.6	8.98	7.30	-6.14
6,886.0	61.71	14.30	6,600.0	168.2	1,268.3	496.9	8.98	7.37	-5.90

# Noble Energy Inc

## Planning Report

<b>Database:</b>	edm10p	<b>Local Co-ordinate Reference:</b>	Well Crow Creek State AD31-79HN
<b>Company:</b>	Northern Region Drilling	<b>TVD Reference:</b>	WELL @ 4881.0usft (Original Well Elev)
<b>Project:</b>	Wattenberg Field	<b>MD Reference:</b>	WELL @ 4881.0usft (Original Well Elev)
<b>Site:</b>	AC (07N-63W)	<b>North Reference:</b>	Grid
<b>Well:</b>	Crow Creek State AD31-79HN	<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)
<b>NIO A MARL</b>									
6,900.0	62.75	13.51	6,606.5	180.2	1,271.3	509.3	8.98	7.44	-5.69
6,950.0	66.50	10.78	6,627.9	224.4	1,280.7	554.4	8.98	7.50	-5.46
7,000.0	70.30	8.20	6,646.3	270.2	1,288.4	600.6	8.98	7.59	-5.16
7,047.8	73.96	5.84	6,661.0	315.4	1,293.9	645.6	8.98	7.66	-4.92
<b>NIO B CHALK</b>									
7,050.0	74.13	5.74	6,661.6	317.5	1,294.1	647.7	8.98	7.69	-4.82
7,100.0	77.99	3.37	6,673.7	365.8	1,298.0	695.4	8.98	7.72	-4.73
7,150.0	81.87	1.07	6,682.4	415.0	1,299.9	743.3	8.98	7.76	-4.60
7,190.2	85.00	359.25	6,687.0	455.0	1,300.0	781.8	8.98	7.78	-4.52
<b>Start 50.0 hold at 7190.2 MD - 7" Casing @ 7190.2' MD</b>									
7,200.0	85.00	359.25	6,687.9	464.7	1,299.9	791.2	0.04	0.04	-0.02
7,240.2	85.00	359.25	6,691.4	504.8	1,299.3	829.7	0.00	0.00	0.00
<b>Start Build 4.00</b>									
7,250.0	85.39	359.25	6,692.2	514.5	1,299.2	839.1	3.98	3.98	0.00
7,275.5	86.41	359.25	6,694.0	540.0	1,298.9	863.6	4.00	4.00	0.00
<b>NIO B MARL</b>									
7,300.0	87.39	359.25	6,695.3	564.4	1,298.6	887.1	4.00	4.00	0.00
7,350.0	89.39	359.25	6,696.7	614.4	1,297.9	935.1	4.00	4.00	0.00
7,360.2	89.80	359.25	6,696.8	624.6	1,297.8	944.9	4.00	4.00	0.00
<b>Start DLS 0.00 TFO -50.34</b>									
7,400.0	89.80	359.25	6,696.9	664.4	1,297.3	983.1	0.00	0.00	0.00
7,450.0	89.80	359.25	6,697.1	714.4	1,296.6	1,031.2	0.00	0.00	0.00
7,500.0	89.80	359.25	6,697.3	764.4	1,295.9	1,079.2	0.00	0.00	0.00
7,550.0	89.80	359.25	6,697.5	814.4	1,295.3	1,127.3	0.00	0.00	0.00
7,600.0	89.80	359.25	6,697.6	864.4	1,294.6	1,175.3	0.00	0.00	0.00
7,650.0	89.80	359.25	6,697.8	914.4	1,294.0	1,223.4	0.00	0.00	0.00
7,700.0	89.80	359.25	6,698.0	964.4	1,293.3	1,271.4	0.00	0.00	0.00
7,750.0	89.80	359.25	6,698.2	1,014.4	1,292.7	1,319.5	0.00	0.00	0.00
7,800.0	89.80	359.25	6,698.3	1,064.4	1,292.0	1,367.5	0.00	0.00	0.00
7,850.0	89.80	359.25	6,698.5	1,114.3	1,291.4	1,415.6	0.00	0.00	0.00
7,900.0	89.80	359.25	6,698.7	1,164.3	1,290.7	1,463.6	0.00	0.00	0.00
7,950.0	89.80	359.25	6,698.9	1,214.3	1,290.1	1,511.7	0.00	0.00	0.00
8,000.0	89.80	359.25	6,699.0	1,264.3	1,289.4	1,559.7	0.00	0.00	0.00
8,050.0	89.80	359.25	6,699.2	1,314.3	1,288.7	1,607.8	0.00	0.00	0.00
8,100.0	89.80	359.25	6,699.4	1,364.3	1,288.1	1,655.8	0.00	0.00	0.00
8,150.0	89.80	359.25	6,699.6	1,414.3	1,287.4	1,703.9	0.00	0.00	0.00
8,200.0	89.80	359.25	6,699.7	1,464.3	1,286.8	1,751.9	0.00	0.00	0.00
8,250.0	89.80	359.25	6,699.9	1,514.3	1,286.1	1,800.0	0.00	0.00	0.00
8,300.0	89.80	359.25	6,700.1	1,564.3	1,285.5	1,848.0	0.00	0.00	0.00
8,350.0	89.80	359.25	6,700.2	1,614.3	1,284.8	1,896.1	0.00	0.00	0.00
8,400.0	89.80	359.25	6,700.4	1,664.3	1,284.2	1,944.1	0.00	0.00	0.00
8,450.0	89.80	359.25	6,700.6	1,714.3	1,283.5	1,992.2	0.00	0.00	0.00
8,500.0	89.80	359.25	6,700.8	1,764.3	1,282.8	2,040.3	0.00	0.00	0.00
8,550.0	89.80	359.25	6,700.9	1,814.3	1,282.2	2,088.3	0.00	0.00	0.00
8,600.0	89.80	359.25	6,701.1	1,864.3	1,281.5	2,136.4	0.00	0.00	0.00
8,650.0	89.80	359.25	6,701.3	1,914.3	1,280.9	2,184.4	0.00	0.00	0.00
8,700.0	89.80	359.25	6,701.5	1,964.3	1,280.2	2,232.5	0.00	0.00	0.00
8,750.0	89.80	359.25	6,701.6	2,014.3	1,279.6	2,280.5	0.00	0.00	0.00
8,800.0	89.80	359.25	6,701.8	2,064.3	1,278.9	2,328.6	0.00	0.00	0.00
8,850.0	89.80	359.25	6,702.0	2,114.3	1,278.3	2,376.6	0.00	0.00	0.00
8,900.0	89.80	359.25	6,702.2	2,164.3	1,277.6	2,424.7	0.00	0.00	0.00
8,950.0	89.80	359.25	6,702.3	2,214.2	1,276.9	2,472.7	0.00	0.00	0.00

# Noble Energy Inc

## Planning Report

<b>Database:</b>	edm10p	<b>Local Co-ordinate Reference:</b>	Well Crow Creek State AD31-79HN
<b>Company:</b>	Northern Region Drilling	<b>TVD Reference:</b>	WELL @ 4881.0usft (Original Well Elev)
<b>Project:</b>	Wattenberg Field	<b>MD Reference:</b>	WELL @ 4881.0usft (Original Well Elev)
<b>Site:</b>	AC (07N-63W)	<b>North Reference:</b>	Grid
<b>Well:</b>	Crow Creek State AD31-79HN	<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)
9,000.0	89.80	359.25	6,702.5	2,264.2	1,276.3	2,520.8	0.00	0.00	0.00
9,050.0	89.80	359.25	6,702.7	2,314.2	1,275.6	2,568.8	0.00	0.00	0.00
9,100.0	89.80	359.25	6,702.8	2,364.2	1,275.0	2,616.9	0.00	0.00	0.00
9,150.0	89.80	359.25	6,703.0	2,414.2	1,274.3	2,664.9	0.00	0.00	0.00
9,200.0	89.80	359.25	6,703.2	2,464.2	1,273.7	2,713.0	0.00	0.00	0.00
9,250.0	89.80	359.25	6,703.4	2,514.2	1,273.0	2,761.0	0.00	0.00	0.00
9,300.0	89.80	359.25	6,703.5	2,564.2	1,272.4	2,809.1	0.00	0.00	0.00
9,350.0	89.80	359.25	6,703.7	2,614.2	1,271.7	2,857.1	0.00	0.00	0.00
9,400.0	89.80	359.25	6,703.9	2,664.2	1,271.0	2,905.2	0.00	0.00	0.00
9,450.0	89.80	359.25	6,704.1	2,714.2	1,270.4	2,953.2	0.00	0.00	0.00
9,500.0	89.80	359.25	6,704.2	2,764.2	1,269.7	3,001.3	0.00	0.00	0.00
9,550.0	89.80	359.25	6,704.4	2,814.2	1,269.1	3,049.3	0.00	0.00	0.00
9,600.0	89.80	359.25	6,704.6	2,864.2	1,268.4	3,097.4	0.00	0.00	0.00
9,650.0	89.80	359.25	6,704.8	2,914.2	1,267.8	3,145.4	0.00	0.00	0.00
9,700.0	89.80	359.25	6,704.9	2,964.2	1,267.1	3,193.5	0.00	0.00	0.00
9,750.0	89.80	359.25	6,705.1	3,014.2	1,266.4	3,241.5	0.00	0.00	0.00
9,800.0	89.80	359.25	6,705.3	3,064.2	1,265.8	3,289.6	0.00	0.00	0.00
9,850.0	89.80	359.25	6,705.4	3,114.2	1,265.1	3,337.6	0.00	0.00	0.00
9,900.0	89.80	359.25	6,705.6	3,164.2	1,264.5	3,385.7	0.00	0.00	0.00
9,950.0	89.80	359.25	6,705.8	3,214.2	1,263.8	3,433.7	0.00	0.00	0.00
10,000.0	89.80	359.25	6,706.0	3,264.1	1,263.2	3,481.8	0.00	0.00	0.00
10,050.0	89.80	359.25	6,706.1	3,314.1	1,262.5	3,529.8	0.00	0.00	0.00
10,100.0	89.80	359.25	6,706.3	3,364.1	1,261.8	3,577.9	0.00	0.00	0.00
10,150.0	89.80	359.25	6,706.5	3,414.1	1,261.2	3,625.9	0.00	0.00	0.00
10,200.0	89.80	359.25	6,706.6	3,464.1	1,260.5	3,674.0	0.00	0.00	0.00
10,250.0	89.80	359.25	6,706.8	3,514.1	1,259.9	3,722.0	0.00	0.00	0.00
10,300.0	89.80	359.25	6,707.0	3,564.1	1,259.2	3,770.1	0.00	0.00	0.00
10,350.0	89.80	359.25	6,707.2	3,614.1	1,258.6	3,818.1	0.00	0.00	0.00
10,400.0	89.80	359.25	6,707.3	3,664.1	1,257.9	3,866.2	0.00	0.00	0.00
10,450.0	89.80	359.25	6,707.5	3,714.1	1,257.2	3,914.2	0.00	0.00	0.00
10,500.0	89.80	359.25	6,707.7	3,764.1	1,256.6	3,962.3	0.00	0.00	0.00
10,550.0	89.80	359.25	6,707.9	3,814.1	1,255.9	4,010.3	0.00	0.00	0.00
10,600.0	89.80	359.25	6,708.0	3,864.1	1,255.3	4,058.4	0.00	0.00	0.00
10,650.0	89.80	359.25	6,708.2	3,914.1	1,254.6	4,106.4	0.00	0.00	0.00
10,700.0	89.80	359.25	6,708.4	3,964.1	1,254.0	4,154.5	0.00	0.00	0.00
10,750.0	89.80	359.25	6,708.5	4,014.1	1,253.3	4,202.5	0.00	0.00	0.00
10,800.0	89.80	359.25	6,708.7	4,064.1	1,252.6	4,250.6	0.00	0.00	0.00
10,850.0	89.80	359.25	6,708.9	4,114.1	1,252.0	4,298.6	0.00	0.00	0.00
10,900.0	89.80	359.25	6,709.1	4,164.1	1,251.3	4,346.7	0.00	0.00	0.00
10,950.0	89.80	359.25	6,709.2	4,214.1	1,250.7	4,394.7	0.00	0.00	0.00
11,000.0	89.80	359.25	6,709.4	4,264.1	1,250.0	4,442.8	0.00	0.00	0.00
11,050.0	89.80	359.25	6,709.6	4,314.1	1,249.4	4,490.8	0.00	0.00	0.00
11,100.0	89.80	359.25	6,709.7	4,364.0	1,248.7	4,538.9	0.00	0.00	0.00
11,150.0	89.80	359.25	6,709.9	4,414.0	1,248.0	4,586.9	0.00	0.00	0.00
11,200.0	89.80	359.25	6,710.1	4,464.0	1,247.4	4,635.0	0.00	0.00	0.00
11,250.0	89.80	359.25	6,710.3	4,514.0	1,246.7	4,683.0	0.00	0.00	0.00
11,291.5	89.80	359.25	6,710.4	4,555.5	1,246.2	4,722.9	0.00	0.00	0.00
TD at 11291.5 - Crow Creek State AD31-79HN BHL 535'FNL, 1'FEL									



# Noble Energy Inc

## Planning Report

<b>Database:</b>	edm10p	<b>Local Co-ordinate Reference:</b>	Well Crow Creek State AD31-79HN
<b>Company:</b>	Northern Region Drilling	<b>TVD Reference:</b>	WELL @ 4881.0usft (Original Well Elev)
<b>Project:</b>	Wattenberg Field	<b>MD Reference:</b>	WELL @ 4881.0usft (Original Well Elev)
<b>Site:</b>	AC (07N-63W)	<b>North Reference:</b>	Grid
<b>Well:</b>	Crow Creek State AD31-79HN	<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 (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
Crow Creek State AD31-	0.00	0.00	6,710.4	4,555.6	1,246.2	1,440,118.68	3,312,722.96	40.536080	-104.374870
- plan hits target center									
- Point									

Casing Points				
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
7,190.2	6,687.0	7" Casing @ 7190.2' MD	7	8-3/4

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
2,569.2	2,548.0	PIERRE		0.00		
3,658.0	3,613.0	PARKMAN		0.00		
4,447.2	4,385.0	SUSSEX		0.00		
5,099.5	5,023.0	SHANNON		0.00		
6,016.5	5,920.0	TEEPEE BUTTES		0.00		
6,763.9	6,534.0	SHARON SPRINGS		0.00		
6,792.8	6,551.0	NIOBRARA		0.00		
6,832.5	6,573.0	NIO A CHALK		0.00		
6,886.0	6,600.0	NIO A MARL		0.00		
7,047.8	6,661.0	NIO B CHALK		0.00		
7,275.5	6,694.0	NIO B MARL		0.00		

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
6,006.3	5,910.0	-130.4	928.0	Start DLS 8.98 TFO -5.59
6,207.1	6,096.7	-137.4	999.3	Start DLS 8.98 TFO -97.08
7,190.2	6,687.0	455.0	1,300.0	Start 50.0 hold at 7190.2 MD
7,240.2	6,691.4	504.8	1,299.3	Start Build 4.00
7,360.2	6,696.8	624.6	1,297.8	Start DLS 0.00 TFO -50.34
11,291.5	6,710.4	4,555.5	1,246.2	TD at 11291.5

# **Northern Region Drilling**

**Wattenberg Field**

**AC (07N-63W)**

**Crow Creek State AD31-79HN**

**Original Drilling**

**APD - Rev 0**

## **Anticollision Summary Report**

**08 March, 2013**

**Noble Energy Inc**  
Anticollision Summary Report

<b>Company:</b>	Northern Region Drilling	<b>Local Co-ordinate Reference:</b>	Well Crow Creek State AD31-79HN
<b>Project:</b>	Wattenberg Field	<b>TVD Reference:</b>	WELL @ 4881.0usft (Original Well Elev)
<b>Reference Site:</b>	AC (07N-63W)	<b>MD Reference:</b>	WELL @ 4881.0usft (Original Well Elev)
<b>Site Error:</b>	0.0 usft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Crow Creek State AD31-79HN	<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>	edm10p
<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>	3/8/2013		
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.0	11,291.5	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						
AC (07N-63W)						
Crow Creek State AC36-72-1HN - Original Drilling - APD	1,200.0	1,199.0	38.9	33.8	7.632	CC, ES
Crow Creek State AC36-72-1HN - Original Drilling - APD	11,291.5	11,187.9	333.7	157.1	1.889	SF
Crow Creek State AC36-72HN - Original Drilling - APD -	2,377.7	2,392.7	70.3	57.2	5.390	CC
Crow Creek State AC36-72HN - Original Drilling - APD -	2,500.0	2,514.7	70.8	56.6	4.975	ES
Crow Creek State AC36-72HN - Original Drilling - APD -	4,800.0	4,824.8	103.9	69.4	3.012	SF
Crow Creek State AC36-73-1HN - Original Drilling - APD	1,200.0	1,198.0	114.0	108.9	22.360	CC, ES
Crow Creek State AC36-73-1HN - Original Drilling - APD	11,291.5	11,233.8	988.8	807.9	5.466	SF
Crow Creek State AC36-73HN - Original Drilling - APD -	1,200.0	1,197.0	150.2	145.1	29.471	CC, ES
Crow Creek State AC36-73HN - Original Drilling - APD -	11,291.5	11,122.0	1,317.7	1,136.8	7.287	SF
Crow Creek State AC36-74-1HN - Original Drilling - APD	1,200.0	1,196.0	189.1	184.0	37.125	CC, ES
Crow Creek State AC36-74-1HN - Original Drilling - APD	11,291.5	11,186.5	1,649.7	1,469.1	9.135	SF
Crow Creek State AC36-74HN - Original Drilling - APD -	1,200.0	1,196.0	225.2	220.1	44.219	CC, ES
Crow Creek State AC36-74HN - Original Drilling - APD -	11,291.5	11,134.9	1,976.5	1,796.1	10.954	SF
Crow Creek State AC36-75-1HN - Original Drilling - APD	1,000.0	996.0	264.1	259.9	62.977	CC
Crow Creek State AC36-75-1HN - Original Drilling - APD	1,100.0	1,093.9	264.5	259.9	57.337	ES
Crow Creek State AC36-75-1HN - Original Drilling - APD	11,291.5	11,256.7	2,308.4	2,127.9	12.792	SF
Crow Creek State AC36-75HN - Original Drilling - APD -	1,200.0	1,196.0	300.3	295.2	58.956	CC, ES
Crow Creek State AC36-75HN - Original Drilling - APD -	11,291.5	11,069.6	2,677.1	2,496.5	14.831	SF
Crow Creek State AC36-76-1HN - Original Drilling - APD	1,000.0	995.0	339.2	335.0	80.917	CC, ES
Crow Creek State AC36-76-1HN - Original Drilling - APD	11,291.5	11,297.8	3,008.7	2,830.4	16.874	SF

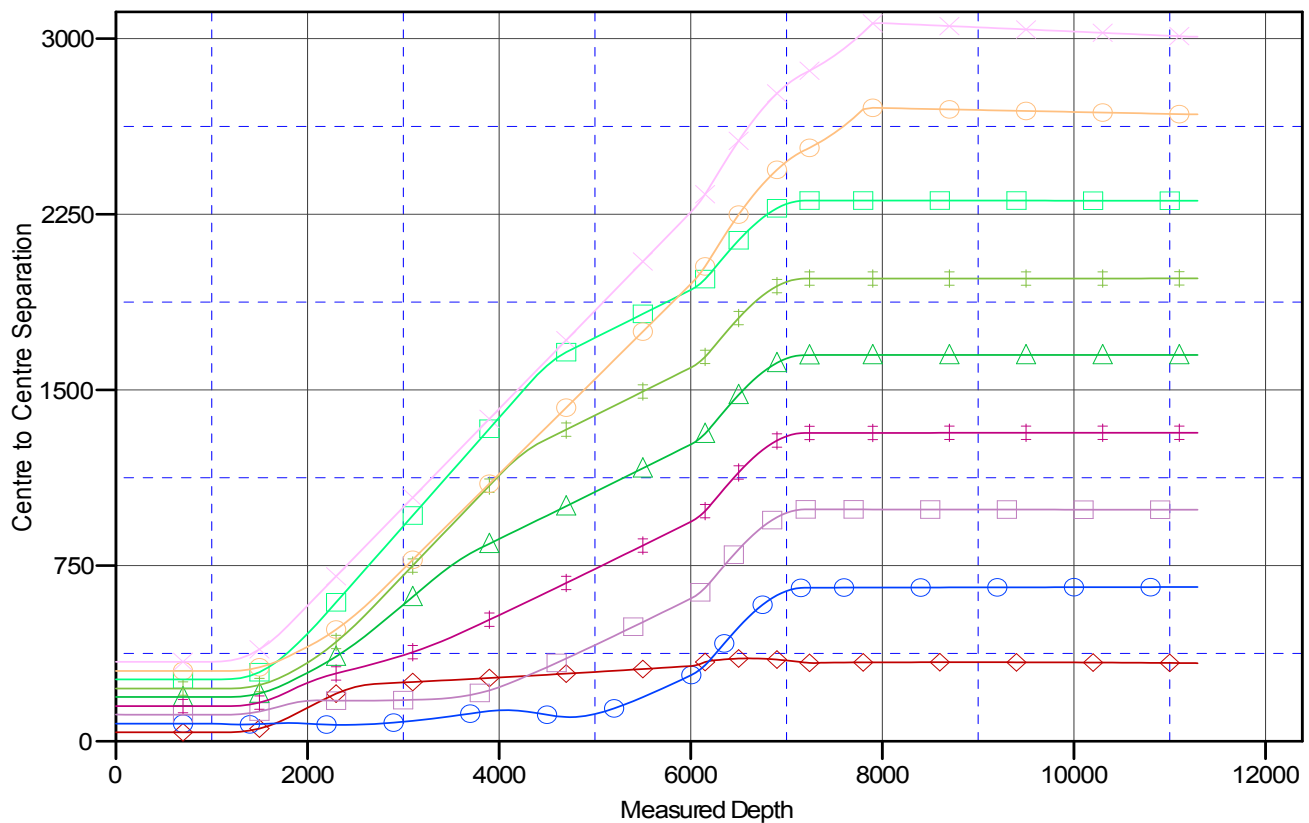
**Noble Energy Inc**  
Anticollision Summary Report

<b>Company:</b>	Northern Region Drilling	<b>Local Co-ordinate Reference:</b>	Well Crow Creek State AD31-79HN
<b>Project:</b>	Wattenberg Field	<b>TVD Reference:</b>	WELL @ 4881.0usft (Original Well Elev)
<b>Reference Site:</b>	AC (07N-63W)	<b>MD Reference:</b>	WELL @ 4881.0usft (Original Well Elev)
<b>Site Error:</b>	0.0 usft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Crow Creek State AD31-79HN	<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>	edm10p
<b>Reference Design:</b>	APD - Rev 0	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4881.0usft (Original Well Ele  
Offset Depths are relative to Offset Datum  
Central Meridian is -105.500000

Coordinates are relative to: Crow Creek State AD31-79HN  
Coordinate System is US State Plane 1983, Colorado Northern Zone  
Grid Convergence at Surface is: 0.72°

## Ladder Plot



### LEGEND

36-72-1HN, Original Drilling, APD - Rev 0 V0	✱ Crow Creek State AC36-73HN, Original Drilling, APD - Rev 0 V0	✱ Crow Creek State AC36-75-1HN, Original Drilling, APD - Rev 0 V0
36-72HN, Original Drilling, APD - Rev 0 V0	✱ Crow Creek State AC36-74-1HN, Original Drilling, APD - Rev 0 V0	✱ Crow Creek State AC36-75HN, Original Drilling, APD - Rev 0 V0
36-73-1HN, Original Drilling, APD - Rev 0 V0	✱ Crow Creek State AC36-74HN, Original Drilling, APD - Rev 0 V0	✱ Crow Creek State AC36-76-1HN, Original Drilling, APD - Rev 0 V0

**Noble Energy Inc**  
Anticollision Summary Report

<b>Company:</b>	Northern Region Drilling	<b>Local Co-ordinate Reference:</b>	Well Crow Creek State AD31-79HN
<b>Project:</b>	Wattenberg Field	<b>TVD Reference:</b>	WELL @ 4881.0usft (Original Well Elev)
<b>Reference Site:</b>	AC (07N-63W)	<b>MD Reference:</b>	WELL @ 4881.0usft (Original Well Elev)
<b>Site Error:</b>	0.0 usft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Crow Creek State AD31-79HN	<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>	edm10p
<b>Reference Design:</b>	APD - Rev 0	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4881.0usft (Original Well Ele  
Offset Depths are relative to Offset Datum  
Central Meridian is -105.500000

Coordinates are relative to: Crow Creek State AD31-79HN  
Coordinate System is US State Plane 1983, Colorado Northern Zone  
Grid Convergence at Surface is: 0.72°

