

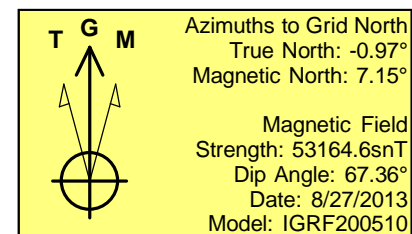
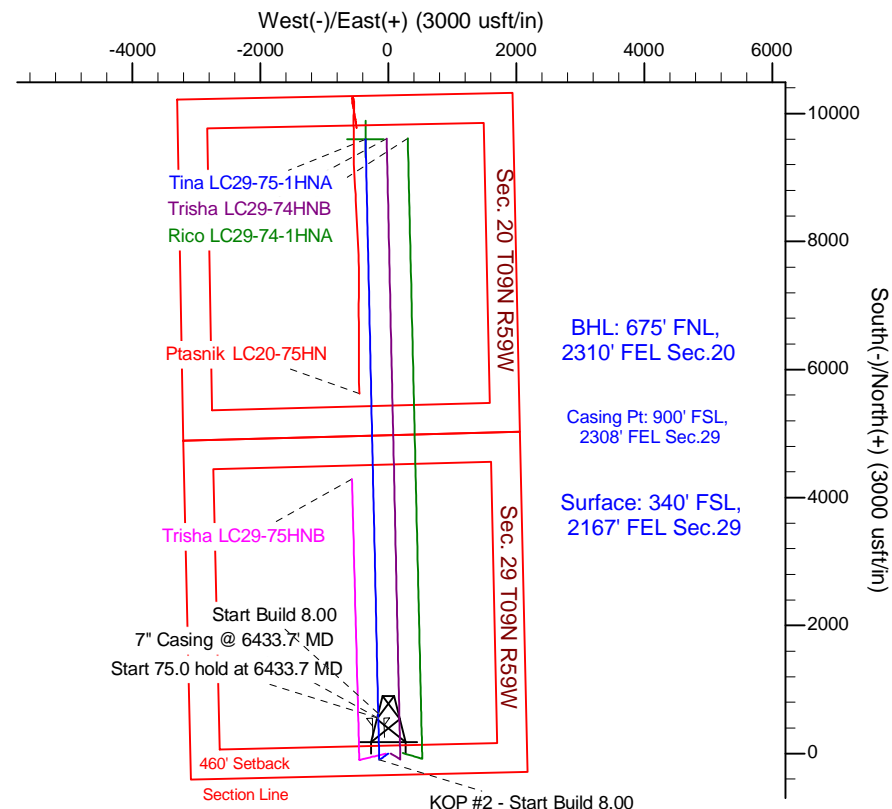
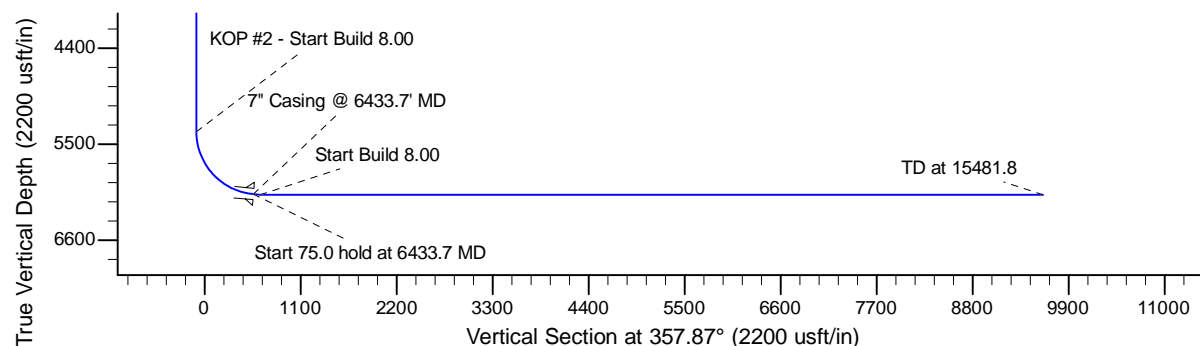
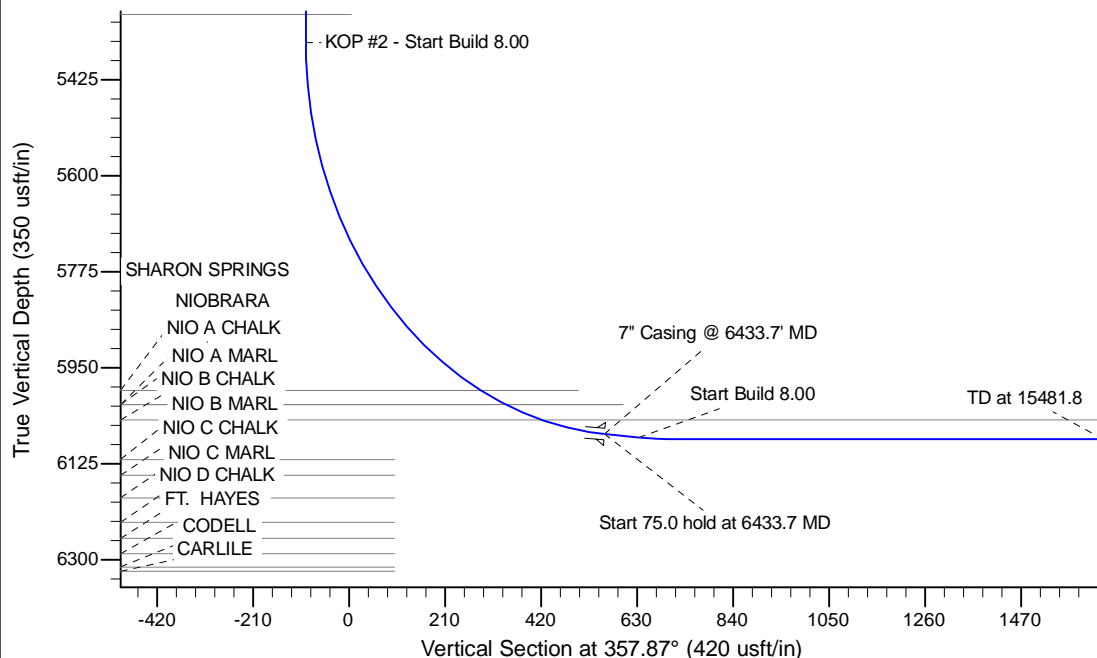
Project: Wattenberg Field  
 Site: LC (Sec.29-T09N-R59W) Weld County, CO  
 Well: Tina LC29-75-1HNA  
 Wellbore: Original Drilling  
 Design: APD - Rev 0

# Northern Region Drilling - Working

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

## SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	1500.0	0.00	0.00	1500.0	0.0	0.0	0.00	0.00	0.0	
3	2100.4	12.01	235.03	2096.0	-35.9	-51.4	2.00	235.03	-34.0	
4	2336.6	12.01	235.03	2327.0	-64.1	-91.6	0.00	0.00	-60.6	
5	2936.9	0.00	0.00	2923.0	-100.0	-143.0	2.00	180.00	-94.6	
6	5371.2	0.00	0.00	5357.3	-100.0	-143.0	0.00	0.00	-94.6	
7	6433.7	85.00	358.74	6070.7	553.6	-157.4	8.00	358.74	559.1	
8	6508.7	85.00	358.74	6077.3	628.3	-159.0	0.00	0.00	633.8	
9	6571.2	90.00	358.74	6080.0	690.7	-160.4	8.00	0.00	696.2	
10	15481.8	90.00	358.74	6080.0	9599.2	-356.4	0.00	0.00	9605.8	Tina LC29-75-1HNA BHL 675'FNL, 2310'FEL



## WELL DETAILS: Tina LC29-75-1HNA

Ground Level: 4872.0		Latitude		Longitude	
North	East	Lat	Long	Lat	Long
0.0	0.0	1506808.86	3415746.71	40.714930	-104.000210

## Plan: APD - Rev 0 (Tina LC29-75-1HNA/Original Drilling)

Created By: Shailey Jewell	Date: 10/17, August 28 2013
Checked: _____	Date: _____
Reviewed: _____	Date: _____
Approved: _____	Date: _____

# **Northern Region Drilling - Working**

**Wattenberg Field**

**LC (09N-59W)**

**Tina LC29-75-1HNA**

**Original Drilling**

**Plan: APD - Rev 0**

## **Standard Planning Report**

**28 August, 2013**

# Noble Energy Inc

## Planning Report

<b>Database:</b>	EDM Production	<b>Local Co-ordinate Reference:</b>	Well Tina LC29-75-1HNA
<b>Company:</b>	Northern Region Drilling - Working	<b>TVD Reference:</b>	WELL @ 4902.0usft (Original Well Elev)
<b>Project:</b>	Wattenberg Field	<b>MD Reference:</b>	WELL @ 4902.0usft (Original Well Elev)
<b>Site:</b>	LC (09N-59W)	<b>North Reference:</b>	Grid
<b>Well:</b>	Tina LC29-75-1HNA	<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		LC (09N-59W)			
Site Position:		Northing:	1,527,709.69 usft	Latitude:	40.771436
From:	Lat/Long	Easting:	3,433,728.00 usft	Longitude:	-103.934025
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	1.01 °

Well	Tina LC29-75-1HNA					
Well Position	+N/-S	-20,900.9 usft	Northing:	1,506,808.86 usft	Latitude:	40.714930
	+E/-W	-17,981.3 usft	Easting:	3,415,746.71 usft	Longitude:	-104.000210
Position Uncertainty		0.0 usft	Wellhead Elevation:		Ground Level:	4,872.0 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	8/27/2013	8.12	67.36	53,165

<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	357.87	

<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	
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,100.4	12.01	235.03	2,096.0	-35.9	-51.4	2.00	2.00	0.00	235.03	
2,336.6	12.01	235.03	2,327.0	-64.1	-91.6	0.00	0.00	0.00	0.00	
2,936.9	0.00	0.00	2,923.0	-100.0	-143.0	2.00	-2.00	0.00	180.00	
5,371.2	0.00	0.00	5,357.3	-100.0	-143.0	0.00	0.00	0.00	0.00	
6,433.7	85.00	358.74	6,070.7	553.6	-157.4	8.00	8.00	0.00	358.74	
6,508.7	85.00	358.74	6,077.3	628.3	-159.0	0.00	0.00	0.00	0.00	
6,571.2	90.00	358.74	6,080.0	690.7	-160.4	8.00	8.00	0.00	0.00	
15,481.8	90.00	358.74	6,080.0	9,599.2	-356.4	0.00	0.00	0.00	0.00	Tina LC29-75-1HNA E

# Noble Energy Inc

## Planning Report

<b>Database:</b>	EDM Production	<b>Local Co-ordinate Reference:</b>	Well Tina LC29-75-1HNA
<b>Company:</b>	Northern Region Drilling - Working	<b>TVD Reference:</b>	WELL @ 4902.0usft (Original Well Elev)
<b>Project:</b>	Wattenberg Field	<b>MD Reference:</b>	WELL @ 4902.0usft (Original Well Elev)
<b>Site:</b>	LC (09N-59W)	<b>North Reference:</b>	Grid
<b>Well:</b>	Tina LC29-75-1HNA	<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
1,310.0	0.00	0.00	1,310.0	0.0	0.0	0.0	0.00	0.00	0.00
PIERRE									
1,350.0	0.00	0.00	1,350.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,450.0	0.00	0.00	1,450.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
KOP - Start Build 2.00									
1,550.0	1.00	235.03	1,550.0	-0.3	-0.4	-0.2	2.00	2.00	0.00
1,600.0	2.00	235.03	1,600.0	-1.0	-1.4	-0.9	2.00	2.00	0.00
1,650.0	3.00	235.03	1,649.9	-2.2	-3.2	-2.1	2.00	2.00	0.00
1,700.0	4.00	235.03	1,699.8	-4.0	-5.7	-3.8	2.00	2.00	0.00
1,750.0	5.00	235.03	1,749.7	-6.2	-8.9	-5.9	2.00	2.00	0.00
1,800.0	6.00	235.03	1,799.5	-9.0	-12.9	-8.5	2.00	2.00	0.00
1,850.0	7.00	235.03	1,849.1	-12.2	-17.5	-11.6	2.00	2.00	0.00
1,900.0	8.00	235.03	1,898.7	-16.0	-22.8	-15.1	2.00	2.00	0.00
1,950.0	9.00	235.03	1,948.2	-20.2	-28.9	-19.1	2.00	2.00	0.00
2,000.0	10.00	235.03	1,997.5	-24.9	-35.7	-23.6	2.00	2.00	0.00
2,050.0	11.00	235.03	2,046.6	-30.2	-43.1	-28.5	2.00	2.00	0.00
2,100.0	12.00	235.03	2,095.6	-35.9	-51.3	-33.9	2.00	2.00	0.00
2,100.4	12.01	235.03	2,096.0	-35.9	-51.4	-34.0	2.00	2.00	0.00
2,150.0	12.01	235.03	2,144.5	-41.8	-59.8	-39.6	0.00	0.00	0.00
2,200.0	12.01	235.03	2,193.4	-47.8	-68.4	-45.2	0.00	0.00	0.00
2,250.0	12.01	235.03	2,242.3	-53.8	-76.9	-50.9	0.00	0.00	0.00
2,300.0	12.01	235.03	2,291.2	-59.7	-85.4	-56.5	0.00	0.00	0.00
2,336.6	12.01	235.03	2,327.0	-64.1	-91.6	-60.6	0.00	0.00	0.00
Start Drop -2.00									

# Noble Energy Inc

## Planning Report

<b>Database:</b>	EDM Production	<b>Local Co-ordinate Reference:</b>	Well Tina LC29-75-1HNA
<b>Company:</b>	Northern Region Drilling - Working	<b>TVD Reference:</b>	WELL @ 4902.0usft (Original Well Elev)
<b>Project:</b>	Wattenberg Field	<b>MD Reference:</b>	WELL @ 4902.0usft (Original Well Elev)
<b>Site:</b>	LC (09N-59W)	<b>North Reference:</b>	Grid
<b>Well:</b>	Tina LC29-75-1HNA	<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)
2,350.0	11.74	235.03	2,340.2	-65.7	-93.9	-62.1	2.00	-2.00	0.00
2,400.0	10.74	235.03	2,389.2	-71.2	-101.9	-67.4	2.00	-2.00	0.00
2,450.0	9.74	235.03	2,438.4	-76.3	-109.2	-72.2	2.00	-2.00	0.00
2,500.0	8.74	235.03	2,487.8	-80.9	-115.7	-76.6	2.00	-2.00	0.00
2,550.0	7.74	235.03	2,537.2	-85.0	-121.6	-80.5	2.00	-2.00	0.00
2,600.0	6.74	235.03	2,586.8	-88.7	-126.8	-83.9	2.00	-2.00	0.00
2,650.0	5.74	235.03	2,636.5	-91.8	-131.2	-86.8	2.00	-2.00	0.00
2,700.0	4.74	235.03	2,686.3	-94.4	-135.0	-89.3	2.00	-2.00	0.00
2,750.0	3.74	235.03	2,736.2	-96.5	-138.0	-91.3	2.00	-2.00	0.00
2,800.0	2.74	235.03	2,786.1	-98.1	-140.3	-92.9	2.00	-2.00	0.00
2,850.0	1.74	235.03	2,836.1	-99.2	-141.9	-93.9	2.00	-2.00	0.00
2,900.0	0.74	235.03	2,886.1	-99.9	-142.8	-94.5	2.00	-2.00	0.00
2,936.9	0.00	0.00	2,923.0	-100.0	-143.0	-94.6	2.00	-2.00	0.00
2,950.0	0.00	0.00	2,936.1	-100.0	-143.0	-94.6	0.00	0.00	0.00
3,000.0	0.00	0.00	2,986.1	-100.0	-143.0	-94.6	0.00	0.00	0.00
3,050.0	0.00	0.00	3,036.1	-100.0	-143.0	-94.6	0.00	0.00	0.00
3,100.0	0.00	0.00	3,086.1	-100.0	-143.0	-94.6	0.00	0.00	0.00
3,150.0	0.00	0.00	3,136.1	-100.0	-143.0	-94.6	0.00	0.00	0.00
3,200.0	0.00	0.00	3,186.1	-100.0	-143.0	-94.6	0.00	0.00	0.00
3,250.0	0.00	0.00	3,236.1	-100.0	-143.0	-94.6	0.00	0.00	0.00
3,300.0	0.00	0.00	3,286.1	-100.0	-143.0	-94.6	0.00	0.00	0.00
3,350.0	0.00	0.00	3,336.1	-100.0	-143.0	-94.6	0.00	0.00	0.00
3,400.0	0.00	0.00	3,386.1	-100.0	-143.0	-94.6	0.00	0.00	0.00
3,450.0	0.00	0.00	3,436.1	-100.0	-143.0	-94.6	0.00	0.00	0.00
3,454.9	0.00	0.00	3,441.0	-100.0	-143.0	-94.6	0.00	0.00	0.00
<b>PARKMAN</b>									
3,500.0	0.00	0.00	3,486.1	-100.0	-143.0	-94.6	0.00	0.00	0.00
3,550.0	0.00	0.00	3,536.1	-100.0	-143.0	-94.6	0.00	0.00	0.00
3,600.0	0.00	0.00	3,586.1	-100.0	-143.0	-94.6	0.00	0.00	0.00
3,650.0	0.00	0.00	3,636.1	-100.0	-143.0	-94.6	0.00	0.00	0.00
3,700.0	0.00	0.00	3,686.1	-100.0	-143.0	-94.6	0.00	0.00	0.00
3,750.0	0.00	0.00	3,736.1	-100.0	-143.0	-94.6	0.00	0.00	0.00
3,800.0	0.00	0.00	3,786.1	-100.0	-143.0	-94.6	0.00	0.00	0.00
3,850.0	0.00	0.00	3,836.1	-100.0	-143.0	-94.6	0.00	0.00	0.00
3,900.0	0.00	0.00	3,886.1	-100.0	-143.0	-94.6	0.00	0.00	0.00
3,950.0	0.00	0.00	3,936.1	-100.0	-143.0	-94.6	0.00	0.00	0.00
4,000.0	0.00	0.00	3,986.1	-100.0	-143.0	-94.6	0.00	0.00	0.00
4,050.0	0.00	0.00	4,036.1	-100.0	-143.0	-94.6	0.00	0.00	0.00
4,100.0	0.00	0.00	4,086.1	-100.0	-143.0	-94.6	0.00	0.00	0.00
4,124.9	0.00	0.00	4,111.0	-100.0	-143.0	-94.6	0.00	0.00	0.00
<b>SUSSEX</b>									
4,150.0	0.00	0.00	4,136.1	-100.0	-143.0	-94.6	0.00	0.00	0.00
4,200.0	0.00	0.00	4,186.1	-100.0	-143.0	-94.6	0.00	0.00	0.00
4,250.0	0.00	0.00	4,236.1	-100.0	-143.0	-94.6	0.00	0.00	0.00
4,300.0	0.00	0.00	4,286.1	-100.0	-143.0	-94.6	0.00	0.00	0.00
4,350.0	0.00	0.00	4,336.1	-100.0	-143.0	-94.6	0.00	0.00	0.00
4,400.0	0.00	0.00	4,386.1	-100.0	-143.0	-94.6	0.00	0.00	0.00
4,450.0	0.00	0.00	4,436.1	-100.0	-143.0	-94.6	0.00	0.00	0.00
4,500.0	0.00	0.00	4,486.1	-100.0	-143.0	-94.6	0.00	0.00	0.00
4,500.9	0.00	0.00	4,487.0	-100.0	-143.0	-94.6	0.00	0.00	0.00
<b>SHANNON</b>									
4,550.0	0.00	0.00	4,536.1	-100.0	-143.0	-94.6	0.00	0.00	0.00
4,600.0	0.00	0.00	4,586.1	-100.0	-143.0	-94.6	0.00	0.00	0.00

# Noble Energy Inc

## Planning Report

<b>Database:</b>	EDM Production	<b>Local Co-ordinate Reference:</b>	Well Tina LC29-75-1HNA
<b>Company:</b>	Northern Region Drilling - Working	<b>TVD Reference:</b>	WELL @ 4902.0usft (Original Well Elev)
<b>Project:</b>	Wattenberg Field	<b>MD Reference:</b>	WELL @ 4902.0usft (Original Well Elev)
<b>Site:</b>	LC (09N-59W)	<b>North Reference:</b>	Grid
<b>Well:</b>	Tina LC29-75-1HNA	<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)
4,650.0	0.00	0.00	4,636.1	-100.0	-143.0	-94.6	0.00	0.00	0.00
4,700.0	0.00	0.00	4,686.1	-100.0	-143.0	-94.6	0.00	0.00	0.00
4,750.0	0.00	0.00	4,736.1	-100.0	-143.0	-94.6	0.00	0.00	0.00
4,800.0	0.00	0.00	4,786.1	-100.0	-143.0	-94.6	0.00	0.00	0.00
4,850.0	0.00	0.00	4,836.1	-100.0	-143.0	-94.6	0.00	0.00	0.00
4,900.0	0.00	0.00	4,886.1	-100.0	-143.0	-94.6	0.00	0.00	0.00
4,950.0	0.00	0.00	4,936.1	-100.0	-143.0	-94.6	0.00	0.00	0.00
5,000.0	0.00	0.00	4,986.1	-100.0	-143.0	-94.6	0.00	0.00	0.00
5,050.0	0.00	0.00	5,036.1	-100.0	-143.0	-94.6	0.00	0.00	0.00
5,100.0	0.00	0.00	5,086.1	-100.0	-143.0	-94.6	0.00	0.00	0.00
5,150.0	0.00	0.00	5,136.1	-100.0	-143.0	-94.6	0.00	0.00	0.00
5,200.0	0.00	0.00	5,186.1	-100.0	-143.0	-94.6	0.00	0.00	0.00
5,250.0	0.00	0.00	5,236.1	-100.0	-143.0	-94.6	0.00	0.00	0.00
5,300.0	0.00	0.00	5,286.1	-100.0	-143.0	-94.6	0.00	0.00	0.00
5,319.9	0.00	0.00	5,306.0	-100.0	-143.0	-94.6	0.00	0.00	0.00
TEEPEE BUTTES									
5,350.0	0.00	0.00	5,336.1	-100.0	-143.0	-94.6	0.00	0.00	0.00
5,371.2	0.00	0.00	5,357.3	-100.0	-143.0	-94.6	0.00	0.00	0.00
KOP #2 - Start Build 8.00									
5,400.0	2.30	358.74	5,386.1	-99.4	-143.0	-94.0	8.00	8.00	0.00
5,450.0	6.30	358.74	5,435.9	-95.7	-143.1	-90.3	8.00	8.00	0.00
5,500.0	10.30	358.74	5,485.4	-88.5	-143.3	-83.1	8.00	8.00	0.00
5,550.0	14.30	358.74	5,534.2	-77.8	-143.5	-72.4	8.00	8.00	0.00
5,600.0	18.30	358.74	5,582.2	-63.8	-143.8	-58.4	8.00	8.00	0.00
5,650.0	22.30	358.74	5,629.1	-46.4	-144.2	-41.0	8.00	8.00	0.00
5,700.0	26.30	358.74	5,674.6	-25.9	-144.6	-20.5	8.00	8.00	0.00
5,750.0	30.30	358.74	5,718.6	-2.2	-145.2	3.2	8.00	8.00	0.00
5,800.0	34.30	358.74	5,760.9	24.5	-145.7	29.9	8.00	8.00	0.00
5,850.0	38.30	358.74	5,801.2	54.1	-146.4	59.5	8.00	8.00	0.00
5,900.0	42.30	358.74	5,839.3	86.5	-147.1	91.9	8.00	8.00	0.00
5,950.0	46.30	358.74	5,875.1	121.4	-147.9	126.8	8.00	8.00	0.00
6,000.0	50.30	358.74	5,908.3	158.7	-148.7	164.1	8.00	8.00	0.00
6,050.0	54.30	358.74	5,938.9	198.2	-149.6	203.6	8.00	8.00	0.00
6,100.0	58.30	358.74	5,966.6	239.8	-150.5	245.2	8.00	8.00	0.00
6,149.1	62.23	358.74	5,991.0	282.5	-151.4	287.9	8.00	8.00	0.00
SHARON SPRINGS									
6,150.0	62.30	358.74	5,991.4	283.2	-151.4	288.7	8.00	8.00	0.00
6,200.0	66.30	358.74	6,013.1	328.3	-152.4	333.7	8.00	8.00	0.00
6,209.9	67.10	358.74	6,017.0	337.4	-152.6	342.8	8.00	8.00	0.00
NIOBRARA - NIO A CHALK									
6,250.0	70.30	358.74	6,031.6	374.7	-153.4	380.1	8.00	8.00	0.00
6,293.6	73.79	358.74	6,045.0	416.2	-154.4	421.6	8.00	8.00	0.00
NIO A MARL									
6,300.0	74.30	358.74	6,046.8	422.3	-154.5	427.8	8.00	8.00	0.00
6,350.0	78.30	358.74	6,058.6	470.9	-155.6	476.3	8.00	8.00	0.00
6,400.0	82.30	358.74	6,067.0	520.1	-156.6	525.6	8.00	8.00	0.00
6,433.7	85.00	358.74	6,070.7	553.6	-157.4	559.1	8.00	8.00	0.00
Start 75.0 hold at 6433.7 MD - 7" Casing @ 6433.7' MD									
6,450.0	85.00	358.74	6,072.2	569.8	-157.7	575.3	0.00	0.00	0.00
6,500.0	85.00	358.74	6,076.5	619.6	-158.8	625.1	0.00	0.00	0.00
6,508.7	85.00	358.74	6,077.3	628.3	-159.0	633.8	0.00	0.00	0.00
Start Build 8.00									
6,550.0	88.30	358.74	6,079.7	669.5	-159.9	675.0	8.00	8.00	0.00

# Noble Energy Inc

## Planning Report

<b>Database:</b>	EDM Production	<b>Local Co-ordinate Reference:</b>	Well Tina LC29-75-1HNA
<b>Company:</b>	Northern Region Drilling - Working	<b>TVD Reference:</b>	WELL @ 4902.0usft (Original Well Elev)
<b>Project:</b>	Wattenberg Field	<b>MD Reference:</b>	WELL @ 4902.0usft (Original Well Elev)
<b>Site:</b>	LC (09N-59W)	<b>North Reference:</b>	Grid
<b>Well:</b>	Tina LC29-75-1HNA	<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)
6,571.2	90.00	358.74	6,080.0	690.7	-160.4	696.2	8.00	8.00	0.00
6,600.0	90.00	358.74	6,080.0	719.5	-161.0	725.0	0.00	0.00	0.00
6,650.0	90.00	358.74	6,080.0	769.5	-162.1	775.0	0.00	0.00	0.00
6,700.0	90.00	358.74	6,080.0	819.5	-163.2	825.0	0.00	0.00	0.00
6,750.0	90.00	358.74	6,080.0	869.5	-164.3	875.0	0.00	0.00	0.00
6,800.0	90.00	358.74	6,080.0	919.5	-165.4	925.0	0.00	0.00	0.00
6,850.0	90.00	358.74	6,080.0	969.4	-166.5	975.0	0.00	0.00	0.00
6,900.0	90.00	358.74	6,080.0	1,019.4	-167.6	1,025.0	0.00	0.00	0.00
6,950.0	90.00	358.74	6,080.0	1,069.4	-168.7	1,074.9	0.00	0.00	0.00
7,000.0	90.00	358.74	6,080.0	1,119.4	-169.8	1,124.9	0.00	0.00	0.00
7,050.0	90.00	358.74	6,080.0	1,169.4	-170.9	1,174.9	0.00	0.00	0.00
7,100.0	90.00	358.74	6,080.0	1,219.4	-172.0	1,224.9	0.00	0.00	0.00
7,150.0	90.00	358.74	6,080.0	1,269.4	-173.1	1,274.9	0.00	0.00	0.00
7,200.0	90.00	358.74	6,080.0	1,319.4	-174.2	1,324.9	0.00	0.00	0.00
7,250.0	90.00	358.74	6,080.0	1,369.4	-175.3	1,374.9	0.00	0.00	0.00
7,300.0	90.00	358.74	6,080.0	1,419.3	-176.4	1,424.9	0.00	0.00	0.00
7,350.0	90.00	358.74	6,080.0	1,469.3	-177.5	1,474.9	0.00	0.00	0.00
7,400.0	90.00	358.74	6,080.0	1,519.3	-178.6	1,524.9	0.00	0.00	0.00
7,450.0	90.00	358.74	6,080.0	1,569.3	-179.7	1,574.9	0.00	0.00	0.00
7,500.0	90.00	358.74	6,080.0	1,619.3	-180.8	1,624.9	0.00	0.00	0.00
7,550.0	90.00	358.74	6,080.0	1,669.3	-181.9	1,674.9	0.00	0.00	0.00
7,600.0	90.00	358.74	6,080.0	1,719.3	-183.0	1,724.9	0.00	0.00	0.00
7,650.0	90.00	358.74	6,080.0	1,769.3	-184.1	1,774.9	0.00	0.00	0.00
7,700.0	90.00	358.74	6,080.0	1,819.2	-185.2	1,824.9	0.00	0.00	0.00
7,750.0	90.00	358.74	6,080.0	1,869.2	-186.3	1,874.9	0.00	0.00	0.00
7,800.0	90.00	358.74	6,080.0	1,919.2	-187.4	1,924.9	0.00	0.00	0.00
7,850.0	90.00	358.74	6,080.0	1,969.2	-188.5	1,974.8	0.00	0.00	0.00
7,900.0	90.00	358.74	6,080.0	2,019.2	-189.6	2,024.8	0.00	0.00	0.00
7,950.0	90.00	358.74	6,080.0	2,069.2	-190.7	2,074.8	0.00	0.00	0.00
8,000.0	90.00	358.74	6,080.0	2,119.2	-191.8	2,124.8	0.00	0.00	0.00
8,050.0	90.00	358.74	6,080.0	2,169.2	-192.9	2,174.8	0.00	0.00	0.00
8,100.0	90.00	358.74	6,080.0	2,219.1	-194.0	2,224.8	0.00	0.00	0.00
8,150.0	90.00	358.74	6,080.0	2,269.1	-195.1	2,274.8	0.00	0.00	0.00
8,200.0	90.00	358.74	6,080.0	2,319.1	-196.2	2,324.8	0.00	0.00	0.00
8,250.0	90.00	358.74	6,080.0	2,369.1	-197.3	2,374.8	0.00	0.00	0.00
8,300.0	90.00	358.74	6,080.0	2,419.1	-198.4	2,424.8	0.00	0.00	0.00
8,350.0	90.00	358.74	6,080.0	2,469.1	-199.5	2,474.8	0.00	0.00	0.00
8,400.0	90.00	358.74	6,080.0	2,519.1	-200.6	2,524.8	0.00	0.00	0.00
8,450.0	90.00	358.74	6,080.0	2,569.1	-201.7	2,574.8	0.00	0.00	0.00
8,500.0	90.00	358.74	6,080.0	2,619.1	-202.8	2,624.8	0.00	0.00	0.00
8,550.0	90.00	358.74	6,080.0	2,669.0	-203.9	2,674.8	0.00	0.00	0.00
8,600.0	90.00	358.74	6,080.0	2,719.0	-205.0	2,724.8	0.00	0.00	0.00
8,650.0	90.00	358.74	6,080.0	2,769.0	-206.1	2,774.8	0.00	0.00	0.00
8,700.0	90.00	358.74	6,080.0	2,819.0	-207.2	2,824.7	0.00	0.00	0.00
8,750.0	90.00	358.74	6,080.0	2,869.0	-208.3	2,874.7	0.00	0.00	0.00
8,800.0	90.00	358.74	6,080.0	2,919.0	-209.4	2,924.7	0.00	0.00	0.00
8,850.0	90.00	358.74	6,080.0	2,969.0	-210.5	2,974.7	0.00	0.00	0.00
8,900.0	90.00	358.74	6,080.0	3,019.0	-211.6	3,024.7	0.00	0.00	0.00
8,950.0	90.00	358.74	6,080.0	3,068.9	-212.7	3,074.7	0.00	0.00	0.00
9,000.0	90.00	358.74	6,080.0	3,118.9	-213.8	3,124.7	0.00	0.00	0.00
9,050.0	90.00	358.74	6,080.0	3,168.9	-214.9	3,174.7	0.00	0.00	0.00
9,100.0	90.00	358.74	6,080.0	3,218.9	-216.0	3,224.7	0.00	0.00	0.00
9,150.0	90.00	358.74	6,080.0	3,268.9	-217.1	3,274.7	0.00	0.00	0.00
9,200.0	90.00	358.74	6,080.0	3,318.9	-218.2	3,324.7	0.00	0.00	0.00

# Noble Energy Inc

## Planning Report

<b>Database:</b>	EDM Production	<b>Local Co-ordinate Reference:</b>	Well Tina LC29-75-1HNA
<b>Company:</b>	Northern Region Drilling - Working	<b>TVD Reference:</b>	WELL @ 4902.0usft (Original Well Elev)
<b>Project:</b>	Wattenberg Field	<b>MD Reference:</b>	WELL @ 4902.0usft (Original Well Elev)
<b>Site:</b>	LC (09N-59W)	<b>North Reference:</b>	Grid
<b>Well:</b>	Tina LC29-75-1HNA	<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)	
9,250.0	90.00	358.74	6,080.0	3,368.9	-219.3	3,374.7	0.00	0.00	0.00	
9,300.0	90.00	358.74	6,080.0	3,418.9	-220.4	3,424.7	0.00	0.00	0.00	
9,350.0	90.00	358.74	6,080.0	3,468.8	-221.5	3,474.7	0.00	0.00	0.00	
9,400.0	90.00	358.74	6,080.0	3,518.8	-222.6	3,524.7	0.00	0.00	0.00	
9,450.0	90.00	358.74	6,080.0	3,568.8	-223.7	3,574.7	0.00	0.00	0.00	
9,500.0	90.00	358.74	6,080.0	3,618.8	-224.8	3,624.7	0.00	0.00	0.00	
9,550.0	90.00	358.74	6,080.0	3,668.8	-225.9	3,674.7	0.00	0.00	0.00	
9,600.0	90.00	358.74	6,080.0	3,718.8	-227.0	3,724.6	0.00	0.00	0.00	
9,650.0	90.00	358.74	6,080.0	3,768.8	-228.1	3,774.6	0.00	0.00	0.00	
9,700.0	90.00	358.74	6,080.0	3,818.8	-229.2	3,824.6	0.00	0.00	0.00	
9,750.0	90.00	358.74	6,080.0	3,868.7	-230.3	3,874.6	0.00	0.00	0.00	
9,800.0	90.00	358.74	6,080.0	3,918.7	-231.4	3,924.6	0.00	0.00	0.00	
9,850.0	90.00	358.74	6,080.0	3,968.7	-232.5	3,974.6	0.00	0.00	0.00	
9,900.0	90.00	358.74	6,080.0	4,018.7	-233.6	4,024.6	0.00	0.00	0.00	
9,950.0	90.00	358.74	6,080.0	4,068.7	-234.7	4,074.6	0.00	0.00	0.00	
10,000.0	90.00	358.74	6,080.0	4,118.7	-235.8	4,124.6	0.00	0.00	0.00	
10,050.0	90.00	358.74	6,080.0	4,168.7	-236.9	4,174.6	0.00	0.00	0.00	
10,100.0	90.00	358.74	6,080.0	4,218.7	-238.0	4,224.6	0.00	0.00	0.00	
10,150.0	90.00	358.74	6,080.0	4,268.7	-239.1	4,274.6	0.00	0.00	0.00	
10,200.0	90.00	358.74	6,080.0	4,318.6	-240.2	4,324.6	0.00	0.00	0.00	
10,250.0	90.00	358.74	6,080.0	4,368.6	-241.3	4,374.6	0.00	0.00	0.00	
10,300.0	90.00	358.74	6,080.0	4,418.6	-242.4	4,424.6	0.00	0.00	0.00	
10,350.0	90.00	358.74	6,080.0	4,468.6	-243.5	4,474.6	0.00	0.00	0.00	
10,400.0	90.00	358.74	6,080.0	4,518.6	-244.6	4,524.6	0.00	0.00	0.00	
10,450.0	90.00	358.74	6,080.0	4,568.6	-245.7	4,574.5	0.00	0.00	0.00	
10,500.0	90.00	358.74	6,080.0	4,618.6	-246.8	4,624.5	0.00	0.00	0.00	
10,550.0	90.00	358.74	6,080.0	4,668.6	-247.9	4,674.5	0.00	0.00	0.00	
10,600.0	90.00	358.74	6,080.0	4,718.5	-249.0	4,724.5	0.00	0.00	0.00	
10,650.0	90.00	358.74	6,080.0	4,768.5	-250.1	4,774.5	0.00	0.00	0.00	
10,700.0	90.00	358.74	6,080.0	4,818.5	-251.2	4,824.5	0.00	0.00	0.00	
10,750.0	90.00	358.74	6,080.0	4,868.5	-252.3	4,874.5	0.00	0.00	0.00	
10,800.0	90.00	358.74	6,080.0	4,918.5	-253.4	4,924.5	0.00	0.00	0.00	
10,850.0	90.00	358.74	6,080.0	4,968.5	-254.5	4,974.5	0.00	0.00	0.00	
10,900.0	90.00	358.74	6,080.0	5,018.5	-255.6	5,024.5	0.00	0.00	0.00	
10,950.0	90.00	358.74	6,080.0	5,068.5	-256.7	5,074.5	0.00	0.00	0.00	
11,000.0	90.00	358.74	6,080.0	5,118.4	-257.8	5,124.5	0.00	0.00	0.00	
11,050.0	90.00	358.74	6,080.0	5,168.4	-258.9	5,174.5	0.00	0.00	0.00	
11,100.0	90.00	358.74	6,080.0	5,218.4	-260.0	5,224.5	0.00	0.00	0.00	
11,150.0	90.00	358.74	6,080.0	5,268.4	-261.1	5,274.5	0.00	0.00	0.00	
11,200.0	90.00	358.74	6,080.0	5,318.4	-262.2	5,324.5	0.00	0.00	0.00	
11,250.0	90.00	358.74	6,080.0	5,368.4	-263.3	5,374.5	0.00	0.00	0.00	
11,300.0	90.00	358.74	6,080.0	5,418.4	-264.4	5,424.5	0.00	0.00	0.00	
11,350.0	90.00	358.74	6,080.0	5,468.4	-265.5	5,474.4	0.00	0.00	0.00	
11,400.0	90.00	358.74	6,080.0	5,518.3	-266.6	5,524.4	0.00	0.00	0.00	
11,450.0	90.00	358.74	6,080.0	5,568.3	-267.7	5,574.4	0.00	0.00	0.00	
11,500.0	90.00	358.74	6,080.0	5,618.3	-268.8	5,624.4	0.00	0.00	0.00	
11,550.0	90.00	358.74	6,080.0	5,668.3	-269.9	5,674.4	0.00	0.00	0.00	
11,600.0	90.00	358.74	6,080.0	5,718.3	-271.0	5,724.4	0.00	0.00	0.00	
11,650.0	90.00	358.74	6,080.0	5,768.3	-272.1	5,774.4	0.00	0.00	0.00	
11,700.0	90.00	358.74	6,080.0	5,818.3	-273.2	5,824.4	0.00	0.00	0.00	
11,750.0	90.00	358.74	6,080.0	5,868.3	-274.3	5,874.4	0.00	0.00	0.00	
11,800.0	90.00	358.74	6,080.0	5,918.3	-275.4	5,924.4	0.00	0.00	0.00	
11,850.0	90.00	358.74	6,080.0	5,968.2	-276.5	5,974.4	0.00	0.00	0.00	
11,900.0	90.00	358.74	6,080.0	6,018.2	-277.6	6,024.4	0.00	0.00	0.00	



# Noble Energy Inc

## Planning Report

<b>Database:</b>	EDM Production	<b>Local Co-ordinate Reference:</b>	Well Tina LC29-75-1HNA
<b>Company:</b>	Northern Region Drilling - Working	<b>TVD Reference:</b>	WELL @ 4902.0usft (Original Well Elev)
<b>Project:</b>	Wattenberg Field	<b>MD Reference:</b>	WELL @ 4902.0usft (Original Well Elev)
<b>Site:</b>	LC (09N-59W)	<b>North Reference:</b>	Grid
<b>Well:</b>	Tina LC29-75-1HNA	<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)
11,950.0	90.00	358.74	6,080.0	6,068.2	-278.7	6,074.4	0.00	0.00	0.00
12,000.0	90.00	358.74	6,080.0	6,118.2	-279.8	6,124.4	0.00	0.00	0.00
12,050.0	90.00	358.74	6,080.0	6,168.2	-280.9	6,174.4	0.00	0.00	0.00
12,100.0	90.00	358.74	6,080.0	6,218.2	-282.0	6,224.4	0.00	0.00	0.00
12,150.0	90.00	358.74	6,080.0	6,268.2	-283.1	6,274.4	0.00	0.00	0.00
12,200.0	90.00	358.74	6,080.0	6,318.2	-284.2	6,324.3	0.00	0.00	0.00
12,250.0	90.00	358.74	6,080.0	6,368.1	-285.3	6,374.3	0.00	0.00	0.00
12,300.0	90.00	358.74	6,080.0	6,418.1	-286.4	6,424.3	0.00	0.00	0.00
12,350.0	90.00	358.74	6,080.0	6,468.1	-287.5	6,474.3	0.00	0.00	0.00
12,400.0	90.00	358.74	6,080.0	6,518.1	-288.6	6,524.3	0.00	0.00	0.00
12,450.0	90.00	358.74	6,080.0	6,568.1	-289.7	6,574.3	0.00	0.00	0.00
12,500.0	90.00	358.74	6,080.0	6,618.1	-290.8	6,624.3	0.00	0.00	0.00
12,550.0	90.00	358.74	6,080.0	6,668.1	-291.9	6,674.3	0.00	0.00	0.00
12,600.0	90.00	358.74	6,080.0	6,718.1	-293.0	6,724.3	0.00	0.00	0.00
12,650.0	90.00	358.74	6,080.0	6,768.0	-294.1	6,774.3	0.00	0.00	0.00
12,700.0	90.00	358.74	6,080.0	6,818.0	-295.2	6,824.3	0.00	0.00	0.00
12,750.0	90.00	358.74	6,080.0	6,868.0	-296.3	6,874.3	0.00	0.00	0.00
12,800.0	90.00	358.74	6,080.0	6,918.0	-297.4	6,924.3	0.00	0.00	0.00
12,850.0	90.00	358.74	6,080.0	6,968.0	-298.5	6,974.3	0.00	0.00	0.00
12,900.0	90.00	358.74	6,080.0	7,018.0	-299.6	7,024.3	0.00	0.00	0.00
12,950.0	90.00	358.74	6,080.0	7,068.0	-300.7	7,074.3	0.00	0.00	0.00
13,000.0	90.00	358.74	6,080.0	7,118.0	-301.8	7,124.3	0.00	0.00	0.00
13,050.0	90.00	358.74	6,080.0	7,167.9	-302.9	7,174.3	0.00	0.00	0.00
13,100.0	90.00	358.74	6,080.0	7,217.9	-304.0	7,224.2	0.00	0.00	0.00
13,150.0	90.00	358.74	6,080.0	7,267.9	-305.1	7,274.2	0.00	0.00	0.00
13,200.0	90.00	358.74	6,080.0	7,317.9	-306.2	7,324.2	0.00	0.00	0.00
13,250.0	90.00	358.74	6,080.0	7,367.9	-307.3	7,374.2	0.00	0.00	0.00
13,300.0	90.00	358.74	6,080.0	7,417.9	-308.4	7,424.2	0.00	0.00	0.00
13,350.0	90.00	358.74	6,080.0	7,467.9	-309.5	7,474.2	0.00	0.00	0.00
13,400.0	90.00	358.74	6,080.0	7,517.9	-310.6	7,524.2	0.00	0.00	0.00
13,450.0	90.00	358.74	6,080.0	7,567.9	-311.7	7,574.2	0.00	0.00	0.00
13,500.0	90.00	358.74	6,080.0	7,617.8	-312.8	7,624.2	0.00	0.00	0.00
13,550.0	90.00	358.74	6,080.0	7,667.8	-313.9	7,674.2	0.00	0.00	0.00
13,600.0	90.00	358.74	6,080.0	7,717.8	-315.0	7,724.2	0.00	0.00	0.00
13,650.0	90.00	358.74	6,080.0	7,767.8	-316.1	7,774.2	0.00	0.00	0.00
13,700.0	90.00	358.74	6,080.0	7,817.8	-317.2	7,824.2	0.00	0.00	0.00
13,750.0	90.00	358.74	6,080.0	7,867.8	-318.3	7,874.2	0.00	0.00	0.00
13,800.0	90.00	358.74	6,080.0	7,917.8	-319.4	7,924.2	0.00	0.00	0.00
13,850.0	90.00	358.74	6,080.0	7,967.8	-320.5	7,974.2	0.00	0.00	0.00
13,900.0	90.00	358.74	6,080.0	8,017.7	-321.6	8,024.2	0.00	0.00	0.00
13,950.0	90.00	358.74	6,080.0	8,067.7	-322.7	8,074.1	0.00	0.00	0.00
14,000.0	90.00	358.74	6,080.0	8,117.7	-323.8	8,124.1	0.00	0.00	0.00
14,050.0	90.00	358.74	6,080.0	8,167.7	-324.9	8,174.1	0.00	0.00	0.00
14,100.0	90.00	358.74	6,080.0	8,217.7	-326.0	8,224.1	0.00	0.00	0.00
14,150.0	90.00	358.74	6,080.0	8,267.7	-327.1	8,274.1	0.00	0.00	0.00
14,200.0	90.00	358.74	6,080.0	8,317.7	-328.2	8,324.1	0.00	0.00	0.00
14,250.0	90.00	358.74	6,080.0	8,367.7	-329.3	8,374.1	0.00	0.00	0.00
14,300.0	90.00	358.74	6,080.0	8,417.6	-330.4	8,424.1	0.00	0.00	0.00
14,350.0	90.00	358.74	6,080.0	8,467.6	-331.5	8,474.1	0.00	0.00	0.00
14,400.0	90.00	358.74	6,080.0	8,517.6	-332.6	8,524.1	0.00	0.00	0.00
14,450.0	90.00	358.74	6,080.0	8,567.6	-333.7	8,574.1	0.00	0.00	0.00
14,500.0	90.00	358.74	6,080.0	8,617.6	-334.8	8,624.1	0.00	0.00	0.00
14,550.0	90.00	358.74	6,080.0	8,667.6	-335.9	8,674.1	0.00	0.00	0.00
14,600.0	90.00	358.74	6,080.0	8,717.6	-337.0	8,724.1	0.00	0.00	0.00

# Noble Energy Inc

## Planning Report

<b>Database:</b>	EDM Production	<b>Local Co-ordinate Reference:</b>	Well Tina LC29-75-1HNA
<b>Company:</b>	Northern Region Drilling - Working	<b>TVD Reference:</b>	WELL @ 4902.0usft (Original Well Elev)
<b>Project:</b>	Wattenberg Field	<b>MD Reference:</b>	WELL @ 4902.0usft (Original Well Elev)
<b>Site:</b>	LC (09N-59W)	<b>North Reference:</b>	Grid
<b>Well:</b>	Tina LC29-75-1HNA	<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)	
14,650.0	90.00	358.74	6,080.0	8,767.6	-338.1	8,774.1	0.00	0.00	0.00	
14,700.0	90.00	358.74	6,080.0	8,817.6	-339.2	8,824.1	0.00	0.00	0.00	
14,750.0	90.00	358.74	6,080.0	8,867.5	-340.3	8,874.1	0.00	0.00	0.00	
14,800.0	90.00	358.74	6,080.0	8,917.5	-341.4	8,924.1	0.00	0.00	0.00	
14,850.0	90.00	358.74	6,080.0	8,967.5	-342.5	8,974.0	0.00	0.00	0.00	
14,900.0	90.00	358.74	6,080.0	9,017.5	-343.6	9,024.0	0.00	0.00	0.00	
14,950.0	90.00	358.74	6,080.0	9,067.5	-344.7	9,074.0	0.00	0.00	0.00	
15,000.0	90.00	358.74	6,080.0	9,117.5	-345.8	9,124.0	0.00	0.00	0.00	
15,050.0	90.00	358.74	6,080.0	9,167.5	-346.9	9,174.0	0.00	0.00	0.00	
15,100.0	90.00	358.74	6,080.0	9,217.5	-348.0	9,224.0	0.00	0.00	0.00	
15,150.0	90.00	358.74	6,080.0	9,267.4	-349.1	9,274.0	0.00	0.00	0.00	
15,200.0	90.00	358.74	6,080.0	9,317.4	-350.2	9,324.0	0.00	0.00	0.00	
15,250.0	90.00	358.74	6,080.0	9,367.4	-351.3	9,374.0	0.00	0.00	0.00	
15,300.0	90.00	358.74	6,080.0	9,417.4	-352.4	9,424.0	0.00	0.00	0.00	
15,350.0	90.00	358.74	6,080.0	9,467.4	-353.5	9,474.0	0.00	0.00	0.00	
15,400.0	90.00	358.74	6,080.0	9,517.4	-354.6	9,524.0	0.00	0.00	0.00	
15,450.0	90.00	358.74	6,080.0	9,567.4	-355.7	9,574.0	0.00	0.00	0.00	
15,481.8	90.00	358.74	6,080.0	9,599.2	-356.4	9,605.8	0.00	0.00	0.00	
TD at 15481.8 - Tina LC29-75-1HNA BHL 675'FNL, 2310'FEL										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
- hit/miss target										
- Shape										
Tina LC29-75-1HNA BHL	0.00	0.00	6,080.0	9,599.2	-356.4	1,516,407.93	3,415,390.34	40.741290	-104.000910	
- plan hits target center										
- Point										

Casing Points									
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")					
6,433.7	6,070.7	7" Casing @ 6433.7' MD	7	8-3/4					

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,310.0	1,310.0	PIERRE		0.00		
3,454.9	3,441.0	PARKMAN		0.00		
4,124.9	4,111.0	SUSSEX		0.00		
4,500.9	4,487.0	SHANNON		0.00		
5,319.9	5,306.0	TEEPEE BUTTES		0.00		
6,149.1	5,991.0	SHARON SPRINGS		0.00		
6,209.9	6,017.0	NIOBRARA		0.00		
6,209.9	6,017.0	NIO A CHALK		0.00		
6,293.6	6,045.0	NIO A MARL		0.00		

# Noble Energy Inc

## Planning Report

<b>Database:</b>	EDM Production	<b>Local Co-ordinate Reference:</b>	Well Tina LC29-75-1HNA
<b>Company:</b>	Northern Region Drilling - Working	<b>TVD Reference:</b>	WELL @ 4902.0usft (Original Well Elev)
<b>Project:</b>	Wattenberg Field	<b>MD Reference:</b>	WELL @ 4902.0usft (Original Well Elev)
<b>Site:</b>	LC (09N-59W)	<b>North Reference:</b>	Grid
<b>Well:</b>	Tina LC29-75-1HNA	<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)	
1,500.0	1,500.0	0.0	0.0	KOP - Start Build 2.00
2,336.6	2,327.0	-64.1	-91.6	Start Drop -2.00
5,371.2	5,357.3	-100.0	-143.0	KOP #2 - Start Build 8.00
6,433.7	6,070.7	553.6	-157.4	Start 75.0 hold at 6433.7 MD
6,508.7	6,077.3	628.3	-159.0	Start Build 8.00
15,481.8	6,080.0	9,599.2	-356.4	TD at 15481.8

# **Northern Region Drilling - Working**

**Wattenberg Field**

**LC (09N-59W)**

**Tina LC29-75-1HNA**

**Original Drilling**

**APD - Rev 0**

## **Anticollision Summary Report**

**28 August, 2013**

**Noble Energy Inc**  
Anticollision Summary Report

<b>Company:</b>	Northern Region Drilling - Working	<b>Local Co-ordinate Reference:</b>	Well Tina LC29-75-1HNA
<b>Project:</b>	Wattenberg Field	<b>TVD Reference:</b>	WELL @ 4902.0usft (Original Well Elev)
<b>Reference Site:</b>	LC (09N-59W)	<b>MD Reference:</b>	WELL @ 4902.0usft (Original Well Elev)
<b>Site Error:</b>	0.0 usft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Tina LC29-75-1HNA	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 usft	<b>Output errors are at</b>	2.00 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>	8/28/2013		
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.0	15,481.8	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>						
LC (09N-59W)						
Ptasnik LC20-75HN - Original Drilling - As Drilled	11,517.0	10,615.8	185.4	44.2	1.313	Level 2, SF
Ptasnik LC20-75HN - Original Drilling - As Drilled	13,300.0	8,823.4	160.4	40.5	1.337	Level 2, ES
Ptasnik LC20-75HN - Original Drilling - As Drilled	13,558.6	8,567.6	157.8	40.9	1.350	Level 2, CC
Rico LC29-74-1HNA - Original Drilling - APD - Rev 0	1,200.0	1,199.0	224.6	219.5	44.035	CC, ES
Rico LC29-74-1HNA - Original Drilling - APD - Rev 0	15,481.8	15,482.2	660.9	471.3	3.486	SF
Trisha LC29-74HNB - Original Drilling - APD - Rev 0	1,500.0	1,500.0	36.0	29.6	5.587	CC, ES
Trisha LC29-74HNB - Original Drilling - APD - Rev 0	15,481.8	15,538.5	335.2	147.1	1.782	Level 3, SF
Trisha LC29-75HNB - Original Drilling - APD - Rev 0	1,166.3	1,167.3	38.8	33.9	7.836	CC
Trisha LC29-75HNB - Original Drilling - APD - Rev 0	1,200.0	1,201.0	38.8	33.7	7.604	ES
Trisha LC29-75HNB - Original Drilling - APD - Rev 0	10,200.0	10,267.9	334.4	247.5	3.846	SF

# Noble Energy Inc

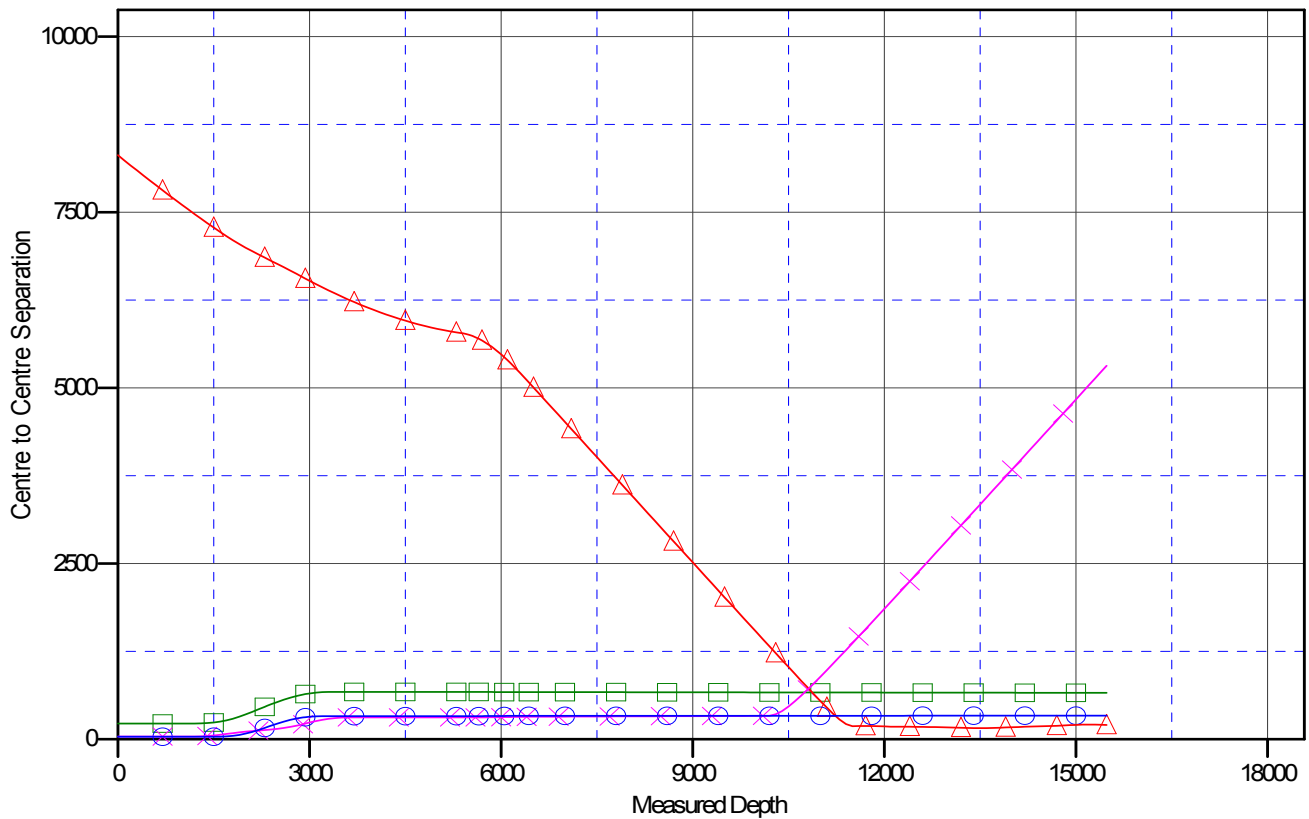
## Anticollision Summary Report

<b>Company:</b>	Northern Region Drilling - Working	<b>Local Co-ordinate Reference:</b>	Well Tina LC29-75-1HNA
<b>Project:</b>	Wattenberg Field	<b>TVD Reference:</b>	WELL @ 4902.0usft (Original Well Elev)
<b>Reference Site:</b>	LC (09N-59W)	<b>MD Reference:</b>	WELL @ 4902.0usft (Original Well Elev)
<b>Site Error:</b>	0.0 usft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Tina LC29-75-1HNA	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 usft	<b>Output errors are at</b>	2.00 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 @ 4902.0usft (Original Well Ele  
Offset Depths are relative to Offset Datum  
Central Meridian is -105.500000

Coordinates are relative to: Tina LC29-75-1HNA  
Coordinate System is US State Plane 1983, Colorado Northern Zone  
Grid Convergence at Surface is: 0.97°

### Ladder Plot



### LEGEND

∞ LC29-74-1HNA, Original Drilling, APD - Rev0 V0    ✱ Trisha LC29-75HNB, Original Drilling, APD - Rev0 V0  
 ash LC29-75HN, Original Drilling, As Drilled V0    ⊙ Trisha LC29-74HNB, Original Drilling, APD - Rev0 V0

**Noble Energy Inc**  
Anticollision Summary Report

<b>Company:</b>	Northern Region Drilling - Working	<b>Local Co-ordinate Reference:</b>	Well Tina LC29-75-1HNA
<b>Project:</b>	Wattenberg Field	<b>TVD Reference:</b>	WELL @ 4902.0usft (Original Well Elev)
<b>Reference Site:</b>	LC (09N-59W)	<b>MD Reference:</b>	WELL @ 4902.0usft (Original Well Elev)
<b>Site Error:</b>	0.0 usft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Tina LC29-75-1HNA	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 usft	<b>Output errors are at</b>	2.00 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 @ 4902.0usft (Original Well Ele  
Offset Depths are relative to Offset Datum  
Central Meridian is -105.500000

Coordinates are relative to: Tina LC29-75-1HNA  
Coordinate System is US State Plane 1983, Colorado Northern Zone  
Grid Convergence at Surface is: 0.97°

