

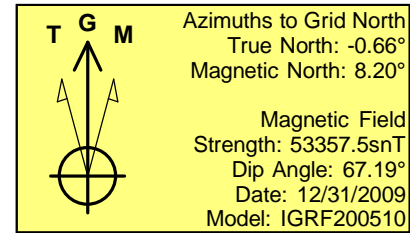
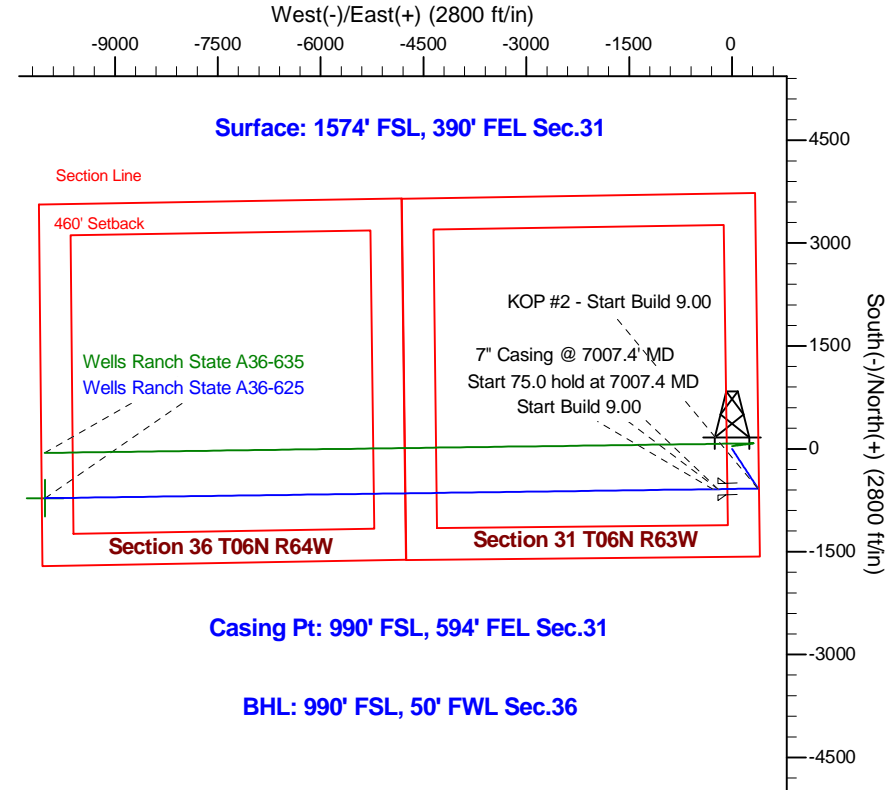
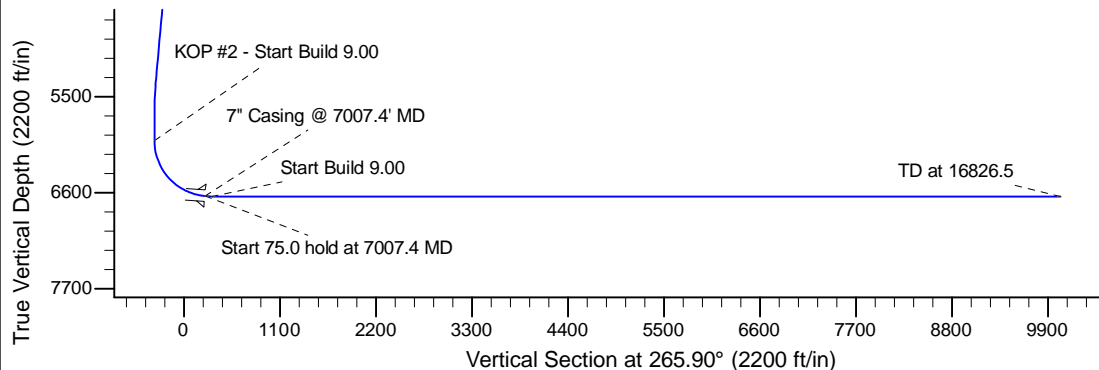
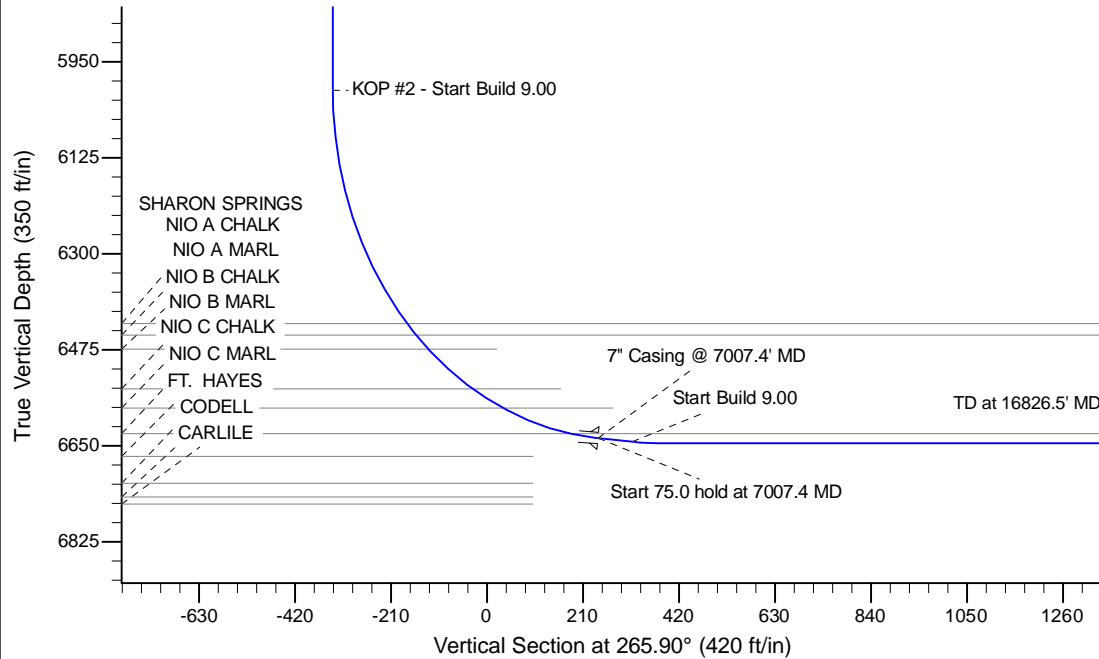
Project: Wattenberg Field  
Site: A (Sec.31-T06N-R63W) Weld County, CO  
Well: Wells Ranch State A36-625  
Wellbore: Original Drilling  
Design: APD - Rev 0

# 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	Vsect	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	2027.8	10.56	146.77	2024.9	-40.6	26.6	2.00	146.77	-23.6	
4	5283.2	10.56	146.77	5225.1	-539.4	353.4	0.00	0.00	-313.9	
5	5811.1	0.00	0.00	5750.0	-580.0	380.0	2.00	180.00	-337.5	
6	6062.9	0.00	0.00	6001.8	-580.0	380.0	0.00	0.00	-337.5	
7	7007.4	85.00	269.23	6636.0	-587.8	-201.1	9.00	269.23	242.6	
8	7082.4	85.00	269.23	6642.6	-588.8	-275.8	0.00	0.00	317.2	
9	7137.9	90.00	269.23	6645.0	-589.5	-331.3	9.00	0.00	372.6	
10	16826.5	90.00	269.23	6645.0	-719.0	-10019.0	0.00	0.00	10044.8	Wells Ranch State A36-625 BHL 990'FSL, 50'FWL



WELL DETAILS: Wells Ranch State A36-625				
Ground Level: 4659.0				
0.0	0.0	Northing 1404806.70	Easting 3286238.90	Latitude 40.440040 Longitude -104.471620
Plan: APD - Rev 0 (Wells Ranch State A36-625/Original Drilling)				
Created By: Shailey Jewell		Date: 8:25, January 23 2015		
Checked: _____		Date: _____		
Reviewed: _____		Date: _____		
Approved: _____		Date: _____		

# **Northern Region Drilling - Working**

**Wattenberg Field**

**A (06N-64W)**

**Wells Ranch State A36-625**

**Original Drilling**

**Plan: APD - Rev 0**

## **Standard Planning Report**

**23 January, 2015**

# Noble Energy Inc

## Planning Report

<b>Database:</b>	EDM01P	<b>Local Co-ordinate Reference:</b>	Well Wells Ranch State A36-625
<b>Company:</b>	Northern Region Drilling - Working	<b>TVD Reference:</b>	WELL @ 4675.0ft (Precision 829 RKB - 16')
<b>Project:</b>	Wattenberg Field	<b>MD Reference:</b>	WELL @ 4675.0ft (Precision 829 RKB - 16')
<b>Site:</b>	A (06N-64W)	<b>North Reference:</b>	Grid
<b>Well:</b>	Wells Ranch State A36-625	<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		A (06N-64W)			
Site Position:		Northing:	1,408,077.93 usft	Latitude:	40.449320
From:	Lat/Long	Easting:	3,276,618.19 usft	Longitude:	-104.506050
Position Uncertainty:	0.0 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.64 °

Well	Wells Ranch State A36-625					
Well Position	+N/-S	-3,271.4 ft	Northing:	1,404,806.70 usft	Latitude:	40.440040
	+E/-W	9,621.1 ft	Easting:	3,286,238.90 usft	Longitude:	-104.471620
Position Uncertainty		0.0 ft	Wellhead Elevation:	0.0 ft	Ground Level:	4,659.0 ft

<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	12/31/2009	8.87	67.19	53,358

<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) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	265.90

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	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	
2,027.8	10.56	146.77	2,024.9	-40.6	26.6	2.00	2.00	0.00	146.77	
5,283.2	10.56	146.77	5,225.1	-539.4	353.4	0.00	0.00	0.00	0.00	
5,811.1	0.00	0.00	5,750.0	-580.0	380.0	2.00	-2.00	0.00	180.00	
6,062.9	0.00	0.00	6,001.8	-580.0	380.0	0.00	0.00	0.00	0.00	
7,007.4	85.00	269.23	6,636.0	-587.8	-201.1	9.00	9.00	0.00	269.23	
7,082.4	85.00	269.23	6,642.6	-588.8	-275.8	0.00	0.00	0.00	0.00	
7,137.9	90.00	269.23	6,645.0	-589.5	-331.3	9.00	9.00	0.00	0.00	
16,826.5	90.00	269.23	6,645.0	-719.0	-10,019.0	0.00	0.00	0.00	0.00	Wells Ranch State A3

# Noble Energy Inc

## Planning Report

<b>Database:</b>	EDM01P	<b>Local Co-ordinate Reference:</b>	Well Wells Ranch State A36-625
<b>Company:</b>	Northern Region Drilling - Working	<b>TVD Reference:</b>	WELL @ 4675.0ft (Precision 829 RKB - 16')
<b>Project:</b>	Wattenberg Field	<b>MD Reference:</b>	WELL @ 4675.0ft (Precision 829 RKB - 16')
<b>Site:</b>	A (06N-64W)	<b>North Reference:</b>	Grid
<b>Well:</b>	Wells Ranch State A36-625	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Drilling		
<b>Design:</b>	APD - Rev 0		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
50.0	0.00	0.00	50.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
150.0	0.00	0.00	150.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
250.0	0.00	0.00	250.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
350.0	0.00	0.00	350.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
450.0	0.00	0.00	450.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
550.0	0.00	0.00	550.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
650.0	0.00	0.00	650.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
750.0	0.00	0.00	750.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
850.0	0.00	0.00	850.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
950.0	0.00	0.00	950.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,050.0	0.00	0.00	1,050.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,150.0	0.00	0.00	1,150.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,250.0	0.00	0.00	1,250.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,350.0	0.00	0.00	1,350.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,450.0	0.00	0.00	1,450.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>KOP - Start Build 2.00</b>									
1,550.0	1.00	146.77	1,550.0	-0.4	0.2	-0.2	2.00	2.00	0.00
1,600.0	2.00	146.77	1,600.0	-1.5	1.0	-0.8	2.00	2.00	0.00
1,650.0	3.00	146.77	1,649.9	-3.3	2.2	-1.9	2.00	2.00	0.00
1,700.0	4.00	146.77	1,699.8	-5.8	3.8	-3.4	2.00	2.00	0.00
1,750.0	5.00	146.77	1,749.7	-9.1	6.0	-5.3	2.00	2.00	0.00
1,800.0	6.00	146.77	1,799.5	-13.1	8.6	-7.6	2.00	2.00	0.00
1,850.0	7.00	146.77	1,849.1	-17.9	11.7	-10.4	2.00	2.00	0.00
1,900.0	8.00	146.77	1,898.7	-23.3	15.3	-13.6	2.00	2.00	0.00
1,950.0	9.00	146.77	1,948.2	-29.5	19.3	-17.2	2.00	2.00	0.00
2,000.0	10.00	146.77	1,997.5	-36.4	23.9	-21.2	2.00	2.00	0.00
2,027.8	10.56	146.77	2,024.9	-40.6	26.6	-23.6	2.00	2.00	0.00
2,050.0	10.56	146.77	2,046.6	-44.0	28.8	-25.6	0.00	0.00	0.00
2,100.0	10.56	146.77	2,095.8	-51.6	33.8	-30.0	0.00	0.00	0.00
2,150.0	10.56	146.77	2,145.0	-59.3	38.8	-34.5	0.00	0.00	0.00
2,200.0	10.56	146.77	2,194.1	-66.9	43.9	-39.0	0.00	0.00	0.00
2,250.0	10.56	146.77	2,243.3	-74.6	48.9	-43.4	0.00	0.00	0.00
2,300.0	10.56	146.77	2,292.4	-82.3	53.9	-47.9	0.00	0.00	0.00
2,339.3	10.56	146.77	2,331.0	-88.3	57.8	-51.4	0.00	0.00	0.00
<b>PIERRE</b>									
2,350.0	10.56	146.77	2,341.6	-89.9	58.9	-52.3	0.00	0.00	0.00
2,400.0	10.56	146.77	2,390.7	-97.6	63.9	-56.8	0.00	0.00	0.00
2,450.0	10.56	146.77	2,439.9	-105.3	69.0	-61.3	0.00	0.00	0.00

# Noble Energy Inc

## Planning Report

<b>Database:</b>	EDM01P	<b>Local Co-ordinate Reference:</b>	Well Wells Ranch State A36-625
<b>Company:</b>	Northern Region Drilling - Working	<b>TVD Reference:</b>	WELL @ 4675.0ft (Precision 829 RKB - 16')
<b>Project:</b>	Wattenberg Field	<b>MD Reference:</b>	WELL @ 4675.0ft (Precision 829 RKB - 16')
<b>Site:</b>	A (06N-64W)	<b>North Reference:</b>	Grid
<b>Well:</b>	Wells Ranch State A36-625	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Drilling		
<b>Design:</b>	APD - Rev 0		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
2,500.0	10.56	146.77	2,489.0	-112.9	74.0	-65.7	0.00	0.00	0.00
2,550.0	10.56	146.77	2,538.2	-120.6	79.0	-70.2	0.00	0.00	0.00
2,600.0	10.56	146.77	2,587.3	-128.2	84.0	-74.6	0.00	0.00	0.00
2,650.0	10.56	146.77	2,636.5	-135.9	89.0	-79.1	0.00	0.00	0.00
2,700.0	10.56	146.77	2,685.6	-143.6	94.1	-83.5	0.00	0.00	0.00
2,750.0	10.56	146.77	2,734.8	-151.2	99.1	-88.0	0.00	0.00	0.00
2,800.0	10.56	146.77	2,784.0	-158.9	104.1	-92.5	0.00	0.00	0.00
2,850.0	10.56	146.77	2,833.1	-166.6	109.1	-96.9	0.00	0.00	0.00
2,900.0	10.56	146.77	2,882.3	-174.2	114.1	-101.4	0.00	0.00	0.00
2,950.0	10.56	146.77	2,931.4	-181.9	119.2	-105.8	0.00	0.00	0.00
3,000.0	10.56	146.77	2,980.6	-189.5	124.2	-110.3	0.00	0.00	0.00
3,050.0	10.56	146.77	3,029.7	-197.2	129.2	-114.8	0.00	0.00	0.00
3,100.0	10.56	146.77	3,078.9	-204.9	134.2	-119.2	0.00	0.00	0.00
3,150.0	10.56	146.77	3,128.0	-212.5	139.2	-123.7	0.00	0.00	0.00
3,200.0	10.56	146.77	3,177.2	-220.2	144.3	-128.1	0.00	0.00	0.00
3,250.0	10.56	146.77	3,226.3	-227.9	149.3	-132.6	0.00	0.00	0.00
3,300.0	10.56	146.77	3,275.5	-235.5	154.3	-137.1	0.00	0.00	0.00
3,350.0	10.56	146.77	3,324.6	-243.2	159.3	-141.5	0.00	0.00	0.00
3,400.0	10.56	146.77	3,373.8	-250.8	164.3	-146.0	0.00	0.00	0.00
3,450.0	10.56	146.77	3,423.0	-258.5	169.4	-150.4	0.00	0.00	0.00
3,499.9	10.56	146.77	3,472.0	-266.1	174.4	-154.9	0.00	0.00	0.00
<b>PARKMAN</b>									
3,500.0	10.56	146.77	3,472.1	-266.2	174.4	-154.9	0.00	0.00	0.00
3,550.0	10.56	146.77	3,521.3	-273.8	179.4	-159.3	0.00	0.00	0.00
3,600.0	10.56	146.77	3,570.4	-281.5	184.4	-163.8	0.00	0.00	0.00
3,650.0	10.56	146.77	3,619.6	-289.2	189.4	-168.3	0.00	0.00	0.00
3,700.0	10.56	146.77	3,668.7	-296.8	194.5	-172.7	0.00	0.00	0.00
3,750.0	10.56	146.77	3,717.9	-304.5	199.5	-177.2	0.00	0.00	0.00
3,800.0	10.56	146.77	3,767.0	-312.1	204.5	-181.6	0.00	0.00	0.00
3,850.0	10.56	146.77	3,816.2	-319.8	209.5	-186.1	0.00	0.00	0.00
3,900.0	10.56	146.77	3,865.3	-327.5	214.5	-190.6	0.00	0.00	0.00
3,950.0	10.56	146.77	3,914.5	-335.1	219.6	-195.0	0.00	0.00	0.00
4,000.0	10.56	146.77	3,963.6	-342.8	224.6	-199.5	0.00	0.00	0.00
4,050.0	10.56	146.77	4,012.8	-350.5	229.6	-203.9	0.00	0.00	0.00
4,100.0	10.56	146.77	4,062.0	-358.1	234.6	-208.4	0.00	0.00	0.00
4,150.0	10.56	146.77	4,111.1	-365.8	239.6	-212.9	0.00	0.00	0.00
4,200.0	10.56	146.77	4,160.3	-373.4	244.7	-217.3	0.00	0.00	0.00
4,250.0	10.56	146.77	4,209.4	-381.1	249.7	-221.8	0.00	0.00	0.00
4,282.1	10.56	146.77	4,241.0	-386.0	252.9	-224.6	0.00	0.00	0.00
<b>SUSSEX</b>									
4,300.0	10.56	146.77	4,258.6	-388.8	254.7	-226.2	0.00	0.00	0.00
4,350.0	10.56	146.77	4,307.7	-396.4	259.7	-230.7	0.00	0.00	0.00
4,400.0	10.56	146.77	4,356.9	-404.1	264.7	-235.1	0.00	0.00	0.00
4,450.0	10.56	146.77	4,406.0	-411.8	269.8	-239.6	0.00	0.00	0.00
4,500.0	10.56	146.77	4,455.2	-419.4	274.8	-244.1	0.00	0.00	0.00
4,550.0	10.56	146.77	4,504.3	-427.1	279.8	-248.5	0.00	0.00	0.00
4,600.0	10.56	146.77	4,553.5	-434.7	284.8	-253.0	0.00	0.00	0.00
4,650.0	10.56	146.77	4,602.6	-442.4	289.8	-257.4	0.00	0.00	0.00
4,700.0	10.56	146.77	4,651.8	-450.1	294.9	-261.9	0.00	0.00	0.00
4,750.0	10.56	146.77	4,701.0	-457.7	299.9	-266.4	0.00	0.00	0.00
4,800.0	10.56	146.77	4,750.1	-465.4	304.9	-270.8	0.00	0.00	0.00
4,850.0	10.56	146.77	4,799.3	-473.1	309.9	-275.3	0.00	0.00	0.00
4,863.0	10.56	146.77	4,812.0	-475.0	311.2	-276.4	0.00	0.00	0.00

# Noble Energy Inc

## Planning Report

<b>Database:</b>	EDM01P	<b>Local Co-ordinate Reference:</b>	Well Wells Ranch State A36-625
<b>Company:</b>	Northern Region Drilling - Working	<b>TVD Reference:</b>	WELL @ 4675.0ft (Precision 829 RKB - 16')
<b>Project:</b>	Wattenberg Field	<b>MD Reference:</b>	WELL @ 4675.0ft (Precision 829 RKB - 16')
<b>Site:</b>	A (06N-64W)	<b>North Reference:</b>	Grid
<b>Well:</b>	Wells Ranch State A36-625	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Drilling		
<b>Design:</b>	APD - Rev 0		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
<b>SHANNON</b>									
4,900.0	10.56	146.77	4,848.4	-480.7	315.0	-279.7	0.00	0.00	0.00
4,950.0	10.56	146.77	4,897.6	-488.4	320.0	-284.2	0.00	0.00	0.00
5,000.0	10.56	146.77	4,946.7	-496.0	325.0	-288.7	0.00	0.00	0.00
5,050.0	10.56	146.77	4,995.9	-503.7	330.0	-293.1	0.00	0.00	0.00
5,100.0	10.56	146.77	5,045.0	-511.4	335.0	-297.6	0.00	0.00	0.00
5,150.0	10.56	146.77	5,094.2	-519.0	340.1	-302.0	0.00	0.00	0.00
5,200.0	10.56	146.77	5,143.3	-526.7	345.1	-306.5	0.00	0.00	0.00
5,250.0	10.56	146.77	5,192.5	-534.4	350.1	-310.9	0.00	0.00	0.00
5,283.2	10.56	146.77	5,225.1	-539.4	353.4	-313.9	0.00	0.00	0.00
<b>Start Drop -2.00</b>									
5,300.0	10.22	146.77	5,241.7	-542.0	355.1	-315.4	2.00	-2.00	0.00
5,350.0	9.22	146.77	5,290.9	-549.0	359.7	-319.5	2.00	-2.00	0.00
5,400.0	8.22	146.77	5,340.4	-555.4	363.9	-323.2	2.00	-2.00	0.00
5,450.0	7.22	146.77	5,389.9	-561.0	367.5	-326.5	2.00	-2.00	0.00
5,500.0	6.22	146.77	5,439.6	-565.9	370.8	-329.3	2.00	-2.00	0.00
5,550.0	5.22	146.77	5,489.3	-570.1	373.5	-331.7	2.00	-2.00	0.00
5,600.0	4.22	146.77	5,539.1	-573.5	375.7	-333.7	2.00	-2.00	0.00
5,650.0	3.22	146.77	5,589.0	-576.2	377.5	-335.3	2.00	-2.00	0.00
5,700.0	2.22	146.77	5,639.0	-578.2	378.8	-336.5	2.00	-2.00	0.00
5,750.0	1.22	146.77	5,689.0	-579.5	379.6	-337.2	2.00	-2.00	0.00
5,790.1	0.42	146.77	5,729.0	-579.9	380.0	-337.5	2.00	-2.00	0.00
<b>TEEPEE BUTTES</b>									
5,800.0	0.22	146.77	5,738.9	-580.0	380.0	-337.5	2.00	-2.00	0.00
5,811.1	0.00	0.00	5,750.0	-580.0	380.0	-337.5	2.00	-2.00	0.00
5,850.0	0.00	0.00	5,788.9	-580.0	380.0	-337.5	0.00	0.00	0.00
5,900.0	0.00	0.00	5,838.9	-580.0	380.0	-337.5	0.00	0.00	0.00
5,950.0	0.00	0.00	5,888.9	-580.0	380.0	-337.5	0.00	0.00	0.00
6,000.0	0.00	0.00	5,938.9	-580.0	380.0	-337.5	0.00	0.00	0.00
6,050.0	0.00	0.00	5,988.9	-580.0	380.0	-337.5	0.00	0.00	0.00
6,062.9	0.00	0.00	6,001.8	-580.0	380.0	-337.5	0.00	0.00	0.00
<b>KOP #2 - Start Build 9.00</b>									
6,100.0	3.34	269.23	6,038.9	-580.0	378.9	-336.4	9.00	9.00	0.00
6,150.0	7.84	269.23	6,088.7	-580.1	374.1	-331.6	9.00	9.00	0.00
6,200.0	12.34	269.23	6,137.9	-580.2	365.3	-322.8	9.00	9.00	0.00
6,250.0	16.84	269.23	6,186.3	-580.4	352.7	-310.3	9.00	9.00	0.00
6,300.0	21.34	269.23	6,233.5	-580.6	336.4	-293.9	9.00	9.00	0.00
6,350.0	25.84	269.23	6,279.3	-580.9	316.4	-274.0	9.00	9.00	0.00
6,400.0	30.34	269.23	6,323.4	-581.2	292.8	-250.5	9.00	9.00	0.00
6,450.0	34.84	269.23	6,365.5	-581.5	265.9	-223.6	9.00	9.00	0.00
6,500.0	39.34	269.23	6,405.4	-581.9	235.8	-193.5	9.00	9.00	0.00
6,528.5	41.90	269.23	6,427.0	-582.2	217.2	-175.0	9.00	9.00	0.00
<b>SHARON SPRINGS</b>									
6,550.0	43.84	269.23	6,442.8	-582.4	202.6	-160.4	8.99	8.99	0.00
6,557.3	44.49	269.23	6,448.0	-582.4	197.5	-155.3	9.02	9.02	0.00
<b>NIO A CHALK</b>									
6,594.8	47.87	269.23	6,474.0	-582.8	170.4	-128.3	9.00	9.00	0.00
<b>NIO A MARL</b>									
6,600.0	48.34	269.23	6,477.5	-582.9	166.6	-124.4	8.98	8.98	0.00
6,650.0	52.84	269.23	6,509.2	-583.4	128.0	-85.9	9.00	9.00	0.00
6,700.0	57.34	269.23	6,537.8	-583.9	87.0	-44.9	9.00	9.00	0.00
6,715.5	58.73	269.23	6,546.0	-584.1	73.8	-31.8	9.01	9.01	0.00
<b>NIO B CHALK</b>									

# Noble Energy Inc

## Planning Report

<b>Database:</b>	EDM01P	<b>Local Co-ordinate Reference:</b>	Well Wells Ranch State A36-625
<b>Company:</b>	Northern Region Drilling - Working	<b>TVD Reference:</b>	WELL @ 4675.0ft (Precision 829 RKB - 16')
<b>Project:</b>	Wattenberg Field	<b>MD Reference:</b>	WELL @ 4675.0ft (Precision 829 RKB - 16')
<b>Site:</b>	A (06N-64W)	<b>North Reference:</b>	Grid
<b>Well:</b>	Wells Ranch State A36-625	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Drilling		
<b>Design:</b>	APD - Rev 0		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
6,750.0	61.84	269.23	6,563.1	-584.5	43.9	-1.9	9.00	9.00	0.00
6,790.3	65.47	269.23	6,581.0	-585.0	7.7	34.2	9.00	9.00	0.00
NIO B MARL									
6,800.0	66.34	269.23	6,584.9	-585.1	-1.1	43.0	8.99	8.99	0.00
6,850.0	70.84	269.23	6,603.2	-585.7	-47.6	89.4	9.00	9.00	0.00
6,900.0	75.34	269.23	6,617.7	-586.4	-95.5	137.2	9.00	9.00	0.00
6,947.3	79.60	269.23	6,628.0	-587.0	-141.6	183.3	9.00	9.00	0.00
NIO C CHALK									
6,950.0	79.84	269.23	6,628.5	-587.0	-144.3	185.9	8.95	8.95	0.00
7,000.0	84.34	269.23	6,635.4	-587.7	-193.8	235.3	9.00	9.00	0.00
7,007.4	85.00	269.23	6,636.0	-587.8	-201.1	242.7	8.96	8.96	0.00
Start 75.0 hold at 7007.4 MD - 7" Casing @ 7007.4' MD									
7,050.0	85.00	269.23	6,639.8	-588.3	-243.6	285.1	0.00	0.00	0.00
7,082.4	85.00	269.23	6,642.6	-588.8	-275.8	317.3	0.00	0.00	0.00
Start Build 9.00									
7,100.0	86.59	269.23	6,643.9	-589.0	-293.4	334.8	9.02	9.02	0.00
7,137.9	90.00	269.23	6,645.0	-589.5	-331.3	372.6	9.00	9.00	0.00
7,150.0	90.00	269.23	6,645.0	-589.7	-343.4	384.7	0.00	0.00	0.00
7,200.0	90.00	269.23	6,645.0	-590.3	-393.4	434.6	0.00	0.00	0.00
7,250.0	90.00	269.23	6,645.0	-591.0	-443.4	484.5	0.00	0.00	0.00
7,300.0	90.00	269.23	6,645.0	-591.7	-493.4	534.4	0.00	0.00	0.00
7,350.0	90.00	269.23	6,645.0	-592.3	-543.4	584.4	0.00	0.00	0.00
7,400.0	90.00	269.23	6,645.0	-593.0	-593.4	634.3	0.00	0.00	0.00
7,450.0	90.00	269.23	6,645.0	-593.7	-643.4	684.2	0.00	0.00	0.00
7,500.0	90.00	269.23	6,645.0	-594.3	-693.3	734.1	0.00	0.00	0.00
7,550.0	90.00	269.23	6,645.0	-595.0	-743.3	784.0	0.00	0.00	0.00
7,600.0	90.00	269.23	6,645.0	-595.7	-793.3	833.9	0.00	0.00	0.00
7,650.0	90.00	269.23	6,645.0	-596.3	-843.3	883.9	0.00	0.00	0.00
7,700.0	90.00	269.23	6,645.0	-597.0	-893.3	933.8	0.00	0.00	0.00
7,750.0	90.00	269.23	6,645.0	-597.7	-943.3	983.7	0.00	0.00	0.00
7,800.0	90.00	269.23	6,645.0	-598.4	-993.3	1,033.6	0.00	0.00	0.00
7,850.0	90.00	269.23	6,645.0	-599.0	-1,043.3	1,083.5	0.00	0.00	0.00
7,900.0	90.00	269.23	6,645.0	-599.7	-1,093.3	1,133.4	0.00	0.00	0.00
7,950.0	90.00	269.23	6,645.0	-600.4	-1,143.3	1,183.3	0.00	0.00	0.00
8,000.0	90.00	269.23	6,645.0	-601.0	-1,193.3	1,233.3	0.00	0.00	0.00
8,050.0	90.00	269.23	6,645.0	-601.7	-1,243.3	1,283.2	0.00	0.00	0.00
8,100.0	90.00	269.23	6,645.0	-602.4	-1,293.3	1,333.1	0.00	0.00	0.00
8,150.0	90.00	269.23	6,645.0	-603.0	-1,343.3	1,383.0	0.00	0.00	0.00
8,200.0	90.00	269.23	6,645.0	-603.7	-1,393.3	1,432.9	0.00	0.00	0.00
8,250.0	90.00	269.23	6,645.0	-604.4	-1,443.3	1,482.8	0.00	0.00	0.00
8,300.0	90.00	269.23	6,645.0	-605.0	-1,493.3	1,532.8	0.00	0.00	0.00
8,350.0	90.00	269.23	6,645.0	-605.7	-1,543.3	1,582.7	0.00	0.00	0.00
8,400.0	90.00	269.23	6,645.0	-606.4	-1,593.3	1,632.6	0.00	0.00	0.00
8,450.0	90.00	269.23	6,645.0	-607.0	-1,643.3	1,682.5	0.00	0.00	0.00
8,500.0	90.00	269.23	6,645.0	-607.7	-1,693.3	1,732.4	0.00	0.00	0.00
8,550.0	90.00	269.23	6,645.0	-608.4	-1,743.3	1,782.3	0.00	0.00	0.00
8,600.0	90.00	269.23	6,645.0	-609.0	-1,793.3	1,832.2	0.00	0.00	0.00
8,650.0	90.00	269.23	6,645.0	-609.7	-1,843.2	1,882.2	0.00	0.00	0.00
8,700.0	90.00	269.23	6,645.0	-610.4	-1,893.2	1,932.1	0.00	0.00	0.00
8,750.0	90.00	269.23	6,645.0	-611.0	-1,943.2	1,982.0	0.00	0.00	0.00
8,800.0	90.00	269.23	6,645.0	-611.7	-1,993.2	2,031.9	0.00	0.00	0.00
8,850.0	90.00	269.23	6,645.0	-612.4	-2,043.2	2,081.8	0.00	0.00	0.00
8,900.0	90.00	269.23	6,645.0	-613.0	-2,093.2	2,131.7	0.00	0.00	0.00

# Noble Energy Inc

## Planning Report

<b>Database:</b>	EDM01P	<b>Local Co-ordinate Reference:</b>	Well Wells Ranch State A36-625
<b>Company:</b>	Northern Region Drilling - Working	<b>TVD Reference:</b>	WELL @ 4675.0ft (Precision 829 RKB - 16')
<b>Project:</b>	Wattenberg Field	<b>MD Reference:</b>	WELL @ 4675.0ft (Precision 829 RKB - 16')
<b>Site:</b>	A (06N-64W)	<b>North Reference:</b>	Grid
<b>Well:</b>	Wells Ranch State A36-625	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Drilling		
<b>Design:</b>	APD - Rev 0		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,950.0	90.00	269.23	6,645.0	-613.7	-2,143.2	2,181.6	0.00	0.00	0.00
9,000.0	90.00	269.23	6,645.0	-614.4	-2,193.2	2,231.6	0.00	0.00	0.00
9,050.0	90.00	269.23	6,645.0	-615.1	-2,243.2	2,281.5	0.00	0.00	0.00
9,100.0	90.00	269.23	6,645.0	-615.7	-2,293.2	2,331.4	0.00	0.00	0.00
9,150.0	90.00	269.23	6,645.0	-616.4	-2,343.2	2,381.3	0.00	0.00	0.00
9,200.0	90.00	269.23	6,645.0	-617.1	-2,393.2	2,431.2	0.00	0.00	0.00
9,250.0	90.00	269.23	6,645.0	-617.7	-2,443.2	2,481.1	0.00	0.00	0.00
9,300.0	90.00	269.23	6,645.0	-618.4	-2,493.2	2,531.1	0.00	0.00	0.00
9,350.0	90.00	269.23	6,645.0	-619.1	-2,543.2	2,581.0	0.00	0.00	0.00
9,400.0	90.00	269.23	6,645.0	-619.7	-2,593.2	2,630.9	0.00	0.00	0.00
9,450.0	90.00	269.23	6,645.0	-620.4	-2,643.2	2,680.8	0.00	0.00	0.00
9,500.0	90.00	269.23	6,645.0	-621.1	-2,693.2	2,730.7	0.00	0.00	0.00
9,550.0	90.00	269.23	6,645.0	-621.7	-2,743.2	2,780.6	0.00	0.00	0.00
9,600.0	90.00	269.23	6,645.0	-622.4	-2,793.2	2,830.5	0.00	0.00	0.00
9,650.0	90.00	269.23	6,645.0	-623.1	-2,843.2	2,880.5	0.00	0.00	0.00
9,700.0	90.00	269.23	6,645.0	-623.7	-2,893.2	2,930.4	0.00	0.00	0.00
9,750.0	90.00	269.23	6,645.0	-624.4	-2,943.2	2,980.3	0.00	0.00	0.00
9,800.0	90.00	269.23	6,645.0	-625.1	-2,993.1	3,030.2	0.00	0.00	0.00
9,850.0	90.00	269.23	6,645.0	-625.7	-3,043.1	3,080.1	0.00	0.00	0.00
9,900.0	90.00	269.23	6,645.0	-626.4	-3,093.1	3,130.0	0.00	0.00	0.00
9,950.0	90.00	269.23	6,645.0	-627.1	-3,143.1	3,180.0	0.00	0.00	0.00
10,000.0	90.00	269.23	6,645.0	-627.7	-3,193.1	3,229.9	0.00	0.00	0.00
10,050.0	90.00	269.23	6,645.0	-628.4	-3,243.1	3,279.8	0.00	0.00	0.00
10,100.0	90.00	269.23	6,645.0	-629.1	-3,293.1	3,329.7	0.00	0.00	0.00
10,150.0	90.00	269.23	6,645.0	-629.7	-3,343.1	3,379.6	0.00	0.00	0.00
10,200.0	90.00	269.23	6,645.0	-630.4	-3,393.1	3,429.5	0.00	0.00	0.00
10,250.0	90.00	269.23	6,645.0	-631.1	-3,443.1	3,479.4	0.00	0.00	0.00
10,300.0	90.00	269.23	6,645.0	-631.8	-3,493.1	3,529.4	0.00	0.00	0.00
10,350.0	90.00	269.23	6,645.0	-632.4	-3,543.1	3,579.3	0.00	0.00	0.00
10,400.0	90.00	269.23	6,645.0	-633.1	-3,593.1	3,629.2	0.00	0.00	0.00
10,450.0	90.00	269.23	6,645.0	-633.8	-3,643.1	3,679.1	0.00	0.00	0.00
10,500.0	90.00	269.23	6,645.0	-634.4	-3,693.1	3,729.0	0.00	0.00	0.00
10,550.0	90.00	269.23	6,645.0	-635.1	-3,743.1	3,778.9	0.00	0.00	0.00
10,600.0	90.00	269.23	6,645.0	-635.8	-3,793.1	3,828.9	0.00	0.00	0.00
10,650.0	90.00	269.23	6,645.0	-636.4	-3,843.1	3,878.8	0.00	0.00	0.00
10,700.0	90.00	269.23	6,645.0	-637.1	-3,893.1	3,928.7	0.00	0.00	0.00
10,750.0	90.00	269.23	6,645.0	-637.8	-3,943.1	3,978.6	0.00	0.00	0.00
10,800.0	90.00	269.23	6,645.0	-638.4	-3,993.1	4,028.5	0.00	0.00	0.00
10,850.0	90.00	269.23	6,645.0	-639.1	-4,043.1	4,078.4	0.00	0.00	0.00
10,900.0	90.00	269.23	6,645.0	-639.8	-4,093.0	4,128.3	0.00	0.00	0.00
10,950.0	90.00	269.23	6,645.0	-640.4	-4,143.0	4,178.3	0.00	0.00	0.00
11,000.0	90.00	269.23	6,645.0	-641.1	-4,193.0	4,228.2	0.00	0.00	0.00
11,050.0	90.00	269.23	6,645.0	-641.8	-4,243.0	4,278.1	0.00	0.00	0.00
11,100.0	90.00	269.23	6,645.0	-642.4	-4,293.0	4,328.0	0.00	0.00	0.00
11,150.0	90.00	269.23	6,645.0	-643.1	-4,343.0	4,377.9	0.00	0.00	0.00
11,200.0	90.00	269.23	6,645.0	-643.8	-4,393.0	4,427.8	0.00	0.00	0.00
11,250.0	90.00	269.23	6,645.0	-644.4	-4,443.0	4,477.8	0.00	0.00	0.00
11,300.0	90.00	269.23	6,645.0	-645.1	-4,493.0	4,527.7	0.00	0.00	0.00
11,350.0	90.00	269.23	6,645.0	-645.8	-4,543.0	4,577.6	0.00	0.00	0.00
11,400.0	90.00	269.23	6,645.0	-646.5	-4,593.0	4,627.5	0.00	0.00	0.00
11,450.0	90.00	269.23	6,645.0	-647.1	-4,643.0	4,677.4	0.00	0.00	0.00
11,500.0	90.00	269.23	6,645.0	-647.8	-4,693.0	4,727.3	0.00	0.00	0.00
11,550.0	90.00	269.23	6,645.0	-648.5	-4,743.0	4,777.2	0.00	0.00	0.00
11,600.0	90.00	269.23	6,645.0	-649.1	-4,793.0	4,827.2	0.00	0.00	0.00



# Noble Energy Inc

## Planning Report

<b>Database:</b>	EDM01P	<b>Local Co-ordinate Reference:</b>	Well Wells Ranch State A36-625
<b>Company:</b>	Northern Region Drilling - Working	<b>TVD Reference:</b>	WELL @ 4675.0ft (Precision 829 RKB - 16')
<b>Project:</b>	Wattenberg Field	<b>MD Reference:</b>	WELL @ 4675.0ft (Precision 829 RKB - 16')
<b>Site:</b>	A (06N-64W)	<b>North Reference:</b>	Grid
<b>Well:</b>	Wells Ranch State A36-625	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Drilling		
<b>Design:</b>	APD - Rev 0		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
11,650.0	90.00	269.23	6,645.0	-649.8	-4,843.0	4,877.1	0.00	0.00	0.00
11,700.0	90.00	269.23	6,645.0	-650.5	-4,893.0	4,927.0	0.00	0.00	0.00
11,750.0	90.00	269.23	6,645.0	-651.1	-4,943.0	4,976.9	0.00	0.00	0.00
11,800.0	90.00	269.23	6,645.0	-651.8	-4,993.0	5,026.8	0.00	0.00	0.00
11,850.0	90.00	269.23	6,645.0	-652.5	-5,043.0	5,076.7	0.00	0.00	0.00
11,900.0	90.00	269.23	6,645.0	-653.1	-5,093.0	5,126.6	0.00	0.00	0.00
11,950.0	90.00	269.23	6,645.0	-653.8	-5,143.0	5,176.6	0.00	0.00	0.00
12,000.0	90.00	269.23	6,645.0	-654.5	-5,193.0	5,226.5	0.00	0.00	0.00
12,050.0	90.00	269.23	6,645.0	-655.1	-5,242.9	5,276.4	0.00	0.00	0.00
12,100.0	90.00	269.23	6,645.0	-655.8	-5,292.9	5,326.3	0.00	0.00	0.00
12,150.0	90.00	269.23	6,645.0	-656.5	-5,342.9	5,376.2	0.00	0.00	0.00
12,200.0	90.00	269.23	6,645.0	-657.1	-5,392.9	5,426.1	0.00	0.00	0.00
12,250.0	90.00	269.23	6,645.0	-657.8	-5,442.9	5,476.1	0.00	0.00	0.00
12,300.0	90.00	269.23	6,645.0	-658.5	-5,492.9	5,526.0	0.00	0.00	0.00
12,350.0	90.00	269.23	6,645.0	-659.1	-5,542.9	5,575.9	0.00	0.00	0.00
12,400.0	90.00	269.23	6,645.0	-659.8	-5,592.9	5,625.8	0.00	0.00	0.00
12,450.0	90.00	269.23	6,645.0	-660.5	-5,642.9	5,675.7	0.00	0.00	0.00
12,500.0	90.00	269.23	6,645.0	-661.1	-5,692.9	5,725.6	0.00	0.00	0.00
12,550.0	90.00	269.23	6,645.0	-661.8	-5,742.9	5,775.5	0.00	0.00	0.00
12,600.0	90.00	269.23	6,645.0	-662.5	-5,792.9	5,825.5	0.00	0.00	0.00
12,650.0	90.00	269.23	6,645.0	-663.2	-5,842.9	5,875.4	0.00	0.00	0.00
12,700.0	90.00	269.23	6,645.0	-663.8	-5,892.9	5,925.3	0.00	0.00	0.00
12,750.0	90.00	269.23	6,645.0	-664.5	-5,942.9	5,975.2	0.00	0.00	0.00
12,800.0	90.00	269.23	6,645.0	-665.2	-5,992.9	6,025.1	0.00	0.00	0.00
12,850.0	90.00	269.23	6,645.0	-665.8	-6,042.9	6,075.0	0.00	0.00	0.00
12,900.0	90.00	269.23	6,645.0	-666.5	-6,092.9	6,125.0	0.00	0.00	0.00
12,950.0	90.00	269.23	6,645.0	-667.2	-6,142.9	6,174.9	0.00	0.00	0.00
13,000.0	90.00	269.23	6,645.0	-667.8	-6,192.9	6,224.8	0.00	0.00	0.00
13,050.0	90.00	269.23	6,645.0	-668.5	-6,242.9	6,274.7	0.00	0.00	0.00
13,100.0	90.00	269.23	6,645.0	-669.2	-6,292.9	6,324.6	0.00	0.00	0.00
13,150.0	90.00	269.23	6,645.0	-669.8	-6,342.9	6,374.5	0.00	0.00	0.00
13,200.0	90.00	269.23	6,645.0	-670.5	-6,392.8	6,424.4	0.00	0.00	0.00
13,250.0	90.00	269.23	6,645.0	-671.2	-6,442.8	6,474.4	0.00	0.00	0.00
13,300.0	90.00	269.23	6,645.0	-671.8	-6,492.8	6,524.3	0.00	0.00	0.00
13,350.0	90.00	269.23	6,645.0	-672.5	-6,542.8	6,574.2	0.00	0.00	0.00
13,400.0	90.00	269.23	6,645.0	-673.2	-6,592.8	6,624.1	0.00	0.00	0.00
13,450.0	90.00	269.23	6,645.0	-673.8	-6,642.8	6,674.0	0.00	0.00	0.00
13,500.0	90.00	269.23	6,645.0	-674.5	-6,692.8	6,723.9	0.00	0.00	0.00
13,550.0	90.00	269.23	6,645.0	-675.2	-6,742.8	6,773.9	0.00	0.00	0.00
13,600.0	90.00	269.23	6,645.0	-675.8	-6,792.8	6,823.8	0.00	0.00	0.00
13,650.0	90.00	269.23	6,645.0	-676.5	-6,842.8	6,873.7	0.00	0.00	0.00
13,700.0	90.00	269.23	6,645.0	-677.2	-6,892.8	6,923.6	0.00	0.00	0.00
13,750.0	90.00	269.23	6,645.0	-677.9	-6,942.8	6,973.5	0.00	0.00	0.00
13,800.0	90.00	269.23	6,645.0	-678.5	-6,992.8	7,023.4	0.00	0.00	0.00
13,850.0	90.00	269.23	6,645.0	-679.2	-7,042.8	7,073.3	0.00	0.00	0.00
13,900.0	90.00	269.23	6,645.0	-679.9	-7,092.8	7,123.3	0.00	0.00	0.00
13,950.0	90.00	269.23	6,645.0	-680.5	-7,142.8	7,173.2	0.00	0.00	0.00
14,000.0	90.00	269.23	6,645.0	-681.2	-7,192.8	7,223.1	0.00	0.00	0.00
14,050.0	90.00	269.23	6,645.0	-681.9	-7,242.8	7,273.0	0.00	0.00	0.00
14,100.0	90.00	269.23	6,645.0	-682.5	-7,292.8	7,322.9	0.00	0.00	0.00
14,150.0	90.00	269.23	6,645.0	-683.2	-7,342.8	7,372.8	0.00	0.00	0.00
14,200.0	90.00	269.23	6,645.0	-683.9	-7,392.8	7,422.7	0.00	0.00	0.00
14,250.0	90.00	269.23	6,645.0	-684.5	-7,442.8	7,472.7	0.00	0.00	0.00
14,300.0	90.00	269.23	6,645.0	-685.2	-7,492.8	7,522.6	0.00	0.00	0.00

# Noble Energy Inc

## Planning Report

<b>Database:</b>	EDM01P	<b>Local Co-ordinate Reference:</b>	Well Wells Ranch State A36-625
<b>Company:</b>	Northern Region Drilling - Working	<b>TVD Reference:</b>	WELL @ 4675.0ft (Precision 829 RKB - 16')
<b>Project:</b>	Wattenberg Field	<b>MD Reference:</b>	WELL @ 4675.0ft (Precision 829 RKB - 16')
<b>Site:</b>	A (06N-64W)	<b>North Reference:</b>	Grid
<b>Well:</b>	Wells Ranch State A36-625	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Drilling		
<b>Design:</b>	APD - Rev 0		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
14,350.0	90.00	269.23	6,645.0	-685.9	-7,542.7	7,572.5	0.00	0.00	0.00	
14,400.0	90.00	269.23	6,645.0	-686.5	-7,592.7	7,622.4	0.00	0.00	0.00	
14,450.0	90.00	269.23	6,645.0	-687.2	-7,642.7	7,672.3	0.00	0.00	0.00	
14,500.0	90.00	269.23	6,645.0	-687.9	-7,692.7	7,722.2	0.00	0.00	0.00	
14,550.0	90.00	269.23	6,645.0	-688.5	-7,742.7	7,772.2	0.00	0.00	0.00	
14,600.0	90.00	269.23	6,645.0	-689.2	-7,792.7	7,822.1	0.00	0.00	0.00	
14,650.0	90.00	269.23	6,645.0	-689.9	-7,842.7	7,872.0	0.00	0.00	0.00	
14,700.0	90.00	269.23	6,645.0	-690.5	-7,892.7	7,921.9	0.00	0.00	0.00	
14,750.0	90.00	269.23	6,645.0	-691.2	-7,942.7	7,971.8	0.00	0.00	0.00	
14,800.0	90.00	269.23	6,645.0	-691.9	-7,992.7	8,021.7	0.00	0.00	0.00	
14,850.0	90.00	269.23	6,645.0	-692.5	-8,042.7	8,071.6	0.00	0.00	0.00	
14,900.0	90.00	269.23	6,645.0	-693.2	-8,092.7	8,121.6	0.00	0.00	0.00	
14,950.0	90.00	269.23	6,645.0	-693.9	-8,142.7	8,171.5	0.00	0.00	0.00	
15,000.0	90.00	269.23	6,645.0	-694.6	-8,192.7	8,221.4	0.00	0.00	0.00	
15,050.0	90.00	269.23	6,645.0	-695.2	-8,242.7	8,271.3	0.00	0.00	0.00	
15,100.0	90.00	269.23	6,645.0	-695.9	-8,292.7	8,321.2	0.00	0.00	0.00	
15,150.0	90.00	269.23	6,645.0	-696.6	-8,342.7	8,371.1	0.00	0.00	0.00	
15,200.0	90.00	269.23	6,645.0	-697.2	-8,392.7	8,421.1	0.00	0.00	0.00	
15,250.0	90.00	269.23	6,645.0	-697.9	-8,442.7	8,471.0	0.00	0.00	0.00	
15,300.0	90.00	269.23	6,645.0	-698.6	-8,492.7	8,520.9	0.00	0.00	0.00	
15,350.0	90.00	269.23	6,645.0	-699.2	-8,542.7	8,570.8	0.00	0.00	0.00	
15,400.0	90.00	269.23	6,645.0	-699.9	-8,592.7	8,620.7	0.00	0.00	0.00	
15,450.0	90.00	269.23	6,645.0	-700.6	-8,642.7	8,670.6	0.00	0.00	0.00	
15,500.0	90.00	269.23	6,645.0	-701.2	-8,692.6	8,720.5	0.00	0.00	0.00	
15,550.0	90.00	269.23	6,645.0	-701.9	-8,742.6	8,770.5	0.00	0.00	0.00	
15,600.0	90.00	269.23	6,645.0	-702.6	-8,792.6	8,820.4	0.00	0.00	0.00	
15,650.0	90.00	269.23	6,645.0	-703.2	-8,842.6	8,870.3	0.00	0.00	0.00	
15,700.0	90.00	269.23	6,645.0	-703.9	-8,892.6	8,920.2	0.00	0.00	0.00	
15,750.0	90.00	269.23	6,645.0	-704.6	-8,942.6	8,970.1	0.00	0.00	0.00	
15,800.0	90.00	269.23	6,645.0	-705.2	-8,992.6	9,020.0	0.00	0.00	0.00	
15,850.0	90.00	269.23	6,645.0	-705.9	-9,042.6	9,070.0	0.00	0.00	0.00	
15,900.0	90.00	269.23	6,645.0	-706.6	-9,092.6	9,119.9	0.00	0.00	0.00	
15,950.0	90.00	269.23	6,645.0	-707.2	-9,142.6	9,169.8	0.00	0.00	0.00	
16,000.0	90.00	269.23	6,645.0	-707.9	-9,192.6	9,219.7	0.00	0.00	0.00	
16,050.0	90.00	269.23	6,645.0	-708.6	-9,242.6	9,269.6	0.00	0.00	0.00	
16,100.0	90.00	269.23	6,645.0	-709.2	-9,292.6	9,319.5	0.00	0.00	0.00	
16,150.0	90.00	269.23	6,645.0	-709.9	-9,342.6	9,369.4	0.00	0.00	0.00	
16,200.0	90.00	269.23	6,645.0	-710.6	-9,392.6	9,419.4	0.00	0.00	0.00	
16,250.0	90.00	269.23	6,645.0	-711.3	-9,442.6	9,469.3	0.00	0.00	0.00	
16,300.0	90.00	269.23	6,645.0	-711.9	-9,492.6	9,519.2	0.00	0.00	0.00	
16,350.0	90.00	269.23	6,645.0	-712.6	-9,542.6	9,569.1	0.00	0.00	0.00	
16,400.0	90.00	269.23	6,645.0	-713.3	-9,592.6	9,619.0	0.00	0.00	0.00	
16,450.0	90.00	269.23	6,645.0	-713.9	-9,642.6	9,668.9	0.00	0.00	0.00	
16,500.0	90.00	269.23	6,645.0	-714.6	-9,692.6	9,718.8	0.00	0.00	0.00	
16,550.0	90.00	269.23	6,645.0	-715.3	-9,742.6	9,768.8	0.00	0.00	0.00	
16,600.0	90.00	269.23	6,645.0	-715.9	-9,792.6	9,818.7	0.00	0.00	0.00	
16,650.0	90.00	269.23	6,645.0	-716.6	-9,842.5	9,868.6	0.00	0.00	0.00	
16,700.0	90.00	269.23	6,645.0	-717.3	-9,892.5	9,918.5	0.00	0.00	0.00	
16,750.0	90.00	269.23	6,645.0	-717.9	-9,942.5	9,968.4	0.00	0.00	0.00	
16,800.0	90.00	269.23	6,645.0	-718.6	-9,992.5	10,018.3	0.00	0.00	0.00	
16,826.5	90.00	269.23	6,645.0	-719.0	-10,019.0	10,044.8	0.00	0.00	0.00	
TD at 16826.5 - Wells Ranch State A36-625 BHL 990'FSL, 50'FWL										

# Noble Energy Inc

## Planning Report

<b>Database:</b>	EDM01P	<b>Local Co-ordinate Reference:</b>	Well Wells Ranch State A36-625
<b>Company:</b>	Northern Region Drilling - Working	<b>TVD Reference:</b>	WELL @ 4675.0ft (Precision 829 RKB - 16')
<b>Project:</b>	Wattenberg Field	<b>MD Reference:</b>	WELL @ 4675.0ft (Precision 829 RKB - 16')
<b>Site:</b>	A (06N-64W)	<b>North Reference:</b>	Grid
<b>Well:</b>	Wells Ranch State A36-625	<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	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)		
- Shape									
Wells Ranch State A36-625	0.00	0.00	6,645.0	-719.0	-10,019.0	1,404,087.77	3,276,220.30	40.438380	-104.507640
- plan hits target center									
- Point									

Casing Points				
Measured Depth	Vertical Depth	Name	Casing Diameter	Hole Diameter
(ft)	(ft)		(")	(")
7,007.4	6,636.0	7" Casing @ 7007.4' MD	7	8-3/4

Formations					
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction
(ft)	(ft)			(°)	(°)
2,339.3	2,331.0	PIERRE		0.00	
3,499.9	3,472.0	PARKMAN		0.00	
4,282.1	4,241.0	SUSSEX		0.00	
4,863.0	4,812.0	SHANNON		0.00	
5,790.1	5,729.0	TEEPEE BUTTES		0.00	
6,528.5	6,427.0	SHARON SPRINGS		0.00	
6,557.3	6,448.0	NIO A CHALK		0.00	
6,594.8	6,474.0	NIO A MARL		0.00	
6,715.5	6,546.0	NIO B CHALK		0.00	
6,790.3	6,581.0	NIO B MARL		0.00	
6,947.3	6,628.0	NIO C CHALK		0.00	

Plan Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)	
1,500.0	1,500.0	0.0	0.0	KOP - Start Build 2.00
5,283.2	5,225.1	-539.4	353.4	Start Drop -2.00
6,062.9	6,001.8	-580.0	380.0	KOP #2 - Start Build 9.00
7,007.4	6,636.0	-587.8	-201.1	Start 75.0 hold at 7007.4 MD
7,082.4	6,642.6	-588.8	-275.8	Start Build 9.00
16,826.5	6,645.0	-719.0	-10,019.0	TD at 16826.5

# **Northern Region Drilling - Working**

**Wattenberg Field**

**A (06N-64W)**

**Wells Ranch State A36-625**

**Original Drilling**

**APD - Rev 0**

## **Anticollision Summary Report**

**23 January, 2015**

**Noble Energy Inc**  
Anticollision Summary Report

<b>Company:</b>	Northern Region Drilling - Working	<b>Local Co-ordinate Reference:</b>	Well Wells Ranch State A36-625
<b>Project:</b>	Wattenberg Field	<b>TVD Reference:</b>	WELL @ 4675.0ft (Precision 829 RKB - 16')
<b>Reference Site:</b>	A (06N-64W)	<b>MD Reference:</b>	WELL @ 4675.0ft (Precision 829 RKB - 16')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Wells Ranch State A36-625	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Original Drilling	<b>Database:</b>	EDM01P
<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>	MD Interval 100.0ft	<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 ft	<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>	1/23/2015		
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.0	16,826.5	APD - Rev 0 (Original Drilling)	MWD	MWD - Standard

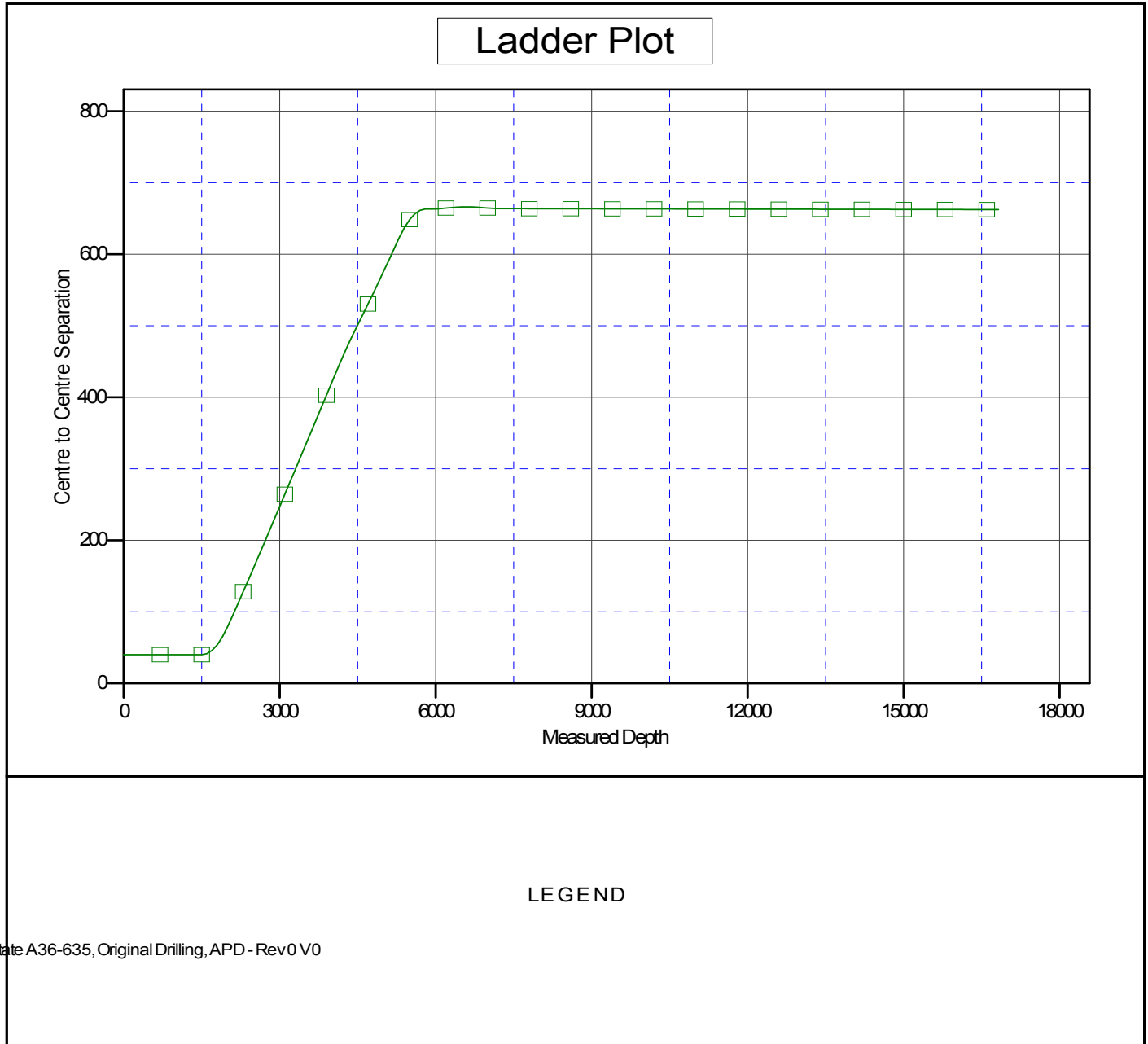
<b>Summary</b>						
<b>Site Name</b>	<b>Reference Measured Depth (ft)</b>	<b>Offset Measured Depth (ft)</b>	<b>Distance Between Centres (ft)</b>	<b>Distance Between Ellipses (ft)</b>	<b>Separation Factor</b>	<b>Warning</b>
<b>Offset Well - Wellbore - Design</b>						
A (06N-64W)						
Wells Ranch State A36-635 - Original Drilling - APD - Re	1,500.0	1,500.0	40.1	33.6	6.183	CC, ES
Wells Ranch State A36-635 - Original Drilling - APD - Re	16,826.5	16,661.5	662.5	93.1	1.163	Level 2, SF

**Noble Energy Inc**  
Anticollision Summary Report

<b>Company:</b>	Northern Region Drilling - Working	<b>Local Co-ordinate Reference:</b>	Well Wells Ranch State A36-625
<b>Project:</b>	Wattenberg Field	<b>TVD Reference:</b>	WELL @ 4675.0ft (Precision 829 RKB - 16')
<b>Reference Site:</b>	A (06N-64W)	<b>MD Reference:</b>	WELL @ 4675.0ft (Precision 829 RKB - 16')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Wells Ranch State A36-625	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Original Drilling	<b>Database:</b>	EDM01P
<b>Reference Design:</b>	APD - Rev 0	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4675.0ft (Precision 829 RKB)  
Offset Depths are relative to Offset Datum  
Central Meridian is -105.500000

Coordinates are relative to: Wells Ranch State A36-625  
Coordinate System is US State Plane 1983, Colorado Northern Zone  
Grid Convergence at Surface is: 0.66°



**Noble Energy Inc**  
Anticollision Summary Report

<b>Company:</b>	Northern Region Drilling - Working	<b>Local Co-ordinate Reference:</b>	Well Wells Ranch State A36-625
<b>Project:</b>	Wattenberg Field	<b>TVD Reference:</b>	WELL @ 4675.0ft (Precision 829 RKB - 16')
<b>Reference Site:</b>	A (06N-64W)	<b>MD Reference:</b>	WELL @ 4675.0ft (Precision 829 RKB - 16')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Wells Ranch State A36-625	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Original Drilling	<b>Database:</b>	EDM01P
<b>Reference Design:</b>	APD - Rev 0	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4675.0ft (Precision 829 RKB)  
Offset Depths are relative to Offset Datum  
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Coordinates are relative to: Wells Ranch State A36-625  
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