

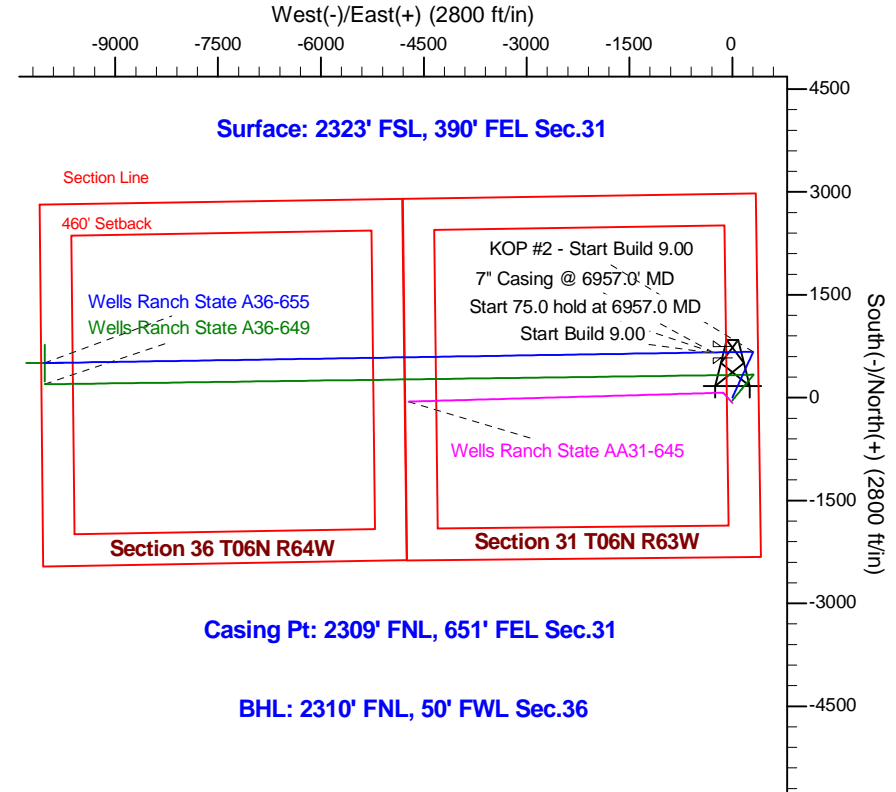
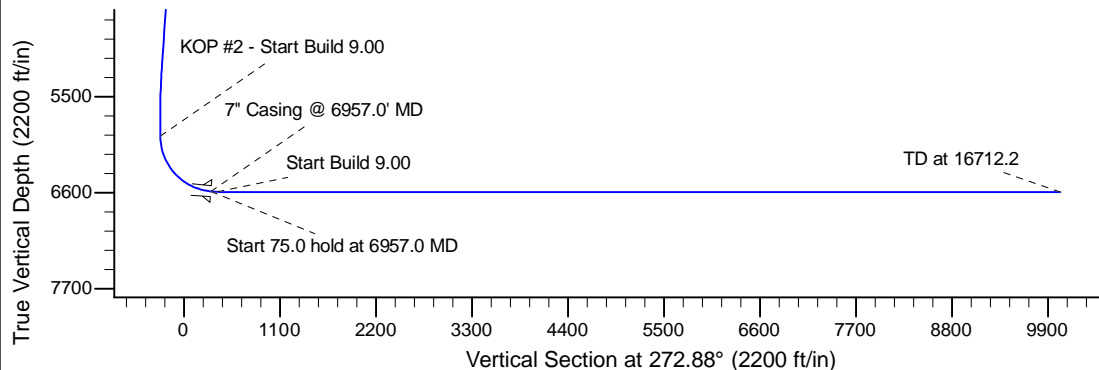
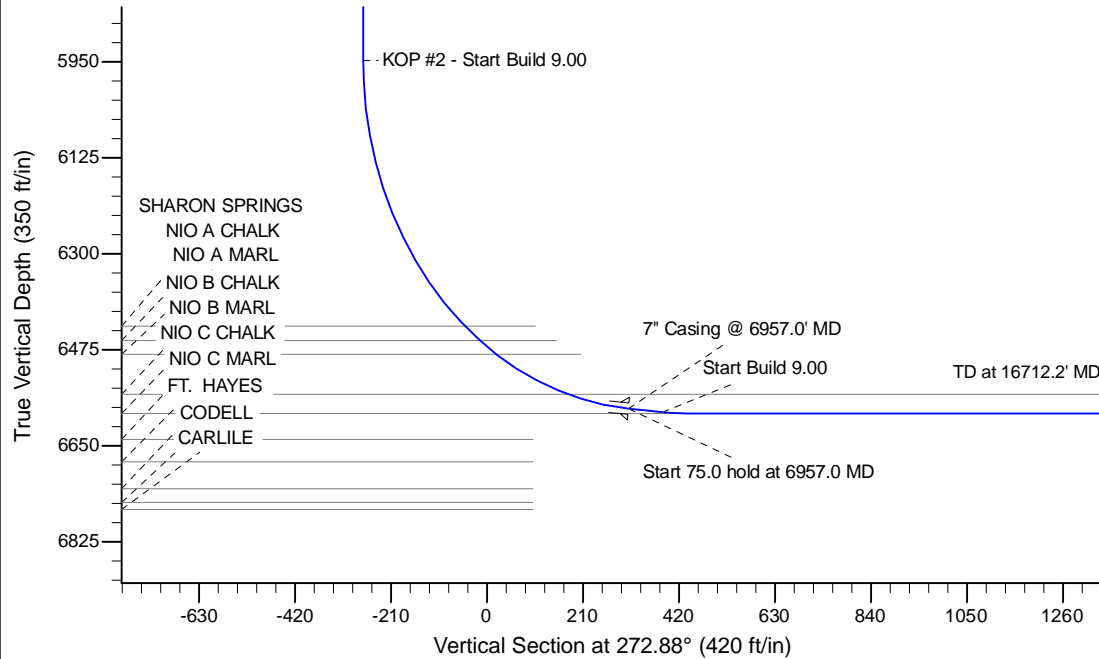
Project: Wattenberg Field
Site: A (Sec.31-T06N-R63W) Weld County, CO
Well: Wells Ranch State A36-655
Wellbore: Original Drilling
Design: APD - Rev 0

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

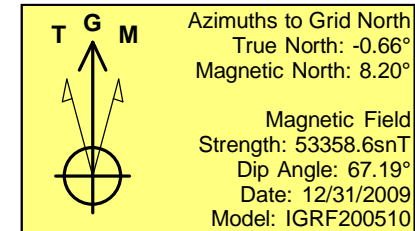
SECTION DETAILS

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	1200.0	0.00	0.00	1200.0	0.0	0.0	0.00	0.00	0.0	
3	1725.5	10.51	24.48	1722.6	43.7	19.9	2.00	24.48	-17.7	
4	5234.2	10.51	24.48	5172.4	626.3	285.1	0.00	0.00	-253.2	
5	5759.8	0.00	0.00	5695.0	670.0	305.0	2.00	180.00	-270.9	
6	6012.6	0.00	0.00	5947.8	670.0	305.0	0.00	0.00	-270.9	
7	6957.0	85.00	269.09	6582.0	660.7	-276.1	9.00	269.09	308.9	
8	7032.0	85.00	269.09	6588.6	659.5	-350.8	0.00	0.00	383.5	
9	7087.6	90.00	269.09	6591.0	658.7	-406.2	9.00	0.00	438.9	
10	16712.2	90.00	269.09	6591.0	505.1	-10029.6	0.00	0.00	10042.3	Wells Ranch State A36-655 BHL 2310'FNL, 50'FWL



Casing Pt: 2309' FNL, 651' FEL Sec.31

BHL: 2310' FNL, 50' FWL Sec.36



WELL DETAILS: Wells Ranch State A36-655				
Ground Level: 4656.0				
0.0	0.0	1405557.11	3286230.20	-104.471620
Plan: APD - Rev 0 (Wells Ranch State A36-655/Original Drilling)				
Created By: Shailey Jewell		Date: 9:35, January 23 2015		
Checked: _____		Date: _____		
Reviewed: _____		Date: _____		
Approved: _____		Date: _____		

Northern Region Drilling - Working

Wattenberg Field

A (06N-64W)

Wells Ranch State A36-655

Original Drilling

Plan: APD - Rev 0

Standard Planning Report

23 January, 2015

Noble Energy Inc

Planning Report

Database:	EDM01P	Local Co-ordinate Reference:	Well Wells Ranch State A36-655
Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4680.0ft (H&P 273 RKB - 24')
Project:	Wattenberg Field	MD Reference:	WELL @ 4680.0ft (H&P 273 RKB - 24')
Site:	A (06N-64W)	North Reference:	Grid
Well:	Wells Ranch State A36-655	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Drilling		
Design:	APD - Rev 0		

Project	Wattenberg Field, Weld County CO		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	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 A36-655					
Well Position	+N/-S	-2,520.9 ft	Northing:	1,405,557.11 usft	Latitude:	40.442100
	+E/-W	9,612.4 ft	Easting:	3,286,230.20 usft	Longitude:	-104.471620
Position Uncertainty		0.0 ft	Wellhead Elevation:	0.0 ft	Ground Level:	4,656.0 ft

Wellbore	Original Drilling				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	12/31/2009	8.87	67.19	53,359

Design	APD - Rev 0			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.0	0.0	0.0	272.88

Plan Sections										
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	
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,725.5	10.51	24.48	1,722.6	43.7	19.9	2.00	2.00	0.00	24.48	
5,234.2	10.51	24.48	5,172.4	626.3	285.1	0.00	0.00	0.00	0.00	
5,759.8	0.00	0.00	5,695.0	670.0	305.0	2.00	-2.00	0.00	180.00	
6,012.6	0.00	0.00	5,947.8	670.0	305.0	0.00	0.00	0.00	0.00	
6,957.0	85.00	269.09	6,582.0	660.7	-276.1	9.00	9.00	0.00	269.09	
7,032.0	85.00	269.09	6,588.6	659.5	-350.8	0.00	0.00	0.00	0.00	
7,087.6	90.00	269.09	6,591.0	658.7	-406.2	9.00	9.00	0.00	0.00	
16,712.2	90.00	269.09	6,591.0	505.1	-10,029.6	0.00	0.00	0.00	0.00	Wells Ranch State A3

Noble Energy Inc

Planning Report

Database:	EDM01P	Local Co-ordinate Reference:	Well Wells Ranch State A36-655
Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4680.0ft (H&P 273 RKB - 24')
Project:	Wattenberg Field	MD Reference:	WELL @ 4680.0ft (H&P 273 RKB - 24')
Site:	A (06N-64W)	North Reference:	Grid
Well:	Wells Ranch State A36-655	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Drilling		
Design:	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
KOP - Start Build 2.00									
1,250.0	1.00	24.48	1,250.0	0.4	0.2	-0.2	2.00	2.00	0.00
1,300.0	2.00	24.48	1,300.0	1.6	0.7	-0.6	2.00	2.00	0.00
1,350.0	3.00	24.48	1,349.9	3.6	1.6	-1.4	2.00	2.00	0.00
1,400.0	4.00	24.48	1,399.8	6.4	2.9	-2.6	2.00	2.00	0.00
1,450.0	5.00	24.48	1,449.7	9.9	4.5	-4.0	2.00	2.00	0.00
1,500.0	6.00	24.48	1,499.5	14.3	6.5	-5.8	2.00	2.00	0.00
1,550.0	7.00	24.48	1,549.1	19.4	8.8	-7.9	2.00	2.00	0.00
1,600.0	8.00	24.48	1,598.7	25.4	11.6	-10.3	2.00	2.00	0.00
1,650.0	9.00	24.48	1,648.2	32.1	14.6	-13.0	2.00	2.00	0.00
1,700.0	10.00	24.48	1,697.5	39.6	18.0	-16.0	2.00	2.00	0.00
1,725.5	10.51	24.48	1,722.6	43.7	19.9	-17.7	2.00	2.00	0.00
1,750.0	10.51	24.48	1,746.7	47.8	21.8	-19.3	0.00	0.00	0.00
1,800.0	10.51	24.48	1,795.8	56.1	25.5	-22.7	0.00	0.00	0.00
1,850.0	10.51	24.48	1,845.0	64.4	29.3	-26.0	0.00	0.00	0.00
1,900.0	10.51	24.48	1,894.1	72.7	33.1	-29.4	0.00	0.00	0.00
1,950.0	10.51	24.48	1,943.3	81.0	36.9	-32.8	0.00	0.00	0.00
2,000.0	10.51	24.48	1,992.5	89.3	40.7	-36.1	0.00	0.00	0.00
2,050.0	10.51	24.48	2,041.6	97.6	44.4	-39.5	0.00	0.00	0.00
2,100.0	10.51	24.48	2,090.8	105.9	48.2	-42.8	0.00	0.00	0.00
2,150.0	10.51	24.48	2,139.9	114.2	52.0	-46.2	0.00	0.00	0.00
2,200.0	10.51	24.48	2,189.1	122.5	55.8	-49.5	0.00	0.00	0.00
2,250.0	10.51	24.48	2,238.3	130.8	59.6	-52.9	0.00	0.00	0.00
2,300.0	10.51	24.48	2,287.4	139.1	63.3	-56.3	0.00	0.00	0.00
2,349.4	10.51	24.48	2,336.0	147.3	67.1	-59.6	0.00	0.00	0.00
PIERRE									
2,350.0	10.51	24.48	2,336.6	147.4	67.1	-59.6	0.00	0.00	0.00
2,400.0	10.51	24.48	2,385.7	155.7	70.9	-63.0	0.00	0.00	0.00
2,450.0	10.51	24.48	2,434.9	164.0	74.7	-66.3	0.00	0.00	0.00

Noble Energy Inc

Planning Report

Database:	EDM01P	Local Co-ordinate Reference:	Well Wells Ranch State A36-655
Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4680.0ft (H&P 273 RKB - 24')
Project:	Wattenberg Field	MD Reference:	WELL @ 4680.0ft (H&P 273 RKB - 24')
Site:	A (06N-64W)	North Reference:	Grid
Well:	Wells Ranch State A36-655	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Drilling		
Design:	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	10.51	24.48	2,484.1	172.3	78.4	-69.7	0.00	0.00	0.00	
2,550.0	10.51	24.48	2,533.2	180.6	82.2	-73.0	0.00	0.00	0.00	
2,600.0	10.51	24.48	2,582.4	188.9	86.0	-76.4	0.00	0.00	0.00	
2,650.0	10.51	24.48	2,631.6	197.2	89.8	-79.8	0.00	0.00	0.00	
2,700.0	10.51	24.48	2,680.7	205.5	93.6	-83.1	0.00	0.00	0.00	
2,750.0	10.51	24.48	2,729.9	213.8	97.3	-86.5	0.00	0.00	0.00	
2,800.0	10.51	24.48	2,779.0	222.1	101.1	-89.8	0.00	0.00	0.00	
2,850.0	10.51	24.48	2,828.2	230.4	104.9	-93.2	0.00	0.00	0.00	
2,900.0	10.51	24.48	2,877.4	238.7	108.7	-96.5	0.00	0.00	0.00	
2,950.0	10.51	24.48	2,926.5	247.0	112.5	-99.9	0.00	0.00	0.00	
3,000.0	10.51	24.48	2,975.7	255.3	116.2	-103.2	0.00	0.00	0.00	
3,050.0	10.51	24.48	3,024.8	263.6	120.0	-106.6	0.00	0.00	0.00	
3,100.0	10.51	24.48	3,074.0	271.9	123.8	-110.0	0.00	0.00	0.00	
3,150.0	10.51	24.48	3,123.2	280.2	127.6	-113.3	0.00	0.00	0.00	
3,200.0	10.51	24.48	3,172.3	288.5	131.3	-116.7	0.00	0.00	0.00	
3,250.0	10.51	24.48	3,221.5	296.8	135.1	-120.0	0.00	0.00	0.00	
3,300.0	10.51	24.48	3,270.6	305.1	138.9	-123.4	0.00	0.00	0.00	
3,350.0	10.51	24.48	3,319.8	313.4	142.7	-126.7	0.00	0.00	0.00	
3,400.0	10.51	24.48	3,369.0	321.7	146.5	-130.1	0.00	0.00	0.00	
3,450.0	10.51	24.48	3,418.1	330.0	150.2	-133.5	0.00	0.00	0.00	
3,500.0	10.51	24.48	3,467.3	338.3	154.0	-136.8	0.00	0.00	0.00	
3,509.9	10.51	24.48	3,477.0	340.0	154.8	-137.5	0.00	0.00	0.00	
PARKMAN										
3,550.0	10.51	24.48	3,516.5	346.6	157.8	-140.2	0.00	0.00	0.00	
3,600.0	10.51	24.48	3,565.6	354.9	161.6	-143.5	0.00	0.00	0.00	
3,650.0	10.51	24.48	3,614.8	363.2	165.4	-146.9	0.00	0.00	0.00	
3,700.0	10.51	24.48	3,663.9	371.5	169.1	-150.2	0.00	0.00	0.00	
3,750.0	10.51	24.48	3,713.1	379.8	172.9	-153.6	0.00	0.00	0.00	
3,800.0	10.51	24.48	3,762.3	388.1	176.7	-157.0	0.00	0.00	0.00	
3,850.0	10.51	24.48	3,811.4	396.4	180.5	-160.3	0.00	0.00	0.00	
3,900.0	10.51	24.48	3,860.6	404.7	184.3	-163.7	0.00	0.00	0.00	
3,950.0	10.51	24.48	3,909.7	413.1	188.0	-167.0	0.00	0.00	0.00	
4,000.0	10.51	24.48	3,958.9	421.4	191.8	-170.4	0.00	0.00	0.00	
4,050.0	10.51	24.48	4,008.1	429.7	195.6	-173.7	0.00	0.00	0.00	
4,100.0	10.51	24.48	4,057.2	438.0	199.4	-177.1	0.00	0.00	0.00	
4,150.0	10.51	24.48	4,106.4	446.3	203.1	-180.4	0.00	0.00	0.00	
4,200.0	10.51	24.48	4,155.6	454.6	206.9	-183.8	0.00	0.00	0.00	
4,250.0	10.51	24.48	4,204.7	462.9	210.7	-187.2	0.00	0.00	0.00	
4,292.0	10.51	24.48	4,246.0	469.8	213.9	-190.0	0.00	0.00	0.00	
SUSSEX										
4,300.0	10.51	24.48	4,253.9	471.2	214.5	-190.5	0.00	0.00	0.00	
4,350.0	10.51	24.48	4,303.0	479.5	218.3	-193.9	0.00	0.00	0.00	
4,400.0	10.51	24.48	4,352.2	487.8	222.0	-197.2	0.00	0.00	0.00	
4,450.0	10.51	24.48	4,401.4	496.1	225.8	-200.6	0.00	0.00	0.00	
4,500.0	10.51	24.48	4,450.5	504.4	229.6	-203.9	0.00	0.00	0.00	
4,550.0	10.51	24.48	4,499.7	512.7	233.4	-207.3	0.00	0.00	0.00	
4,600.0	10.51	24.48	4,548.8	521.0	237.2	-210.7	0.00	0.00	0.00	
4,650.0	10.51	24.48	4,598.0	529.3	240.9	-214.0	0.00	0.00	0.00	
4,700.0	10.51	24.48	4,647.2	537.6	244.7	-217.4	0.00	0.00	0.00	
4,750.0	10.51	24.48	4,696.3	545.9	248.5	-220.7	0.00	0.00	0.00	
4,800.0	10.51	24.48	4,745.5	554.2	252.3	-224.1	0.00	0.00	0.00	
4,850.0	10.51	24.48	4,794.6	562.5	256.0	-227.4	0.00	0.00	0.00	
4,872.7	10.51	24.48	4,817.0	566.2	257.8	-229.0	0.00	0.00	0.00	

Noble Energy Inc

Planning Report

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Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4680.0ft (H&P 273 RKB - 24')
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Well:	Wells Ranch State A36-655	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Drilling		
Design:	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)
SHANNON									
4,900.0	10.51	24.48	4,843.8	570.8	259.8	-230.8	0.00	0.00	0.00
4,950.0	10.51	24.48	4,893.0	579.1	263.6	-234.2	0.00	0.00	0.00
5,000.0	10.51	24.48	4,942.1	587.4	267.4	-237.5	0.00	0.00	0.00
5,050.0	10.51	24.48	4,991.3	595.7	271.2	-240.9	0.00	0.00	0.00
5,100.0	10.51	24.48	5,040.5	604.0	274.9	-244.2	0.00	0.00	0.00
5,150.0	10.51	24.48	5,089.6	612.3	278.7	-247.6	0.00	0.00	0.00
5,200.0	10.51	24.48	5,138.8	620.6	282.5	-250.9	0.00	0.00	0.00
5,234.2	10.51	24.48	5,172.4	626.2	285.1	-253.2	0.00	0.00	0.00
Start Drop -2.00									
5,250.0	10.19	24.48	5,187.9	628.8	286.3	-254.3	1.99	-1.99	0.00
5,300.0	9.20	24.48	5,237.2	636.5	289.7	-257.4	2.00	-2.00	0.00
5,350.0	8.19	24.48	5,286.7	643.4	292.9	-260.2	2.00	-2.00	0.00
5,400.0	7.20	24.48	5,336.2	649.5	295.7	-262.6	2.00	-2.00	0.00
5,450.0	6.19	24.48	5,385.9	654.8	298.1	-264.8	2.00	-2.00	0.00
5,500.0	5.20	24.48	5,435.6	659.3	300.1	-266.6	2.00	-2.00	0.00
5,550.0	4.19	24.48	5,485.4	663.0	301.8	-268.1	2.00	-2.00	0.00
5,600.0	3.20	24.48	5,535.3	665.9	303.2	-269.3	2.00	-2.00	0.00
5,650.0	2.19	24.48	5,585.3	668.1	304.1	-270.1	2.00	-2.00	0.00
5,700.0	1.20	24.48	5,635.3	669.4	304.7	-270.7	2.00	-2.00	0.00
5,750.0	0.19	24.48	5,685.3	670.0	305.0	-270.9	2.00	-2.00	0.00
5,759.8	0.00	0.00	5,695.0	670.0	305.0	-270.9	2.00	-2.00	0.00
5,798.8	0.00	0.00	5,734.0	670.0	305.0	-270.9	0.00	0.00	0.00
TEEPEE BUTTES									
5,800.0	0.00	0.00	5,735.3	670.0	305.0	-270.9	0.00	0.00	0.00
5,850.0	0.00	0.00	5,785.3	670.0	305.0	-270.9	0.00	0.00	0.00
5,900.0	0.00	0.00	5,835.3	670.0	305.0	-270.9	0.00	0.00	0.00
5,950.0	0.00	0.00	5,885.3	670.0	305.0	-270.9	0.00	0.00	0.00
6,000.0	0.00	0.00	5,935.3	670.0	305.0	-270.9	0.00	0.00	0.00
6,012.6	0.00	0.00	5,947.8	670.0	305.0	-270.9	0.00	0.00	0.00
KOP #2 - Start Build 9.00									
6,050.0	3.37	269.09	5,985.2	670.0	303.9	-269.8	9.00	9.00	0.00
6,100.0	7.87	269.09	6,035.0	669.9	299.0	-264.9	9.00	9.00	0.00
6,150.0	12.37	269.09	6,084.2	669.8	290.2	-256.2	9.00	9.00	0.00
6,200.0	16.87	269.09	6,132.6	669.6	277.6	-243.6	9.00	9.00	0.00
6,250.0	21.37	269.09	6,179.8	669.3	261.2	-227.3	9.00	9.00	0.00
6,300.0	25.87	269.09	6,225.6	669.0	241.2	-207.3	9.00	9.00	0.00
6,350.0	30.37	269.09	6,269.7	668.6	217.7	-183.8	9.00	9.00	0.00
6,400.0	34.87	269.09	6,311.8	668.2	190.7	-156.9	9.00	9.00	0.00
6,450.0	39.37	269.09	6,351.6	667.7	160.6	-126.8	9.00	9.00	0.00
6,500.0	43.87	269.09	6,389.0	667.2	127.4	-93.7	9.00	9.00	0.00
6,550.0	48.37	269.09	6,423.7	666.6	91.3	-57.7	9.00	9.00	0.00
6,562.7	49.51	269.09	6,432.0	666.4	81.8	-48.2	9.01	9.01	0.00
SHARON SPRINGS									
6,600.0	52.87	269.09	6,455.4	666.0	52.7	-19.2	9.00	9.00	0.00
6,604.4	53.26	269.09	6,458.0	665.9	49.2	-15.7	9.03	9.03	0.00
NIO A CHALK									
6,648.2	57.21	269.09	6,483.0	665.3	13.2	20.3	9.00	9.00	0.00
NIO A MARL									
6,650.0	57.37	269.09	6,484.0	665.3	11.7	21.8	8.93	8.93	0.00
6,700.0	61.87	269.09	6,509.3	664.6	-31.4	64.8	9.00	9.00	0.00
6,750.0	66.37	269.09	6,531.1	663.9	-76.4	109.7	9.00	9.00	0.00
6,800.0	70.87	269.09	6,549.3	663.2	-122.9	156.1	9.00	9.00	0.00

Noble Energy Inc

Planning Report

Database:	EDM01P	Local Co-ordinate Reference:	Well Wells Ranch State A36-655
Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4680.0ft (H&P 273 RKB - 24')
Project:	Wattenberg Field	MD Reference:	WELL @ 4680.0ft (H&P 273 RKB - 24')
Site:	A (06N-64W)	North Reference:	Grid
Well:	Wells Ranch State A36-655	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Drilling		
Design:	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)
6,821.5	72.80	269.09	6,556.0	662.8	-143.3	176.5	9.01	9.01	0.00
NIO B CHALK									
6,850.0	75.37	269.09	6,563.8	662.4	-170.7	203.8	9.00	9.00	0.00
6,900.0	79.87	269.09	6,574.5	661.6	-219.6	252.6	9.00	9.00	0.00
6,950.0	84.37	269.09	6,581.4	660.8	-269.1	302.0	9.00	9.00	0.00
6,957.0	85.00	269.09	6,582.0	660.7	-276.0	308.9	9.02	9.02	0.00
Start 75.0 hold at 6957.0 MD - 7" Casing @ 6957.0' MD									
7,000.0	85.00	269.09	6,585.8	660.0	-318.9	351.7	0.01	0.01	0.00
7,032.0	85.00	269.09	6,588.6	659.5	-350.7	383.5	0.00	0.00	0.00
Start Build 9.00									
7,050.0	86.62	269.09	6,589.9	659.3	-368.7	401.4	8.97	8.97	0.00
7,087.6	90.00	269.09	6,591.0	658.7	-406.2	438.9	9.00	9.00	0.00
NIO B MARL									
7,100.0	90.00	269.09	6,591.0	658.5	-418.7	451.2	0.00	0.00	0.00
7,150.0	90.00	269.09	6,591.0	657.7	-468.7	501.1	0.00	0.00	0.00
7,200.0	90.00	269.09	6,591.0	656.9	-518.6	551.0	0.00	0.00	0.00
7,250.0	90.00	269.09	6,591.0	656.1	-568.6	600.9	0.00	0.00	0.00
7,300.0	90.00	269.09	6,591.0	655.3	-618.6	650.8	0.00	0.00	0.00
7,350.0	90.00	269.09	6,591.0	654.5	-668.6	700.7	0.00	0.00	0.00
7,400.0	90.00	269.09	6,591.0	653.7	-718.6	750.6	0.00	0.00	0.00
7,450.0	90.00	269.09	6,591.0	652.9	-768.6	800.5	0.00	0.00	0.00
7,500.0	90.00	269.09	6,591.0	652.1	-818.6	850.4	0.00	0.00	0.00
7,550.0	90.00	269.09	6,591.0	651.3	-868.6	900.3	0.00	0.00	0.00
7,600.0	90.00	269.09	6,591.0	650.5	-918.6	950.1	0.00	0.00	0.00
7,650.0	90.00	269.09	6,591.0	649.7	-968.6	1,000.0	0.00	0.00	0.00
7,700.0	90.00	269.09	6,591.0	648.9	-1,018.6	1,049.9	0.00	0.00	0.00
7,750.0	90.00	269.09	6,591.0	648.1	-1,068.6	1,099.8	0.00	0.00	0.00
7,800.0	90.00	269.09	6,591.0	647.3	-1,118.6	1,149.7	0.00	0.00	0.00
7,850.0	90.00	269.09	6,591.0	646.5	-1,168.6	1,199.6	0.00	0.00	0.00
7,900.0	90.00	269.09	6,591.0	645.7	-1,218.6	1,249.5	0.00	0.00	0.00
7,950.0	90.00	269.09	6,591.0	644.9	-1,268.6	1,299.4	0.00	0.00	0.00
8,000.0	90.00	269.09	6,591.0	644.1	-1,318.5	1,349.3	0.00	0.00	0.00
8,050.0	90.00	269.09	6,591.0	643.3	-1,368.5	1,399.2	0.00	0.00	0.00
8,100.0	90.00	269.09	6,591.0	642.5	-1,418.5	1,449.1	0.00	0.00	0.00
8,150.0	90.00	269.09	6,591.0	641.7	-1,468.5	1,498.9	0.00	0.00	0.00
8,200.0	90.00	269.09	6,591.0	640.9	-1,518.5	1,548.8	0.00	0.00	0.00
8,250.0	90.00	269.09	6,591.0	640.1	-1,568.5	1,598.7	0.00	0.00	0.00
8,300.0	90.00	269.09	6,591.0	639.3	-1,618.5	1,648.6	0.00	0.00	0.00
8,350.0	90.00	269.09	6,591.0	638.5	-1,668.5	1,698.5	0.00	0.00	0.00
8,400.0	90.00	269.09	6,591.0	637.7	-1,718.5	1,748.4	0.00	0.00	0.00
8,450.0	90.00	269.09	6,591.0	636.9	-1,768.5	1,798.3	0.00	0.00	0.00
8,500.0	90.00	269.09	6,591.0	636.1	-1,818.5	1,848.2	0.00	0.00	0.00
8,550.0	90.00	269.09	6,591.0	635.3	-1,868.5	1,898.1	0.00	0.00	0.00
8,600.0	90.00	269.09	6,591.0	634.5	-1,918.5	1,948.0	0.00	0.00	0.00
8,650.0	90.00	269.09	6,591.0	633.7	-1,968.5	1,997.8	0.00	0.00	0.00
8,700.0	90.00	269.09	6,591.0	632.9	-2,018.5	2,047.7	0.00	0.00	0.00
8,750.0	90.00	269.09	6,591.0	632.1	-2,068.5	2,097.6	0.00	0.00	0.00
8,800.0	90.00	269.09	6,591.0	631.3	-2,118.4	2,147.5	0.00	0.00	0.00
8,850.0	90.00	269.09	6,591.0	630.5	-2,168.4	2,197.4	0.00	0.00	0.00
8,900.0	90.00	269.09	6,591.0	629.7	-2,218.4	2,247.3	0.00	0.00	0.00
8,950.0	90.00	269.09	6,591.0	628.9	-2,268.4	2,297.2	0.00	0.00	0.00
9,000.0	90.00	269.09	6,591.0	628.1	-2,318.4	2,347.1	0.00	0.00	0.00
9,050.0	90.00	269.09	6,591.0	627.3	-2,368.4	2,397.0	0.00	0.00	0.00

Noble Energy Inc

Planning Report

Database:	EDM01P	Local Co-ordinate Reference:	Well Wells Ranch State A36-655
Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4680.0ft (H&P 273 RKB - 24')
Project:	Wattenberg Field	MD Reference:	WELL @ 4680.0ft (H&P 273 RKB - 24')
Site:	A (06N-64W)	North Reference:	Grid
Well:	Wells Ranch State A36-655	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Drilling		
Design:	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)
9,100.0	90.00	269.09	6,591.0	626.5	-2,418.4	2,446.9	0.00	0.00	0.00
9,150.0	90.00	269.09	6,591.0	625.7	-2,468.4	2,496.8	0.00	0.00	0.00
9,200.0	90.00	269.09	6,591.0	624.9	-2,518.4	2,546.6	0.00	0.00	0.00
9,250.0	90.00	269.09	6,591.0	624.2	-2,568.4	2,596.5	0.00	0.00	0.00
9,300.0	90.00	269.09	6,591.0	623.4	-2,618.4	2,646.4	0.00	0.00	0.00
9,350.0	90.00	269.09	6,591.0	622.6	-2,668.4	2,696.3	0.00	0.00	0.00
9,400.0	90.00	269.09	6,591.0	621.8	-2,718.4	2,746.2	0.00	0.00	0.00
9,450.0	90.00	269.09	6,591.0	621.0	-2,768.4	2,796.1	0.00	0.00	0.00
9,500.0	90.00	269.09	6,591.0	620.2	-2,818.4	2,846.0	0.00	0.00	0.00
9,550.0	90.00	269.09	6,591.0	619.4	-2,868.4	2,895.9	0.00	0.00	0.00
9,600.0	90.00	269.09	6,591.0	618.6	-2,918.3	2,945.8	0.00	0.00	0.00
9,650.0	90.00	269.09	6,591.0	617.8	-2,968.3	2,995.7	0.00	0.00	0.00
9,700.0	90.00	269.09	6,591.0	617.0	-3,018.3	3,045.5	0.00	0.00	0.00
9,750.0	90.00	269.09	6,591.0	616.2	-3,068.3	3,095.4	0.00	0.00	0.00
9,800.0	90.00	269.09	6,591.0	615.4	-3,118.3	3,145.3	0.00	0.00	0.00
9,850.0	90.00	269.09	6,591.0	614.6	-3,168.3	3,195.2	0.00	0.00	0.00
9,900.0	90.00	269.09	6,591.0	613.8	-3,218.3	3,245.1	0.00	0.00	0.00
9,950.0	90.00	269.09	6,591.0	613.0	-3,268.3	3,295.0	0.00	0.00	0.00
10,000.0	90.00	269.09	6,591.0	612.2	-3,318.3	3,344.9	0.00	0.00	0.00
10,050.0	90.00	269.09	6,591.0	611.4	-3,368.3	3,394.8	0.00	0.00	0.00
10,100.0	90.00	269.09	6,591.0	610.6	-3,418.3	3,444.7	0.00	0.00	0.00
10,150.0	90.00	269.09	6,591.0	609.8	-3,468.3	3,494.6	0.00	0.00	0.00
10,200.0	90.00	269.09	6,591.0	609.0	-3,518.3	3,544.4	0.00	0.00	0.00
10,250.0	90.00	269.09	6,591.0	608.2	-3,568.3	3,594.3	0.00	0.00	0.00
10,300.0	90.00	269.09	6,591.0	607.4	-3,618.3	3,644.2	0.00	0.00	0.00
10,350.0	90.00	269.09	6,591.0	606.6	-3,668.3	3,694.1	0.00	0.00	0.00
10,400.0	90.00	269.09	6,591.0	605.8	-3,718.2	3,744.0	0.00	0.00	0.00
10,450.0	90.00	269.09	6,591.0	605.0	-3,768.2	3,793.9	0.00	0.00	0.00
10,500.0	90.00	269.09	6,591.0	604.2	-3,818.2	3,843.8	0.00	0.00	0.00
10,550.0	90.00	269.09	6,591.0	603.4	-3,868.2	3,893.7	0.00	0.00	0.00
10,600.0	90.00	269.09	6,591.0	602.6	-3,918.2	3,943.6	0.00	0.00	0.00
10,650.0	90.00	269.09	6,591.0	601.8	-3,968.2	3,993.5	0.00	0.00	0.00
10,700.0	90.00	269.09	6,591.0	601.0	-4,018.2	4,043.4	0.00	0.00	0.00
10,750.0	90.00	269.09	6,591.0	600.2	-4,068.2	4,093.2	0.00	0.00	0.00
10,800.0	90.00	269.09	6,591.0	599.4	-4,118.2	4,143.1	0.00	0.00	0.00
10,850.0	90.00	269.09	6,591.0	598.6	-4,168.2	4,193.0	0.00	0.00	0.00
10,900.0	90.00	269.09	6,591.0	597.8	-4,218.2	4,242.9	0.00	0.00	0.00
10,950.0	90.00	269.09	6,591.0	597.0	-4,268.2	4,292.8	0.00	0.00	0.00
11,000.0	90.00	269.09	6,591.0	596.2	-4,318.2	4,342.7	0.00	0.00	0.00
11,050.0	90.00	269.09	6,591.0	595.4	-4,368.2	4,392.6	0.00	0.00	0.00
11,100.0	90.00	269.09	6,591.0	594.6	-4,418.2	4,442.5	0.00	0.00	0.00
11,150.0	90.00	269.09	6,591.0	593.8	-4,468.2	4,492.4	0.00	0.00	0.00
11,200.0	90.00	269.09	6,591.0	593.0	-4,518.1	4,542.3	0.00	0.00	0.00
11,250.0	90.00	269.09	6,591.0	592.2	-4,568.1	4,592.1	0.00	0.00	0.00
11,300.0	90.00	269.09	6,591.0	591.4	-4,618.1	4,642.0	0.00	0.00	0.00
11,350.0	90.00	269.09	6,591.0	590.6	-4,668.1	4,691.9	0.00	0.00	0.00
11,400.0	90.00	269.09	6,591.0	589.8	-4,718.1	4,741.8	0.00	0.00	0.00
11,450.0	90.00	269.09	6,591.0	589.1	-4,768.1	4,791.7	0.00	0.00	0.00
11,500.0	90.00	269.09	6,591.0	588.3	-4,818.1	4,841.6	0.00	0.00	0.00
11,550.0	90.00	269.09	6,591.0	587.5	-4,868.1	4,891.5	0.00	0.00	0.00
11,600.0	90.00	269.09	6,591.0	586.7	-4,918.1	4,941.4	0.00	0.00	0.00
11,650.0	90.00	269.09	6,591.0	585.9	-4,968.1	4,991.3	0.00	0.00	0.00
11,700.0	90.00	269.09	6,591.0	585.1	-5,018.1	5,041.2	0.00	0.00	0.00
11,750.0	90.00	269.09	6,591.0	584.3	-5,068.1	5,091.0	0.00	0.00	0.00

Noble Energy Inc

Planning Report

Database:	EDM01P	Local Co-ordinate Reference:	Well Wells Ranch State A36-655
Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4680.0ft (H&P 273 RKB - 24')
Project:	Wattenberg Field	MD Reference:	WELL @ 4680.0ft (H&P 273 RKB - 24')
Site:	A (06N-64W)	North Reference:	Grid
Well:	Wells Ranch State A36-655	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Drilling		
Design:	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)
11,800.0	90.00	269.09	6,591.0	583.5	-5,118.1	5,140.9	0.00	0.00	0.00
11,850.0	90.00	269.09	6,591.0	582.7	-5,168.1	5,190.8	0.00	0.00	0.00
11,900.0	90.00	269.09	6,591.0	581.9	-5,218.1	5,240.7	0.00	0.00	0.00
11,950.0	90.00	269.09	6,591.0	581.1	-5,268.1	5,290.6	0.00	0.00	0.00
12,000.0	90.00	269.09	6,591.0	580.3	-5,318.0	5,340.5	0.00	0.00	0.00
12,050.0	90.00	269.09	6,591.0	579.5	-5,368.0	5,390.4	0.00	0.00	0.00
12,100.0	90.00	269.09	6,591.0	578.7	-5,418.0	5,440.3	0.00	0.00	0.00
12,150.0	90.00	269.09	6,591.0	577.9	-5,468.0	5,490.2	0.00	0.00	0.00
12,200.0	90.00	269.09	6,591.0	577.1	-5,518.0	5,540.1	0.00	0.00	0.00
12,250.0	90.00	269.09	6,591.0	576.3	-5,568.0	5,590.0	0.00	0.00	0.00
12,300.0	90.00	269.09	6,591.0	575.5	-5,618.0	5,639.8	0.00	0.00	0.00
12,350.0	90.00	269.09	6,591.0	574.7	-5,668.0	5,689.7	0.00	0.00	0.00
12,400.0	90.00	269.09	6,591.0	573.9	-5,718.0	5,739.6	0.00	0.00	0.00
12,450.0	90.00	269.09	6,591.0	573.1	-5,768.0	5,789.5	0.00	0.00	0.00
12,500.0	90.00	269.09	6,591.0	572.3	-5,818.0	5,839.4	0.00	0.00	0.00
12,550.0	90.00	269.09	6,591.0	571.5	-5,868.0	5,889.3	0.00	0.00	0.00
12,600.0	90.00	269.09	6,591.0	570.7	-5,918.0	5,939.2	0.00	0.00	0.00
12,650.0	90.00	269.09	6,591.0	569.9	-5,968.0	5,989.1	0.00	0.00	0.00
12,700.0	90.00	269.09	6,591.0	569.1	-6,018.0	6,039.0	0.00	0.00	0.00
12,750.0	90.00	269.09	6,591.0	568.3	-6,068.0	6,088.9	0.00	0.00	0.00
12,800.0	90.00	269.09	6,591.0	567.5	-6,117.9	6,138.7	0.00	0.00	0.00
12,850.0	90.00	269.09	6,591.0	566.7	-6,167.9	6,188.6	0.00	0.00	0.00
12,900.0	90.00	269.09	6,591.0	565.9	-6,217.9	6,238.5	0.00	0.00	0.00
12,950.0	90.00	269.09	6,591.0	565.1	-6,267.9	6,288.4	0.00	0.00	0.00
13,000.0	90.00	269.09	6,591.0	564.3	-6,317.9	6,338.3	0.00	0.00	0.00
13,050.0	90.00	269.09	6,591.0	563.5	-6,367.9	6,388.2	0.00	0.00	0.00
13,100.0	90.00	269.09	6,591.0	562.7	-6,417.9	6,438.1	0.00	0.00	0.00
13,150.0	90.00	269.09	6,591.0	561.9	-6,467.9	6,488.0	0.00	0.00	0.00
13,200.0	90.00	269.09	6,591.0	561.1	-6,517.9	6,537.9	0.00	0.00	0.00
13,250.0	90.00	269.09	6,591.0	560.3	-6,567.9	6,587.8	0.00	0.00	0.00
13,300.0	90.00	269.09	6,591.0	559.5	-6,617.9	6,637.6	0.00	0.00	0.00
13,350.0	90.00	269.09	6,591.0	558.7	-6,667.9	6,687.5	0.00	0.00	0.00
13,400.0	90.00	269.09	6,591.0	557.9	-6,717.9	6,737.4	0.00	0.00	0.00
13,450.0	90.00	269.09	6,591.0	557.1	-6,767.9	6,787.3	0.00	0.00	0.00
13,500.0	90.00	269.09	6,591.0	556.3	-6,817.9	6,837.2	0.00	0.00	0.00
13,550.0	90.00	269.09	6,591.0	555.5	-6,867.9	6,887.1	0.00	0.00	0.00
13,600.0	90.00	269.09	6,591.0	554.7	-6,917.8	6,937.0	0.00	0.00	0.00
13,650.0	90.00	269.09	6,591.0	554.0	-6,967.8	6,986.9	0.00	0.00	0.00
13,700.0	90.00	269.09	6,591.0	553.2	-7,017.8	7,036.8	0.00	0.00	0.00
13,750.0	90.00	269.09	6,591.0	552.4	-7,067.8	7,086.7	0.00	0.00	0.00
13,800.0	90.00	269.09	6,591.0	551.6	-7,117.8	7,136.6	0.00	0.00	0.00
13,850.0	90.00	269.09	6,591.0	550.8	-7,167.8	7,186.4	0.00	0.00	0.00
13,900.0	90.00	269.09	6,591.0	550.0	-7,217.8	7,236.3	0.00	0.00	0.00
13,950.0	90.00	269.09	6,591.0	549.2	-7,267.8	7,286.2	0.00	0.00	0.00
14,000.0	90.00	269.09	6,591.0	548.4	-7,317.8	7,336.1	0.00	0.00	0.00
14,050.0	90.00	269.09	6,591.0	547.6	-7,367.8	7,386.0	0.00	0.00	0.00
14,100.0	90.00	269.09	6,591.0	546.8	-7,417.8	7,435.9	0.00	0.00	0.00
14,150.0	90.00	269.09	6,591.0	546.0	-7,467.8	7,485.8	0.00	0.00	0.00
14,200.0	90.00	269.09	6,591.0	545.2	-7,517.8	7,535.7	0.00	0.00	0.00
14,250.0	90.00	269.09	6,591.0	544.4	-7,567.8	7,585.6	0.00	0.00	0.00
14,300.0	90.00	269.09	6,591.0	543.6	-7,617.8	7,635.5	0.00	0.00	0.00
14,350.0	90.00	269.09	6,591.0	542.8	-7,667.8	7,685.3	0.00	0.00	0.00
14,400.0	90.00	269.09	6,591.0	542.0	-7,717.7	7,735.2	0.00	0.00	0.00
14,450.0	90.00	269.09	6,591.0	541.2	-7,767.7	7,785.1	0.00	0.00	0.00

Noble Energy Inc

Planning Report

Database:	EDM01P	Local Co-ordinate Reference:	Well Wells Ranch State A36-655
Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4680.0ft (H&P 273 RKB - 24')
Project:	Wattenberg Field	MD Reference:	WELL @ 4680.0ft (H&P 273 RKB - 24')
Site:	A (06N-64W)	North Reference:	Grid
Well:	Wells Ranch State A36-655	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Drilling		
Design:	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)	
14,500.0	90.00	269.09	6,591.0	540.4	-7,817.7	7,835.0	0.00	0.00	0.00	
14,550.0	90.00	269.09	6,591.0	539.6	-7,867.7	7,884.9	0.00	0.00	0.00	
14,600.0	90.00	269.09	6,591.0	538.8	-7,917.7	7,934.8	0.00	0.00	0.00	
14,650.0	90.00	269.09	6,591.0	538.0	-7,967.7	7,984.7	0.00	0.00	0.00	
14,700.0	90.00	269.09	6,591.0	537.2	-8,017.7	8,034.6	0.00	0.00	0.00	
14,750.0	90.00	269.09	6,591.0	536.4	-8,067.7	8,084.5	0.00	0.00	0.00	
14,800.0	90.00	269.09	6,591.0	535.6	-8,117.7	8,134.4	0.00	0.00	0.00	
14,850.0	90.00	269.09	6,591.0	534.8	-8,167.7	8,184.3	0.00	0.00	0.00	
14,900.0	90.00	269.09	6,591.0	534.0	-8,217.7	8,234.1	0.00	0.00	0.00	
14,950.0	90.00	269.09	6,591.0	533.2	-8,267.7	8,284.0	0.00	0.00	0.00	
15,000.0	90.00	269.09	6,591.0	532.4	-8,317.7	8,333.9	0.00	0.00	0.00	
15,050.0	90.00	269.09	6,591.0	531.6	-8,367.7	8,383.8	0.00	0.00	0.00	
15,100.0	90.00	269.09	6,591.0	530.8	-8,417.7	8,433.7	0.00	0.00	0.00	
15,150.0	90.00	269.09	6,591.0	530.0	-8,467.7	8,483.6	0.00	0.00	0.00	
15,200.0	90.00	269.09	6,591.0	529.2	-8,517.6	8,533.5	0.00	0.00	0.00	
15,250.0	90.00	269.09	6,591.0	528.4	-8,567.6	8,583.4	0.00	0.00	0.00	
15,300.0	90.00	269.09	6,591.0	527.6	-8,617.6	8,633.3	0.00	0.00	0.00	
15,350.0	90.00	269.09	6,591.0	526.8	-8,667.6	8,683.2	0.00	0.00	0.00	
15,400.0	90.00	269.09	6,591.0	526.0	-8,717.6	8,733.0	0.00	0.00	0.00	
15,450.0	90.00	269.09	6,591.0	525.2	-8,767.6	8,782.9	0.00	0.00	0.00	
15,500.0	90.00	269.09	6,591.0	524.4	-8,817.6	8,832.8	0.00	0.00	0.00	
15,550.0	90.00	269.09	6,591.0	523.6	-8,867.6	8,882.7	0.00	0.00	0.00	
15,600.0	90.00	269.09	6,591.0	522.8	-8,917.6	8,932.6	0.00	0.00	0.00	
15,650.0	90.00	269.09	6,591.0	522.0	-8,967.6	8,982.5	0.00	0.00	0.00	
15,700.0	90.00	269.09	6,591.0	521.2	-9,017.6	9,032.4	0.00	0.00	0.00	
15,750.0	90.00	269.09	6,591.0	520.4	-9,067.6	9,082.3	0.00	0.00	0.00	
15,800.0	90.00	269.09	6,591.0	519.6	-9,117.6	9,132.2	0.00	0.00	0.00	
15,850.0	90.00	269.09	6,591.0	518.9	-9,167.6	9,182.1	0.00	0.00	0.00	
15,900.0	90.00	269.09	6,591.0	518.1	-9,217.6	9,231.9	0.00	0.00	0.00	
15,950.0	90.00	269.09	6,591.0	517.3	-9,267.6	9,281.8	0.00	0.00	0.00	
16,000.0	90.00	269.09	6,591.0	516.5	-9,317.5	9,331.7	0.00	0.00	0.00	
16,050.0	90.00	269.09	6,591.0	515.7	-9,367.5	9,381.6	0.00	0.00	0.00	
16,100.0	90.00	269.09	6,591.0	514.9	-9,417.5	9,431.5	0.00	0.00	0.00	
16,150.0	90.00	269.09	6,591.0	514.1	-9,467.5	9,481.4	0.00	0.00	0.00	
16,200.0	90.00	269.09	6,591.0	513.3	-9,517.5	9,531.3	0.00	0.00	0.00	
16,250.0	90.00	269.09	6,591.0	512.5	-9,567.5	9,581.2	0.00	0.00	0.00	
16,300.0	90.00	269.09	6,591.0	511.7	-9,617.5	9,631.1	0.00	0.00	0.00	
16,350.0	90.00	269.09	6,591.0	510.9	-9,667.5	9,681.0	0.00	0.00	0.00	
16,400.0	90.00	269.09	6,591.0	510.1	-9,717.5	9,730.9	0.00	0.00	0.00	
16,450.0	90.00	269.09	6,591.0	509.3	-9,767.5	9,780.7	0.00	0.00	0.00	
16,500.0	90.00	269.09	6,591.0	508.5	-9,817.5	9,830.6	0.00	0.00	0.00	
16,550.0	90.00	269.09	6,591.0	507.7	-9,867.5	9,880.5	0.00	0.00	0.00	
16,600.0	90.00	269.09	6,591.0	506.9	-9,917.5	9,930.4	0.00	0.00	0.00	
16,650.0	90.00	269.09	6,591.0	506.1	-9,967.5	9,980.3	0.00	0.00	0.00	
16,700.0	90.00	269.09	6,591.0	505.3	-10,017.5	10,030.2	0.00	0.00	0.00	
16,712.2	90.00	269.09	6,591.0	505.1	-10,029.6	10,042.3	0.00	0.00	0.00	
TD at 16712.2 - Wells Ranch State A36-655 BHL 2310'FNL, 50'FWL										

Noble Energy Inc

Planning Report

Database:	EDM01P	Local Co-ordinate Reference:	Well Wells Ranch State A36-655
Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4680.0ft (H&P 273 RKB - 24')
Project:	Wattenberg Field	MD Reference:	WELL @ 4680.0ft (H&P 273 RKB - 24')
Site:	A (06N-64W)	North Reference:	Grid
Well:	Wells Ranch State A36-655	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Drilling		
Design:	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 A36-655 - plan hits target center - Point	0.00	0.00	6,591.0	505.1	-10,029.6	1,406,062.19	3,276,200.99	40.443800	-104.507630

Casing Points				
Measured Depth	Vertical Depth	Name	Casing Diameter	Hole Diameter
(ft)	(ft)		(")	(")
6,957.0	6,582.0	7" Casing @ 6957.0' MD	7	8-3/4

Formations					
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction
(ft)	(ft)			(°)	(°)
2,349.4	2,336.0	PIERRE		0.00	
3,509.9	3,477.0	PARKMAN		0.00	
4,292.0	4,246.0	SUSSEX		0.00	
4,872.7	4,817.0	SHANNON		0.00	
5,798.8	5,734.0	TEEPEE BUTTES		0.00	
6,562.7	6,432.0	SHARON SPRINGS		0.00	
6,604.4	6,458.0	NIO A CHALK		0.00	
6,648.2	6,483.0	NIO A MARL		0.00	
6,821.5	6,556.0	NIO B CHALK		0.00	
7,087.6	6,591.0	NIO B MARL		0.00	

Plan Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)	
1,200.0	1,200.0	0.0	0.0	KOP - Start Build 2.00
5,234.2	5,172.4	626.2	285.1	Start Drop -2.00
6,012.6	5,947.8	670.0	305.0	KOP #2 - Start Build 9.00
6,957.0	6,582.0	660.7	-276.0	Start 75.0 hold at 6957.0 MD
7,032.0	6,588.6	659.5	-350.7	Start Build 9.00
16,712.2	6,591.0	505.1	-10,029.6	TD at 16712.2

Northern Region Drilling - Working

Wattenberg Field

A (06N-64W)

Wells Ranch State A36-655

Original Drilling

APD - Rev 0

Anticollision Summary Report

23 January, 2015

Noble Energy Inc
Anticollision Summary Report

Company:	Northern Region Drilling - Working	Local Co-ordinate Reference:	Well Wells Ranch State A36-655
Project:	Wattenberg Field	TVD Reference:	WELL @ 4680.0ft (H&P 273 RKB - 24')
Reference Site:	A (06N-64W)	MD Reference:	WELL @ 4680.0ft (H&P 273 RKB - 24')
Site Error:	0.0 ft	North Reference:	Grid
Reference Well:	Wells Ranch State A36-655	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	EDM01P
Reference Design:	APD - Rev 0	Offset TVD Reference:	Offset Datum

Reference	APD - Rev 0		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.0ft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 10,000.0 ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program	Date	1/23/2015		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	16,712.2	APD - Rev 0 (Original Drilling)	MWD	MWD - Standard

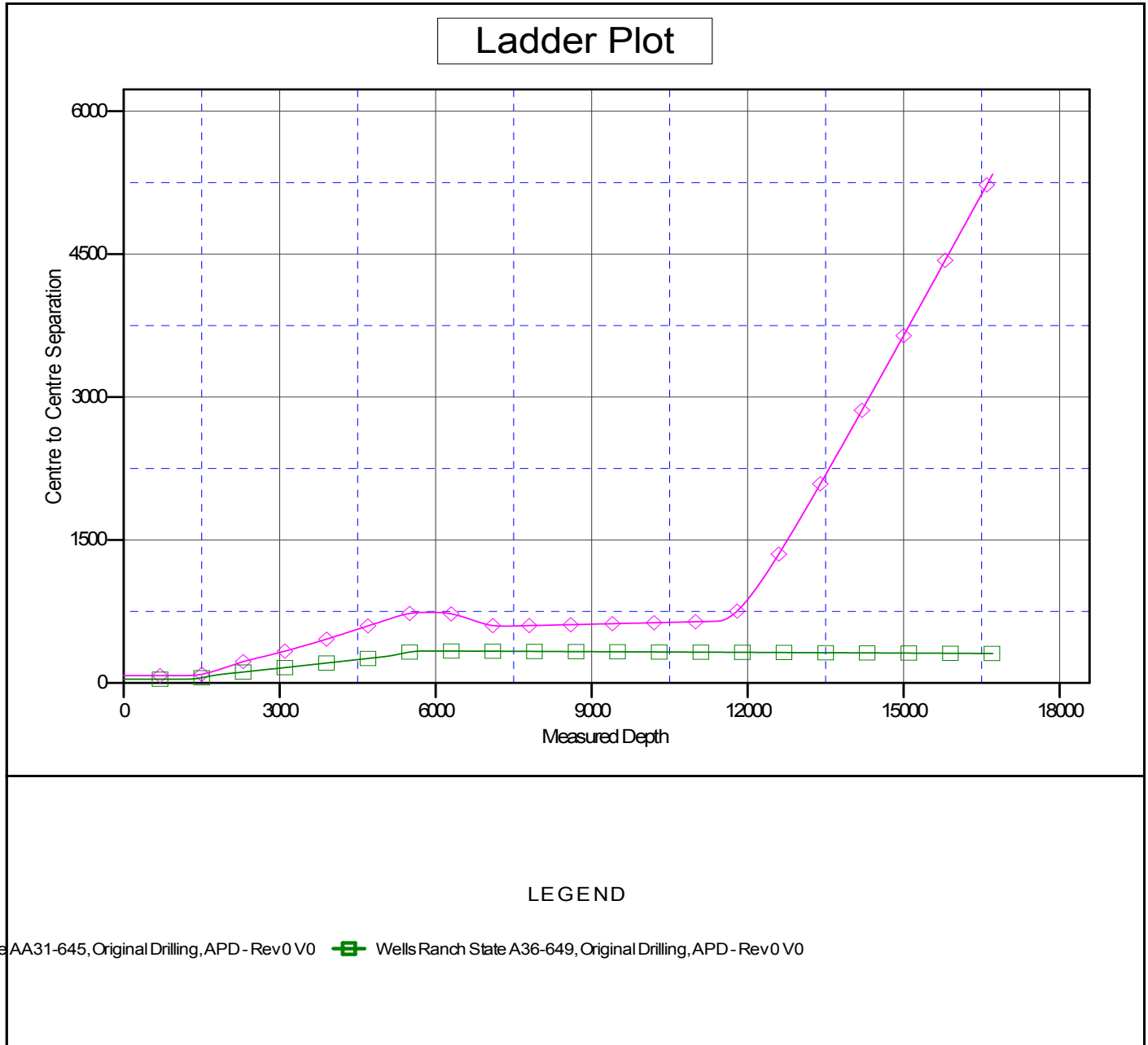
Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
A (06N-64W)						
Wells Ranch State A36-649 - Original Drilling - APD - Re	1,200.0	1,201.0	40.1	35.0	7.830	CC
Wells Ranch State A36-649 - Original Drilling - APD - Re	16,713.1	16,683.9	309.7	-260.5	0.543	Level 1, ES, SF
Wells Ranch State AA31-645 - Original Drilling - APD - R	1,200.0	1,201.0	76.5	71.4	14.949	CC, ES
Wells Ranch State AA31-645 - Original Drilling - APD - R	11,500.0	10,914.1	653.5	385.4	2.438	SF

Noble Energy Inc
Anticollision Summary Report

Company:	Northern Region Drilling - Working	Local Co-ordinate Reference:	Well Wells Ranch State A36-655
Project:	Wattenberg Field	TVD Reference:	WELL @ 4680.0ft (H&P 273 RKB - 24')
Reference Site:	A (06N-64W)	MD Reference:	WELL @ 4680.0ft (H&P 273 RKB - 24')
Site Error:	0.0 ft	North Reference:	Grid
Reference Well:	Wells Ranch State A36-655	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	EDM01P
Reference Design:	APD - Rev 0	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4680.0ft (H&P 273 RKB - 24'
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000

Coordinates are relative to: Wells Ranch State A36-655
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.66°



Noble Energy Inc
Anticollision Summary Report

Company:	Northern Region Drilling - Working	Local Co-ordinate Reference:	Well Wells Ranch State A36-655
Project:	Wattenberg Field	TVD Reference:	WELL @ 4680.0ft (H&P 273 RKB - 24')
Reference Site:	A (06N-64W)	MD Reference:	WELL @ 4680.0ft (H&P 273 RKB - 24')
Site Error:	0.0 ft	North Reference:	Grid
Reference Well:	Wells Ranch State A36-655	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	EDM01P
Reference Design:	APD - Rev 0	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4680.0ft (H&P 273 RKB - 24'
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000

Coordinates are relative to: Wells Ranch State A36-655
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.66°

