

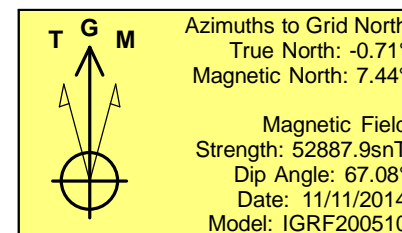
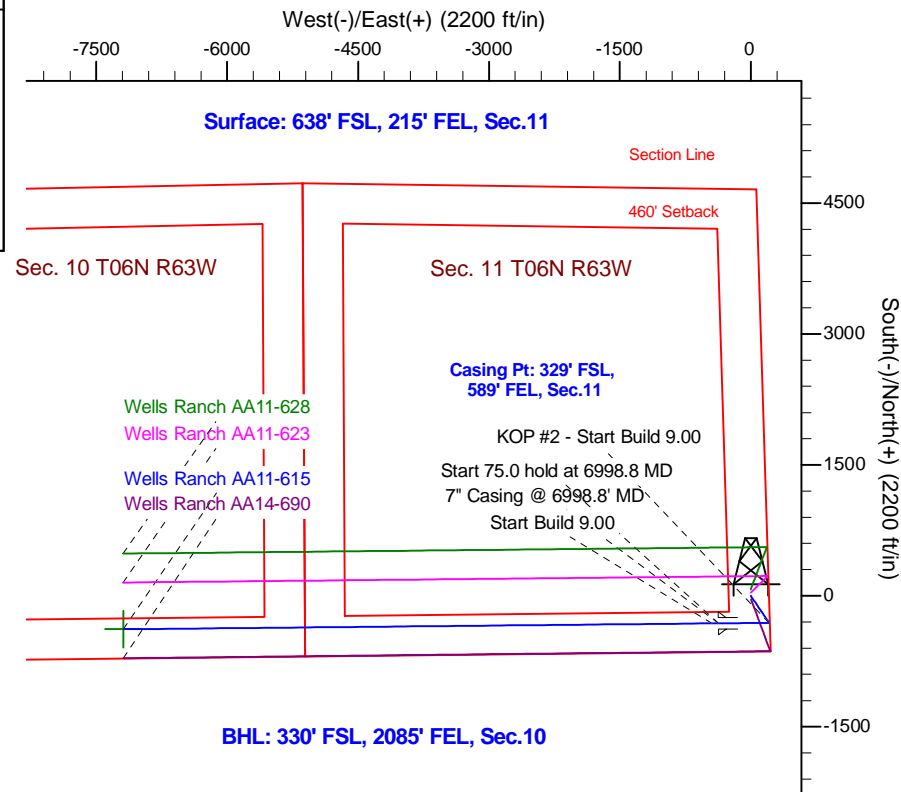
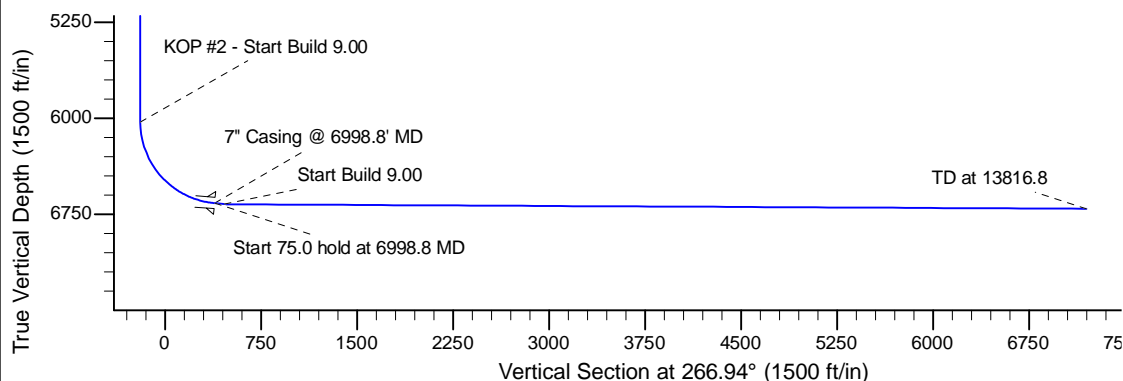
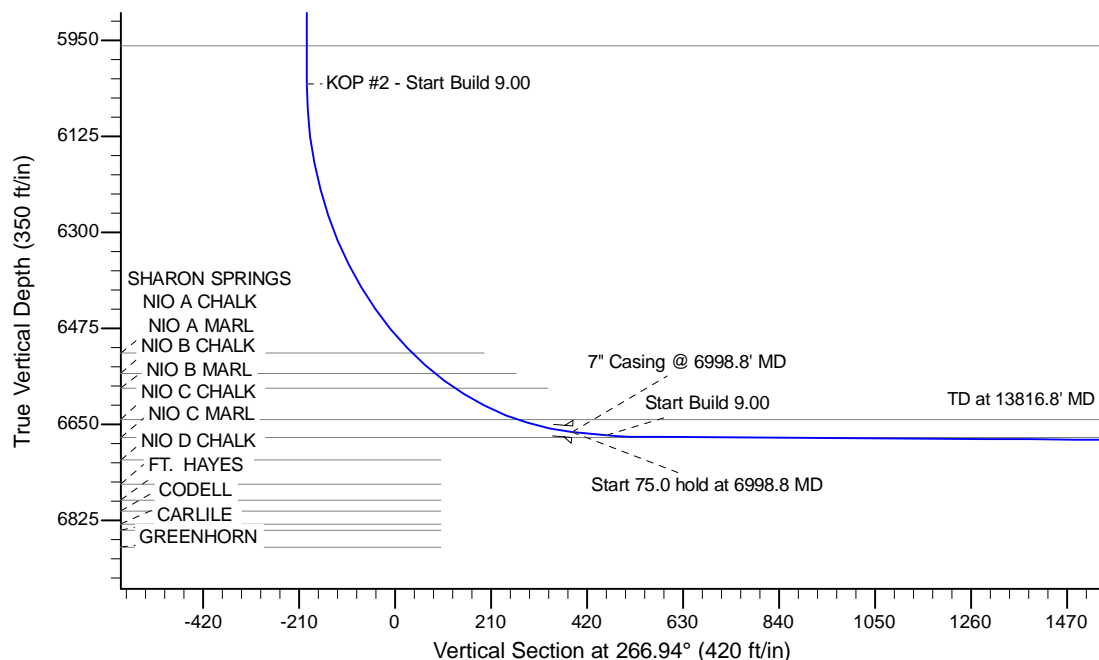
Project: Wattenberg Field
 Site: AA (Sec.11-T06N-R63W) Weld County, CO
 Well: Wells Ranch AA11-615
 Wellbore: Original Drilling
 Design: APD - Rev 0

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	VSeet	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	1900.0	8.00	145.89	1898.7	-23.1	15.6	2.00	145.89	-14.4	
4	4189.9	8.00	145.89	4166.3	-286.9	194.4	0.00	0.00	-178.8	
5	4589.9	0.00	0.00	4565.0	-310.0	210.0	2.00	180.00	-193.2	
6	6054.4	0.00	0.00	6029.5	-310.0	210.0	0.00	0.00	-193.2	
7	6998.8	85.00	269.43	6663.7	-315.8	-371.1	9.00	269.43	387.4	
8	7073.8	85.00	269.43	6670.3	-316.5	-445.8	0.00	0.00	462.1	
9	7126.1	89.70	269.43	6672.7	-317.0	-498.0	9.00	0.00	514.2	
10	13816.8	89.70	269.43	6707.7	-383.6	-7188.2	0.00	0.00	7198.5	Wells Ranch AA11-615 BHL 330'FSL, 2085'FEL



WELL DETAILS: Wells Ranch AA11-615					
Ground Level#832.0					
0.0	0.0	Northing	Easting	Latitude	Longitude
		1425302.25	3307306.44	40.495600	-104.395020
Plan: APD - Rev 0 (Wells Ranch AA11-615/Original Drilling)					
Created By: Shailey Jewell			Date: 15:33, November 11 2014		
Checked: _____			Date: _____		
Reviewed: _____			Date: _____		
Approved: _____			Date: _____		

Northern Region Drilling - Working

Wattenberg Field

AA (06N-63W)

Wells Ranch AA11-615

Original Drilling

Plan: APD - Rev 0

Standard Planning Report

11 November, 2014

Noble Energy Inc

Planning Report

Database:	EDM01P	Local Co-ordinate Reference:	Well Wells Ranch AA11-615
Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4856.0ft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4856.0ft (Original Well Elev)
Site:	AA (06N-63W)	North Reference:	Grid
Well:	Wells Ranch AA11-615	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		AA (06N-63W)			
Site Position:		Northing:	1,427,844.88 usft	Latitude:	40.502740
From:	Lat/Long	Easting:	3,302,558.01 usft	Longitude:	-104.411980
Position Uncertainty:	0.0 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.70 °

Well	Wells Ranch AA11-615					
Well Position	+N/-S	-2,542.7 ft	Northing:	1,425,302.25 usft	Latitude:	40.495600
	+E/-W	4,748.6 ft	Easting:	3,307,306.44 usft	Longitude:	-104.395020
Position Uncertainty		0.0 ft	Wellhead Elevation:	0.0 ft	Ground Level:	4,832.0 ft

Wellbore	Original Drilling				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	11/11/2014	8.16	67.08	52,888

Design	APD - Rev 0			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	266.94

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	
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,900.0	8.00	145.89	1,898.7	-23.1	15.6	2.00	2.00	0.00	145.89	
4,189.9	8.00	145.89	4,166.3	-286.9	194.4	0.00	0.00	0.00	0.00	
4,589.9	0.00	0.00	4,565.0	-310.0	210.0	2.00	-2.00	0.00	180.00	
6,054.4	0.00	0.00	6,029.5	-310.0	210.0	0.00	0.00	0.00	0.00	
6,998.8	85.00	269.43	6,663.7	-315.8	-371.1	9.00	9.00	0.00	269.43	
7,073.8	85.00	269.43	6,670.3	-316.5	-445.8	0.00	0.00	0.00	0.00	
7,126.1	89.70	269.43	6,672.7	-317.0	-498.0	9.00	9.00	0.00	0.00	
13,816.8	89.70	269.43	6,707.7	-383.6	-7,188.2	0.00	0.00	0.00	0.00	Wells Ranch AA11-61

Noble Energy Inc

Planning Report

Database:	EDM01P	Local Co-ordinate Reference:	Well Wells Ranch AA11-615
Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4856.0ft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4856.0ft (Original Well Elev)
Site:	AA (06N-63W)	North Reference:	Grid
Well:	Wells Ranch AA11-615	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
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
KOP - Start Build 2.00									
1,550.0	1.00	145.89	1,550.0	-0.4	0.2	-0.2	2.00	2.00	0.00
1,600.0	2.00	145.89	1,600.0	-1.4	1.0	-0.9	2.00	2.00	0.00
1,650.0	3.00	145.89	1,649.9	-3.3	2.2	-2.0	2.00	2.00	0.00
1,700.0	4.00	145.89	1,699.8	-5.8	3.9	-3.6	2.00	2.00	0.00
1,750.0	5.00	145.89	1,749.7	-9.0	6.1	-5.6	2.00	2.00	0.00
1,800.0	6.00	145.89	1,799.5	-13.0	8.8	-8.1	2.00	2.00	0.00
1,850.0	7.00	145.89	1,849.1	-17.7	12.0	-11.0	2.00	2.00	0.00
1,900.0	8.00	145.89	1,898.7	-23.1	15.6	-14.4	2.00	2.00	0.00
1,950.0	8.00	145.89	1,948.2	-28.8	19.5	-18.0	0.00	0.00	0.00
2,000.0	8.00	145.89	1,997.7	-34.6	23.4	-21.6	0.00	0.00	0.00
2,050.0	8.00	145.89	2,047.2	-40.4	27.3	-25.2	0.00	0.00	0.00
2,100.0	8.00	145.89	2,096.8	-46.1	31.2	-28.7	0.00	0.00	0.00
2,150.0	8.00	145.89	2,146.3	-51.9	35.1	-32.3	0.00	0.00	0.00
2,200.0	8.00	145.89	2,195.8	-57.6	39.1	-35.9	0.00	0.00	0.00
2,250.0	8.00	145.89	2,245.3	-63.4	43.0	-39.5	0.00	0.00	0.00
2,300.0	8.00	145.89	2,294.8	-69.2	46.9	-43.1	0.00	0.00	0.00
2,350.0	8.00	145.89	2,344.3	-74.9	50.8	-46.7	0.00	0.00	0.00
2,400.0	8.00	145.89	2,393.8	-80.7	54.7	-50.3	0.00	0.00	0.00
2,450.0	8.00	145.89	2,443.4	-86.5	58.6	-53.9	0.00	0.00	0.00
2,500.0	8.00	145.89	2,492.9	-92.2	62.5	-57.5	0.00	0.00	0.00
2,548.6	8.00	145.89	2,541.0	-97.8	66.3	-61.0	0.00	0.00	0.00
PIERRE									

Noble Energy Inc

Planning Report

Database:	EDM01P	Local Co-ordinate Reference:	Well Wells Ranch AA11-615
Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4856.0ft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4856.0ft (Original Well Elev)
Site:	AA (06N-63W)	North Reference:	Grid
Well:	Wells Ranch AA11-615	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)
2,550.0	8.00	145.89	2,542.4	-98.0	66.4	-61.1	0.00	0.00	0.00
2,600.0	8.00	145.89	2,591.9	-103.7	70.3	-64.6	0.00	0.00	0.00
2,650.0	8.00	145.89	2,641.4	-109.5	74.2	-68.2	0.00	0.00	0.00
2,700.0	8.00	145.89	2,690.9	-115.3	78.1	-71.8	0.00	0.00	0.00
2,750.0	8.00	145.89	2,740.4	-121.0	82.0	-75.4	0.00	0.00	0.00
2,800.0	8.00	145.89	2,789.9	-126.8	85.9	-79.0	0.00	0.00	0.00
2,850.0	8.00	145.89	2,839.5	-132.5	89.8	-82.6	0.00	0.00	0.00
2,900.0	8.00	145.89	2,889.0	-138.3	93.7	-86.2	0.00	0.00	0.00
2,950.0	8.00	145.89	2,938.5	-144.1	97.6	-89.8	0.00	0.00	0.00
3,000.0	8.00	145.89	2,988.0	-149.8	101.5	-93.4	0.00	0.00	0.00
3,050.0	8.00	145.89	3,037.5	-155.6	105.4	-97.0	0.00	0.00	0.00
3,100.0	8.00	145.89	3,087.0	-161.3	109.3	-100.5	0.00	0.00	0.00
3,150.0	8.00	145.89	3,136.5	-167.1	113.2	-104.1	0.00	0.00	0.00
3,200.0	8.00	145.89	3,186.1	-172.9	117.1	-107.7	0.00	0.00	0.00
3,250.0	8.00	145.89	3,235.6	-178.6	121.0	-111.3	0.00	0.00	0.00
3,300.0	8.00	145.89	3,285.1	-184.4	124.9	-114.9	0.00	0.00	0.00
3,350.0	8.00	145.89	3,334.6	-190.1	128.8	-118.5	0.00	0.00	0.00
3,400.0	8.00	145.89	3,384.1	-195.9	132.7	-122.1	0.00	0.00	0.00
3,450.0	8.00	145.89	3,433.6	-201.7	136.6	-125.7	0.00	0.00	0.00
3,500.0	8.00	145.89	3,483.1	-207.4	140.5	-129.3	0.00	0.00	0.00
3,550.0	8.00	145.89	3,532.7	-213.2	144.4	-132.9	0.00	0.00	0.00
3,600.0	8.00	145.89	3,582.2	-219.0	148.3	-136.4	0.00	0.00	0.00
3,650.0	8.00	145.89	3,631.7	-224.7	152.2	-140.0	0.00	0.00	0.00
3,675.6	8.00	145.89	3,657.0	-227.7	154.2	-141.9	0.00	0.00	0.00
PARKMAN									
3,700.0	8.00	145.89	3,681.2	-230.5	156.1	-143.6	0.00	0.00	0.00
3,750.0	8.00	145.89	3,730.7	-236.2	160.0	-147.2	0.00	0.00	0.00
3,800.0	8.00	145.89	3,780.2	-242.0	163.9	-150.8	0.00	0.00	0.00
3,850.0	8.00	145.89	3,829.7	-247.8	167.8	-154.4	0.00	0.00	0.00
3,900.0	8.00	145.89	3,879.2	-253.5	171.7	-158.0	0.00	0.00	0.00
3,950.0	8.00	145.89	3,928.8	-259.3	175.6	-161.6	0.00	0.00	0.00
4,000.0	8.00	145.89	3,978.3	-265.0	179.5	-165.2	0.00	0.00	0.00
4,050.0	8.00	145.89	4,027.8	-270.8	183.4	-168.8	0.00	0.00	0.00
4,100.0	8.00	145.89	4,077.3	-276.6	187.3	-172.3	0.00	0.00	0.00
4,150.0	8.00	145.89	4,126.8	-282.3	191.3	-175.9	0.00	0.00	0.00
4,189.9	8.00	145.89	4,166.3	-286.9	194.4	-178.8	0.00	0.00	0.00
Start Drop -2.00									
4,200.0	7.80	145.89	4,176.3	-288.1	195.1	-179.5	2.00	-2.00	0.00
4,250.0	6.80	145.89	4,225.9	-293.3	198.7	-182.8	2.00	-2.00	0.00
4,300.0	5.80	145.89	4,275.6	-297.9	201.8	-185.6	2.00	-2.00	0.00
4,308.4	5.63	145.89	4,284.0	-298.6	202.3	-186.1	2.00	-2.00	0.00
SUSSEX									
4,350.0	4.80	145.89	4,325.4	-301.7	204.4	-188.0	2.00	-2.00	0.00
4,400.0	3.80	145.89	4,375.3	-304.8	206.5	-189.9	2.00	-2.00	0.00
4,450.0	2.80	145.89	4,425.2	-307.2	208.1	-191.4	2.00	-2.00	0.00
4,500.0	1.80	145.89	4,475.1	-308.8	209.2	-192.5	2.00	-2.00	0.00
4,550.0	0.80	145.89	4,525.1	-309.8	209.8	-193.0	2.00	-2.00	0.00
4,589.9	0.00	0.00	4,565.0	-310.0	210.0	-193.2	2.00	-2.00	0.00
4,600.0	0.00	0.00	4,575.1	-310.0	210.0	-193.2	0.00	0.00	0.00
4,650.0	0.00	0.00	4,625.1	-310.0	210.0	-193.2	0.00	0.00	0.00
4,700.0	0.00	0.00	4,675.1	-310.0	210.0	-193.2	0.00	0.00	0.00
4,750.0	0.00	0.00	4,725.1	-310.0	210.0	-193.2	0.00	0.00	0.00
4,800.0	0.00	0.00	4,775.1	-310.0	210.0	-193.2	0.00	0.00	0.00

Noble Energy Inc

Planning Report

Database:	EDM01P	Local Co-ordinate Reference:	Well Wells Ranch AA11-615
Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4856.0ft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4856.0ft (Original Well Elev)
Site:	AA (06N-63W)	North Reference:	Grid
Well:	Wells Ranch AA11-615	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)
4,850.0	0.00	0.00	4,825.1	-310.0	210.0	-193.2	0.00	0.00	0.00
4,900.0	0.00	0.00	4,875.1	-310.0	210.0	-193.2	0.00	0.00	0.00
4,950.0	0.00	0.00	4,925.1	-310.0	210.0	-193.2	0.00	0.00	0.00
5,000.0	0.00	0.00	4,975.1	-310.0	210.0	-193.2	0.00	0.00	0.00
5,009.9	0.00	0.00	4,985.0	-310.0	210.0	-193.2	0.00	0.00	0.00
SHANNON									
5,050.0	0.00	0.00	5,025.1	-310.0	210.0	-193.2	0.00	0.00	0.00
5,100.0	0.00	0.00	5,075.1	-310.0	210.0	-193.2	0.00	0.00	0.00
5,150.0	0.00	0.00	5,125.1	-310.0	210.0	-193.2	0.00	0.00	0.00
5,200.0	0.00	0.00	5,175.1	-310.0	210.0	-193.2	0.00	0.00	0.00
5,250.0	0.00	0.00	5,225.1	-310.0	210.0	-193.2	0.00	0.00	0.00
5,300.0	0.00	0.00	5,275.1	-310.0	210.0	-193.2	0.00	0.00	0.00
5,350.0	0.00	0.00	5,325.1	-310.0	210.0	-193.2	0.00	0.00	0.00
5,400.0	0.00	0.00	5,375.1	-310.0	210.0	-193.2	0.00	0.00	0.00
5,450.0	0.00	0.00	5,425.1	-310.0	210.0	-193.2	0.00	0.00	0.00
5,500.0	0.00	0.00	5,475.1	-310.0	210.0	-193.2	0.00	0.00	0.00
5,550.0	0.00	0.00	5,525.1	-310.0	210.0	-193.2	0.00	0.00	0.00
5,600.0	0.00	0.00	5,575.1	-310.0	210.0	-193.2	0.00	0.00	0.00
5,650.0	0.00	0.00	5,625.1	-310.0	210.0	-193.2	0.00	0.00	0.00
5,700.0	0.00	0.00	5,675.1	-310.0	210.0	-193.2	0.00	0.00	0.00
5,750.0	0.00	0.00	5,725.1	-310.0	210.0	-193.2	0.00	0.00	0.00
5,800.0	0.00	0.00	5,775.1	-310.0	210.0	-193.2	0.00	0.00	0.00
5,850.0	0.00	0.00	5,825.1	-310.0	210.0	-193.2	0.00	0.00	0.00
5,900.0	0.00	0.00	5,875.1	-310.0	210.0	-193.2	0.00	0.00	0.00
5,950.0	0.00	0.00	5,925.1	-310.0	210.0	-193.2	0.00	0.00	0.00
5,984.9	0.00	0.00	5,960.0	-310.0	210.0	-193.2	0.00	0.00	0.00
TEEPEE BUTTES									
6,000.0	0.00	0.00	5,975.1	-310.0	210.0	-193.2	0.00	0.00	0.00
6,050.0	0.00	0.00	6,025.1	-310.0	210.0	-193.2	0.00	0.00	0.00
6,054.4	0.00	0.00	6,029.5	-310.0	210.0	-193.2	0.00	0.00	0.00
KOP #2 - Start Build 9.00									
6,100.0	4.10	269.43	6,075.1	-310.0	208.4	-191.5	9.00	9.00	0.00
6,150.0	8.60	269.43	6,124.8	-310.1	202.8	-186.0	9.00	9.00	0.00
6,200.0	13.10	269.43	6,173.9	-310.2	193.4	-176.6	9.00	9.00	0.00
6,250.0	17.60	269.43	6,222.1	-310.3	180.2	-163.4	9.00	9.00	0.00
6,300.0	22.10	269.43	6,269.1	-310.5	163.2	-146.4	9.00	9.00	0.00
6,350.0	26.60	269.43	6,314.6	-310.7	142.6	-125.8	9.00	9.00	0.00
6,400.0	31.10	269.43	6,358.4	-310.9	118.5	-101.7	9.00	9.00	0.00
6,450.0	35.60	269.43	6,400.2	-311.2	91.0	-74.3	9.00	9.00	0.00
6,500.0	40.10	269.43	6,439.6	-311.5	60.3	-43.6	9.00	9.00	0.00
6,550.0	44.60	269.43	6,476.6	-311.8	26.6	-10.0	9.00	9.00	0.00
6,600.0	49.10	269.43	6,510.7	-312.2	-9.8	26.5	9.00	9.00	0.00
6,614.3	50.39	269.43	6,520.0	-312.3	-20.8	37.4	9.01	9.01	0.00
SHARON SPRINGS									
6,650.0	53.60	269.43	6,542.0	-312.6	-48.9	65.5	9.00	9.00	0.00
6,676.1	55.95	269.43	6,557.0	-312.8	-70.2	86.7	9.00	9.00	0.00
NIO A CHALK									
6,700.0	58.10	269.43	6,570.0	-313.0	-90.2	106.8	8.99	8.99	0.00
6,727.4	60.57	269.43	6,584.0	-313.2	-113.8	130.3	9.00	9.00	0.00
NIO A MARL									
6,750.0	62.60	269.43	6,594.7	-313.4	-133.7	150.2	8.99	8.99	0.00
6,800.0	67.10	269.43	6,616.0	-313.9	-178.9	195.4	9.00	9.00	0.00
6,850.0	71.60	269.43	6,633.6	-314.3	-225.7	242.1	9.00	9.00	0.00

Noble Energy Inc

Planning Report

Database:	EDM01P	Local Co-ordinate Reference:	Well Wells Ranch AA11-615
Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4856.0ft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4856.0ft (Original Well Elev)
Site:	AA (06N-63W)	North Reference:	Grid
Well:	Wells Ranch AA11-615	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)
6,874.9	73.84	269.43	6,641.0	-314.6	-249.5	265.9	9.00	9.00	0.00
NIO B CHALK									
6,900.0	76.10	269.43	6,647.5	-314.8	-273.7	290.1	9.00	9.00	0.00
6,950.0	80.60	269.43	6,657.6	-315.3	-322.7	339.0	9.00	9.00	0.00
6,998.8	85.00	269.43	6,663.7	-315.8	-371.1	387.4	9.00	9.00	0.00
Start 75.0 hold at 6998.8 MD - 7" Casing @ 6998.8' MD									
7,000.0	85.00	269.43	6,663.8	-315.8	-372.3	388.6	0.33	0.33	0.00
7,050.0	85.00	269.43	6,668.2	-316.3	-422.1	438.3	0.00	0.00	0.00
7,073.8	85.00	269.43	6,670.2	-316.5	-445.8	462.0	0.00	0.00	0.00
Start Build 9.00									
7,100.0	87.35	269.43	6,672.0	-316.8	-471.9	488.1	8.98	8.98	0.00
7,126.1	89.70	269.43	6,672.7	-317.0	-498.0	514.2	9.00	9.00	0.00
7,150.0	89.70	269.43	6,672.8	-317.3	-521.9	538.1	0.00	0.00	0.00
7,200.0	89.70	269.43	6,673.1	-317.8	-571.9	588.0	0.00	0.00	0.00
7,250.0	89.70	269.43	6,673.3	-318.3	-621.9	638.0	0.00	0.00	0.00
7,300.0	89.70	269.43	6,673.6	-318.8	-671.9	687.9	0.00	0.00	0.00
7,350.0	89.70	269.43	6,673.8	-319.3	-721.9	737.9	0.00	0.00	0.00
7,380.5	89.70	269.43	6,674.0	-319.6	-752.4	768.4	0.00	0.00	0.00
NIO B MARL									
7,400.0	89.70	269.43	6,674.1	-319.8	-771.9	787.8	0.00	0.00	0.00
7,450.0	89.70	269.43	6,674.4	-320.3	-821.9	837.8	0.00	0.00	0.00
7,500.0	89.70	269.43	6,674.6	-320.8	-871.9	887.7	0.00	0.00	0.00
7,550.0	89.70	269.43	6,674.9	-321.3	-921.9	937.7	0.00	0.00	0.00
7,600.0	89.70	269.43	6,675.1	-321.8	-971.9	987.7	0.00	0.00	0.00
7,650.0	89.70	269.43	6,675.4	-322.3	-1,021.9	1,037.6	0.00	0.00	0.00
7,700.0	89.70	269.43	6,675.7	-322.8	-1,071.9	1,087.6	0.00	0.00	0.00
7,750.0	89.70	269.43	6,675.9	-323.3	-1,121.9	1,137.5	0.00	0.00	0.00
7,800.0	89.70	269.43	6,676.2	-323.8	-1,171.9	1,187.5	0.00	0.00	0.00
7,850.0	89.70	269.43	6,676.5	-324.3	-1,221.9	1,237.4	0.00	0.00	0.00
7,900.0	89.70	269.43	6,676.7	-324.8	-1,271.9	1,287.4	0.00	0.00	0.00
7,950.0	89.70	269.43	6,677.0	-325.2	-1,321.9	1,337.3	0.00	0.00	0.00
8,000.0	89.70	269.43	6,677.2	-325.7	-1,371.9	1,387.3	0.00	0.00	0.00
8,050.0	89.70	269.43	6,677.5	-326.2	-1,421.9	1,437.2	0.00	0.00	0.00
8,100.0	89.70	269.43	6,677.8	-326.7	-1,471.9	1,487.2	0.00	0.00	0.00
8,150.0	89.70	269.43	6,678.0	-327.2	-1,521.9	1,537.1	0.00	0.00	0.00
8,200.0	89.70	269.43	6,678.3	-327.7	-1,571.8	1,587.1	0.00	0.00	0.00
8,250.0	89.70	269.43	6,678.6	-328.2	-1,621.8	1,637.0	0.00	0.00	0.00
8,300.0	89.70	269.43	6,678.8	-328.7	-1,671.8	1,687.0	0.00	0.00	0.00
8,350.0	89.70	269.43	6,679.1	-329.2	-1,721.8	1,736.9	0.00	0.00	0.00
8,400.0	89.70	269.43	6,679.3	-329.7	-1,771.8	1,786.9	0.00	0.00	0.00
8,450.0	89.70	269.43	6,679.6	-330.2	-1,821.8	1,836.8	0.00	0.00	0.00
8,500.0	89.70	269.43	6,679.9	-330.7	-1,871.8	1,886.8	0.00	0.00	0.00
8,550.0	89.70	269.43	6,680.1	-331.2	-1,921.8	1,936.7	0.00	0.00	0.00
8,600.0	89.70	269.43	6,680.4	-331.7	-1,971.8	1,986.7	0.00	0.00	0.00
8,650.0	89.70	269.43	6,680.6	-332.2	-2,021.8	2,036.7	0.00	0.00	0.00
8,700.0	89.70	269.43	6,680.9	-332.7	-2,071.8	2,086.6	0.00	0.00	0.00
8,750.0	89.70	269.43	6,681.2	-333.2	-2,121.8	2,136.6	0.00	0.00	0.00
8,800.0	89.70	269.43	6,681.4	-333.7	-2,171.8	2,186.5	0.00	0.00	0.00
8,850.0	89.70	269.43	6,681.7	-334.2	-2,221.8	2,236.5	0.00	0.00	0.00
8,900.0	89.70	269.43	6,682.0	-334.7	-2,271.8	2,286.4	0.00	0.00	0.00
8,950.0	89.70	269.43	6,682.2	-335.2	-2,321.8	2,336.4	0.00	0.00	0.00
9,000.0	89.70	269.43	6,682.5	-335.7	-2,371.8	2,386.3	0.00	0.00	0.00
9,050.0	89.70	269.43	6,682.7	-336.2	-2,421.8	2,436.3	0.00	0.00	0.00

Noble Energy Inc

Planning Report

Database:	EDM01P	Local Co-ordinate Reference:	Well Wells Ranch AA11-615
Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4856.0ft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4856.0ft (Original Well Elev)
Site:	AA (06N-63W)	North Reference:	Grid
Well:	Wells Ranch AA11-615	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	89.70	269.43	6,683.0	-336.7	-2,471.8	2,486.2	0.00	0.00	0.00	
9,150.0	89.70	269.43	6,683.3	-337.2	-2,521.8	2,536.2	0.00	0.00	0.00	
9,200.0	89.70	269.43	6,683.5	-337.7	-2,571.8	2,586.1	0.00	0.00	0.00	
9,250.0	89.70	269.43	6,683.8	-338.2	-2,621.8	2,636.1	0.00	0.00	0.00	
9,300.0	89.70	269.43	6,684.1	-338.7	-2,671.8	2,686.0	0.00	0.00	0.00	
9,350.0	89.70	269.43	6,684.3	-339.2	-2,721.8	2,736.0	0.00	0.00	0.00	
9,400.0	89.70	269.43	6,684.6	-339.7	-2,771.8	2,785.9	0.00	0.00	0.00	
9,450.0	89.70	269.43	6,684.8	-340.2	-2,821.8	2,835.9	0.00	0.00	0.00	
9,500.0	89.70	269.43	6,685.1	-340.7	-2,871.8	2,885.8	0.00	0.00	0.00	
9,550.0	89.70	269.43	6,685.4	-341.2	-2,921.8	2,935.8	0.00	0.00	0.00	
9,600.0	89.70	269.43	6,685.6	-341.7	-2,971.8	2,985.7	0.00	0.00	0.00	
9,650.0	89.70	269.43	6,685.9	-342.2	-3,021.8	3,035.7	0.00	0.00	0.00	
9,700.0	89.70	269.43	6,686.1	-342.7	-3,071.8	3,085.7	0.00	0.00	0.00	
9,750.0	89.70	269.43	6,686.4	-343.2	-3,121.8	3,135.6	0.00	0.00	0.00	
9,800.0	89.70	269.43	6,686.7	-343.7	-3,171.8	3,185.6	0.00	0.00	0.00	
9,850.0	89.70	269.43	6,686.9	-344.2	-3,221.7	3,235.5	0.00	0.00	0.00	
9,900.0	89.70	269.43	6,687.2	-344.7	-3,271.7	3,285.5	0.00	0.00	0.00	
9,950.0	89.70	269.43	6,687.5	-345.2	-3,321.7	3,335.4	0.00	0.00	0.00	
10,000.0	89.70	269.43	6,687.7	-345.7	-3,371.7	3,385.4	0.00	0.00	0.00	
10,050.0	89.70	269.43	6,688.0	-346.2	-3,421.7	3,435.3	0.00	0.00	0.00	
10,100.0	89.70	269.43	6,688.2	-346.6	-3,471.7	3,485.3	0.00	0.00	0.00	
10,150.0	89.70	269.43	6,688.5	-347.1	-3,521.7	3,535.2	0.00	0.00	0.00	
10,200.0	89.70	269.43	6,688.8	-347.6	-3,571.7	3,585.2	0.00	0.00	0.00	
10,250.0	89.70	269.43	6,689.0	-348.1	-3,621.7	3,635.1	0.00	0.00	0.00	
10,300.0	89.70	269.43	6,689.3	-348.6	-3,671.7	3,685.1	0.00	0.00	0.00	
10,350.0	89.70	269.43	6,689.5	-349.1	-3,721.7	3,735.0	0.00	0.00	0.00	
10,400.0	89.70	269.43	6,689.8	-349.6	-3,771.7	3,785.0	0.00	0.00	0.00	
10,450.0	89.70	269.43	6,690.1	-350.1	-3,821.7	3,834.9	0.00	0.00	0.00	
10,500.0	89.70	269.43	6,690.3	-350.6	-3,871.7	3,884.9	0.00	0.00	0.00	
10,550.0	89.70	269.43	6,690.6	-351.1	-3,921.7	3,934.8	0.00	0.00	0.00	
10,600.0	89.70	269.43	6,690.9	-351.6	-3,971.7	3,984.8	0.00	0.00	0.00	
10,650.0	89.70	269.43	6,691.1	-352.1	-4,021.7	4,034.7	0.00	0.00	0.00	
10,700.0	89.70	269.43	6,691.4	-352.6	-4,071.7	4,084.7	0.00	0.00	0.00	
10,750.0	89.70	269.43	6,691.6	-353.1	-4,121.7	4,134.7	0.00	0.00	0.00	
10,800.0	89.70	269.43	6,691.9	-353.6	-4,171.7	4,184.6	0.00	0.00	0.00	
10,850.0	89.70	269.43	6,692.2	-354.1	-4,221.7	4,234.6	0.00	0.00	0.00	
10,900.0	89.70	269.43	6,692.4	-354.6	-4,271.7	4,284.5	0.00	0.00	0.00	
10,950.0	89.70	269.43	6,692.7	-355.1	-4,321.7	4,334.5	0.00	0.00	0.00	
11,000.0	89.70	269.43	6,693.0	-355.6	-4,371.7	4,384.4	0.00	0.00	0.00	
11,050.0	89.70	269.43	6,693.2	-356.1	-4,421.7	4,434.4	0.00	0.00	0.00	
11,100.0	89.70	269.43	6,693.5	-356.6	-4,471.7	4,484.3	0.00	0.00	0.00	
11,150.0	89.70	269.43	6,693.7	-357.1	-4,521.7	4,534.3	0.00	0.00	0.00	
11,200.0	89.70	269.43	6,694.0	-357.6	-4,571.7	4,584.2	0.00	0.00	0.00	
11,250.0	89.70	269.43	6,694.3	-358.1	-4,621.7	4,634.2	0.00	0.00	0.00	
11,300.0	89.70	269.43	6,694.5	-358.6	-4,671.7	4,684.1	0.00	0.00	0.00	
11,350.0	89.70	269.43	6,694.8	-359.1	-4,721.7	4,734.1	0.00	0.00	0.00	
11,400.0	89.70	269.43	6,695.0	-359.6	-4,771.7	4,784.0	0.00	0.00	0.00	
11,450.0	89.70	269.43	6,695.3	-360.1	-4,821.6	4,834.0	0.00	0.00	0.00	
11,500.0	89.70	269.43	6,695.6	-360.6	-4,871.6	4,883.9	0.00	0.00	0.00	
11,550.0	89.70	269.43	6,695.8	-361.1	-4,921.6	4,933.9	0.00	0.00	0.00	
11,600.0	89.70	269.43	6,696.1	-361.6	-4,971.6	4,983.8	0.00	0.00	0.00	
11,650.0	89.70	269.43	6,696.4	-362.1	-5,021.6	5,033.8	0.00	0.00	0.00	
11,700.0	89.70	269.43	6,696.6	-362.6	-5,071.6	5,083.8	0.00	0.00	0.00	
11,750.0	89.70	269.43	6,696.9	-363.1	-5,121.6	5,133.7	0.00	0.00	0.00	

Noble Energy Inc

Planning Report

Database:	EDM01P	Local Co-ordinate Reference:	Well Wells Ranch AA11-615
Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4856.0ft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4856.0ft (Original Well Elev)
Site:	AA (06N-63W)	North Reference:	Grid
Well:	Wells Ranch AA11-615	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	89.70	269.43	6,697.1	-363.6	-5,171.6	5,183.7	0.00	0.00	0.00	
11,850.0	89.70	269.43	6,697.4	-364.1	-5,221.6	5,233.6	0.00	0.00	0.00	
11,900.0	89.70	269.43	6,697.7	-364.6	-5,271.6	5,283.6	0.00	0.00	0.00	
11,950.0	89.70	269.43	6,697.9	-365.1	-5,321.6	5,333.5	0.00	0.00	0.00	
12,000.0	89.70	269.43	6,698.2	-365.6	-5,371.6	5,383.5	0.00	0.00	0.00	
12,050.0	89.70	269.43	6,698.4	-366.1	-5,421.6	5,433.4	0.00	0.00	0.00	
12,100.0	89.70	269.43	6,698.7	-366.6	-5,471.6	5,483.4	0.00	0.00	0.00	
12,150.0	89.70	269.43	6,699.0	-367.1	-5,521.6	5,533.3	0.00	0.00	0.00	
12,200.0	89.70	269.43	6,699.2	-367.6	-5,571.6	5,583.3	0.00	0.00	0.00	
12,250.0	89.70	269.43	6,699.5	-368.1	-5,621.6	5,633.2	0.00	0.00	0.00	
12,300.0	89.70	269.43	6,699.8	-368.5	-5,671.6	5,683.2	0.00	0.00	0.00	
12,350.0	89.70	269.43	6,700.0	-369.0	-5,721.6	5,733.1	0.00	0.00	0.00	
12,400.0	89.70	269.43	6,700.3	-369.5	-5,771.6	5,783.1	0.00	0.00	0.00	
12,450.0	89.70	269.43	6,700.5	-370.0	-5,821.6	5,833.0	0.00	0.00	0.00	
12,500.0	89.70	269.43	6,700.8	-370.5	-5,871.6	5,883.0	0.00	0.00	0.00	
12,550.0	89.70	269.43	6,701.1	-371.0	-5,921.6	5,932.9	0.00	0.00	0.00	
12,600.0	89.70	269.43	6,701.3	-371.5	-5,971.6	5,982.9	0.00	0.00	0.00	
12,650.0	89.70	269.43	6,701.6	-372.0	-6,021.6	6,032.8	0.00	0.00	0.00	
12,700.0	89.70	269.43	6,701.9	-372.5	-6,071.6	6,082.8	0.00	0.00	0.00	
12,750.0	89.70	269.43	6,702.1	-373.0	-6,121.6	6,132.8	0.00	0.00	0.00	
12,800.0	89.70	269.43	6,702.4	-373.5	-6,171.6	6,182.7	0.00	0.00	0.00	
12,850.0	89.70	269.43	6,702.6	-374.0	-6,221.6	6,232.7	0.00	0.00	0.00	
12,900.0	89.70	269.43	6,702.9	-374.5	-6,271.6	6,282.6	0.00	0.00	0.00	
12,950.0	89.70	269.43	6,703.2	-375.0	-6,321.6	6,332.6	0.00	0.00	0.00	
13,000.0	89.70	269.43	6,703.4	-375.5	-6,371.6	6,382.5	0.00	0.00	0.00	
13,050.0	89.70	269.43	6,703.7	-376.0	-6,421.6	6,432.5	0.00	0.00	0.00	
13,100.0	89.70	269.43	6,703.9	-376.5	-6,471.5	6,482.4	0.00	0.00	0.00	
13,150.0	89.70	269.43	6,704.2	-377.0	-6,521.5	6,532.4	0.00	0.00	0.00	
13,200.0	89.70	269.43	6,704.5	-377.5	-6,571.5	6,582.3	0.00	0.00	0.00	
13,250.0	89.70	269.43	6,704.7	-378.0	-6,621.5	6,632.3	0.00	0.00	0.00	
13,300.0	89.70	269.43	6,705.0	-378.5	-6,671.5	6,682.2	0.00	0.00	0.00	
13,350.0	89.70	269.43	6,705.3	-379.0	-6,721.5	6,732.2	0.00	0.00	0.00	
13,400.0	89.70	269.43	6,705.5	-379.5	-6,771.5	6,782.1	0.00	0.00	0.00	
13,450.0	89.70	269.43	6,705.8	-380.0	-6,821.5	6,832.1	0.00	0.00	0.00	
13,500.0	89.70	269.43	6,706.0	-380.5	-6,871.5	6,882.0	0.00	0.00	0.00	
13,550.0	89.70	269.43	6,706.3	-381.0	-6,921.5	6,932.0	0.00	0.00	0.00	
13,600.0	89.70	269.43	6,706.6	-381.5	-6,971.5	6,981.9	0.00	0.00	0.00	
13,650.0	89.70	269.43	6,706.8	-382.0	-7,021.5	7,031.9	0.00	0.00	0.00	
13,700.0	89.70	269.43	6,707.1	-382.5	-7,071.5	7,081.8	0.00	0.00	0.00	
13,750.0	89.70	269.43	6,707.4	-383.0	-7,121.5	7,131.8	0.00	0.00	0.00	
13,800.0	89.70	269.43	6,707.6	-383.5	-7,171.5	7,181.8	0.00	0.00	0.00	
13,816.8	89.70	269.43	6,707.7	-383.6	-7,188.2	7,198.5	0.00	0.00	0.00	
TD at 13816.8 - Wells Ranch AA11-615 BHL 330°FSL, 2085°FEL										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
Wells Ranch AA11-615 E	0.00	0.00	6,707.7	-383.6	-7,188.2	1,424,918.62	3,300,118.46	40.494790	-104.420880	
- hit/miss target										
- Shape										
- plan hits target center										
- Point										

Noble Energy Inc

Planning Report

Database:	EDM01P	Local Co-ordinate Reference:	Well Wells Ranch AA11-615
Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4856.0ft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4856.0ft (Original Well Elev)
Site:	AA (06N-63W)	North Reference:	Grid
Well:	Wells Ranch AA11-615	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Drilling		
Design:	APD - Rev 0		

Casing Points				
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
6,998.8	6,663.7	7" Casing @ 6998.8' MD	7	8-3/4

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,548.6	2,541.0	PIERRE		0.00	
3,675.6	3,657.0	PARKMAN		0.00	
4,308.4	4,284.0	SUSSEX		0.00	
5,009.9	4,985.0	SHANNON		0.00	
5,984.9	5,960.0	TEEPEE BUTTES		0.00	
6,614.3	6,520.0	SHARON SPRINGS		0.00	
6,676.1	6,557.0	NIO A CHALK		0.00	
6,727.4	6,584.0	NIO A MARL		0.00	
6,874.9	6,641.0	NIO B CHALK		0.00	
7,380.5	6,674.0	NIO B MARL		0.00	

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
1,500.0	1,500.0	0.0	0.0	KOP - Start Build 2.00
4,189.9	4,166.3	-286.9	194.4	Start Drop -2.00
6,054.4	6,029.5	-310.0	210.0	KOP #2 - Start Build 9.00
6,998.8	6,663.7	-315.8	-371.1	Start 75.0 hold at 6998.8 MD
7,073.8	6,670.2	-316.5	-445.8	Start Build 9.00
13,816.8	6,707.7	-383.6	-7,188.2	TD at 13816.8

Northern Region Drilling - Working

Wattenberg Field

AA (06N-63W)

Wells Ranch AA11-615

Original Drilling

APD - Rev 0

Anticollision Summary Report

11 November, 2014

Noble Energy Inc
Anticollision Summary Report

Company:	Northern Region Drilling - Working	Local Co-ordinate Reference:	Well Wells Ranch AA11-615
Project:	Wattenberg Field	TVD Reference:	WELL @ 4856.0ft (Original Well Elev)
Reference Site:	AA (06N-63W)	MD Reference:	WELL @ 4856.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	Grid
Reference Well:	Wells Ranch AA11-615	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	11/11/2014		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	13,816.8	APD - Rev 0 (Original Drilling)	MWD	MWD - Standard

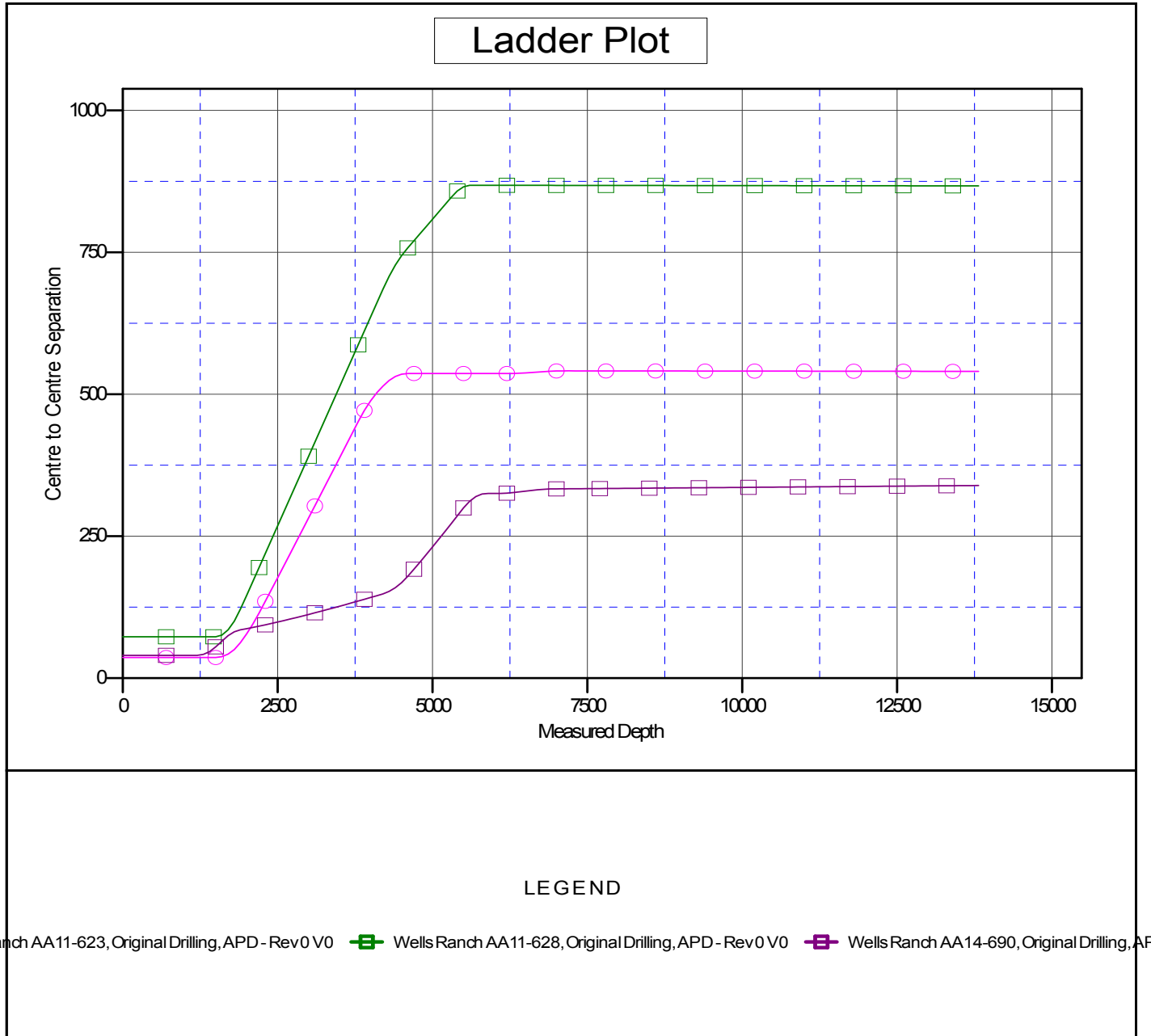
Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
AA (06N-63W)						
Wells Ranch AA11-623 - Original Drilling - APD - Rev 0	1,500.0	1,501.0	36.4	30.0	5.634	CC, ES
Wells Ranch AA11-623 - Original Drilling - APD - Rev 0	13,816.8	13,871.1	540.4	135.6	1.335	Level 2, SF
Wells Ranch AA11-628 - Original Drilling - APD - Rev 0	1,466.0	1,468.0	72.9	66.5	11.536	CC
Wells Ranch AA11-628 - Original Drilling - APD - Rev 0	1,500.0	1,502.0	72.9	66.4	11.264	ES
Wells Ranch AA11-628 - Original Drilling - APD - Rev 0	13,816.8	13,810.1	867.1	459.1	2.125	SF
Wells Ranch AA14-690 - Original Drilling - APD - Rev 0	1,200.0	1,198.0	40.2	35.1	7.860	CC
Wells Ranch AA14-690 - Original Drilling - APD - Rev 0	13,816.8	13,916.3	339.3	-60.2	0.849	Level 1, ES, SF

Noble Energy Inc
Anticollision Summary Report

Company:	Northern Region Drilling - Working	Local Co-ordinate Reference:	Well Wells Ranch AA11-615
Project:	Wattenberg Field	TVD Reference:	WELL @ 4856.0ft (Original Well Elev)
Reference Site:	AA (06N-63W)	MD Reference:	WELL @ 4856.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	Grid
Reference Well:	Wells Ranch AA11-615	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 @ 4856.0ft (Original Well Elev)
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000

Coordinates are relative to: Wells Ranch AA11-615
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.71°



Noble Energy Inc
Anticollision Summary Report

Company:	Northern Region Drilling - Working	Local Co-ordinate Reference:	Well Wells Ranch AA11-615
Project:	Wattenberg Field	TVD Reference:	WELL @ 4856.0ft (Original Well Elev)
Reference Site:	AA (06N-63W)	MD Reference:	WELL @ 4856.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	Grid
Reference Well:	Wells Ranch AA11-615	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 @ 4856.0ft (Original Well Elev)
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000

Coordinates are relative to: Wells Ranch AA11-615
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.71°

