

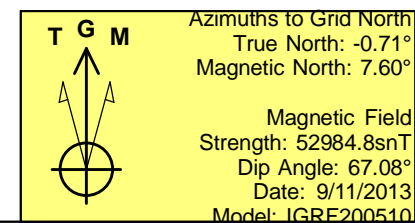
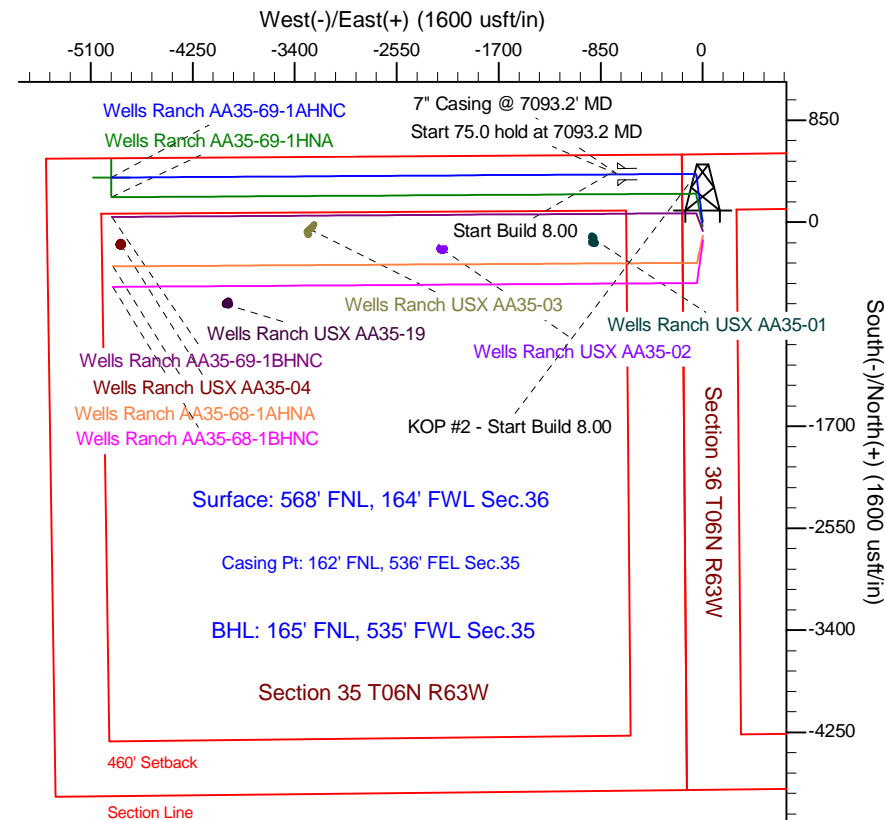
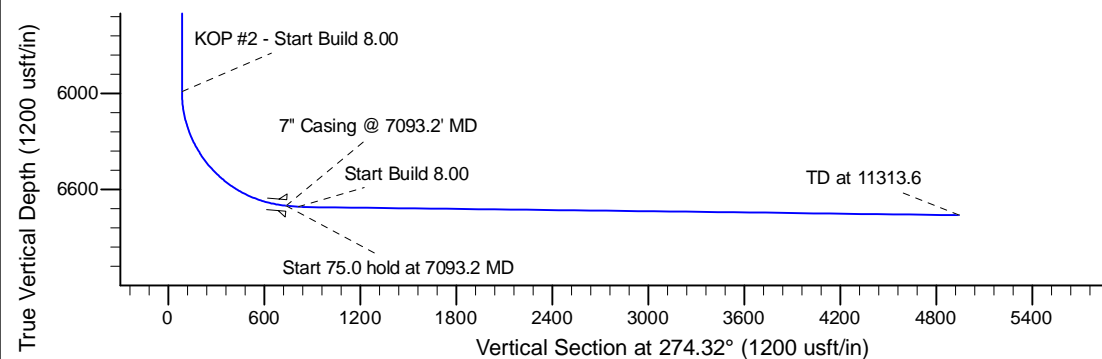
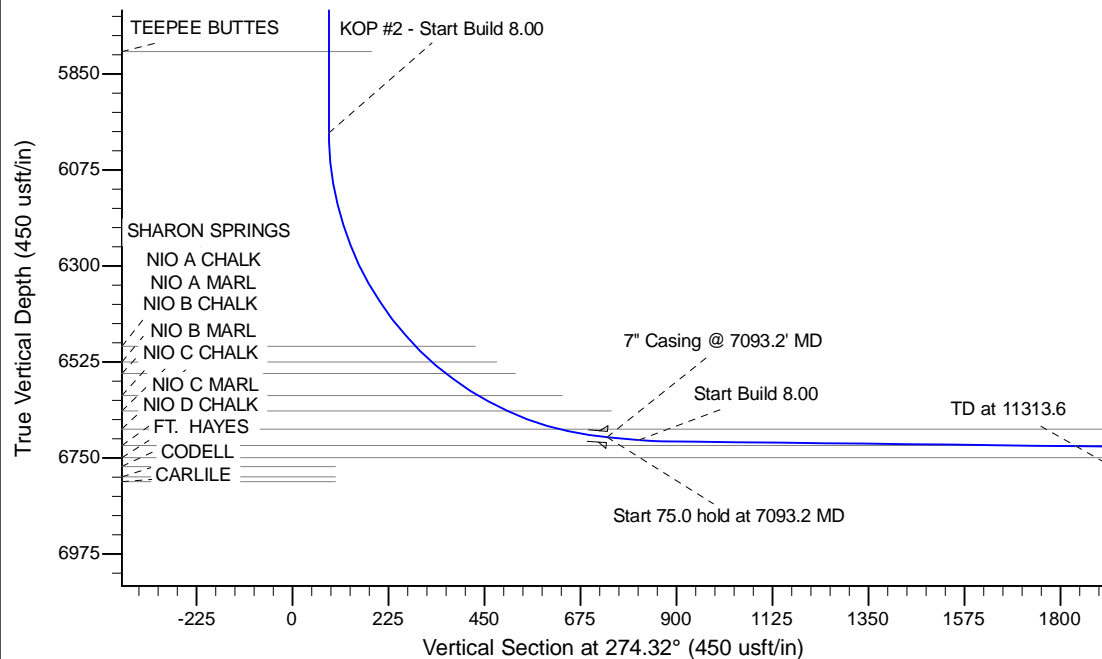
Project: Wattenberg Field
Site: AA (Sec.36-T06N-R63W) Weld County, CO
Well: Wells Ranch AA35-69-1AHNC
Wellbore: Original Drilling
Design: APD - Rev 0

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	1200.0	0.00	0.00	1200.0	0.0	0.0	0.00	0.00	0.0	
3	1899.9	14.00	352.23	1892.9	84.3	-11.5	2.00	352.23	17.8	
4	2878.0	14.00	352.23	2842.1	318.7	-43.5	0.00	0.00	67.4	
5	3577.9	0.00	0.00	3535.0	403.0	-55.0	2.00	180.00	85.2	
6	6030.7	0.00	0.00	5987.7	403.0	-55.0	0.00	0.00	85.2	
7	7093.2	85.00	269.64	6701.2	398.9	-708.8	8.00	269.64	736.8	
8	7168.2	85.00	269.64	6707.7	398.5	-783.5	0.00	0.00	811.3	
9	7221.9	89.30	269.64	6710.4	398.1	-837.1	8.00	0.00	864.8	
10	11313.6	89.30	269.64	6760.4	372.6	-4928.4	0.00	0.00	4942.5	Wells Ranch AA35-69-1AHNC BHL 165'FNL, 535'FWL



WELL DETAILS: Wells Ranch AA35-69-1AHNC					
Ground Level: 4810.0					
0.0	0.0	Northing	Easting	Latitude	Longitude
		1408180.93	3307778.65	40.448590	-104.394090
Plan: APD - Rev 0 (Wells Ranch AA35-69-1AHNC/Original Drilling)					
Created By: Shailey Jewell			Date: 15:10, September 11 2013		
Checked: _____			Date: _____		
Reviewed: _____			Date: _____		
Approved: _____			Date: _____		

Northern Region Drilling - Working

Wattenberg Field

AA (06N-63W)

Wells Ranch AA35-69-1AHNC

Original Drilling

Plan: APD - Rev 0

Standard Planning Report

11 September, 2013

Noble Energy Inc

Planning Report

Database:	EDM Production	Local Co-ordinate Reference:	Well Wells Ranch AA35-69-1AHNC
Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4840.0usft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4840.0usft (Original Well Elev)
Site:	AA (06N-63W)	North Reference:	Grid
Well:	Wells Ranch AA35-69-1AHNC	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 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.70 °

Well	Wells Ranch AA35-69-1AHNC					
Well Position	+N/-S	-19,664.6 usft	Northing:	1,408,180.93 usft	Latitude:	40.448590
	+E/-W	5,220.8 usft	Easting:	3,307,778.65 usft	Longitude:	-104.394090
Position Uncertainty		0.0 usft	Wellhead Elevation:		Ground Level:	4,810.0 usft

Wellbore	Original Drilling				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	9/11/2013	8.31	67.08	52,985

Design	APD - Rev 0			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	274.32

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,899.9	14.00	352.23	1,892.9	84.3	-11.5	2.00	2.00	0.00	352.23	
2,878.0	14.00	352.23	2,842.1	318.7	-43.5	0.00	0.00	0.00	0.00	
3,577.9	0.00	0.00	3,535.0	403.0	-55.0	2.00	-2.00	0.00	180.00	
6,030.7	0.00	0.00	5,987.7	403.0	-55.0	0.00	0.00	0.00	0.00	
7,093.2	85.00	269.64	6,701.2	398.9	-708.8	8.00	8.00	0.00	269.64	
7,168.2	85.00	269.64	6,707.7	398.5	-783.5	0.00	0.00	0.00	0.00	
7,221.9	89.30	269.64	6,710.4	398.1	-837.1	8.00	8.00	0.00	0.00	
11,313.6	89.30	269.64	6,760.4	372.6	-4,928.4	0.00	0.00	0.00	0.00	Wells Ranch AA35-69

Noble Energy Inc

Planning Report

Database:	EDM Production	Local Co-ordinate Reference:	Well Wells Ranch AA35-69-1AHNC
Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4840.0usft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4840.0usft (Original Well Elev)
Site:	AA (06N-63W)	North Reference:	Grid
Well:	Wells Ranch AA35-69-1AHNC	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Drilling		
Design:	APD - Rev 0		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
50.0	0.00	0.00	50.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
150.0	0.00	0.00	150.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
250.0	0.00	0.00	250.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
350.0	0.00	0.00	350.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
450.0	0.00	0.00	450.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
550.0	0.00	0.00	550.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
650.0	0.00	0.00	650.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
750.0	0.00	0.00	750.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
850.0	0.00	0.00	850.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
950.0	0.00	0.00	950.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,050.0	0.00	0.00	1,050.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,106.0	0.00	0.00	1,106.0	0.0	0.0	0.0	0.00	0.00	0.00
PIERRE									
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	352.23	1,250.0	0.4	-0.1	0.1	2.00	2.00	0.00
1,300.0	2.00	352.23	1,300.0	1.7	-0.2	0.4	2.00	2.00	0.00
1,350.0	3.00	352.23	1,349.9	3.9	-0.5	0.8	2.00	2.00	0.00
1,400.0	4.00	352.23	1,399.8	6.9	-0.9	1.5	2.00	2.00	0.00
1,450.0	5.00	352.23	1,449.7	10.8	-1.5	2.3	2.00	2.00	0.00
1,500.0	6.00	352.23	1,499.5	15.5	-2.1	3.3	2.00	2.00	0.00
1,550.0	7.00	352.23	1,549.1	21.2	-2.9	4.5	2.00	2.00	0.00
1,600.0	8.00	352.23	1,598.7	27.6	-3.8	5.8	2.00	2.00	0.00
1,650.0	9.00	352.23	1,648.2	34.9	-4.8	7.4	2.00	2.00	0.00
1,700.0	10.00	352.23	1,697.5	43.1	-5.9	9.1	2.00	2.00	0.00
1,750.0	11.00	352.23	1,746.6	52.2	-7.1	11.0	2.00	2.00	0.00
1,800.0	12.00	352.23	1,795.6	62.0	-8.5	13.1	2.00	2.00	0.00
1,850.0	13.00	352.23	1,844.4	72.7	-9.9	15.4	2.00	2.00	0.00
1,899.9	14.00	352.23	1,892.9	84.3	-11.5	17.8	2.00	2.00	0.00
1,900.0	14.00	352.23	1,893.1	84.3	-11.5	17.8	0.00	0.00	0.00
1,950.0	14.00	352.23	1,941.6	96.3	-13.1	20.4	0.00	0.00	0.00
2,000.0	14.00	352.23	1,990.1	108.3	-14.8	22.9	0.00	0.00	0.00
2,050.0	14.00	352.23	2,038.6	120.3	-16.4	25.4	0.00	0.00	0.00
2,100.0	14.00	352.23	2,087.1	132.2	-18.0	28.0	0.00	0.00	0.00
2,150.0	14.00	352.23	2,135.6	144.2	-19.7	30.5	0.00	0.00	0.00
2,200.0	14.00	352.23	2,184.1	156.2	-21.3	33.0	0.00	0.00	0.00
2,250.0	14.00	352.23	2,232.7	168.2	-23.0	35.6	0.00	0.00	0.00
2,300.0	14.00	352.23	2,281.2	180.2	-24.6	38.1	0.00	0.00	0.00
2,350.0	14.00	352.23	2,329.7	192.2	-26.2	40.6	0.00	0.00	0.00
2,400.0	14.00	352.23	2,378.2	204.1	-27.9	43.2	0.00	0.00	0.00
2,450.0	14.00	352.23	2,426.7	216.1	-29.5	45.7	0.00	0.00	0.00

Noble Energy Inc

Planning Report

Database:	EDM Production	Local Co-ordinate Reference:	Well Wells Ranch AA35-69-1AHNC
Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4840.0usft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4840.0usft (Original Well Elev)
Site:	AA (06N-63W)	North Reference:	Grid
Well:	Wells Ranch AA35-69-1AHNC	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Drilling		
Design:	APD - Rev 0		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
2,500.0	14.00	352.23	2,475.2	228.1	-31.1	48.2	0.00	0.00	0.00
2,550.0	14.00	352.23	2,523.8	240.1	-32.8	50.8	0.00	0.00	0.00
2,600.0	14.00	352.23	2,572.3	252.1	-34.4	53.3	0.00	0.00	0.00
2,650.0	14.00	352.23	2,620.8	264.1	-36.0	55.8	0.00	0.00	0.00
2,700.0	14.00	352.23	2,669.3	276.0	-37.7	58.4	0.00	0.00	0.00
2,750.0	14.00	352.23	2,717.8	288.0	-39.3	60.9	0.00	0.00	0.00
2,800.0	14.00	352.23	2,766.3	300.0	-40.9	63.4	0.00	0.00	0.00
2,850.0	14.00	352.23	2,814.8	312.0	-42.6	66.0	0.00	0.00	0.00
2,878.0	14.00	352.23	2,842.0	318.7	-43.5	67.4	0.00	0.00	0.00
Start Drop -2.00									
2,900.0	13.56	352.23	2,863.4	323.9	-44.2	68.5	2.00	-2.00	0.00
2,950.0	12.56	352.23	2,912.1	335.1	-45.7	70.9	2.00	-2.00	0.00
3,000.0	11.56	352.23	2,961.0	345.4	-47.1	73.1	2.00	-2.00	0.00
3,050.0	10.56	352.23	3,010.1	354.9	-48.4	75.1	2.00	-2.00	0.00
3,100.0	9.56	352.23	3,059.3	363.6	-49.6	76.9	2.00	-2.00	0.00
3,150.0	8.56	352.23	3,108.7	371.4	-50.7	78.5	2.00	-2.00	0.00
3,200.0	7.56	352.23	3,158.2	378.3	-51.6	80.0	2.00	-2.00	0.00
3,250.0	6.56	352.23	3,207.8	384.4	-52.5	81.3	2.00	-2.00	0.00
3,300.0	5.56	352.23	3,257.5	389.7	-53.2	82.4	2.00	-2.00	0.00
3,350.0	4.56	352.23	3,307.3	394.0	-53.8	83.3	2.00	-2.00	0.00
3,400.0	3.56	352.23	3,357.2	397.5	-54.3	84.1	2.00	-2.00	0.00
3,450.0	2.56	352.23	3,407.1	400.2	-54.6	84.6	2.00	-2.00	0.00
3,500.0	1.56	352.23	3,457.1	401.9	-54.9	85.0	2.00	-2.00	0.00
3,550.0	0.56	352.23	3,507.1	402.9	-55.0	85.2	2.00	-2.00	0.00
3,577.9	0.00	0.00	3,535.0	403.0	-55.0	85.2	2.00	-2.00	0.00
3,600.0	0.00	0.00	3,557.1	403.0	-55.0	85.2	0.00	0.00	0.00
3,630.9	0.00	0.00	3,588.0	403.0	-55.0	85.2	0.00	0.00	0.00
PARKMAN									
3,650.0	0.00	0.00	3,607.1	403.0	-55.0	85.2	0.00	0.00	0.00
3,700.0	0.00	0.00	3,657.1	403.0	-55.0	85.2	0.00	0.00	0.00
3,750.0	0.00	0.00	3,707.1	403.0	-55.0	85.2	0.00	0.00	0.00
3,800.0	0.00	0.00	3,757.1	403.0	-55.0	85.2	0.00	0.00	0.00
3,850.0	0.00	0.00	3,807.1	403.0	-55.0	85.2	0.00	0.00	0.00
3,900.0	0.00	0.00	3,857.1	403.0	-55.0	85.2	0.00	0.00	0.00
3,950.0	0.00	0.00	3,907.1	403.0	-55.0	85.2	0.00	0.00	0.00
4,000.0	0.00	0.00	3,957.1	403.0	-55.0	85.2	0.00	0.00	0.00
4,050.0	0.00	0.00	4,007.1	403.0	-55.0	85.2	0.00	0.00	0.00
4,100.0	0.00	0.00	4,057.1	403.0	-55.0	85.2	0.00	0.00	0.00
4,150.0	0.00	0.00	4,107.1	403.0	-55.0	85.2	0.00	0.00	0.00
4,200.0	0.00	0.00	4,157.1	403.0	-55.0	85.2	0.00	0.00	0.00
4,250.0	0.00	0.00	4,207.1	403.0	-55.0	85.2	0.00	0.00	0.00
4,300.0	0.00	0.00	4,257.1	403.0	-55.0	85.2	0.00	0.00	0.00
4,350.0	0.00	0.00	4,307.1	403.0	-55.0	85.2	0.00	0.00	0.00
4,371.9	0.00	0.00	4,329.0	403.0	-55.0	85.2	0.00	0.00	0.00
SUSSEX									
4,400.0	0.00	0.00	4,357.1	403.0	-55.0	85.2	0.00	0.00	0.00
4,450.0	0.00	0.00	4,407.1	403.0	-55.0	85.2	0.00	0.00	0.00
4,500.0	0.00	0.00	4,457.1	403.0	-55.0	85.2	0.00	0.00	0.00
4,550.0	0.00	0.00	4,507.1	403.0	-55.0	85.2	0.00	0.00	0.00
4,600.0	0.00	0.00	4,557.1	403.0	-55.0	85.2	0.00	0.00	0.00
4,650.0	0.00	0.00	4,607.1	403.0	-55.0	85.2	0.00	0.00	0.00
4,700.0	0.00	0.00	4,657.1	403.0	-55.0	85.2	0.00	0.00	0.00
4,750.0	0.00	0.00	4,707.1	403.0	-55.0	85.2	0.00	0.00	0.00

Noble Energy Inc

Planning Report

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Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4840.0usft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4840.0usft (Original Well Elev)
Site:	AA (06N-63W)	North Reference:	Grid
Well:	Wells Ranch AA35-69-1AHNC	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Drilling		
Design:	APD - Rev 0		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,800.0	0.00	0.00	4,757.1	403.0	-55.0	85.2	0.00	0.00	0.00
4,850.0	0.00	0.00	4,807.1	403.0	-55.0	85.2	0.00	0.00	0.00
4,900.0	0.00	0.00	4,857.1	403.0	-55.0	85.2	0.00	0.00	0.00
4,950.0	0.00	0.00	4,907.1	403.0	-55.0	85.2	0.00	0.00	0.00
4,970.9	0.00	0.00	4,928.0	403.0	-55.0	85.2	0.00	0.00	0.00
SHANNON									
5,000.0	0.00	0.00	4,957.1	403.0	-55.0	85.2	0.00	0.00	0.00
5,050.0	0.00	0.00	5,007.1	403.0	-55.0	85.2	0.00	0.00	0.00
5,100.0	0.00	0.00	5,057.1	403.0	-55.0	85.2	0.00	0.00	0.00
5,150.0	0.00	0.00	5,107.1	403.0	-55.0	85.2	0.00	0.00	0.00
5,200.0	0.00	0.00	5,157.1	403.0	-55.0	85.2	0.00	0.00	0.00
5,250.0	0.00	0.00	5,207.1	403.0	-55.0	85.2	0.00	0.00	0.00
5,300.0	0.00	0.00	5,257.1	403.0	-55.0	85.2	0.00	0.00	0.00
5,350.0	0.00	0.00	5,307.1	403.0	-55.0	85.2	0.00	0.00	0.00
5,400.0	0.00	0.00	5,357.1	403.0	-55.0	85.2	0.00	0.00	0.00
5,450.0	0.00	0.00	5,407.1	403.0	-55.0	85.2	0.00	0.00	0.00
5,500.0	0.00	0.00	5,457.1	403.0	-55.0	85.2	0.00	0.00	0.00
5,550.0	0.00	0.00	5,507.1	403.0	-55.0	85.2	0.00	0.00	0.00
5,600.0	0.00	0.00	5,557.1	403.0	-55.0	85.2	0.00	0.00	0.00
5,650.0	0.00	0.00	5,607.1	403.0	-55.0	85.2	0.00	0.00	0.00
5,700.0	0.00	0.00	5,657.1	403.0	-55.0	85.2	0.00	0.00	0.00
5,750.0	0.00	0.00	5,707.1	403.0	-55.0	85.2	0.00	0.00	0.00
5,800.0	0.00	0.00	5,757.1	403.0	-55.0	85.2	0.00	0.00	0.00
5,839.9	0.00	0.00	5,797.0	403.0	-55.0	85.2	0.00	0.00	0.00
TEEPEE BUTTES									
5,850.0	0.00	0.00	5,807.1	403.0	-55.0	85.2	0.00	0.00	0.00
5,900.0	0.00	0.00	5,857.1	403.0	-55.0	85.2	0.00	0.00	0.00
5,950.0	0.00	0.00	5,907.1	403.0	-55.0	85.2	0.00	0.00	0.00
6,000.0	0.00	0.00	5,957.1	403.0	-55.0	85.2	0.00	0.00	0.00
6,030.7	0.00	0.00	5,987.8	403.0	-55.0	85.2	0.00	0.00	0.00
KOP #2 - Start Build 8.00									
6,050.0	1.55	269.64	6,007.1	403.0	-55.3	85.5	8.02	8.02	0.00
6,100.0	5.55	269.64	6,057.0	403.0	-58.4	88.6	8.00	8.00	0.00
6,150.0	9.55	269.64	6,106.5	402.9	-64.9	95.1	8.00	8.00	0.00
6,200.0	13.55	269.64	6,155.5	402.9	-74.9	105.1	8.00	8.00	0.00
6,250.0	17.55	269.64	6,203.7	402.8	-88.3	118.4	8.00	8.00	0.00
6,300.0	21.55	269.64	6,250.8	402.7	-105.1	135.1	8.00	8.00	0.00
6,350.0	25.55	269.64	6,296.6	402.6	-125.0	155.0	8.00	8.00	0.00
6,400.0	29.55	269.64	6,340.9	402.4	-148.1	178.1	8.00	8.00	0.00
6,450.0	33.55	269.64	6,383.5	402.3	-174.3	204.1	8.00	8.00	0.00
6,500.0	37.55	269.64	6,424.2	402.1	-203.4	233.1	8.00	8.00	0.00
6,550.0	41.55	269.64	6,462.7	401.9	-235.2	264.8	8.00	8.00	0.00
6,584.5	44.31	269.64	6,488.0	401.7	-258.7	288.2	8.00	8.00	0.00
SHARON SPRINGS									
6,600.0	45.55	269.64	6,499.0	401.7	-269.6	299.1	8.00	8.00	0.00
6,638.2	48.60	269.64	6,525.0	401.5	-297.6	327.0	8.00	8.00	0.00
NIO A CHALK									
6,650.0	49.55	269.64	6,532.7	401.4	-306.5	335.9	8.00	8.00	0.00
6,680.5	51.99	269.64	6,552.0	401.3	-330.1	359.4	8.00	8.00	0.00
NIO A MARL									
6,700.0	53.55	269.64	6,563.8	401.2	-345.7	374.9	8.00	8.00	0.00
6,750.0	57.55	269.64	6,592.1	400.9	-386.9	416.0	8.00	8.00	0.00
6,772.8	59.37	269.64	6,604.0	400.8	-406.3	435.4	8.00	8.00	0.00

Noble Energy Inc

Planning Report

Database:	EDM Production	Local Co-ordinate Reference:	Well Wells Ranch AA35-69-1AHNC
Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4840.0usft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4840.0usft (Original Well Elev)
Site:	AA (06N-63W)	North Reference:	Grid
Well:	Wells Ranch AA35-69-1AHNC	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Drilling		
Design:	APD - Rev 0		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
NIO B CHALK									
6,800.0	61.55	269.64	6,617.4	400.7	-430.0	458.9	8.00	8.00	0.00
6,850.0	65.55	269.64	6,639.7	400.4	-474.7	503.6	8.00	8.00	0.00
6,850.8	65.61	269.64	6,640.0	400.4	-475.4	504.2	8.00	8.00	0.00
NIO B MARL									
6,900.0	69.55	269.64	6,658.8	400.1	-520.9	549.6	8.00	8.00	0.00
6,950.0	73.55	269.64	6,674.6	399.8	-568.3	596.9	8.00	8.00	0.00
6,978.0	75.79	269.64	6,682.0	399.6	-595.3	623.8	8.00	8.00	0.00
NIO C CHALK									
7,000.0	77.55	269.64	6,687.1	399.5	-616.7	645.1	8.00	8.00	0.00
7,050.0	81.55	269.64	6,696.1	399.2	-665.9	694.1	8.00	8.00	0.00
7,093.2	85.00	269.64	6,701.2	398.9	-708.8	736.9	7.99	7.99	0.00
Start 75.0 hold at 7093.2 MD - 7" Casing @ 7093.2' MD									
7,100.0	85.00	269.64	6,701.8	398.9	-715.6	743.6	0.00	0.00	0.00
7,150.0	85.00	269.64	6,706.2	398.6	-765.4	793.3	0.00	0.00	0.00
7,168.2	85.00	269.64	6,707.7	398.5	-783.5	811.3	0.00	0.00	0.00
Start Build 8.00									
7,200.0	87.55	269.64	6,709.8	398.3	-815.2	842.9	8.01	8.01	0.00
7,221.9	89.30	269.64	6,710.4	398.1	-837.1	864.8	8.00	8.00	0.00
7,250.0	89.30	269.64	6,710.8	397.9	-865.2	892.8	0.00	0.00	0.00
7,300.0	89.30	269.64	6,711.4	397.6	-915.2	942.6	0.00	0.00	0.00
7,350.0	89.30	269.64	6,712.0	397.3	-965.2	992.4	0.00	0.00	0.00
7,400.0	89.30	269.64	6,712.6	397.0	-1,015.2	1,042.3	0.00	0.00	0.00
7,450.0	89.30	269.64	6,713.2	396.7	-1,065.2	1,092.1	0.00	0.00	0.00
7,500.0	89.30	269.64	6,713.8	396.4	-1,115.2	1,141.9	0.00	0.00	0.00
7,550.0	89.30	269.64	6,714.4	396.1	-1,165.2	1,191.7	0.00	0.00	0.00
7,600.0	89.30	269.64	6,715.0	395.8	-1,215.2	1,241.6	0.00	0.00	0.00
7,650.0	89.30	269.64	6,715.6	395.4	-1,265.2	1,291.4	0.00	0.00	0.00
7,700.0	89.30	269.64	6,716.3	395.1	-1,315.2	1,341.2	0.00	0.00	0.00
7,750.0	89.30	269.64	6,716.9	394.8	-1,365.2	1,391.1	0.00	0.00	0.00
7,800.0	89.30	269.64	6,717.5	394.5	-1,415.2	1,440.9	0.00	0.00	0.00
7,850.0	89.30	269.64	6,718.1	394.2	-1,465.2	1,490.7	0.00	0.00	0.00
7,900.0	89.30	269.64	6,718.7	393.9	-1,515.2	1,540.6	0.00	0.00	0.00
7,950.0	89.30	269.64	6,719.3	393.6	-1,565.2	1,590.4	0.00	0.00	0.00
8,000.0	89.30	269.64	6,719.9	393.3	-1,615.2	1,640.2	0.00	0.00	0.00
8,050.0	89.30	269.64	6,720.5	393.0	-1,665.2	1,690.0	0.00	0.00	0.00
8,088.6	89.30	269.64	6,721.0	392.7	-1,703.7	1,728.5	0.00	0.00	0.00
NIO C MARL									
8,100.0	89.30	269.64	6,721.1	392.6	-1,715.2	1,739.9	0.00	0.00	0.00
8,150.0	89.30	269.64	6,721.8	392.3	-1,765.1	1,789.7	0.00	0.00	0.00
8,200.0	89.30	269.64	6,722.4	392.0	-1,815.1	1,839.5	0.00	0.00	0.00
8,250.0	89.30	269.64	6,723.0	391.7	-1,865.1	1,889.4	0.00	0.00	0.00
8,300.0	89.30	269.64	6,723.6	391.4	-1,915.1	1,939.2	0.00	0.00	0.00
8,350.0	89.30	269.64	6,724.2	391.1	-1,965.1	1,989.0	0.00	0.00	0.00
8,400.0	89.30	269.64	6,724.8	390.8	-2,015.1	2,038.9	0.00	0.00	0.00
8,450.0	89.30	269.64	6,725.4	390.5	-2,065.1	2,088.7	0.00	0.00	0.00
8,500.0	89.30	269.64	6,726.0	390.1	-2,115.1	2,138.5	0.00	0.00	0.00
8,550.0	89.30	269.64	6,726.6	389.8	-2,165.1	2,188.3	0.00	0.00	0.00
8,600.0	89.30	269.64	6,727.2	389.5	-2,215.1	2,238.2	0.00	0.00	0.00
8,650.0	89.30	269.64	6,727.9	389.2	-2,265.1	2,288.0	0.00	0.00	0.00
8,700.0	89.30	269.64	6,728.5	388.9	-2,315.1	2,337.8	0.00	0.00	0.00
8,750.0	89.30	269.64	6,729.1	388.6	-2,365.1	2,387.7	0.00	0.00	0.00
8,800.0	89.30	269.64	6,729.7	388.3	-2,415.1	2,437.5	0.00	0.00	0.00

Noble Energy Inc

Planning Report

Database:	EDM Production	Local Co-ordinate Reference:	Well Wells Ranch AA35-69-1AHNC
Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4840.0usft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4840.0usft (Original Well Elev)
Site:	AA (06N-63W)	North Reference:	Grid
Well:	Wells Ranch AA35-69-1AHNC	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Drilling		
Design:	APD - Rev 0		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,850.0	89.30	269.64	6,730.3	388.0	-2,465.1	2,487.3	0.00	0.00	0.00
8,900.0	89.30	269.64	6,730.9	387.7	-2,515.1	2,537.1	0.00	0.00	0.00
8,950.0	89.30	269.64	6,731.5	387.3	-2,565.1	2,587.0	0.00	0.00	0.00
9,000.0	89.30	269.64	6,732.1	387.0	-2,615.1	2,636.8	0.00	0.00	0.00
9,050.0	89.30	269.64	6,732.7	386.7	-2,665.1	2,686.6	0.00	0.00	0.00
9,100.0	89.30	269.64	6,733.4	386.4	-2,715.1	2,736.5	0.00	0.00	0.00
9,150.0	89.30	269.64	6,734.0	386.1	-2,765.1	2,786.3	0.00	0.00	0.00
9,200.0	89.30	269.64	6,734.6	385.8	-2,815.1	2,836.1	0.00	0.00	0.00
9,250.0	89.30	269.64	6,735.2	385.5	-2,865.0	2,886.0	0.00	0.00	0.00
9,300.0	89.30	269.64	6,735.8	385.2	-2,915.0	2,935.8	0.00	0.00	0.00
9,350.0	89.30	269.64	6,736.4	384.8	-2,965.0	2,985.6	0.00	0.00	0.00
9,400.0	89.30	269.64	6,737.0	384.5	-3,015.0	3,035.4	0.00	0.00	0.00
9,450.0	89.30	269.64	6,737.6	384.2	-3,065.0	3,085.3	0.00	0.00	0.00
9,500.0	89.30	269.64	6,738.2	383.9	-3,115.0	3,135.1	0.00	0.00	0.00
9,550.0	89.30	269.64	6,738.9	383.6	-3,165.0	3,184.9	0.00	0.00	0.00
9,600.0	89.30	269.64	6,739.5	383.3	-3,215.0	3,234.8	0.00	0.00	0.00
9,650.0	89.30	269.64	6,740.1	383.0	-3,265.0	3,284.6	0.00	0.00	0.00
9,700.0	89.30	269.64	6,740.7	382.7	-3,315.0	3,334.4	0.00	0.00	0.00
9,750.0	89.30	269.64	6,741.3	382.3	-3,365.0	3,384.2	0.00	0.00	0.00
9,800.0	89.30	269.64	6,741.9	382.0	-3,415.0	3,434.1	0.00	0.00	0.00
9,850.0	89.30	269.64	6,742.5	381.7	-3,465.0	3,483.9	0.00	0.00	0.00
9,900.0	89.30	269.64	6,743.1	381.4	-3,515.0	3,533.7	0.00	0.00	0.00
9,950.0	89.30	269.64	6,743.7	381.1	-3,565.0	3,583.6	0.00	0.00	0.00
10,000.0	89.30	269.64	6,744.4	380.8	-3,615.0	3,633.4	0.00	0.00	0.00
10,050.0	89.30	269.64	6,745.0	380.5	-3,665.0	3,683.2	0.00	0.00	0.00
10,100.0	89.30	269.64	6,745.6	380.2	-3,715.0	3,733.1	0.00	0.00	0.00
10,150.0	89.30	269.64	6,746.2	379.9	-3,765.0	3,782.9	0.00	0.00	0.00
10,200.0	89.30	269.64	6,746.8	379.5	-3,815.0	3,832.7	0.00	0.00	0.00
10,250.0	89.30	269.64	6,747.4	379.2	-3,865.0	3,882.5	0.00	0.00	0.00
10,300.0	89.30	269.64	6,748.0	378.9	-3,914.9	3,932.4	0.00	0.00	0.00
10,350.0	89.30	269.64	6,748.6	378.6	-3,964.9	3,982.2	0.00	0.00	0.00
10,380.5	89.30	269.64	6,749.0	378.4	-3,995.4	4,012.6	0.00	0.00	0.00
NIO D CHALK									
10,400.0	89.30	269.64	6,749.2	378.3	-4,014.9	4,032.0	0.00	0.00	0.00
10,450.0	89.30	269.64	6,749.8	378.0	-4,064.9	4,081.9	0.00	0.00	0.00
10,500.0	89.30	269.64	6,750.5	377.7	-4,114.9	4,131.7	0.00	0.00	0.00
10,550.0	89.30	269.64	6,751.1	377.4	-4,164.9	4,181.5	0.00	0.00	0.00
10,600.0	89.30	269.64	6,751.7	377.0	-4,214.9	4,231.3	0.00	0.00	0.00
10,650.0	89.30	269.64	6,752.3	376.7	-4,264.9	4,281.2	0.00	0.00	0.00
10,700.0	89.30	269.64	6,752.9	376.4	-4,314.9	4,331.0	0.00	0.00	0.00
10,750.0	89.30	269.64	6,753.5	376.1	-4,364.9	4,380.8	0.00	0.00	0.00
10,800.0	89.30	269.64	6,754.1	375.8	-4,414.9	4,430.7	0.00	0.00	0.00
10,850.0	89.30	269.64	6,754.7	375.5	-4,464.9	4,480.5	0.00	0.00	0.00
10,900.0	89.30	269.64	6,755.3	375.2	-4,514.9	4,530.3	0.00	0.00	0.00
10,950.0	89.30	269.64	6,756.0	374.9	-4,564.9	4,580.2	0.00	0.00	0.00
11,000.0	89.30	269.64	6,756.6	374.6	-4,614.9	4,630.0	0.00	0.00	0.00
11,050.0	89.30	269.64	6,757.2	374.2	-4,664.9	4,679.8	0.00	0.00	0.00
11,100.0	89.30	269.64	6,757.8	373.9	-4,714.9	4,729.6	0.00	0.00	0.00
11,150.0	89.30	269.64	6,758.4	373.6	-4,764.9	4,779.5	0.00	0.00	0.00
11,200.0	89.30	269.64	6,759.0	373.3	-4,814.9	4,829.3	0.00	0.00	0.00
11,250.0	89.30	269.64	6,759.6	373.0	-4,864.9	4,879.1	0.00	0.00	0.00
11,300.0	89.30	269.64	6,760.2	372.7	-4,914.9	4,929.0	0.00	0.00	0.00
11,313.6	89.30	269.64	6,760.4	372.6	-4,928.4	4,942.5	0.00	0.00	0.00
TD at 11313.6 - Wells Ranch AA35-69-1AHNC BHL 165°FNL, 535°FWL									

Noble Energy Inc

Planning Report

Database:	EDM Production	Local Co-ordinate Reference:	Well Wells Ranch AA35-69-1AHNC
Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4840.0usft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4840.0usft (Original Well Elev)
Site:	AA (06N-63W)	North Reference:	Grid
Well:	Wells Ranch AA35-69-1AHNC	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Drilling		
Design:	APD - Rev 0		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
Wells Ranch AA35-69-1	0.00	0.00	6,760.4	372.6	-4,928.4	1,408,553.51	3,302,850.39	40.449780	-104.411780
- plan hits target center									
- Point									

Casing Points						Casing Diameter (")	Hole Diameter (")
Measured Depth (usft)	Vertical Depth (usft)	Name					
7,093.2	6,701.2	7" Casing @ 7093.2' MD				7	8-3/4

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,106.0	1,106.0	PIERRE		0.00		
3,630.9	3,588.0	PARKMAN		0.00		
4,371.9	4,329.0	SUSSEX		0.00		
4,970.9	4,928.0	SHANNON		0.00		
5,839.9	5,797.0	TEEPEE BUTTES		0.00		
6,584.5	6,488.0	SHARON SPRINGS		0.00		
6,638.2	6,525.0	NIO A CHALK		0.00		
6,680.5	6,552.0	NIO A MARL		0.00		
6,772.8	6,604.0	NIO B CHALK		0.00		
6,850.8	6,640.0	NIO B MARL		0.00		
6,978.0	6,682.0	NIO C CHALK		0.00		
8,088.6	6,721.0	NIO C MARL		0.00		
10,380.5	6,749.0	NIO D CHALK		0.00		

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
1,200.0	1,200.0	0.0	0.0	KOP - Start Build 2.00	
2,878.0	2,842.0	318.7	-43.5	Start Drop -2.00	
6,030.7	5,987.8	403.0	-55.0	KOP #2 - Start Build 8.00	
7,093.2	6,701.2	398.9	-708.8	Start 75.0 hold at 7093.2 MD	
7,168.2	6,707.7	398.5	-783.5	Start Build 8.00	
11,313.6	6,760.4	372.6	-4,928.4	TD at 11313.6	

Northern Region Drilling - Working

Wattenberg Field

AA (06N-63W)

Wells Ranch AA35-69-1AHNC

Original Drilling

APD - Rev 0

Anticollision Summary Report

11 September, 2013

Noble Energy Inc
Anticollision Summary Report

Company:	Northern Region Drilling - Working	Local Co-ordinate Reference:	Well Wells Ranch AA35-69-1AHNC
Project:	Wattenberg Field	TVD Reference:	WELL @ 4840.0usft (Original Well Elev)
Reference Site:	AA (06N-63W)	MD Reference:	WELL @ 4840.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Wells Ranch AA35-69-1AHNC	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	EDM Production
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:	Stations	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 10,000.0 usft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program	Date	9/11/2013		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	11,313.6	APD - Rev 0 (Original Drilling)	MWD	MWD - Standard

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
AA (06N-63W)						
Wells Ranch AA35-68-1AHNA - Original Drilling - APD - R	1,200.0	1,198.0	112.9	107.8	22.155	CC, ES
Wells Ranch AA35-68-1AHNA - Original Drilling - APD - R	11,313.6	11,139.3	764.4	501.3	2.905	SF
Wells Ranch AA35-68-1BHNC - Original Drilling - APD -	1,200.0	1,198.0	149.4	144.3	29.301	CC, ES
Wells Ranch AA35-68-1BHNC - Original Drilling - APD -	11,313.6	11,298.4	912.1	641.0	3.364	SF
Wells Ranch AA35-69-1BHNC - Original Drilling - APD -	1,200.0	1,199.0	72.9	67.8	14.287	CC
Wells Ranch AA35-69-1BHNC - Original Drilling - APD -	11,313.6	11,289.0	330.2	60.5	1.224	Level 2, ES, SF
Wells Ranch AA35-69-1HNA - Original Drilling - APD - Re	1,200.0	1,199.0	36.4	31.3	7.144	CC
Wells Ranch AA35-69-1HNA - Original Drilling - APD - Re	11,313.6	11,234.9	192.5	-41.1	0.824	Level 1, ES, SF
Wells Ranch USX AA35-01 - Wellbore #1 - Wellbore #1-	7,304.3	6,659.9	529.7	491.0	13.666	CC, ES
Wells Ranch USX AA35-01 - Wellbore #1 - Wellbore #1-	7,500.0	6,661.0	564.7	521.3	13.002	SF
Wells Ranch USX AA35-02 - Wellbore #1 - Wellbore #1-	8,557.6	6,665.2	605.5	534.3	8.510	CC, ES
Wells Ranch USX AA35-02 - Wellbore #1 - Wellbore #1-	8,700.0	6,667.7	622.0	546.9	8.290	SF
Wells Ranch USX AA35-03 - Wellbore #1 - Wellbore #1-	9,657.1	6,697.3	439.4	337.9	4.332	CC, ES
Wells Ranch USX AA35-03 - Wellbore #1 - Wellbore #1-	9,700.0	6,698.8	441.4	338.8	4.302	SF
Wells Ranch USX AA35-04 - Wellbore #1 - Wellbore #1-	11,238.4	6,737.4	557.3	411.8	3.830	CC, ES
Wells Ranch USX AA35-04 - Wellbore #1 - Wellbore #1-	11,300.0	6,738.1	560.7	413.5	3.809	SF
Wells Ranch USX AA35-19 - Wellbore #1 - Wellbore #1-	10,368.1	6,690.2	1,058.4	937.2	8.732	CC
Wells Ranch USX AA35-19 - Wellbore #1 - Wellbore #1-	10,400.0	6,690.7	1,058.9	936.8	8.673	ES
Wells Ranch USX AA35-19 - Wellbore #1 - Wellbore #1-	10,600.0	6,693.9	1,083.5	955.9	8.487	SF

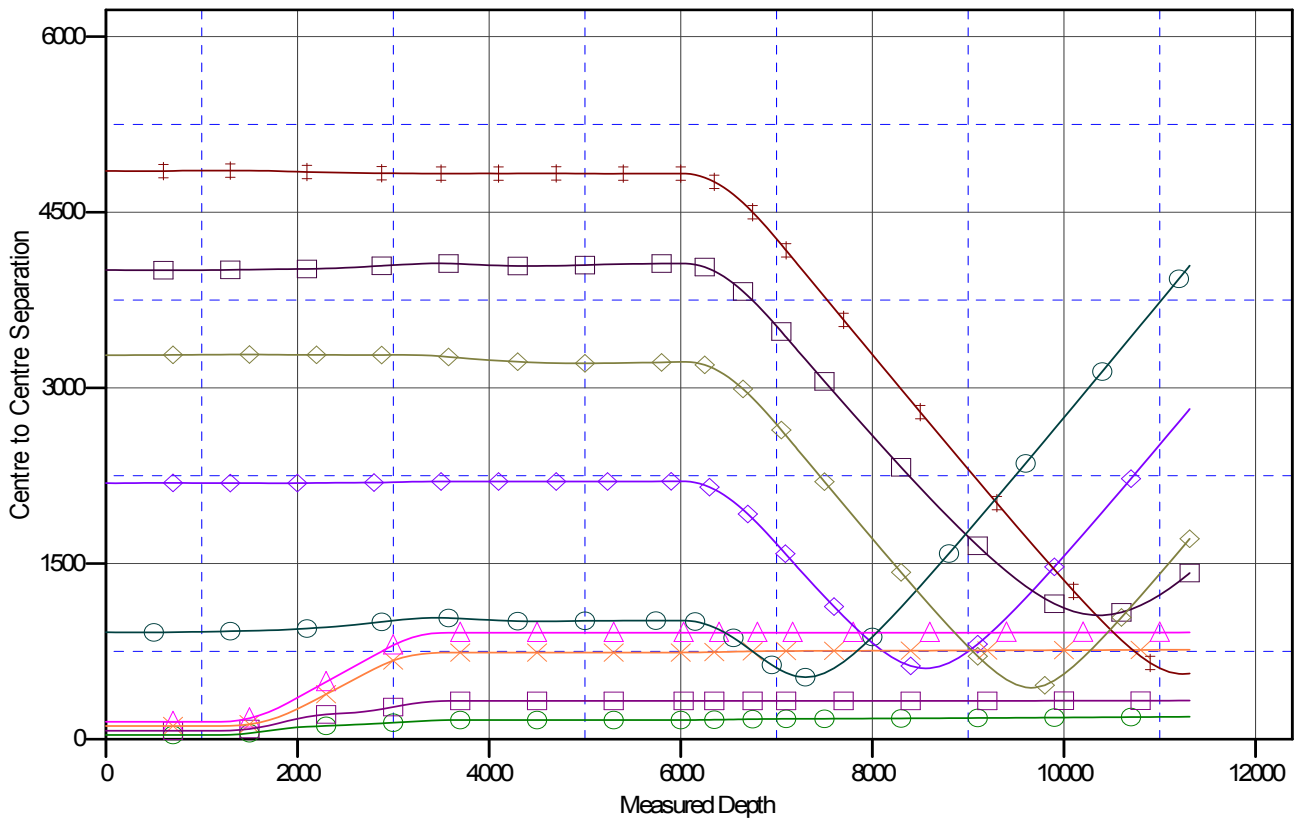
Noble Energy Inc
Anticollision Summary Report

Company:	Northern Region Drilling - Working	Local Co-ordinate Reference:	Well Wells Ranch AA35-69-1AHNC
Project:	Wattenberg Field	TVD Reference:	WELL @ 4840.0usft (Original Well Elev)
Reference Site:	AA (06N-63W)	MD Reference:	WELL @ 4840.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Wells Ranch AA35-69-1AHNC	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	EDM Production
Reference Design:	APD - Rev 0	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4840.0usft (Original Well Ele
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000

Coordinates are relative to: Wells Ranch AA35-69-1AHNC
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.71°

Ladder Plot



LEGEND

HNA, Original Drilling, APD - Rev0 V0	Wells Ranch AA35-68-1AHNA, Original Drilling, APD - Rev0 V0	Wells Ranch USX AA35-19, Wellbore
BHNC, Original Drilling, APD - Rev0 V0	Wells Ranch AA35-68-1BHNC, Original Drilling, APD - Rev0 V0	Wells Ranch USX AA35-01, Wellbore
-02, Wellbore #1, Wellbore #1 - As Drilled V0	Wells Ranch USX AA35-04, Wellbore #1, Wellbore #1 - As Drilled V0	Wells Ranch USX AA35-03, Wellbore

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Noble Energy Inc

Anticollision Summary Report

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Reference Well:	Wells Ranch AA35-69-1AHNC	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	EDM Production
Reference Design:	APD - Rev 0	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4840.0usft (Original Well Ele
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000

Coordinates are relative to: Wells Ranch AA35-69-1AHNC
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.71°

