

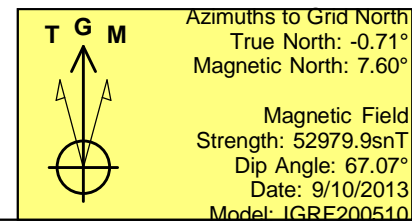
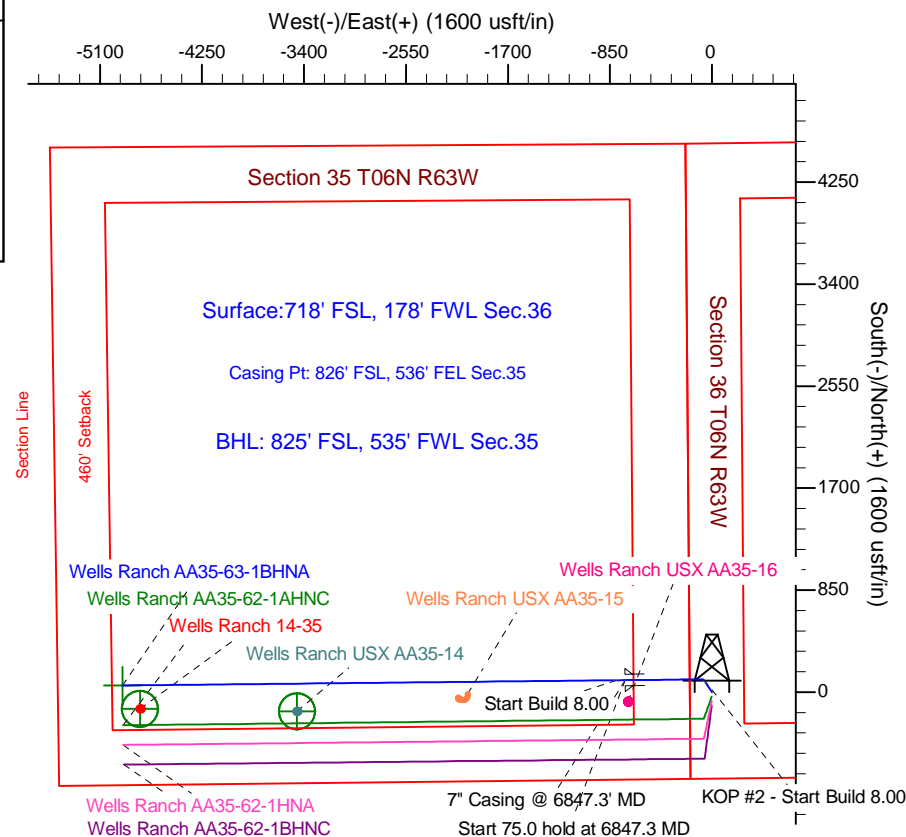
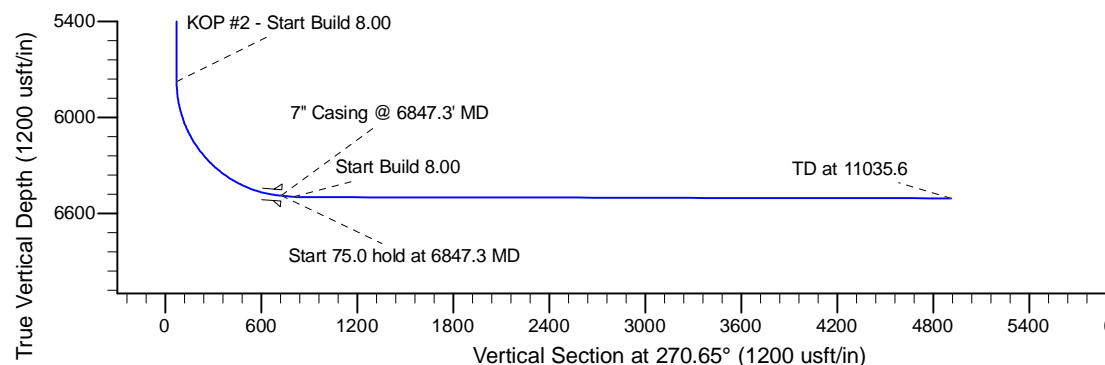
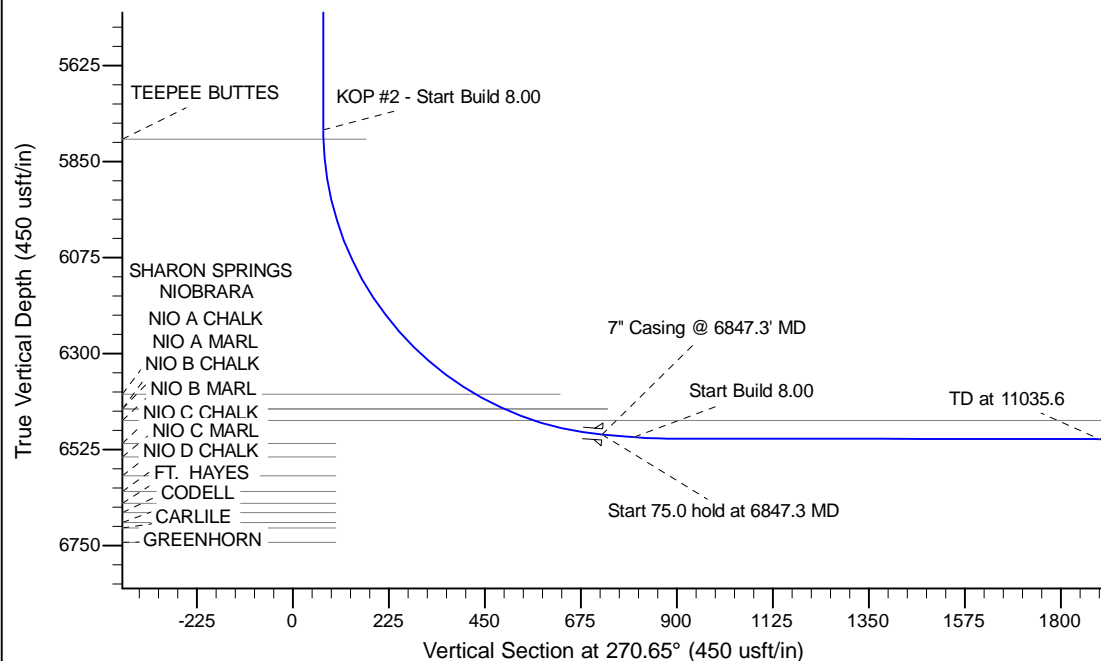
Project: Wattenberg Field
Site: AA (Sec.36-T06N-R63W) Weld County, CO
Well: Wells Ranch AA35-63-1BHNA
Wellbore: Original Drilling
Design: APD - Rev 0

Northern Region Drilling - Working

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

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	1500.0	0.00	0.00	1500.0	0.0	0.0	0.00	0.00	0.0	
3	2092.7	11.85	326.81	2088.5	51.1	-33.4	2.00	326.81	34.0	
4	2120.3	11.85	326.81	2115.5	55.9	-36.6	0.00	0.00	37.2	
5	2713.0	0.00	0.00	2704.0	107.0	-70.0	2.00	180.00	71.2	
6	5784.8	0.00	0.00	5775.8	107.0	-70.0	0.00	0.00	71.2	
7	6847.3	85.00	269.39	6489.3	100.1	-723.7	8.00	269.39	724.8	
8	6922.3	85.00	269.39	6495.8	99.3	-798.5	0.00	0.00	799.5	
9	6983.6	89.90	269.39	6498.5	98.7	-859.6	8.00	0.00	860.7	
10	11035.6	89.90	269.39	6505.6	55.8	-4911.4	0.00	0.00	4911.8	Wells Ranch AA35-63-1BHNA BHL 825'FSL, 535'FWL



WELL DETAILS: Wells Ranch AA35-63-1BHNA				
Ground Level: 4741.0				
0.0	0.0	Northing	Easting	Latitude
		1404173.90	3307825.84	40.437590
				Longitude
				-104.394100
Plan: APD - Rev 0 (Wells Ranch AA35-63-1BHNA/Original Drilling)				
Created By: Shailey Jewell		Date: 7:38, September 11 2013		
Checked: _____		Date: _____		
Reviewed: _____		Date: _____		
Approved: _____		Date: _____		

Northern Region Drilling - Working

Wattenberg Field

AA (06N-63W)

Wells Ranch AA35-63-1BHNA

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 AA35-63-1BHNA
Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4765.0usft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4765.0usft (Original Well Elev)
Site:	AA (06N-63W)	North Reference:	Grid
Well:	Wells Ranch AA35-63-1BHNA	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 AA35-63-1BHNA					
Well Position	+N/-S	-23,671.8 usft	Northing:	1,404,173.90 usft	Latitude:	40.437590
	+E/-W	5,268.0 usft	Easting:	3,307,825.84 usft	Longitude:	-104.394100
Position Uncertainty		0.0 usft	Wellhead Elevation:		Ground Level:	4,741.0 usft

Wellbore	Original Drilling				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	9/10/2013	8.31	67.07	52,980

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	270.65

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	
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,092.7	11.85	326.81	2,088.5	51.1	-33.4	2.00	2.00	0.00	326.81	
2,120.3	11.85	326.81	2,115.5	55.9	-36.6	0.00	0.00	0.00	0.00	
2,713.0	0.00	0.00	2,704.0	107.0	-70.0	2.00	-2.00	0.00	180.00	
5,784.8	0.00	0.00	5,775.8	107.0	-70.0	0.00	0.00	0.00	0.00	
6,847.3	85.00	269.39	6,489.3	100.1	-723.7	8.00	8.00	0.00	269.39	
6,922.3	85.00	269.39	6,495.8	99.3	-798.5	0.00	0.00	0.00	0.00	
6,983.6	89.90	269.39	6,498.5	98.7	-859.6	8.00	8.00	0.00	0.00	
11,035.6	89.90	269.39	6,505.6	55.8	-4,911.4	0.00	0.00	0.00	0.00	Wells Ranch AA35-63

Noble Energy Inc

Planning Report

Database:	EDM Production	Local Co-ordinate Reference:	Well Wells Ranch AA35-63-1BHNA
Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4765.0usft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4765.0usft (Original Well Elev)
Site:	AA (06N-63W)	North Reference:	Grid
Well:	Wells Ranch AA35-63-1BHNA	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
1,150.0	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	326.81	1,550.0	0.4	-0.2	0.2	2.00	2.00	0.00
1,600.0	2.00	326.81	1,600.0	1.5	-1.0	1.0	2.00	2.00	0.00
1,650.0	3.00	326.81	1,649.9	3.3	-2.1	2.2	2.00	2.00	0.00
1,700.0	4.00	326.81	1,699.8	5.8	-3.8	3.9	2.00	2.00	0.00
1,750.0	5.00	326.81	1,749.7	9.1	-6.0	6.1	2.00	2.00	0.00
1,800.0	6.00	326.81	1,799.5	13.1	-8.6	8.7	2.00	2.00	0.00
1,850.0	7.00	326.81	1,849.1	17.9	-11.7	11.9	2.00	2.00	0.00
1,900.0	8.00	326.81	1,898.7	23.3	-15.3	15.5	2.00	2.00	0.00
1,950.0	9.00	326.81	1,948.2	29.5	-19.3	19.6	2.00	2.00	0.00
2,000.0	10.00	326.81	1,997.5	36.4	-23.8	24.2	2.00	2.00	0.00
2,050.0	11.00	326.81	2,046.6	44.0	-28.8	29.3	2.00	2.00	0.00
2,092.7	11.85	326.81	2,088.5	51.1	-33.4	34.0	2.00	2.00	0.00
2,100.0	11.85	326.81	2,095.6	52.4	-34.3	34.9	0.00	0.00	0.00
2,120.3	11.85	326.81	2,115.5	55.9	-36.6	37.2	0.00	0.00	0.00
Start Drop -2.00									
2,150.0	11.26	326.81	2,144.6	60.8	-39.8	40.5	2.00	-2.00	0.00
2,200.0	10.26	326.81	2,193.7	68.7	-44.9	45.7	2.00	-2.00	0.00
2,250.0	9.26	326.81	2,243.0	75.8	-49.6	50.4	2.00	-2.00	0.00
2,300.0	8.26	326.81	2,292.4	82.1	-53.7	54.7	2.00	-2.00	0.00
2,350.0	7.26	326.81	2,341.9	87.8	-57.4	58.4	2.00	-2.00	0.00
2,400.0	6.26	326.81	2,391.6	92.7	-60.6	61.7	2.00	-2.00	0.00
2,450.0	5.26	326.81	2,441.3	96.9	-63.4	64.5	2.00	-2.00	0.00

Noble Energy Inc

Planning Report

Database:	EDM Production	Local Co-ordinate Reference:	Well Wells Ranch AA35-63-1BHNA
Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4765.0usft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4765.0usft (Original Well Elev)
Site:	AA (06N-63W)	North Reference:	Grid
Well:	Wells Ranch AA35-63-1BHNA	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	4.26	326.81	2,491.2	100.4	-65.7	66.8	2.00	-2.00	0.00
2,550.0	3.26	326.81	2,541.1	103.1	-67.5	68.6	2.00	-2.00	0.00
2,600.0	2.26	326.81	2,591.0	105.1	-68.8	70.0	2.00	-2.00	0.00
2,650.0	1.26	326.81	2,641.0	106.4	-69.6	70.8	2.00	-2.00	0.00
2,700.0	0.26	326.81	2,691.0	107.0	-70.0	71.2	2.00	-2.00	0.00
2,713.0	0.00	0.00	2,704.0	107.0	-70.0	71.2	2.00	-2.00	0.00
2,750.0	0.00	0.00	2,741.0	107.0	-70.0	71.2	0.00	0.00	0.00
2,783.0	0.00	0.00	2,774.0	107.0	-70.0	71.2	0.00	0.00	0.00
PIERRE									
2,800.0	0.00	0.00	2,791.0	107.0	-70.0	71.2	0.00	0.00	0.00
2,850.0	0.00	0.00	2,841.0	107.0	-70.0	71.2	0.00	0.00	0.00
2,900.0	0.00	0.00	2,891.0	107.0	-70.0	71.2	0.00	0.00	0.00
2,950.0	0.00	0.00	2,941.0	107.0	-70.0	71.2	0.00	0.00	0.00
3,000.0	0.00	0.00	2,991.0	107.0	-70.0	71.2	0.00	0.00	0.00
3,050.0	0.00	0.00	3,041.0	107.0	-70.0	71.2	0.00	0.00	0.00
3,100.0	0.00	0.00	3,091.0	107.0	-70.0	71.2	0.00	0.00	0.00
3,150.0	0.00	0.00	3,141.0	107.0	-70.0	71.2	0.00	0.00	0.00
3,200.0	0.00	0.00	3,191.0	107.0	-70.0	71.2	0.00	0.00	0.00
3,250.0	0.00	0.00	3,241.0	107.0	-70.0	71.2	0.00	0.00	0.00
3,300.0	0.00	0.00	3,291.0	107.0	-70.0	71.2	0.00	0.00	0.00
3,350.0	0.00	0.00	3,341.0	107.0	-70.0	71.2	0.00	0.00	0.00
3,400.0	0.00	0.00	3,391.0	107.0	-70.0	71.2	0.00	0.00	0.00
3,450.0	0.00	0.00	3,441.0	107.0	-70.0	71.2	0.00	0.00	0.00
3,491.0	0.00	0.00	3,482.0	107.0	-70.0	71.2	0.00	0.00	0.00
PARKMAN									
3,500.0	0.00	0.00	3,491.0	107.0	-70.0	71.2	0.00	0.00	0.00
3,550.0	0.00	0.00	3,541.0	107.0	-70.0	71.2	0.00	0.00	0.00
3,600.0	0.00	0.00	3,591.0	107.0	-70.0	71.2	0.00	0.00	0.00
3,650.0	0.00	0.00	3,641.0	107.0	-70.0	71.2	0.00	0.00	0.00
3,700.0	0.00	0.00	3,691.0	107.0	-70.0	71.2	0.00	0.00	0.00
3,750.0	0.00	0.00	3,741.0	107.0	-70.0	71.2	0.00	0.00	0.00
3,800.0	0.00	0.00	3,791.0	107.0	-70.0	71.2	0.00	0.00	0.00
3,850.0	0.00	0.00	3,841.0	107.0	-70.0	71.2	0.00	0.00	0.00
3,900.0	0.00	0.00	3,891.0	107.0	-70.0	71.2	0.00	0.00	0.00
3,950.0	0.00	0.00	3,941.0	107.0	-70.0	71.2	0.00	0.00	0.00
4,000.0	0.00	0.00	3,991.0	107.0	-70.0	71.2	0.00	0.00	0.00
4,050.0	0.00	0.00	4,041.0	107.0	-70.0	71.2	0.00	0.00	0.00
4,100.0	0.00	0.00	4,091.0	107.0	-70.0	71.2	0.00	0.00	0.00
4,150.0	0.00	0.00	4,141.0	107.0	-70.0	71.2	0.00	0.00	0.00
4,200.0	0.00	0.00	4,191.0	107.0	-70.0	71.2	0.00	0.00	0.00
4,250.0	0.00	0.00	4,241.0	107.0	-70.0	71.2	0.00	0.00	0.00
4,300.0	0.00	0.00	4,291.0	107.0	-70.0	71.2	0.00	0.00	0.00
4,314.0	0.00	0.00	4,305.0	107.0	-70.0	71.2	0.00	0.00	0.00
SUSSEX									
4,350.0	0.00	0.00	4,341.0	107.0	-70.0	71.2	0.00	0.00	0.00
4,400.0	0.00	0.00	4,391.0	107.0	-70.0	71.2	0.00	0.00	0.00
4,450.0	0.00	0.00	4,441.0	107.0	-70.0	71.2	0.00	0.00	0.00
4,500.0	0.00	0.00	4,491.0	107.0	-70.0	71.2	0.00	0.00	0.00
4,550.0	0.00	0.00	4,541.0	107.0	-70.0	71.2	0.00	0.00	0.00
4,600.0	0.00	0.00	4,591.0	107.0	-70.0	71.2	0.00	0.00	0.00
4,650.0	0.00	0.00	4,641.0	107.0	-70.0	71.2	0.00	0.00	0.00
4,700.0	0.00	0.00	4,691.0	107.0	-70.0	71.2	0.00	0.00	0.00
4,750.0	0.00	0.00	4,741.0	107.0	-70.0	71.2	0.00	0.00	0.00

Noble Energy Inc

Planning Report

Database:	EDM Production	Local Co-ordinate Reference:	Well Wells Ranch AA35-63-1BHNA
Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4765.0usft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4765.0usft (Original Well Elev)
Site:	AA (06N-63W)	North Reference:	Grid
Well:	Wells Ranch AA35-63-1BHNA	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	4,791.0	107.0	-70.0	71.2	0.00	0.00	0.00
4,835.0	0.00	0.00	4,826.0	107.0	-70.0	71.2	0.00	0.00	0.00
SHANNON									
4,850.0	0.00	0.00	4,841.0	107.0	-70.0	71.2	0.00	0.00	0.00
4,900.0	0.00	0.00	4,891.0	107.0	-70.0	71.2	0.00	0.00	0.00
4,950.0	0.00	0.00	4,941.0	107.0	-70.0	71.2	0.00	0.00	0.00
5,000.0	0.00	0.00	4,991.0	107.0	-70.0	71.2	0.00	0.00	0.00
5,050.0	0.00	0.00	5,041.0	107.0	-70.0	71.2	0.00	0.00	0.00
5,100.0	0.00	0.00	5,091.0	107.0	-70.0	71.2	0.00	0.00	0.00
5,150.0	0.00	0.00	5,141.0	107.0	-70.0	71.2	0.00	0.00	0.00
5,200.0	0.00	0.00	5,191.0	107.0	-70.0	71.2	0.00	0.00	0.00
5,250.0	0.00	0.00	5,241.0	107.0	-70.0	71.2	0.00	0.00	0.00
5,300.0	0.00	0.00	5,291.0	107.0	-70.0	71.2	0.00	0.00	0.00
5,350.0	0.00	0.00	5,341.0	107.0	-70.0	71.2	0.00	0.00	0.00
5,400.0	0.00	0.00	5,391.0	107.0	-70.0	71.2	0.00	0.00	0.00
5,450.0	0.00	0.00	5,441.0	107.0	-70.0	71.2	0.00	0.00	0.00
5,500.0	0.00	0.00	5,491.0	107.0	-70.0	71.2	0.00	0.00	0.00
5,550.0	0.00	0.00	5,541.0	107.0	-70.0	71.2	0.00	0.00	0.00
5,600.0	0.00	0.00	5,591.0	107.0	-70.0	71.2	0.00	0.00	0.00
5,650.0	0.00	0.00	5,641.0	107.0	-70.0	71.2	0.00	0.00	0.00
5,700.0	0.00	0.00	5,691.0	107.0	-70.0	71.2	0.00	0.00	0.00
5,750.0	0.00	0.00	5,741.0	107.0	-70.0	71.2	0.00	0.00	0.00
5,784.8	0.00	0.00	5,775.8	107.0	-70.0	71.2	0.00	0.00	0.00
KOP #2 - Start Build 8.00									
5,800.0	1.21	269.39	5,791.0	107.0	-70.2	71.4	7.99	7.99	0.00
5,806.0	1.70	269.39	5,797.0	107.0	-70.3	71.5	8.00	8.00	0.00
TEEPEE BUTTES									
5,850.0	5.21	269.39	5,840.9	107.0	-73.0	74.2	8.00	8.00	0.00
5,900.0	9.21	269.39	5,890.5	106.9	-79.2	80.5	8.00	8.00	0.00
5,950.0	13.21	269.39	5,939.5	106.8	-89.0	90.2	8.00	8.00	0.00
6,000.0	17.21	269.39	5,987.7	106.7	-102.1	103.3	8.00	8.00	0.00
6,050.0	21.21	269.39	6,035.0	106.5	-118.5	119.7	8.00	8.00	0.00
6,100.0	25.21	269.39	6,080.9	106.3	-138.2	139.4	8.00	8.00	0.00
6,150.0	29.21	269.39	6,125.4	106.0	-161.1	162.3	8.00	8.00	0.00
6,200.0	33.21	269.39	6,168.1	105.8	-187.0	188.2	8.00	8.00	0.00
6,250.0	37.21	269.39	6,208.9	105.5	-215.8	217.0	8.00	8.00	0.00
6,300.0	41.21	269.39	6,247.7	105.1	-247.4	248.6	8.00	8.00	0.00
6,350.0	45.21	269.39	6,284.1	104.8	-281.7	282.8	8.00	8.00	0.00
6,400.0	49.21	269.39	6,318.1	104.4	-318.3	319.5	8.00	8.00	0.00
6,450.0	53.21	269.39	6,349.4	104.0	-357.3	358.5	8.00	8.00	0.00
6,500.0	57.21	269.39	6,377.9	103.5	-398.4	399.5	8.00	8.00	0.00
6,532.7	59.83	269.39	6,395.0	103.2	-426.3	427.4	8.00	8.00	0.00
SHARON SPRINGS									
6,550.0	61.21	269.39	6,403.5	103.1	-441.3	442.4	8.00	8.00	0.00
6,600.0	65.21	269.39	6,426.0	102.6	-485.9	487.1	8.00	8.00	0.00
6,607.2	65.79	269.39	6,429.0	102.5	-492.5	493.6	8.00	8.00	0.00
NIOBRARA - NIO A CHALK									
6,650.0	69.21	269.39	6,445.4	102.1	-532.0	533.1	8.00	8.00	0.00
6,681.8	71.76	269.39	6,456.0	101.8	-562.0	563.1	8.00	8.00	0.00
NIO A MARL									
6,700.0	73.21	269.39	6,461.5	101.6	-579.3	580.5	8.00	8.00	0.00
6,750.0	77.21	269.39	6,474.2	101.1	-627.7	628.8	8.00	8.00	0.00
6,800.0	81.21	269.39	6,483.6	100.6	-676.8	677.9	8.00	8.00	0.00

Noble Energy Inc

Planning Report

Database:	EDM Production	Local Co-ordinate Reference:	Well Wells Ranch AA35-63-1BHNA
Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4765.0usft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4765.0usft (Original Well Elev)
Site:	AA (06N-63W)	North Reference:	Grid
Well:	Wells Ranch AA35-63-1BHNA	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)
6,847.3	85.00	269.39	6,489.3	100.1	-723.7	724.8	8.00	8.00	0.00
Start 75.0 hold at 6847.3 MD - 7" Casing @ 6847.3' MD									
6,850.0	85.00	269.39	6,489.5	100.1	-726.4	727.5	0.07	0.07	0.00
6,900.0	85.00	269.39	6,493.9	99.5	-776.2	777.3	0.00	0.00	0.00
6,922.3	85.00	269.39	6,495.8	99.3	-798.4	799.5	0.00	0.00	0.00
Start Build 8.00									
6,950.0	87.21	269.39	6,497.7	99.0	-826.1	827.1	7.99	7.99	0.00
6,983.6	89.90	269.39	6,498.5	98.7	-859.6	860.7	8.00	8.00	0.00
7,000.0	89.90	269.39	6,498.6	98.5	-876.0	877.1	0.00	0.00	0.00
7,050.0	89.90	269.39	6,498.6	98.0	-926.0	927.1	0.00	0.00	0.00
7,100.0	89.90	269.39	6,498.7	97.4	-976.0	977.1	0.00	0.00	0.00
7,150.0	89.90	269.39	6,498.8	96.9	-1,026.0	1,027.1	0.00	0.00	0.00
7,200.0	89.90	269.39	6,498.9	96.4	-1,076.0	1,077.1	0.00	0.00	0.00
7,250.0	89.90	269.39	6,499.0	95.8	-1,126.0	1,127.0	0.00	0.00	0.00
7,300.0	89.90	269.39	6,499.1	95.3	-1,176.0	1,177.0	0.00	0.00	0.00
7,350.0	89.90	269.39	6,499.2	94.8	-1,226.0	1,227.0	0.00	0.00	0.00
7,400.0	89.90	269.39	6,499.3	94.3	-1,276.0	1,277.0	0.00	0.00	0.00
7,450.0	89.90	269.39	6,499.3	93.7	-1,326.0	1,327.0	0.00	0.00	0.00
7,500.0	89.90	269.39	6,499.4	93.2	-1,376.0	1,377.0	0.00	0.00	0.00
7,550.0	89.90	269.39	6,499.5	92.7	-1,426.0	1,427.0	0.00	0.00	0.00
7,600.0	89.90	269.39	6,499.6	92.1	-1,476.0	1,477.0	0.00	0.00	0.00
7,650.0	89.90	269.39	6,499.7	91.6	-1,526.0	1,526.9	0.00	0.00	0.00
7,700.0	89.90	269.39	6,499.8	91.1	-1,576.0	1,576.9	0.00	0.00	0.00
7,750.0	89.90	269.39	6,499.9	90.6	-1,626.0	1,626.9	0.00	0.00	0.00
7,800.0	89.90	269.39	6,500.0	90.0	-1,676.0	1,676.9	0.00	0.00	0.00
7,850.0	89.90	269.39	6,500.0	89.5	-1,726.0	1,726.9	0.00	0.00	0.00
7,900.0	89.90	269.39	6,500.1	89.0	-1,776.0	1,776.9	0.00	0.00	0.00
7,950.0	89.90	269.39	6,500.2	88.4	-1,826.0	1,826.9	0.00	0.00	0.00
8,000.0	89.90	269.39	6,500.3	87.9	-1,876.0	1,876.9	0.00	0.00	0.00
8,050.0	89.90	269.39	6,500.4	87.4	-1,926.0	1,926.9	0.00	0.00	0.00
8,100.0	89.90	269.39	6,500.5	86.9	-1,976.0	1,976.8	0.00	0.00	0.00
8,150.0	89.90	269.39	6,500.6	86.3	-2,026.0	2,026.8	0.00	0.00	0.00
8,200.0	89.90	269.39	6,500.7	85.8	-2,076.0	2,076.8	0.00	0.00	0.00
8,250.0	89.90	269.39	6,500.7	85.3	-2,126.0	2,126.8	0.00	0.00	0.00
8,300.0	89.90	269.39	6,500.8	84.7	-2,176.0	2,176.8	0.00	0.00	0.00
8,350.0	89.90	269.39	6,500.9	84.2	-2,226.0	2,226.8	0.00	0.00	0.00
8,400.0	89.90	269.39	6,501.0	83.7	-2,276.0	2,276.8	0.00	0.00	0.00
8,450.0	89.90	269.39	6,501.1	83.2	-2,326.0	2,326.8	0.00	0.00	0.00
8,500.0	89.90	269.39	6,501.2	82.6	-2,376.0	2,376.7	0.00	0.00	0.00
8,550.0	89.90	269.39	6,501.3	82.1	-2,426.0	2,426.7	0.00	0.00	0.00
8,600.0	89.90	269.39	6,501.3	81.6	-2,476.0	2,476.7	0.00	0.00	0.00
8,650.0	89.90	269.39	6,501.4	81.0	-2,525.9	2,526.7	0.00	0.00	0.00
8,700.0	89.90	269.39	6,501.5	80.5	-2,575.9	2,576.7	0.00	0.00	0.00
8,750.0	89.90	269.39	6,501.6	80.0	-2,625.9	2,626.7	0.00	0.00	0.00
8,800.0	89.90	269.39	6,501.7	79.5	-2,675.9	2,676.7	0.00	0.00	0.00
8,850.0	89.90	269.39	6,501.8	78.9	-2,725.9	2,726.7	0.00	0.00	0.00
8,900.0	89.90	269.39	6,501.9	78.4	-2,775.9	2,776.6	0.00	0.00	0.00
8,950.0	89.90	269.39	6,502.0	77.9	-2,825.9	2,826.6	0.00	0.00	0.00
9,000.0	89.90	269.39	6,502.0	77.3	-2,875.9	2,876.6	0.00	0.00	0.00
9,050.0	89.90	269.39	6,502.1	76.8	-2,925.9	2,926.6	0.00	0.00	0.00
9,100.0	89.90	269.39	6,502.2	76.3	-2,975.9	2,976.6	0.00	0.00	0.00
9,150.0	89.90	269.39	6,502.3	75.8	-3,025.9	3,026.6	0.00	0.00	0.00
9,200.0	89.90	269.39	6,502.4	75.2	-3,075.9	3,076.6	0.00	0.00	0.00

Noble Energy Inc

Planning Report

Database:	EDM Production	Local Co-ordinate Reference:	Well Wells Ranch AA35-63-1BHNA
Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4765.0usft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4765.0usft (Original Well Elev)
Site:	AA (06N-63W)	North Reference:	Grid
Well:	Wells Ranch AA35-63-1BHNA	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)
9,250.0	89.90	269.39	6,502.5	74.7	-3,125.9	3,126.6	0.00	0.00	0.00
9,300.0	89.90	269.39	6,502.6	74.2	-3,175.9	3,176.5	0.00	0.00	0.00
9,350.0	89.90	269.39	6,502.7	73.6	-3,225.9	3,226.5	0.00	0.00	0.00
9,400.0	89.90	269.39	6,502.7	73.1	-3,275.9	3,276.5	0.00	0.00	0.00
9,450.0	89.90	269.39	6,502.8	72.6	-3,325.9	3,326.5	0.00	0.00	0.00
9,500.0	89.90	269.39	6,502.9	72.1	-3,375.9	3,376.5	0.00	0.00	0.00
9,550.0	89.90	269.39	6,503.0	71.5	-3,425.9	3,426.5	0.00	0.00	0.00
9,585.7	89.90	269.39	6,503.1	71.2	-3,461.5	3,462.1	0.00	0.00	0.00
Wells Ranch USX AA35-14									
9,600.0	89.90	269.39	6,503.1	71.0	-3,475.9	3,476.5	0.00	0.00	0.00
9,650.0	89.90	269.39	6,503.2	70.5	-3,525.9	3,526.5	0.00	0.00	0.00
9,700.0	89.90	269.39	6,503.3	69.9	-3,575.9	3,576.5	0.00	0.00	0.00
9,750.0	89.90	269.39	6,503.4	69.4	-3,625.9	3,626.4	0.00	0.00	0.00
9,800.0	89.90	269.39	6,503.4	68.9	-3,675.9	3,676.4	0.00	0.00	0.00
9,850.0	89.90	269.39	6,503.5	68.4	-3,725.9	3,726.4	0.00	0.00	0.00
9,900.0	89.90	269.39	6,503.6	67.8	-3,775.9	3,776.4	0.00	0.00	0.00
9,950.0	89.90	269.39	6,503.7	67.3	-3,825.9	3,826.4	0.00	0.00	0.00
10,000.0	89.90	269.39	6,503.8	66.8	-3,875.9	3,876.4	0.00	0.00	0.00
10,050.0	89.90	269.39	6,503.9	66.2	-3,925.9	3,926.4	0.00	0.00	0.00
10,100.0	89.90	269.39	6,504.0	65.7	-3,975.9	3,976.4	0.00	0.00	0.00
10,150.0	89.90	269.39	6,504.1	65.2	-4,025.9	4,026.3	0.00	0.00	0.00
10,200.0	89.90	269.39	6,504.1	64.7	-4,075.9	4,076.3	0.00	0.00	0.00
10,250.0	89.90	269.39	6,504.2	64.1	-4,125.9	4,126.3	0.00	0.00	0.00
10,300.0	89.90	269.39	6,504.3	63.6	-4,175.9	4,176.3	0.00	0.00	0.00
10,350.0	89.90	269.39	6,504.4	63.1	-4,225.9	4,226.3	0.00	0.00	0.00
10,400.0	89.90	269.39	6,504.5	62.5	-4,275.8	4,276.3	0.00	0.00	0.00
10,450.0	89.90	269.39	6,504.6	62.0	-4,325.8	4,326.3	0.00	0.00	0.00
10,500.0	89.90	269.39	6,504.7	61.5	-4,375.8	4,376.3	0.00	0.00	0.00
10,550.0	89.90	269.39	6,504.8	61.0	-4,425.8	4,426.2	0.00	0.00	0.00
10,600.0	89.90	269.39	6,504.8	60.4	-4,475.8	4,476.2	0.00	0.00	0.00
10,650.0	89.90	269.39	6,504.9	59.9	-4,525.8	4,526.2	0.00	0.00	0.00
10,700.0	89.90	269.39	6,505.0	59.4	-4,575.8	4,576.2	0.00	0.00	0.00
10,750.0	89.90	269.39	6,505.1	58.8	-4,625.8	4,626.2	0.00	0.00	0.00
10,800.0	89.90	269.39	6,505.2	58.3	-4,675.8	4,676.2	0.00	0.00	0.00
10,850.0	89.90	269.39	6,505.3	57.8	-4,725.8	4,726.2	0.00	0.00	0.00
10,894.9	89.90	269.39	6,505.4	57.3	-4,770.7	4,771.0	0.00	0.00	0.00
Wells Ranch 14-35									
10,900.0	89.90	269.39	6,505.4	57.3	-4,775.8	4,776.2	0.00	0.00	0.00
10,950.0	89.90	269.39	6,505.5	56.7	-4,825.8	4,826.2	0.00	0.00	0.00
11,000.0	89.90	269.39	6,505.5	56.2	-4,875.8	4,876.1	0.00	0.00	0.00
11,035.6	89.90	269.39	6,505.6	55.8	-4,911.4	4,911.7	0.00	0.00	0.00
TD at 11035.6 - Wells Ranch AA35-63-1BHNA BHL 825'FSL, 535'FWL									

Noble Energy Inc

Planning Report

Database:	EDM Production	Local Co-ordinate Reference:	Well Wells Ranch AA35-63-1BHNA
Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4765.0usft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4765.0usft (Original Well Elev)
Site:	AA (06N-63W)	North Reference:	Grid
Well:	Wells Ranch AA35-63-1BHNA	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Drilling		
Design:	APD - Rev 0		

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
Wells Ranch AA35-63-1I - plan hits target center - Point	0.00	0.00	6,505.6	55.8	-4,911.4	1,404,229.73	3,302,914.59	40.437910	-104.411740
Wells Ranch USX AA35- - plan misses target center by 471.2usft at 9585.7usft MD (6503.1 TVD, 71.2 N, -3461.5 E) - Circle (radius 150.0)	0.00	0.00	6,914.0	-159.5	-3,458.4	1,404,014.43	3,304,367.58	40.437270	-104.406530
Wells Ranch 14-35 - plan misses target center by 912.1usft at 10894.9usft MD (6505.4 TVD, 57.3 N, -4770.7 E) - Circle (radius 150.0)	0.00	0.00	7,396.0	-139.1	-4,767.1	1,404,034.76	3,303,058.96	40.437370	-104.411230

Casing Points				
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
6,847.3	6,489.3	7" Casing @ 6847.3' MD	7	8-3/4

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,783.0	2,774.0	PIERRE		0.00	
3,491.0	3,482.0	PARKMAN		0.00	
4,314.0	4,305.0	SUSSEX		0.00	
4,835.0	4,826.0	SHANNON		0.00	
5,806.0	5,797.0	TEEPEE BUTTES		0.00	
6,532.7	6,395.0	SHARON SPRINGS		0.00	
6,607.2	6,429.0	NIOBRARA		0.00	
6,607.2	6,429.0	NIO A CHALK		0.00	
6,681.8	6,456.0	NIO A MARL		0.00	

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,500.0	1,500.0	0.0	0.0	KOP - Start Build 2.00
2,120.3	2,115.5	55.9	-36.6	Start Drop -2.00
5,784.8	5,775.8	107.0	-70.0	KOP #2 - Start Build 8.00
6,847.3	6,489.3	100.1	-723.7	Start 75.0 hold at 6847.3 MD
6,922.3	6,495.8	99.3	-798.4	Start Build 8.00
11,035.6	6,505.6	55.8	-4,911.4	TD at 11035.6

Northern Region Drilling - Working

Wattenberg Field

AA (06N-63W)

Wells Ranch AA35-63-1BHNA

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 AA35-63-1BHNA
Project:	Wattenberg Field	TVD Reference:	WELL @ 4765.0usft (Original Well Elev)
Reference Site:	AA (06N-63W)	MD Reference:	WELL @ 4765.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Wells Ranch AA35-63-1BHNA	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	9/10/2013		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	11,035.5	APD - Rev 0 (Original Drilling)	MWD	MWD - Standard

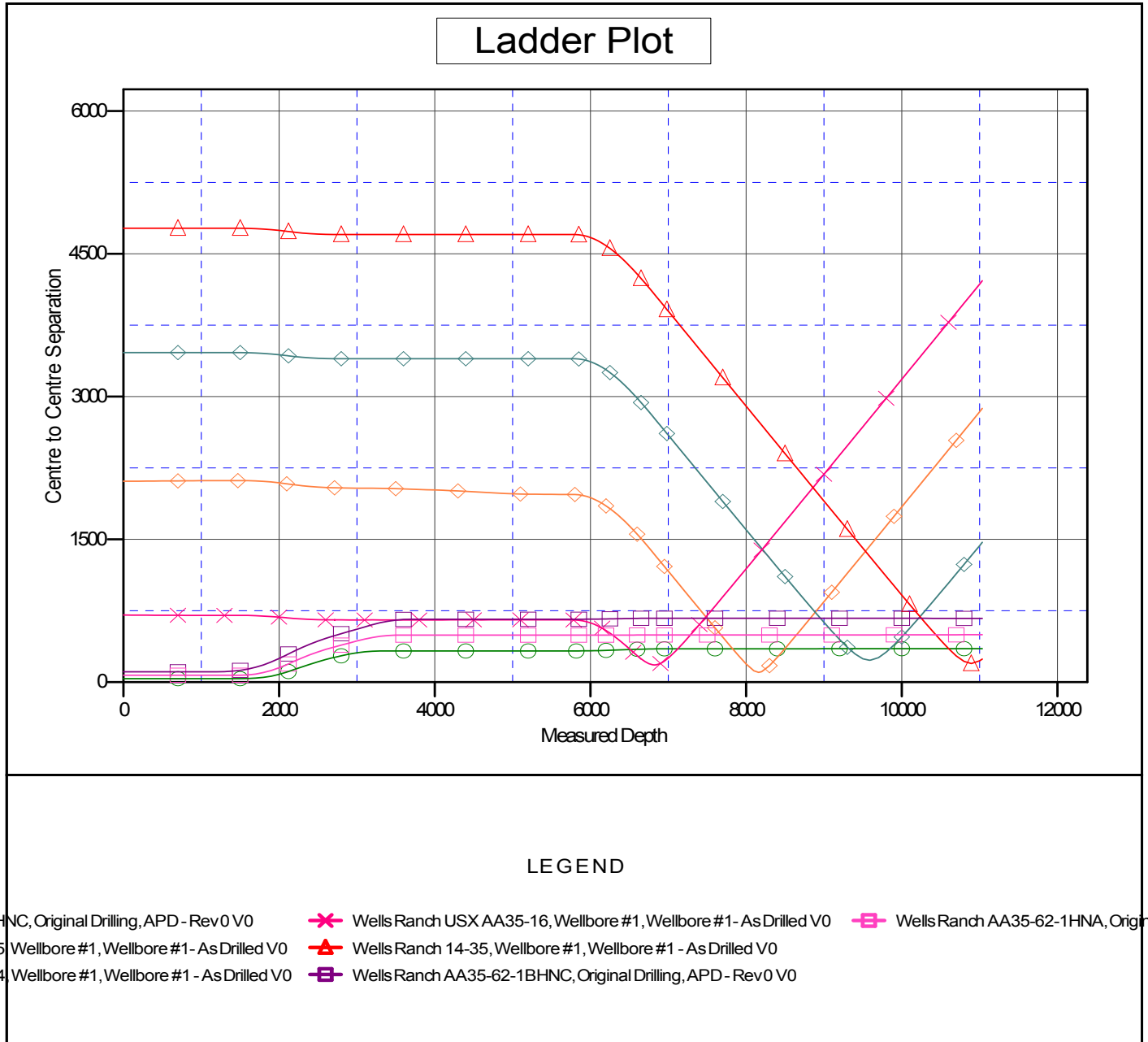
Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
AA (06N-63W)						
Wells Ranch 14-35 - Wellbore #1 - Wellbore #1 - As Drill	10,893.3	6,501.4	196.5	58.0	1.419	Level 2, CC
Wells Ranch 14-35 - Wellbore #1 - Wellbore #1 - As Drill	10,900.0	6,501.4	196.6	58.0	1.418	Level 2, ES, SF
Wells Ranch AA35-62-1AHNC - Original Drilling - APD -	1,500.0	1,499.0	36.5	30.1	5.654	CC, ES
Wells Ranch AA35-62-1AHNC - Original Drilling - APD -	11,035.6	11,159.4	352.2	96.7	1.379	Level 2, SF
Wells Ranch AA35-62-1BHNC - Original Drilling - APD -	1,200.0	1,199.0	109.3	104.2	21.381	CC, ES
Wells Ranch AA35-62-1BHNC - Original Drilling - APD -	11,035.6	11,191.5	670.2	404.3	2.520	SF
Wells Ranch AA35-62-1HNA - Original Drilling - APD - Re	1,500.0	1,499.0	72.9	66.5	11.284	CC, ES
Wells Ranch AA35-62-1HNA - Original Drilling - APD - Re	11,035.6	11,063.3	498.4	229.9	1.856	Level 3, SF
Wells Ranch USX AA35-14 - Wellbore #1 - Wellbore #1 -	9,584.9	6,496.1	230.7	128.6	2.261	CC, ES
Wells Ranch USX AA35-14 - Wellbore #1 - Wellbore #1 -	9,600.0	6,496.1	231.1	128.7	2.256	SF
Wells Ranch USX AA35-15 - Wellbore #1 - Wellbore #1 -	8,161.5	6,454.1	102.9	36.1	1.541	Level 3, CC, ES, SF
Wells Ranch USX AA35-16 - Wellbore #1 - Wellbore #1 -	6,822.2	6,448.3	180.5	147.5	5.469	CC, ES
Wells Ranch USX AA35-16 - Wellbore #1 - Wellbore #1 -	6,847.3	6,451.0	182.2	148.7	5.434	SF

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Reference Well:	Wells Ranch AA35-63-1BHNA	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 @ 4765.0usft (Original Well Ele
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000

Coordinates are relative to: Wells Ranch AA35-63-1BHNA
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.71°



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

Noble Energy Inc
Anticollision Summary Report

Company:	Northern Region Drilling - Working	Local Co-ordinate Reference:	Well Wells Ranch AA35-63-1BHNA
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Reference Design:	APD - Rev 0	Offset TVD Reference:	Offset Datum

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Offset Depths are relative to Offset Datum
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Coordinates are relative to: Wells Ranch AA35-63-1BHNA
Coordinate System is US State Plane 1983, Colorado Northern Zone
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