

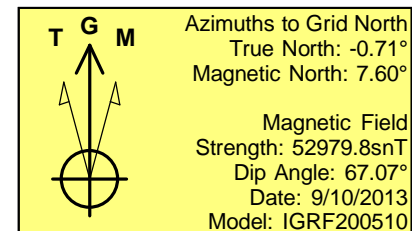
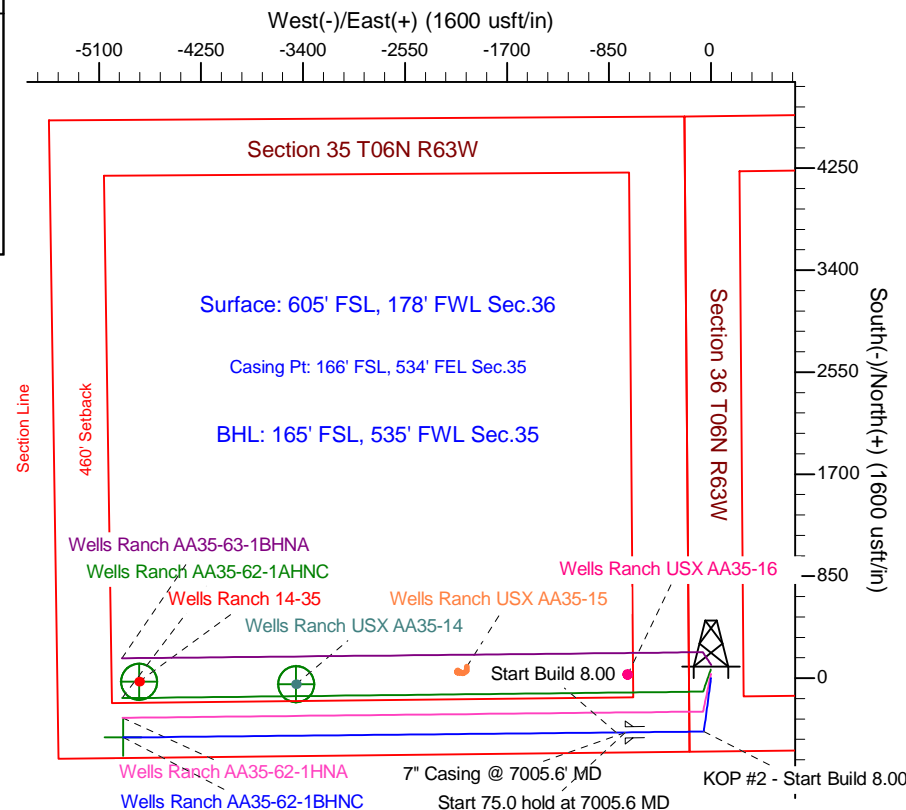
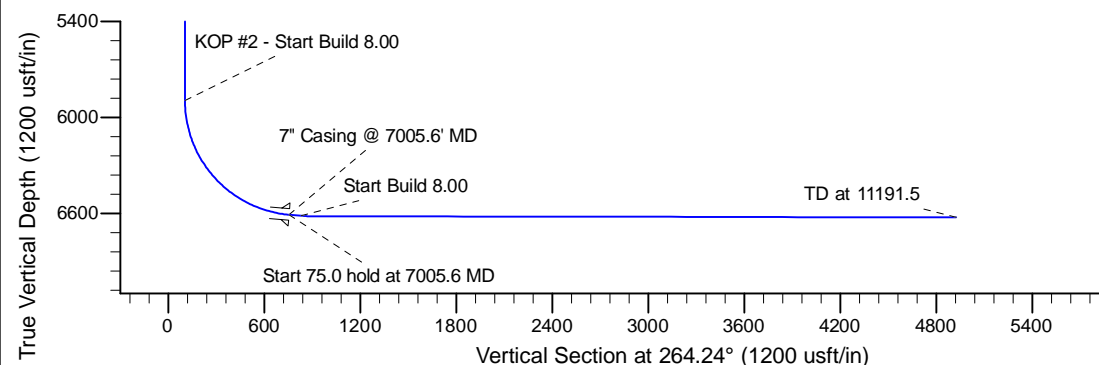
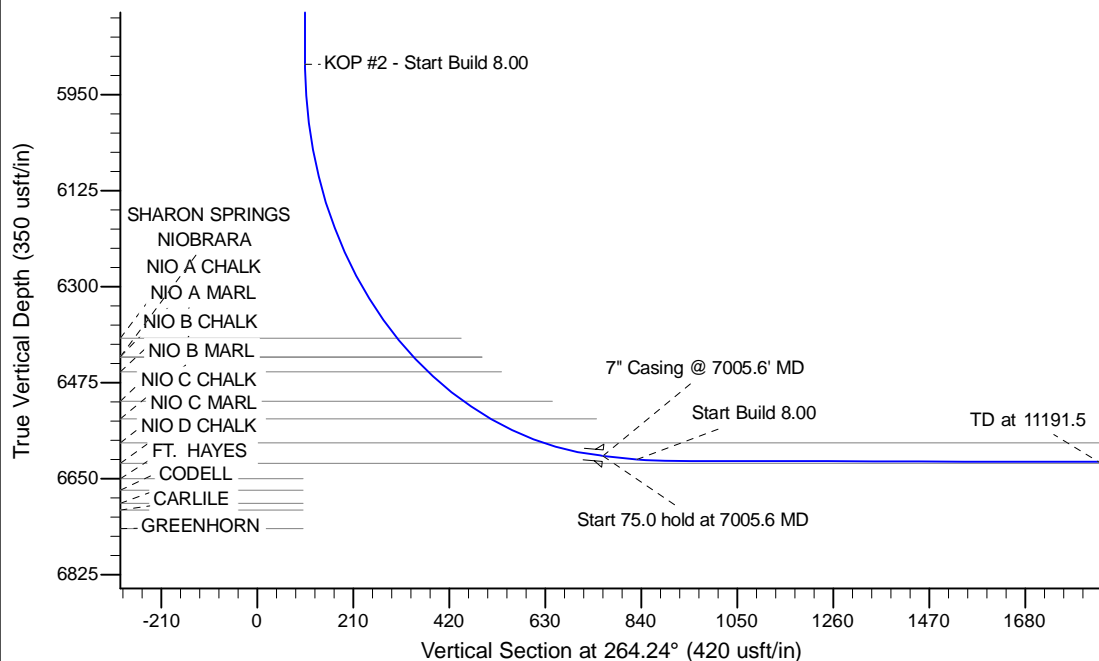
Project: Wattenberg Field
Site: AA (Sec.36-T06N-R63W) Weld County, CO
Well: Wells Ranch AA35-62-1BHNC
Wellbore: Original Drilling
Design: APD - Rev 0

Northern Region Drilling - Working

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

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	1200.0	0.00	0.00	1200.0	0.0	0.0	0.00	0.00	0.0	
3	1902.7	14.05	187.68	1895.7	-85.0	-11.5	2.00	187.68	19.9	
4	3045.6	14.05	187.68	3004.3	-360.0	-48.5	0.00	0.00	84.4	
5	3748.3	0.00	0.00	3700.0	-445.0	-60.0	2.00	180.00	104.4	
6	5943.1	0.00	0.00	5894.8	-445.0	-60.0	0.00	0.00	104.4	
7	7005.6	85.00	269.42	6608.3	-451.6	-713.7	8.00	269.42	755.5	
8	7080.6	85.00	269.42	6614.8	-452.4	-788.5	0.00	0.00	829.9	
9	7141.8	89.90	269.42	6617.5	-453.0	-849.6	8.00	0.00	890.8	
10	11191.5	89.90	269.42	6624.6	-494.2	-4899.1	0.00	0.00	4924.0	Wells Ranch AA35-62-1BHNC BHL165'FSL, 535'FWL



WELL DETAILS: Wells Ranch AA35-62-1BHNC				
Ground Level: 4740.0				
0.0	0.0	Northing	Easting	Latitude
		1404064.58	3307824.42	40.437290
				Longitude
				-104.394110
Plan: APD - Rev 0 (Wells Ranch AA35-62-1BHNC/Original Drilling)				
Created By: Shailey Jewell		Date: 15:27, September 10 2013		
Checked: _____		Date: _____		
Reviewed: _____		Date: _____		
Approved: _____		Date: _____		

Northern Region Drilling - Working

Wattenberg Field

AA (06N-63W)

Wells Ranch AA35-62-1BHNC

Original Drilling

Plan: APD - Rev 0

Standard Planning Report

10 September, 2013

Noble Energy Inc

Planning Report

Database:	EDM Production	Local Co-ordinate Reference:	Well Wells Ranch AA35-62-1BHNC
Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4764.0usft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4764.0usft (Original Well Elev)
Site:	AA (06N-63W)	North Reference:	Grid
Well:	Wells Ranch AA35-62-1BHNC	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
From:	Lat/Long	Easting:	3,302,558.01 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	40.502740
		Longitude:	-104.411980
		Grid Convergence:	0.70 °

Well	Wells Ranch AA35-62-1BHNC		
Well Position	+N/-S	-23,781.1 usft	Northing: 1,404,064.59 usft
	+E/-W	5,266.6 usft	Easting: 3,307,824.42 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	Latitude: 40.437290
			Longitude: -104.394110
			Ground Level: 4,740.0 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	264.24

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	
1,902.7	14.05	187.68	1,895.7	-85.0	-11.5	2.00	2.00	0.00	187.68	
3,045.6	14.05	187.68	3,004.3	-360.0	-48.5	0.00	0.00	0.00	0.00	
3,748.3	0.00	0.00	3,700.0	-445.0	-60.0	2.00	-2.00	0.00	180.00	
5,943.1	0.00	0.00	5,894.8	-445.0	-60.0	0.00	0.00	0.00	0.00	
7,005.6	85.00	269.42	6,608.3	-451.6	-713.7	8.00	8.00	0.00	269.42	
7,080.6	85.00	269.42	6,614.8	-452.4	-788.5	0.00	0.00	0.00	0.00	
7,141.8	89.90	269.42	6,617.5	-453.0	-849.6	8.00	8.00	0.00	0.00	
11,191.5	89.90	269.42	6,624.6	-494.2	-4,899.1	0.00	0.00	0.00	0.00	Wells Ranch AA35-62

Noble Energy Inc

Planning Report

Database:	EDM Production	Local Co-ordinate Reference:	Well Wells Ranch AA35-62-1BHNC
Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4764.0usft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4764.0usft (Original Well Elev)
Site:	AA (06N-63W)	North Reference:	Grid
Well:	Wells Ranch AA35-62-1BHNC	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
KOP - Start Build 2.00									
1,250.0	1.00	187.68	1,250.0	-0.4	-0.1	0.1	2.00	2.00	0.00
1,300.0	2.00	187.68	1,300.0	-1.7	-0.2	0.4	2.00	2.00	0.00
1,350.0	3.00	187.68	1,349.9	-3.9	-0.5	0.9	2.00	2.00	0.00
1,400.0	4.00	187.68	1,399.8	-6.9	-0.9	1.6	2.00	2.00	0.00
1,450.0	5.00	187.68	1,449.7	-10.8	-1.5	2.5	2.00	2.00	0.00
1,500.0	6.00	187.68	1,499.5	-15.6	-2.1	3.6	2.00	2.00	0.00
1,550.0	7.00	187.68	1,549.1	-21.2	-2.9	5.0	2.00	2.00	0.00
1,600.0	8.00	187.68	1,598.7	-27.6	-3.7	6.5	2.00	2.00	0.00
1,650.0	9.00	187.68	1,648.2	-35.0	-4.7	8.2	2.00	2.00	0.00
1,700.0	10.00	187.68	1,697.5	-43.1	-5.8	10.1	2.00	2.00	0.00
1,750.0	11.00	187.68	1,746.6	-52.2	-7.0	12.2	2.00	2.00	0.00
1,800.0	12.00	187.68	1,795.6	-62.0	-8.4	14.5	2.00	2.00	0.00
1,850.0	13.00	187.68	1,844.4	-72.8	-9.8	17.1	2.00	2.00	0.00
1,900.0	14.00	187.68	1,893.1	-84.3	-11.4	19.8	2.00	2.00	0.00
1,902.7	14.05	187.68	1,895.7	-85.0	-11.5	19.9	2.00	2.00	0.00
1,950.0	14.05	187.68	1,941.6	-96.4	-13.0	22.6	0.00	0.00	0.00
2,000.0	14.05	187.68	1,990.1	-108.4	-14.6	25.4	0.00	0.00	0.00
2,050.0	14.05	187.68	2,038.6	-120.4	-16.2	28.2	0.00	0.00	0.00
2,100.0	14.05	187.68	2,087.1	-132.5	-17.9	31.1	0.00	0.00	0.00
2,150.0	14.05	187.68	2,135.6	-144.5	-19.5	33.9	0.00	0.00	0.00
2,200.0	14.05	187.68	2,184.1	-156.5	-21.1	36.7	0.00	0.00	0.00
2,250.0	14.05	187.68	2,232.6	-168.6	-22.7	39.5	0.00	0.00	0.00
2,300.0	14.05	187.68	2,281.1	-180.6	-24.3	42.4	0.00	0.00	0.00
2,350.0	14.05	187.68	2,329.6	-192.6	-26.0	45.2	0.00	0.00	0.00
2,400.0	14.05	187.68	2,378.1	-204.7	-27.6	48.0	0.00	0.00	0.00
2,450.0	14.05	187.68	2,426.6	-216.7	-29.2	50.8	0.00	0.00	0.00
2,500.0	14.05	187.68	2,475.1	-228.7	-30.8	53.6	0.00	0.00	0.00
2,550.0	14.05	187.68	2,523.6	-240.8	-32.5	56.5	0.00	0.00	0.00

Noble Energy Inc

Planning Report

Database:	EDM Production	Local Co-ordinate Reference:	Well Wells Ranch AA35-62-1BHNC
Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4764.0usft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4764.0usft (Original Well Elev)
Site:	AA (06N-63W)	North Reference:	Grid
Well:	Wells Ranch AA35-62-1BHNC	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)
2,600.0	14.05	187.68	2,572.1	-252.8	-34.1	59.3	0.00	0.00	0.00
2,650.0	14.05	187.68	2,620.6	-264.8	-35.7	62.1	0.00	0.00	0.00
2,700.0	14.05	187.68	2,669.1	-276.9	-37.3	64.9	0.00	0.00	0.00
2,750.0	14.05	187.68	2,717.6	-288.9	-39.0	67.7	0.00	0.00	0.00
2,800.0	14.05	187.68	2,766.1	-300.9	-40.6	70.6	0.00	0.00	0.00
2,807.1	14.05	187.68	2,773.0	-302.6	-40.8	71.0	0.00	0.00	0.00
PIERRE									
2,850.0	14.05	187.68	2,814.6	-313.0	-42.2	73.4	0.00	0.00	0.00
2,900.0	14.05	187.68	2,863.1	-325.0	-43.8	76.2	0.00	0.00	0.00
2,950.0	14.05	187.68	2,911.6	-337.0	-45.4	79.0	0.00	0.00	0.00
3,000.0	14.05	187.68	2,960.1	-349.1	-47.1	81.9	0.00	0.00	0.00
3,045.6	14.05	187.68	3,004.4	-360.0	-48.5	84.4	0.00	0.00	0.00
Start Drop -2.00									
3,050.0	13.97	187.68	3,008.6	-361.1	-48.7	84.7	2.02	-2.02	0.00
3,100.0	12.97	187.68	3,057.3	-372.6	-50.2	87.4	2.00	-2.00	0.00
3,150.0	11.97	187.68	3,106.1	-383.3	-51.7	89.9	2.00	-2.00	0.00
3,200.0	10.97	187.68	3,155.1	-393.2	-53.0	92.2	2.00	-2.00	0.00
3,250.0	9.97	187.68	3,204.2	-402.2	-54.2	94.3	2.00	-2.00	0.00
3,300.0	8.97	187.68	3,253.6	-410.3	-55.3	96.2	2.00	-2.00	0.00
3,350.0	7.97	187.68	3,303.0	-417.6	-56.3	97.9	2.00	-2.00	0.00
3,400.0	6.97	187.68	3,352.6	-424.0	-57.2	99.4	2.00	-2.00	0.00
3,450.0	5.97	187.68	3,402.3	-429.6	-57.9	100.8	2.00	-2.00	0.00
3,500.0	4.97	187.68	3,452.1	-434.3	-58.6	101.9	2.00	-2.00	0.00
3,529.0	4.38	187.68	3,481.0	-436.7	-58.9	102.4	2.00	-2.00	0.00
PARKMAN									
3,550.0	3.97	187.68	3,501.9	-438.2	-59.1	102.8	2.00	-2.00	0.00
3,600.0	2.97	187.68	3,551.8	-441.2	-59.5	103.5	2.00	-2.00	0.00
3,650.0	1.97	187.68	3,601.8	-443.3	-59.8	104.0	2.00	-2.00	0.00
3,700.0	0.97	187.68	3,651.7	-444.6	-59.9	104.3	2.00	-2.00	0.00
3,748.3	0.00	0.00	3,700.0	-445.0	-60.0	104.4	2.00	-2.00	0.00
3,750.0	0.00	0.00	3,701.7	-445.0	-60.0	104.4	0.00	0.00	0.00
3,800.0	0.00	0.00	3,751.7	-445.0	-60.0	104.4	0.00	0.00	0.00
3,850.0	0.00	0.00	3,801.7	-445.0	-60.0	104.4	0.00	0.00	0.00
3,900.0	0.00	0.00	3,851.7	-445.0	-60.0	104.4	0.00	0.00	0.00
3,950.0	0.00	0.00	3,901.7	-445.0	-60.0	104.4	0.00	0.00	0.00
4,000.0	0.00	0.00	3,951.7	-445.0	-60.0	104.4	0.00	0.00	0.00
4,050.0	0.00	0.00	4,001.7	-445.0	-60.0	104.4	0.00	0.00	0.00
4,100.0	0.00	0.00	4,051.7	-445.0	-60.0	104.4	0.00	0.00	0.00
4,150.0	0.00	0.00	4,101.7	-445.0	-60.0	104.4	0.00	0.00	0.00
4,200.0	0.00	0.00	4,151.7	-445.0	-60.0	104.4	0.00	0.00	0.00
4,250.0	0.00	0.00	4,201.7	-445.0	-60.0	104.4	0.00	0.00	0.00
4,300.0	0.00	0.00	4,251.7	-445.0	-60.0	104.4	0.00	0.00	0.00
4,350.0	0.00	0.00	4,301.7	-445.0	-60.0	104.4	0.00	0.00	0.00
4,352.3	0.00	0.00	4,304.0	-445.0	-60.0	104.4	0.00	0.00	0.00
SUSSEX									
4,400.0	0.00	0.00	4,351.7	-445.0	-60.0	104.4	0.00	0.00	0.00
4,450.0	0.00	0.00	4,401.7	-445.0	-60.0	104.4	0.00	0.00	0.00
4,500.0	0.00	0.00	4,451.7	-445.0	-60.0	104.4	0.00	0.00	0.00
4,550.0	0.00	0.00	4,501.7	-445.0	-60.0	104.4	0.00	0.00	0.00
4,600.0	0.00	0.00	4,551.7	-445.0	-60.0	104.4	0.00	0.00	0.00
4,650.0	0.00	0.00	4,601.7	-445.0	-60.0	104.4	0.00	0.00	0.00
4,700.0	0.00	0.00	4,651.7	-445.0	-60.0	104.4	0.00	0.00	0.00
4,750.0	0.00	0.00	4,701.7	-445.0	-60.0	104.4	0.00	0.00	0.00

Noble Energy Inc

Planning Report

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Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4764.0usft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4764.0usft (Original Well Elev)
Site:	AA (06N-63W)	North Reference:	Grid
Well:	Wells Ranch AA35-62-1BHNC	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	4,751.7	-445.0	-60.0	104.4	0.00	0.00	0.00
4,850.0	0.00	0.00	4,801.7	-445.0	-60.0	104.4	0.00	0.00	0.00
4,873.3	0.00	0.00	4,825.0	-445.0	-60.0	104.4	0.00	0.00	0.00
SHANNON									
4,900.0	0.00	0.00	4,851.7	-445.0	-60.0	104.4	0.00	0.00	0.00
4,950.0	0.00	0.00	4,901.7	-445.0	-60.0	104.4	0.00	0.00	0.00
5,000.0	0.00	0.00	4,951.7	-445.0	-60.0	104.4	0.00	0.00	0.00
5,050.0	0.00	0.00	5,001.7	-445.0	-60.0	104.4	0.00	0.00	0.00
5,100.0	0.00	0.00	5,051.7	-445.0	-60.0	104.4	0.00	0.00	0.00
5,150.0	0.00	0.00	5,101.7	-445.0	-60.0	104.4	0.00	0.00	0.00
5,200.0	0.00	0.00	5,151.7	-445.0	-60.0	104.4	0.00	0.00	0.00
5,250.0	0.00	0.00	5,201.7	-445.0	-60.0	104.4	0.00	0.00	0.00
5,300.0	0.00	0.00	5,251.7	-445.0	-60.0	104.4	0.00	0.00	0.00
5,350.0	0.00	0.00	5,301.7	-445.0	-60.0	104.4	0.00	0.00	0.00
5,400.0	0.00	0.00	5,351.7	-445.0	-60.0	104.4	0.00	0.00	0.00
5,450.0	0.00	0.00	5,401.7	-445.0	-60.0	104.4	0.00	0.00	0.00
5,500.0	0.00	0.00	5,451.7	-445.0	-60.0	104.4	0.00	0.00	0.00
5,550.0	0.00	0.00	5,501.7	-445.0	-60.0	104.4	0.00	0.00	0.00
5,600.0	0.00	0.00	5,551.7	-445.0	-60.0	104.4	0.00	0.00	0.00
5,650.0	0.00	0.00	5,601.7	-445.0	-60.0	104.4	0.00	0.00	0.00
5,700.0	0.00	0.00	5,651.7	-445.0	-60.0	104.4	0.00	0.00	0.00
5,750.0	0.00	0.00	5,701.7	-445.0	-60.0	104.4	0.00	0.00	0.00
5,800.0	0.00	0.00	5,751.7	-445.0	-60.0	104.4	0.00	0.00	0.00
5,844.3	0.00	0.00	5,796.0	-445.0	-60.0	104.4	0.00	0.00	0.00
TEEPEE BUTTES									
5,850.0	0.00	0.00	5,801.7	-445.0	-60.0	104.4	0.00	0.00	0.00
5,900.0	0.00	0.00	5,851.7	-445.0	-60.0	104.4	0.00	0.00	0.00
5,943.1	0.00	0.00	5,894.8	-445.0	-60.0	104.4	0.00	0.00	0.00
KOP #2 - Start Build 8.00									
5,950.0	0.55	269.42	5,901.7	-445.0	-60.0	104.4	8.04	8.04	0.00
6,000.0	4.55	269.42	5,951.7	-445.0	-62.3	106.6	8.00	8.00	0.00
6,050.0	8.55	269.42	6,001.3	-445.1	-68.0	112.3	8.00	8.00	0.00
6,100.0	12.55	269.42	6,050.5	-445.2	-77.1	121.4	8.00	8.00	0.00
6,150.0	16.55	269.42	6,098.9	-445.3	-89.7	133.9	8.00	8.00	0.00
6,200.0	20.55	269.42	6,146.3	-445.5	-105.6	149.8	8.00	8.00	0.00
6,250.0	24.55	269.42	6,192.4	-445.7	-124.8	168.9	8.00	8.00	0.00
6,300.0	28.55	269.42	6,237.1	-445.9	-147.1	191.1	8.00	8.00	0.00
6,350.0	32.55	269.42	6,280.2	-446.1	-172.5	216.4	8.00	8.00	0.00
6,400.0	36.55	269.42	6,321.4	-446.4	-200.9	244.7	8.00	8.00	0.00
6,450.0	40.55	269.42	6,360.5	-446.7	-232.0	275.7	8.00	8.00	0.00
6,495.4	44.19	269.42	6,394.0	-447.1	-262.6	306.2	8.00	8.00	0.00
SHARON SPRINGS									
6,500.0	44.55	269.42	6,397.3	-447.1	-265.8	309.4	7.98	7.98	0.00
6,544.5	48.12	269.42	6,428.0	-447.4	-298.0	341.4	8.00	8.00	0.00
NIO A CHALK - NIOBRARA									
6,550.0	48.55	269.42	6,431.7	-447.5	-302.1	345.5	7.98	7.98	0.00
6,586.3	51.46	269.42	6,455.0	-447.7	-330.0	373.2	8.00	8.00	0.00
NIO A MARL									
6,600.0	52.55	269.42	6,463.4	-447.9	-340.7	384.0	7.99	7.99	0.00
6,650.0	56.55	269.42	6,492.4	-448.3	-381.5	424.5	8.00	8.00	0.00
6,681.1	59.05	269.42	6,509.0	-448.5	-407.8	450.8	8.00	8.00	0.00
NIO B CHALK									
6,700.0	60.55	269.42	6,518.5	-448.7	-424.1	467.0	7.99	7.99	0.00

Noble Energy Inc

Planning Report

Database:	EDM Production	Local Co-ordinate Reference:	Well Wells Ranch AA35-62-1BHNC
Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4764.0usft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4764.0usft (Original Well Elev)
Site:	AA (06N-63W)	North Reference:	Grid
Well:	Wells Ranch AA35-62-1BHNC	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)
6,748.8	64.46	269.42	6,541.0	-449.1	-467.4	510.1	8.00	8.00	0.00
NIO B MARL									
6,750.0	64.55	269.42	6,541.5	-449.2	-468.5	511.2	7.91	7.91	0.00
6,800.0	68.55	269.42	6,561.4	-449.6	-514.3	556.9	8.00	8.00	0.00
6,850.0	72.55	269.42	6,578.1	-450.1	-561.5	603.8	8.00	8.00	0.00
6,874.5	74.52	269.42	6,585.0	-450.3	-585.0	627.2	8.00	8.00	0.00
NIO C CHALK									
6,900.0	76.55	269.42	6,591.4	-450.6	-609.6	651.8	8.00	8.00	0.00
6,950.0	80.55	269.42	6,601.3	-451.1	-658.6	700.6	8.00	8.00	0.00
7,000.0	84.55	269.42	6,607.8	-451.6	-708.2	750.0	8.00	8.00	0.00
7,005.6	85.00	269.42	6,608.3	-451.6	-713.8	755.5	7.96	7.96	0.00
Start 75.0 hold at 7005.6 MD - 7" Casing @ 7005.6' MD									
7,050.0	85.00	269.42	6,612.1	-452.1	-758.0	799.6	0.00	0.00	0.00
7,080.6	85.00	269.42	6,614.8	-452.4	-788.5	829.9	0.00	0.00	0.00
Start Build 8.00									
7,100.0	86.55	269.42	6,616.2	-452.6	-807.8	849.2	8.01	8.01	0.00
7,141.8	89.90	269.42	6,617.5	-453.0	-849.6	890.8	8.00	8.00	0.00
7,150.0	89.90	269.42	6,617.5	-453.1	-857.8	899.0	0.00	0.00	0.00
7,200.0	89.90	269.42	6,617.6	-453.6	-907.8	948.8	0.00	0.00	0.00
7,250.0	89.90	269.42	6,617.7	-454.1	-957.8	998.5	0.00	0.00	0.00
7,300.0	89.90	269.42	6,617.8	-454.6	-1,007.8	1,048.3	0.00	0.00	0.00
7,350.0	89.90	269.42	6,617.9	-455.1	-1,057.8	1,098.1	0.00	0.00	0.00
7,400.0	89.90	269.42	6,618.0	-455.6	-1,107.8	1,147.9	0.00	0.00	0.00
7,450.0	89.90	269.42	6,618.1	-456.2	-1,157.8	1,197.7	0.00	0.00	0.00
7,500.0	89.90	269.42	6,618.2	-456.7	-1,207.8	1,247.5	0.00	0.00	0.00
7,550.0	89.90	269.42	6,618.2	-457.2	-1,257.8	1,297.3	0.00	0.00	0.00
7,600.0	89.90	269.42	6,618.3	-457.7	-1,307.8	1,347.1	0.00	0.00	0.00
7,650.0	89.90	269.42	6,618.4	-458.2	-1,357.8	1,396.9	0.00	0.00	0.00
7,700.0	89.90	269.42	6,618.5	-458.7	-1,407.8	1,446.7	0.00	0.00	0.00
7,750.0	89.90	269.42	6,618.6	-459.2	-1,457.8	1,496.5	0.00	0.00	0.00
7,800.0	89.90	269.42	6,618.7	-459.7	-1,507.8	1,546.3	0.00	0.00	0.00
7,850.0	89.90	269.42	6,618.8	-460.2	-1,557.8	1,596.1	0.00	0.00	0.00
7,900.0	89.90	269.42	6,618.9	-460.7	-1,607.8	1,645.9	0.00	0.00	0.00
7,950.0	89.90	269.42	6,618.9	-461.2	-1,657.8	1,695.7	0.00	0.00	0.00
8,000.0	89.90	269.42	6,619.0	-461.7	-1,707.8	1,745.5	0.00	0.00	0.00
8,050.0	89.90	269.42	6,619.1	-462.3	-1,757.8	1,795.3	0.00	0.00	0.00
8,100.0	89.90	269.42	6,619.2	-462.8	-1,807.8	1,845.1	0.00	0.00	0.00
8,150.0	89.90	269.42	6,619.3	-463.3	-1,857.8	1,894.9	0.00	0.00	0.00
8,200.0	89.90	269.42	6,619.4	-463.8	-1,907.8	1,944.7	0.00	0.00	0.00
8,250.0	89.90	269.42	6,619.5	-464.3	-1,957.8	1,994.5	0.00	0.00	0.00
8,300.0	89.90	269.42	6,619.6	-464.8	-2,007.8	2,044.3	0.00	0.00	0.00
8,350.0	89.90	269.42	6,619.6	-465.3	-2,057.7	2,094.1	0.00	0.00	0.00
8,400.0	89.90	269.42	6,619.7	-465.8	-2,107.7	2,143.9	0.00	0.00	0.00
8,450.0	89.90	269.42	6,619.8	-466.3	-2,157.7	2,193.6	0.00	0.00	0.00
8,500.0	89.90	269.42	6,619.9	-466.8	-2,207.7	2,243.4	0.00	0.00	0.00
8,550.0	89.90	269.42	6,620.0	-467.3	-2,257.7	2,293.2	0.00	0.00	0.00
8,600.0	89.90	269.42	6,620.1	-467.8	-2,307.7	2,343.0	0.00	0.00	0.00
8,650.0	89.90	269.42	6,620.2	-468.4	-2,357.7	2,392.8	0.00	0.00	0.00
8,700.0	89.90	269.42	6,620.3	-468.9	-2,407.7	2,442.6	0.00	0.00	0.00
8,750.0	89.90	269.42	6,620.3	-469.4	-2,457.7	2,492.4	0.00	0.00	0.00
8,800.0	89.90	269.42	6,620.4	-469.9	-2,507.7	2,542.2	0.00	0.00	0.00
8,850.0	89.90	269.42	6,620.5	-470.4	-2,557.7	2,592.0	0.00	0.00	0.00
8,900.0	89.90	269.42	6,620.6	-470.9	-2,607.7	2,641.8	0.00	0.00	0.00

Noble Energy Inc

Planning Report

Database:	EDM Production	Local Co-ordinate Reference:	Well Wells Ranch AA35-62-1BHNC
Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4764.0usft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4764.0usft (Original Well Elev)
Site:	AA (06N-63W)	North Reference:	Grid
Well:	Wells Ranch AA35-62-1BHNC	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)	
8,950.0	89.90	269.42	6,620.7	-471.4	-2,657.7	2,691.6	0.00	0.00	0.00	
9,000.0	89.90	269.42	6,620.8	-471.9	-2,707.7	2,741.4	0.00	0.00	0.00	
9,050.0	89.90	269.42	6,620.9	-472.4	-2,757.7	2,791.2	0.00	0.00	0.00	
9,100.0	89.90	269.42	6,620.9	-472.9	-2,807.7	2,841.0	0.00	0.00	0.00	
9,150.0	89.90	269.42	6,621.0	-473.4	-2,857.7	2,890.8	0.00	0.00	0.00	
9,200.0	89.90	269.42	6,621.1	-473.9	-2,907.7	2,940.6	0.00	0.00	0.00	
9,250.0	89.90	269.42	6,621.2	-474.4	-2,957.7	2,990.4	0.00	0.00	0.00	
9,300.0	89.90	269.42	6,621.3	-475.0	-3,007.7	3,040.2	0.00	0.00	0.00	
9,350.0	89.90	269.42	6,621.4	-475.5	-3,057.7	3,090.0	0.00	0.00	0.00	
9,400.0	89.90	269.42	6,621.5	-476.0	-3,107.7	3,139.8	0.00	0.00	0.00	
9,450.0	89.90	269.42	6,621.6	-476.5	-3,157.7	3,189.6	0.00	0.00	0.00	
9,500.0	89.90	269.42	6,621.6	-477.0	-3,207.7	3,239.4	0.00	0.00	0.00	
9,550.0	89.90	269.42	6,621.7	-477.5	-3,257.7	3,289.2	0.00	0.00	0.00	
9,600.0	89.90	269.42	6,621.8	-478.0	-3,307.7	3,339.0	0.00	0.00	0.00	
9,650.0	89.90	269.42	6,621.9	-478.5	-3,357.7	3,388.8	0.00	0.00	0.00	
9,700.0	89.90	269.42	6,622.0	-479.0	-3,407.7	3,438.5	0.00	0.00	0.00	
9,701.9	89.90	269.42	6,622.0	-479.0	-3,409.5	3,440.4	0.00	0.00	0.00	
NIO C MARL										
9,745.4	89.90	269.42	6,622.1	-479.5	-3,453.1	3,483.8	0.00	0.00	0.00	
Wells Ranch USX AA35-14										
9,750.0	89.90	269.42	6,622.1	-479.5	-3,457.7	3,488.3	0.00	0.00	0.00	
9,800.0	89.90	269.42	6,622.2	-480.0	-3,507.7	3,538.1	0.00	0.00	0.00	
9,850.0	89.90	269.42	6,622.3	-480.5	-3,557.7	3,587.9	0.00	0.00	0.00	
9,900.0	89.90	269.42	6,622.3	-481.1	-3,607.7	3,637.7	0.00	0.00	0.00	
9,950.0	89.90	269.42	6,622.4	-481.6	-3,657.7	3,687.5	0.00	0.00	0.00	
10,000.0	89.90	269.42	6,622.5	-482.1	-3,707.7	3,737.3	0.00	0.00	0.00	
10,050.0	89.90	269.42	6,622.6	-482.6	-3,757.7	3,787.1	0.00	0.00	0.00	
10,100.0	89.90	269.42	6,622.7	-483.1	-3,807.7	3,836.9	0.00	0.00	0.00	
10,150.0	89.90	269.42	6,622.8	-483.6	-3,857.7	3,886.7	0.00	0.00	0.00	
10,200.0	89.90	269.42	6,622.9	-484.1	-3,907.7	3,936.5	0.00	0.00	0.00	
10,250.0	89.90	269.42	6,623.0	-484.6	-3,957.6	3,986.3	0.00	0.00	0.00	
10,300.0	89.90	269.42	6,623.0	-485.1	-4,007.6	4,036.1	0.00	0.00	0.00	
10,350.0	89.90	269.42	6,623.1	-485.6	-4,057.6	4,085.9	0.00	0.00	0.00	
10,400.0	89.90	269.42	6,623.2	-486.1	-4,107.6	4,135.7	0.00	0.00	0.00	
10,450.0	89.90	269.42	6,623.3	-486.6	-4,157.6	4,185.5	0.00	0.00	0.00	
10,500.0	89.90	269.42	6,623.4	-487.1	-4,207.6	4,235.3	0.00	0.00	0.00	
10,550.0	89.90	269.42	6,623.5	-487.7	-4,257.6	4,285.1	0.00	0.00	0.00	
10,600.0	89.90	269.42	6,623.6	-488.2	-4,307.6	4,334.9	0.00	0.00	0.00	
10,650.0	89.90	269.42	6,623.7	-488.7	-4,357.6	4,384.7	0.00	0.00	0.00	
10,700.0	89.90	269.42	6,623.7	-489.2	-4,407.6	4,434.5	0.00	0.00	0.00	
10,750.0	89.90	269.42	6,623.8	-489.7	-4,457.6	4,484.3	0.00	0.00	0.00	
10,800.0	89.90	269.42	6,623.9	-490.2	-4,507.6	4,534.1	0.00	0.00	0.00	
10,850.0	89.90	269.42	6,624.0	-490.7	-4,557.6	4,583.9	0.00	0.00	0.00	
10,900.0	89.90	269.42	6,624.1	-491.2	-4,607.6	4,633.6	0.00	0.00	0.00	
10,950.0	89.90	269.42	6,624.2	-491.7	-4,657.6	4,683.4	0.00	0.00	0.00	
11,000.0	89.90	269.42	6,624.3	-492.2	-4,707.6	4,733.2	0.00	0.00	0.00	
11,050.0	89.90	269.42	6,624.4	-492.7	-4,757.6	4,783.0	0.00	0.00	0.00	
11,054.7	89.90	269.42	6,624.4	-492.8	-4,762.3	4,787.7	0.00	0.00	0.00	
Wells Ranch 14-35										
11,100.0	89.90	269.42	6,624.4	-493.2	-4,807.6	4,832.8	0.00	0.00	0.00	
11,150.0	89.90	269.42	6,624.5	-493.8	-4,857.6	4,882.6	0.00	0.00	0.00	
11,191.5	89.90	269.42	6,624.6	-494.2	-4,899.1	4,924.0	0.00	0.00	0.00	
TD at 11191.5 - Wells Ranch AA35-62-1BHNC BHL165°FSL, 535°FWL										

Noble Energy Inc

Planning Report

Database:	EDM Production	Local Co-ordinate Reference:	Well Wells Ranch AA35-62-1BHNC
Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4764.0usft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4764.0usft (Original Well Elev)
Site:	AA (06N-63W)	North Reference:	Grid
Well:	Wells Ranch AA35-62-1BHNC	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Drilling		
Design:	APD - Rev 0		

Design Targets

Target Name

- hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Wells Ranch AA35-62-1I - plan hits target center - Point	0.00	0.00	6,624.6	-494.2	-4,899.1	1,403,570.43	3,302,925.47	40.436100	-104.411730
Wells Ranch USX AA35- - plan misses target center by 518.6usft at 9745.4usft MD (6622.1 TVD, -479.5 N, -3453.1 E) - Circle (radius 150.0)	0.00	0.00	6,913.0	-50.2	-3,457.0	1,404,014.43	3,304,367.58	40.437270	-104.406530
Wells Ranch 14-35 - plan misses target center by 899.0usft at 11054.7usft MD (6624.4 TVD, -492.8 N, -4762.3 E) - Circle (radius 150.0)	0.00	0.00	7,395.0	-29.8	-4,765.6	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 (")
7,005.6	6,608.3	7" Casing @ 7005.6' MD	7	8-3/4

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,807.1	2,773.0	PIERRE		0.00	
3,529.0	3,481.0	PARKMAN		0.00	
4,352.3	4,304.0	SUSSEX		0.00	
4,873.3	4,825.0	SHANNON		0.00	
5,844.3	5,796.0	TEEPEE BUTTES		0.00	
6,495.4	6,394.0	SHARON SPRINGS		0.00	
6,544.5	6,428.0	NIO A CHALK		0.00	
6,544.5	6,428.0	NIOBRARA		0.00	
6,586.3	6,455.0	NIO A MARL		0.00	
6,681.1	6,509.0	NIO B CHALK		0.00	
6,748.8	6,541.0	NIO B MARL		0.00	
6,874.5	6,585.0	NIO C CHALK		0.00	
9,701.9	6,622.0	NIO C MARL		0.00	

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,200.0	1,200.0	0.0	0.0	KOP - Start Build 2.00
3,045.6	3,004.4	-360.0	-48.5	Start Drop -2.00
5,943.1	5,894.8	-445.0	-60.0	KOP #2 - Start Build 8.00
7,005.6	6,608.3	-451.6	-713.8	Start 75.0 hold at 7005.6 MD
7,080.6	6,614.8	-452.4	-788.5	Start Build 8.00
11,191.5	6,624.6	-494.2	-4,899.1	TD at 11191.5

Northern Region Drilling - Working

Wattenberg Field

AA (06N-63W)

Wells Ranch AA35-62-1BHNC

Original Drilling

APD - Rev 0

Anticollision Summary Report

10 September, 2013

Noble Energy Inc
Anticollision Summary Report

Company:	Northern Region Drilling - Working	Local Co-ordinate Reference:	Well Wells Ranch AA35-62-1BHNC
Project:	Wattenberg Field	TVD Reference:	WELL @ 4764.0usft (Original Well Elev)
Reference Site:	AA (06N-63W)	MD Reference:	WELL @ 4764.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Wells Ranch AA35-62-1BHNC	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	11,191.5	APD - Rev 0 (Original Drilling)	MWD	MWD - Standard

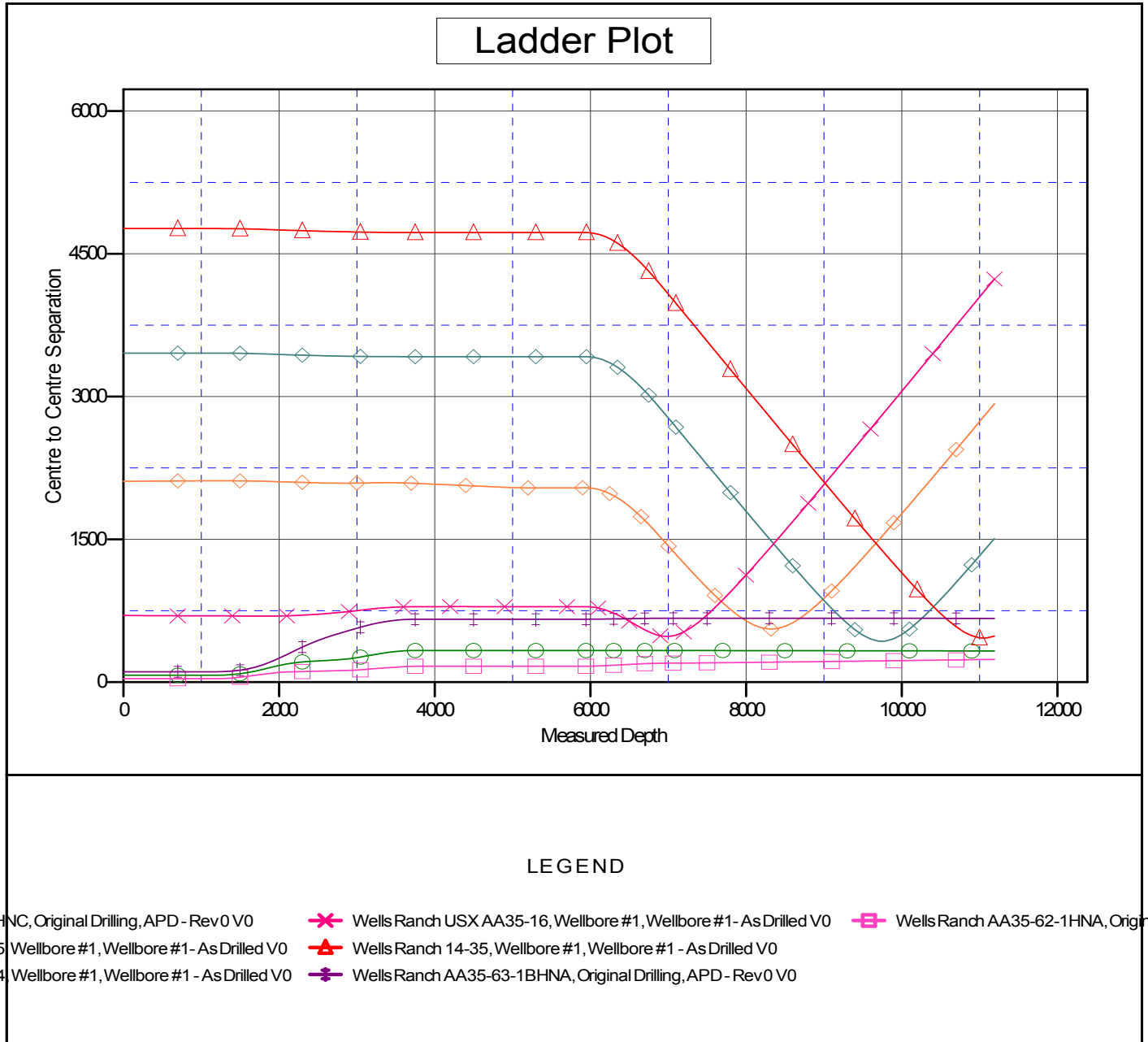
Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
AA (06N-63W)						
Wells Ranch 14-35 - Wellbore #1 - Wellbore #1 - As Drill	11,053.3	6,621.4	463.0	324.5	3.343	CC, ES
Wells Ranch 14-35 - Wellbore #1 - Wellbore #1 - As Drill	11,100.0	6,621.4	465.3	325.5	3.329	SF
Wells Ranch AA35-62-1AHNC - Original Drilling - APD -	1,200.0	1,200.0	72.9	67.7	14.243	CC
Wells Ranch AA35-62-1AHNC - Original Drilling - APD -	11,191.5	11,156.3	327.9	58.1	1.215	Level 2, ES, SF
Wells Ranch AA35-62-1HNA - Original Drilling - APD - Re	1,200.0	1,200.0	36.4	31.3	7.122	CC, ES
Wells Ranch AA35-62-1HNA - Original Drilling - APD - Re	11,191.5	11,057.8	239.2	48.0	1.251	Level 2, SF
Wells Ranch AA35-63-1BHNA - Original Drilling - APD - R	1,200.0	1,201.0	109.3	104.2	21.362	CC, ES
Wells Ranch AA35-63-1BHNA - Original Drilling - APD - R	11,191.5	11,031.9	670.2	404.4	2.521	SF
Wells Ranch USX AA35-14 - Wellbore #1 - Wellbore #1 -	9,744.9	6,616.1	429.3	327.3	4.208	CC, ES
Wells Ranch USX AA35-14 - Wellbore #1 - Wellbore #1 -	9,800.0	6,616.2	432.9	329.3	4.179	SF
Wells Ranch USX AA35-15 - Wellbore #1 - Wellbore #1 -	8,321.3	6,570.3	557.9	491.0	8.346	CC, ES
Wells Ranch USX AA35-15 - Wellbore #1 - Wellbore #1 -	8,400.0	6,570.2	563.4	494.4	8.168	SF
Wells Ranch USX AA35-16 - Wellbore #1 - Wellbore #1 -	6,982.8	6,569.6	480.4	447.3	14.489	CC
Wells Ranch USX AA35-16 - Wellbore #1 - Wellbore #1 -	7,000.0	6,571.4	480.7	447.2	14.344	ES
Wells Ranch USX AA35-16 - Wellbore #1 - Wellbore #1 -	7,141.8	6,581.2	505.9	469.3	13.814	SF

Noble Energy Inc
Anticollision Summary Report

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Reference Site:	AA (06N-63W)	MD Reference:	WELL @ 4764.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Wells Ranch AA35-62-1BHNC	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 @ 4764.0usft (Original Well Ele
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000

Coordinates are relative to: Wells Ranch AA35-62-1BHNC
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 AA35-62-1BHNC
Project:	Wattenberg Field	TVD Reference:	WELL @ 4764.0usft (Original Well Elev)
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Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Wells Ranch AA35-62-1BHNC	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 @ 4764.0usft (Original Well Ele
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000

Coordinates are relative to: Wells Ranch AA35-62-1BHNC
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.71°

