

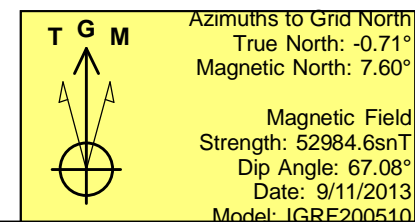
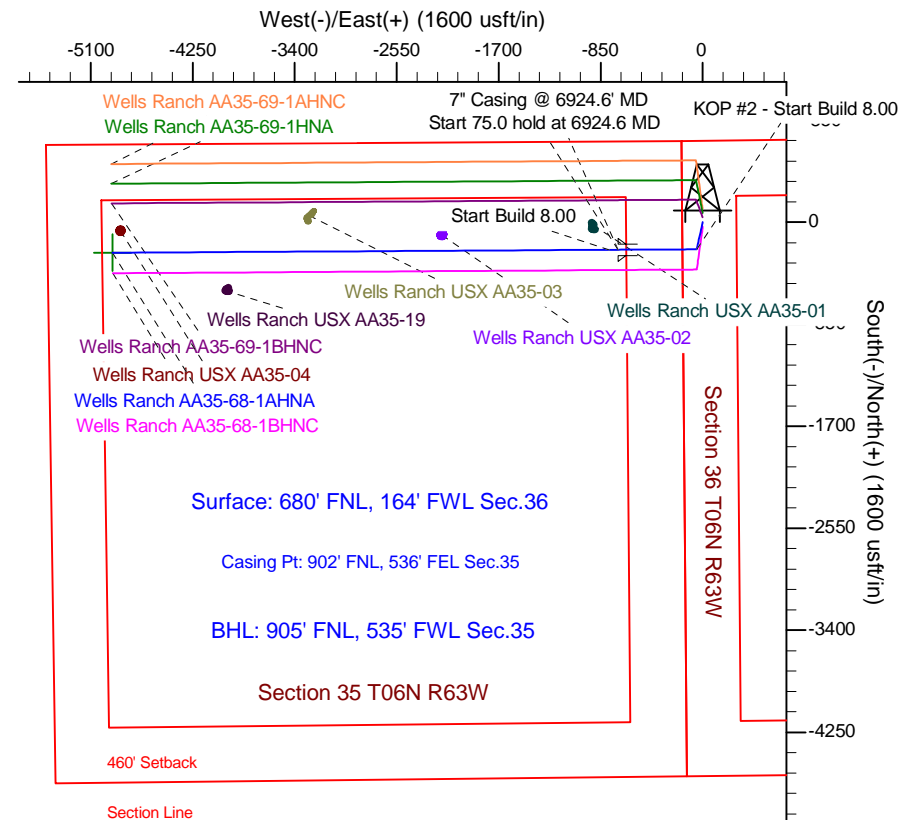
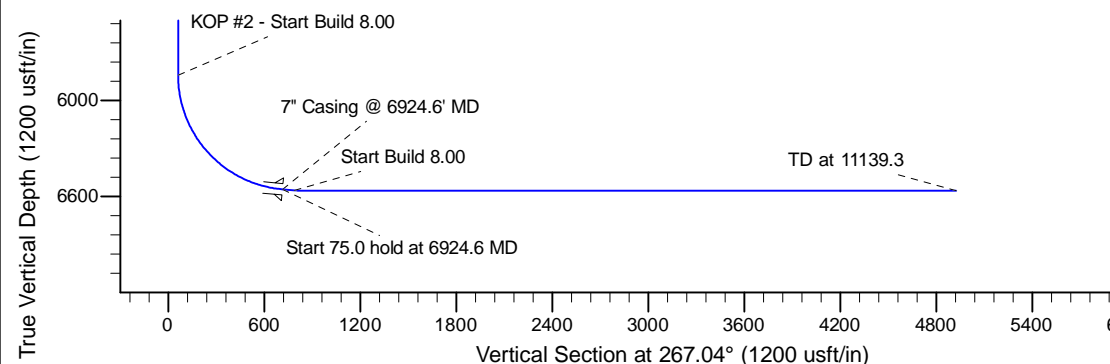
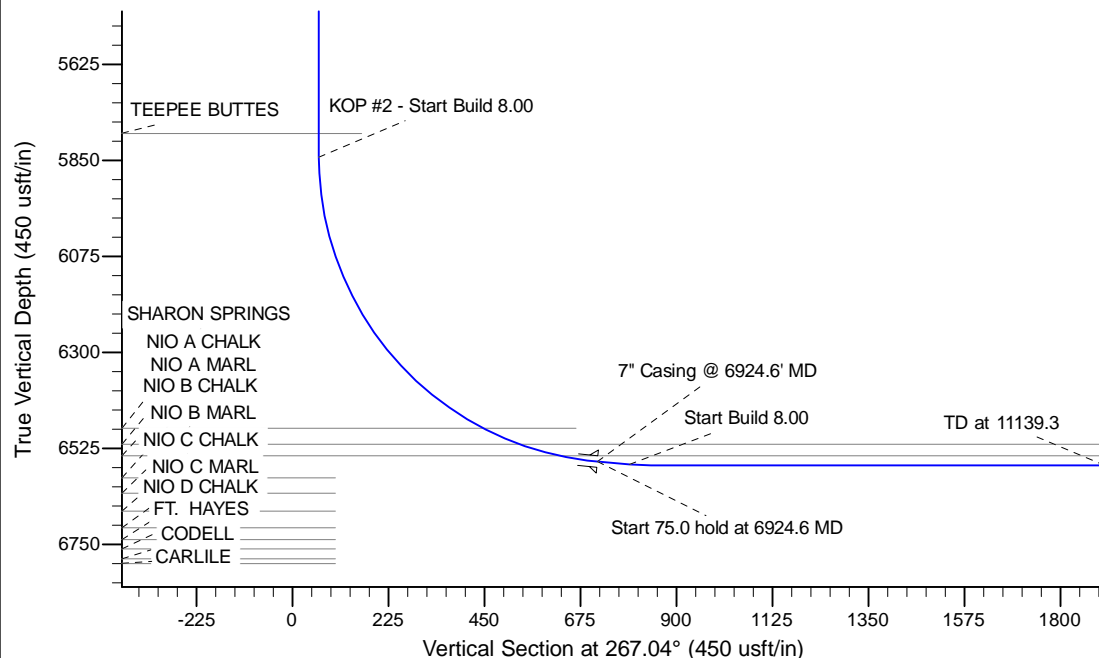
Project: Wattenberg Field
Site: AA (Sec.36-T06N-R63W) Weld County, CO
Well: Wells Ranch AA35-68-1AHNA
Wellbore: Original Drilling
Design: APD - Rev 0

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	1500.0	0.00	0.00	1500.0	0.0	0.0	0.00	0.00	0.0	
3	2101.9	12.04	192.53	2097.4	-61.5	-13.7	2.00	192.53	16.8	
4	2603.0	12.04	192.53	2587.6	-163.5	-36.3	0.00	0.00	44.7	
5	3204.9	0.00	0.00	3185.0	-225.0	-50.0	2.00	180.00	61.5	
6	5862.1	0.00	0.00	5842.3	-225.0	-50.0	0.00	0.00	61.5	
7	6924.6	85.00	269.66	6555.7	-228.9	-703.8	8.00	269.66	714.6	
8	6999.6	85.00	269.66	6562.3	-229.3	-778.5	0.00	0.00	789.3	
9	7062.1	90.00	269.66	6565.0	-229.7	-840.9	8.00	0.00	851.6	
10	11139.3	90.00	269.66	6565.0	-253.9	-4918.0	0.00	0.00	4924.5	Wells Ranch AA35-68-1AHNA BHL 905'FNL, 535'FWL



WELL DETAILS: Wells Ranch AA35-68-1AHNA				
Ground Level: 4808.0				
0.0	0.0	Northing	Easting	Latitude
		1408068.00	3307780.06	40.448280
				Longitude
				-104.394090
Plan: APD - Rev 0 (Wells Ranch AA35-68-1AHNA/Original Drilling)				
Created By: Shailey Jewell		Date: 15:15, September 11 2013		
Checked: _____		Date: _____		
Reviewed: _____		Date: _____		
Approved: _____		Date: _____		

Northern Region Drilling - Working

Wattenberg Field

AA (06N-63W)

Wells Ranch AA35-68-1AHNA

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 AA35-68-1AHNA
Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4838.0usft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4838.0usft (Original Well Elev)
Site:	AA (06N-63W)	North Reference:	Grid
Well:	Wells Ranch AA35-68-1AHNA	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 AA35-68-1AHNA		
Well Position	+N/-S	-19,777.5 usft	Northing: 1,408,068.00 usft
	+E/-W	5,222.2 usft	Easting: 3,307,780.06 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	Latitude: 40.448280
			Longitude: -104.394090
			Ground Level: 4,808.0 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	267.04

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	
2,101.9	12.04	192.53	2,097.4	-61.5	-13.7	2.00	2.00	0.00	192.53	
2,603.0	12.04	192.53	2,587.6	-163.5	-36.3	0.00	0.00	0.00	0.00	
3,204.9	0.00	0.00	3,185.0	-225.0	-50.0	2.00	-2.00	0.00	180.00	
5,862.1	0.00	0.00	5,842.3	-225.0	-50.0	0.00	0.00	0.00	0.00	
6,924.6	85.00	269.66	6,555.7	-228.9	-703.8	8.00	8.00	0.00	269.66	
6,999.6	85.00	269.66	6,562.3	-229.3	-778.5	0.00	0.00	0.00	0.00	
7,062.1	90.00	269.66	6,565.0	-229.7	-840.9	8.00	8.00	0.00	0.00	
11,139.3	90.00	269.66	6,565.0	-253.9	-4,918.0	0.00	0.00	0.00	0.00	Wells Ranch AA35-68

Noble Energy Inc

Planning Report

Database:	EDM Production	Local Co-ordinate Reference:	Well Wells Ranch AA35-68-1AHNA
Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4838.0usft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4838.0usft (Original Well Elev)
Site:	AA (06N-63W)	North Reference:	Grid
Well:	Wells Ranch AA35-68-1AHNA	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
1,096.0	0.00	0.00	1,096.0	0.0	0.0	0.0	0.00	0.00	0.00
PIERRE									
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	192.53	1,550.0	-0.4	-0.1	0.1	2.00	2.00	0.00
1,600.0	2.00	192.53	1,600.0	-1.7	-0.4	0.5	2.00	2.00	0.00
1,650.0	3.00	192.53	1,649.9	-3.8	-0.9	1.0	2.00	2.00	0.00
1,700.0	4.00	192.53	1,699.8	-6.8	-1.5	1.9	2.00	2.00	0.00
1,750.0	5.00	192.53	1,749.7	-10.6	-2.4	2.9	2.00	2.00	0.00
1,800.0	6.00	192.53	1,799.5	-15.3	-3.4	4.2	2.00	2.00	0.00
1,850.0	7.00	192.53	1,849.1	-20.8	-4.6	5.7	2.00	2.00	0.00
1,900.0	8.00	192.53	1,898.7	-27.2	-6.0	7.4	2.00	2.00	0.00
1,950.0	9.00	192.53	1,948.2	-34.4	-7.7	9.4	2.00	2.00	0.00
2,000.0	10.00	192.53	1,997.5	-42.5	-9.4	11.6	2.00	2.00	0.00
2,050.0	11.00	192.53	2,046.6	-51.4	-11.4	14.1	2.00	2.00	0.00
2,100.0	12.00	192.53	2,095.6	-61.1	-13.6	16.7	2.00	2.00	0.00
2,101.9	12.04	192.53	2,097.4	-61.5	-13.7	16.8	2.00	2.00	0.00
2,150.0	12.04	192.53	2,144.5	-71.3	-15.8	19.5	0.00	0.00	0.00
2,200.0	12.04	192.53	2,193.4	-81.5	-18.1	22.3	0.00	0.00	0.00
2,250.0	12.04	192.53	2,242.3	-91.6	-20.4	25.1	0.00	0.00	0.00
2,300.0	12.04	192.53	2,291.2	-101.8	-22.6	27.8	0.00	0.00	0.00
2,350.0	12.04	192.53	2,340.1	-112.0	-24.9	30.6	0.00	0.00	0.00
2,400.0	12.04	192.53	2,389.0	-122.2	-27.2	33.4	0.00	0.00	0.00
2,450.0	12.04	192.53	2,437.9	-132.4	-29.4	36.2	0.00	0.00	0.00

Noble Energy Inc

Planning Report

Database:	EDM Production	Local Co-ordinate Reference:	Well Wells Ranch AA35-68-1AHNA
Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4838.0usft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4838.0usft (Original Well Elev)
Site:	AA (06N-63W)	North Reference:	Grid
Well:	Wells Ranch AA35-68-1AHNA	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	12.04	192.53	2,486.8	-142.5	-31.7	39.0	0.00	0.00	0.00
2,550.0	12.04	192.53	2,535.7	-152.7	-33.9	41.8	0.00	0.00	0.00
2,600.0	12.04	192.53	2,584.6	-162.9	-36.2	44.6	0.00	0.00	0.00
2,603.0	12.04	192.53	2,587.6	-163.5	-36.3	44.7	0.00	0.00	0.00
Start Drop -2.00									
2,650.0	11.10	192.53	2,633.6	-172.7	-38.4	47.2	2.00	-2.00	0.00
2,700.0	10.10	192.53	2,682.8	-181.7	-40.4	49.7	2.00	-2.00	0.00
2,750.0	9.10	192.53	2,732.1	-189.8	-42.2	51.9	2.00	-2.00	0.00
2,800.0	8.10	192.53	2,781.5	-197.1	-43.8	53.9	2.00	-2.00	0.00
2,850.0	7.10	192.53	2,831.1	-203.6	-45.2	55.7	2.00	-2.00	0.00
2,900.0	6.10	192.53	2,880.7	-209.2	-46.5	57.2	2.00	-2.00	0.00
2,950.0	5.10	192.53	2,930.5	-213.9	-47.5	58.5	2.00	-2.00	0.00
3,000.0	4.10	192.53	2,980.3	-217.9	-48.4	59.6	2.00	-2.00	0.00
3,050.0	3.10	192.53	3,030.2	-220.9	-49.1	60.4	2.00	-2.00	0.00
3,100.0	2.10	192.53	3,080.2	-223.1	-49.6	61.0	2.00	-2.00	0.00
3,150.0	1.10	192.53	3,130.1	-224.5	-49.9	61.4	2.00	-2.00	0.00
3,200.0	0.10	192.53	3,180.1	-225.0	-50.0	61.5	2.00	-2.00	0.00
3,204.9	0.00	0.00	3,185.0	-225.0	-50.0	61.5	2.00	-2.00	0.00
3,250.0	0.00	0.00	3,230.1	-225.0	-50.0	61.5	0.00	0.00	0.00
3,300.0	0.00	0.00	3,280.1	-225.0	-50.0	61.5	0.00	0.00	0.00
3,350.0	0.00	0.00	3,330.1	-225.0	-50.0	61.5	0.00	0.00	0.00
3,400.0	0.00	0.00	3,380.1	-225.0	-50.0	61.5	0.00	0.00	0.00
3,450.0	0.00	0.00	3,430.1	-225.0	-50.0	61.5	0.00	0.00	0.00
3,500.0	0.00	0.00	3,480.1	-225.0	-50.0	61.5	0.00	0.00	0.00
3,550.0	0.00	0.00	3,530.1	-225.0	-50.0	61.5	0.00	0.00	0.00
3,597.9	0.00	0.00	3,578.0	-225.0	-50.0	61.5	0.00	0.00	0.00
PARKMAN									
3,600.0	0.00	0.00	3,580.1	-225.0	-50.0	61.5	0.00	0.00	0.00
3,650.0	0.00	0.00	3,630.1	-225.0	-50.0	61.5	0.00	0.00	0.00
3,700.0	0.00	0.00	3,680.1	-225.0	-50.0	61.5	0.00	0.00	0.00
3,750.0	0.00	0.00	3,730.1	-225.0	-50.0	61.5	0.00	0.00	0.00
3,800.0	0.00	0.00	3,780.1	-225.0	-50.0	61.5	0.00	0.00	0.00
3,850.0	0.00	0.00	3,830.1	-225.0	-50.0	61.5	0.00	0.00	0.00
3,900.0	0.00	0.00	3,880.1	-225.0	-50.0	61.5	0.00	0.00	0.00
3,950.0	0.00	0.00	3,930.1	-225.0	-50.0	61.5	0.00	0.00	0.00
4,000.0	0.00	0.00	3,980.1	-225.0	-50.0	61.5	0.00	0.00	0.00
4,050.0	0.00	0.00	4,030.1	-225.0	-50.0	61.5	0.00	0.00	0.00
4,100.0	0.00	0.00	4,080.1	-225.0	-50.0	61.5	0.00	0.00	0.00
4,150.0	0.00	0.00	4,130.1	-225.0	-50.0	61.5	0.00	0.00	0.00
4,200.0	0.00	0.00	4,180.1	-225.0	-50.0	61.5	0.00	0.00	0.00
4,250.0	0.00	0.00	4,230.1	-225.0	-50.0	61.5	0.00	0.00	0.00
4,300.0	0.00	0.00	4,280.1	-225.0	-50.0	61.5	0.00	0.00	0.00
4,338.9	0.00	0.00	4,319.0	-225.0	-50.0	61.5	0.00	0.00	0.00
SUSSEX									
4,350.0	0.00	0.00	4,330.1	-225.0	-50.0	61.5	0.00	0.00	0.00
4,400.0	0.00	0.00	4,380.1	-225.0	-50.0	61.5	0.00	0.00	0.00
4,450.0	0.00	0.00	4,430.1	-225.0	-50.0	61.5	0.00	0.00	0.00
4,500.0	0.00	0.00	4,480.1	-225.0	-50.0	61.5	0.00	0.00	0.00
4,550.0	0.00	0.00	4,530.1	-225.0	-50.0	61.5	0.00	0.00	0.00
4,600.0	0.00	0.00	4,580.1	-225.0	-50.0	61.5	0.00	0.00	0.00
4,650.0	0.00	0.00	4,630.1	-225.0	-50.0	61.5	0.00	0.00	0.00
4,700.0	0.00	0.00	4,680.1	-225.0	-50.0	61.5	0.00	0.00	0.00
4,750.0	0.00	0.00	4,730.1	-225.0	-50.0	61.5	0.00	0.00	0.00

Noble Energy Inc

Planning Report

Database:	EDM Production	Local Co-ordinate Reference:	Well Wells Ranch AA35-68-1AHNA
Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4838.0usft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4838.0usft (Original Well Elev)
Site:	AA (06N-63W)	North Reference:	Grid
Well:	Wells Ranch AA35-68-1AHNA	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	4,780.1	-225.0	-50.0	61.5	0.00	0.00	0.00
4,850.0	0.00	0.00	4,830.1	-225.0	-50.0	61.5	0.00	0.00	0.00
4,900.0	0.00	0.00	4,880.1	-225.0	-50.0	61.5	0.00	0.00	0.00
4,937.9	0.00	0.00	4,918.0	-225.0	-50.0	61.5	0.00	0.00	0.00
SHANNON									
4,950.0	0.00	0.00	4,930.1	-225.0	-50.0	61.5	0.00	0.00	0.00
5,000.0	0.00	0.00	4,980.1	-225.0	-50.0	61.5	0.00	0.00	0.00
5,050.0	0.00	0.00	5,030.1	-225.0	-50.0	61.5	0.00	0.00	0.00
5,100.0	0.00	0.00	5,080.1	-225.0	-50.0	61.5	0.00	0.00	0.00
5,150.0	0.00	0.00	5,130.1	-225.0	-50.0	61.5	0.00	0.00	0.00
5,200.0	0.00	0.00	5,180.1	-225.0	-50.0	61.5	0.00	0.00	0.00
5,250.0	0.00	0.00	5,230.1	-225.0	-50.0	61.5	0.00	0.00	0.00
5,300.0	0.00	0.00	5,280.1	-225.0	-50.0	61.5	0.00	0.00	0.00
5,350.0	0.00	0.00	5,330.1	-225.0	-50.0	61.5	0.00	0.00	0.00
5,400.0	0.00	0.00	5,380.1	-225.0	-50.0	61.5	0.00	0.00	0.00
5,450.0	0.00	0.00	5,430.1	-225.0	-50.0	61.5	0.00	0.00	0.00
5,500.0	0.00	0.00	5,480.1	-225.0	-50.0	61.5	0.00	0.00	0.00
5,550.0	0.00	0.00	5,530.1	-225.0	-50.0	61.5	0.00	0.00	0.00
5,600.0	0.00	0.00	5,580.1	-225.0	-50.0	61.5	0.00	0.00	0.00
5,650.0	0.00	0.00	5,630.1	-225.0	-50.0	61.5	0.00	0.00	0.00
5,700.0	0.00	0.00	5,680.1	-225.0	-50.0	61.5	0.00	0.00	0.00
5,750.0	0.00	0.00	5,730.1	-225.0	-50.0	61.5	0.00	0.00	0.00
5,800.0	0.00	0.00	5,780.1	-225.0	-50.0	61.5	0.00	0.00	0.00
5,806.9	0.00	0.00	5,787.0	-225.0	-50.0	61.5	0.00	0.00	0.00
TEEPEE BUTTES									
5,850.0	0.00	0.00	5,830.1	-225.0	-50.0	61.5	0.00	0.00	0.00
5,862.1	0.00	0.00	5,842.2	-225.0	-50.0	61.5	0.00	0.00	0.00
KOP #2 - Start Build 8.00									
5,900.0	3.03	269.66	5,880.1	-225.0	-51.0	62.5	8.00	8.00	0.00
5,950.0	7.03	269.66	5,929.9	-225.0	-55.4	66.9	8.00	8.00	0.00
6,000.0	11.03	269.66	5,979.3	-225.1	-63.2	74.8	8.00	8.00	0.00
6,050.0	15.03	269.66	6,028.0	-225.1	-74.5	86.0	8.00	8.00	0.00
6,100.0	19.03	269.66	6,075.8	-225.2	-89.1	100.6	8.00	8.00	0.00
6,150.0	23.03	269.66	6,122.5	-225.3	-107.1	118.6	8.00	8.00	0.00
6,200.0	27.03	269.66	6,167.8	-225.5	-128.2	139.7	8.00	8.00	0.00
6,250.0	31.03	269.66	6,211.5	-225.6	-152.5	163.9	8.00	8.00	0.00
6,300.0	35.03	269.66	6,253.4	-225.8	-179.7	191.1	8.00	8.00	0.00
6,350.0	39.03	269.66	6,293.3	-226.0	-209.8	221.2	8.00	8.00	0.00
6,400.0	43.03	269.66	6,331.0	-226.1	-242.7	254.0	8.00	8.00	0.00
6,450.0	47.03	269.66	6,366.3	-226.4	-278.0	289.3	8.00	8.00	0.00
6,500.0	51.03	269.66	6,399.1	-226.6	-315.8	327.0	8.00	8.00	0.00
6,550.0	55.03	269.66	6,429.2	-226.8	-355.7	366.9	8.00	8.00	0.00
6,600.0	59.03	269.66	6,456.4	-227.1	-397.6	408.8	8.00	8.00	0.00
6,644.4	62.58	269.66	6,478.0	-227.3	-436.4	447.5	8.00	8.00	0.00
SHARON SPRINGS									
6,650.0	63.03	269.66	6,480.6	-227.3	-441.4	452.5	8.00	8.00	0.00
6,700.0	67.03	269.66	6,501.7	-227.6	-486.7	497.8	8.00	8.00	0.00
6,736.3	69.94	269.66	6,515.0	-227.8	-520.5	531.5	8.00	8.00	0.00
NIO A CHALK									
6,750.0	71.03	269.66	6,519.6	-227.9	-533.4	544.4	8.00	8.00	0.00
6,800.0	75.03	269.66	6,534.2	-228.2	-581.2	592.2	8.00	8.00	0.00
6,833.3	77.69	269.66	6,542.0	-228.4	-613.5	624.5	8.00	8.00	0.00
NIO A MARL									

Noble Energy Inc

Planning Report

Database:	EDM Production	Local Co-ordinate Reference:	Well Wells Ranch AA35-68-1AHNA
Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4838.0usft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4838.0usft (Original Well Elev)
Site:	AA (06N-63W)	North Reference:	Grid
Well:	Wells Ranch AA35-68-1AHNA	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)
6,850.0	79.03	269.66	6,545.4	-228.4	-629.9	640.8	8.00	8.00	0.00
6,900.0	83.03	269.66	6,553.2	-228.7	-679.3	690.2	8.00	8.00	0.00
6,924.6	85.00	269.66	6,555.7	-228.9	-703.7	714.6	8.00	8.00	0.00
Start 75.0 hold at 6924.6 MD - 7" Casing @ 6924.6" MD									
6,950.0	85.00	269.66	6,557.9	-229.0	-729.0	739.9	0.01	0.01	0.00
6,999.6	85.00	269.66	6,562.3	-229.3	-778.5	789.2	0.00	0.00	0.00
Start Build 8.00									
7,000.0	85.03	269.66	6,562.3	-229.3	-778.9	789.6	7.60	7.60	0.00
7,050.0	89.03	269.66	6,564.9	-229.6	-828.8	839.5	8.00	8.00	0.00
7,062.1	90.00	269.66	6,565.0	-229.7	-840.9	851.6	8.00	8.00	0.00
7,100.0	90.00	269.66	6,565.0	-229.9	-878.8	889.5	0.00	0.00	0.00
7,150.0	90.00	269.66	6,565.0	-230.2	-928.8	939.4	0.00	0.00	0.00
7,200.0	90.00	269.66	6,565.0	-230.5	-978.8	989.4	0.00	0.00	0.00
7,250.0	90.00	269.66	6,565.0	-230.8	-1,028.8	1,039.3	0.00	0.00	0.00
7,300.0	90.00	269.66	6,565.0	-231.1	-1,078.8	1,089.3	0.00	0.00	0.00
7,350.0	90.00	269.66	6,565.0	-231.4	-1,128.8	1,139.2	0.00	0.00	0.00
7,400.0	90.00	269.66	6,565.0	-231.7	-1,178.8	1,189.2	0.00	0.00	0.00
7,450.0	90.00	269.66	6,565.0	-232.0	-1,228.8	1,239.1	0.00	0.00	0.00
7,500.0	90.00	269.66	6,565.0	-232.3	-1,278.8	1,289.0	0.00	0.00	0.00
7,550.0	90.00	269.66	6,565.0	-232.6	-1,328.8	1,339.0	0.00	0.00	0.00
7,600.0	90.00	269.66	6,565.0	-232.9	-1,378.8	1,388.9	0.00	0.00	0.00
7,650.0	90.00	269.66	6,565.0	-233.2	-1,428.8	1,438.9	0.00	0.00	0.00
7,700.0	90.00	269.66	6,565.0	-233.5	-1,478.8	1,488.8	0.00	0.00	0.00
7,750.0	90.00	269.66	6,565.0	-233.8	-1,528.8	1,538.8	0.00	0.00	0.00
7,800.0	90.00	269.66	6,565.0	-234.1	-1,578.8	1,588.7	0.00	0.00	0.00
7,850.0	90.00	269.66	6,565.0	-234.4	-1,628.8	1,638.7	0.00	0.00	0.00
7,900.0	90.00	269.66	6,565.0	-234.7	-1,678.8	1,688.6	0.00	0.00	0.00
7,950.0	90.00	269.66	6,565.0	-235.0	-1,728.8	1,738.6	0.00	0.00	0.00
8,000.0	90.00	269.66	6,565.0	-235.3	-1,778.8	1,788.5	0.00	0.00	0.00
8,050.0	90.00	269.66	6,565.0	-235.6	-1,828.8	1,838.5	0.00	0.00	0.00
8,100.0	90.00	269.66	6,565.0	-235.9	-1,878.8	1,888.4	0.00	0.00	0.00
8,150.0	90.00	269.66	6,565.0	-236.2	-1,928.8	1,938.4	0.00	0.00	0.00
8,200.0	90.00	269.66	6,565.0	-236.5	-1,978.8	1,988.3	0.00	0.00	0.00
8,250.0	90.00	269.66	6,565.0	-236.8	-2,028.8	2,038.3	0.00	0.00	0.00
8,300.0	90.00	269.66	6,565.0	-237.1	-2,078.8	2,088.2	0.00	0.00	0.00
8,350.0	90.00	269.66	6,565.0	-237.4	-2,128.8	2,138.2	0.00	0.00	0.00
8,400.0	90.00	269.66	6,565.0	-237.7	-2,178.8	2,188.1	0.00	0.00	0.00
8,450.0	90.00	269.66	6,565.0	-238.0	-2,228.8	2,238.1	0.00	0.00	0.00
8,500.0	90.00	269.66	6,565.0	-238.3	-2,278.8	2,288.0	0.00	0.00	0.00
8,550.0	90.00	269.66	6,565.0	-238.5	-2,328.8	2,338.0	0.00	0.00	0.00
8,600.0	90.00	269.66	6,565.0	-238.8	-2,378.8	2,387.9	0.00	0.00	0.00
8,650.0	90.00	269.66	6,565.0	-239.1	-2,428.7	2,437.9	0.00	0.00	0.00
8,700.0	90.00	269.66	6,565.0	-239.4	-2,478.7	2,487.8	0.00	0.00	0.00
8,750.0	90.00	269.66	6,565.0	-239.7	-2,528.7	2,537.7	0.00	0.00	0.00
8,800.0	90.00	269.66	6,565.0	-240.0	-2,578.7	2,587.7	0.00	0.00	0.00
8,850.0	90.00	269.66	6,565.0	-240.3	-2,628.7	2,637.6	0.00	0.00	0.00
8,900.0	90.00	269.66	6,565.0	-240.6	-2,678.7	2,687.6	0.00	0.00	0.00
8,950.0	90.00	269.66	6,565.0	-240.9	-2,728.7	2,737.5	0.00	0.00	0.00
9,000.0	90.00	269.66	6,565.0	-241.2	-2,778.7	2,787.5	0.00	0.00	0.00
9,050.0	90.00	269.66	6,565.0	-241.5	-2,828.7	2,837.4	0.00	0.00	0.00
9,100.0	90.00	269.66	6,565.0	-241.8	-2,878.7	2,887.4	0.00	0.00	0.00
9,150.0	90.00	269.66	6,565.0	-242.1	-2,928.7	2,937.3	0.00	0.00	0.00
9,200.0	90.00	269.66	6,565.0	-242.4	-2,978.7	2,987.3	0.00	0.00	0.00

Noble Energy Inc

Planning Report

Database:	EDM Production	Local Co-ordinate Reference:	Well Wells Ranch AA35-68-1AHNA
Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4838.0usft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4838.0usft (Original Well Elev)
Site:	AA (06N-63W)	North Reference:	Grid
Well:	Wells Ranch AA35-68-1AHNA	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	90.00	269.66	6,565.0	-242.7	-3,028.7	3,037.2	0.00	0.00	0.00	
9,300.0	90.00	269.66	6,565.0	-243.0	-3,078.7	3,087.2	0.00	0.00	0.00	
9,350.0	90.00	269.66	6,565.0	-243.3	-3,128.7	3,137.1	0.00	0.00	0.00	
9,400.0	90.00	269.66	6,565.0	-243.6	-3,178.7	3,187.1	0.00	0.00	0.00	
9,450.0	90.00	269.66	6,565.0	-243.9	-3,228.7	3,237.0	0.00	0.00	0.00	
9,500.0	90.00	269.66	6,565.0	-244.2	-3,278.7	3,287.0	0.00	0.00	0.00	
9,550.0	90.00	269.66	6,565.0	-244.5	-3,328.7	3,336.9	0.00	0.00	0.00	
9,600.0	90.00	269.66	6,565.0	-244.8	-3,378.7	3,386.9	0.00	0.00	0.00	
9,650.0	90.00	269.66	6,565.0	-245.1	-3,428.7	3,436.8	0.00	0.00	0.00	
9,700.0	90.00	269.66	6,565.0	-245.4	-3,478.7	3,486.8	0.00	0.00	0.00	
9,750.0	90.00	269.66	6,565.0	-245.7	-3,528.7	3,536.7	0.00	0.00	0.00	
9,800.0	90.00	269.66	6,565.0	-246.0	-3,578.7	3,586.7	0.00	0.00	0.00	
9,850.0	90.00	269.66	6,565.0	-246.3	-3,628.7	3,636.6	0.00	0.00	0.00	
9,900.0	90.00	269.66	6,565.0	-246.6	-3,678.7	3,686.5	0.00	0.00	0.00	
9,950.0	90.00	269.66	6,565.0	-246.9	-3,728.7	3,736.5	0.00	0.00	0.00	
10,000.0	90.00	269.66	6,565.0	-247.2	-3,778.7	3,786.4	0.00	0.00	0.00	
10,050.0	90.00	269.66	6,565.0	-247.5	-3,828.7	3,836.4	0.00	0.00	0.00	
10,100.0	90.00	269.66	6,565.0	-247.8	-3,878.7	3,886.3	0.00	0.00	0.00	
10,150.0	90.00	269.66	6,565.0	-248.1	-3,928.7	3,936.3	0.00	0.00	0.00	
10,200.0	90.00	269.66	6,565.0	-248.4	-3,978.7	3,986.2	0.00	0.00	0.00	
10,250.0	90.00	269.66	6,565.0	-248.7	-4,028.7	4,036.2	0.00	0.00	0.00	
10,300.0	90.00	269.66	6,565.0	-249.0	-4,078.7	4,086.1	0.00	0.00	0.00	
10,350.0	90.00	269.66	6,565.0	-249.2	-4,128.7	4,136.1	0.00	0.00	0.00	
10,400.0	90.00	269.66	6,565.0	-249.5	-4,178.7	4,186.0	0.00	0.00	0.00	
10,450.0	90.00	269.66	6,565.0	-249.8	-4,228.7	4,236.0	0.00	0.00	0.00	
10,500.0	90.00	269.66	6,565.0	-250.1	-4,278.7	4,285.9	0.00	0.00	0.00	
10,550.0	90.00	269.66	6,565.0	-250.4	-4,328.7	4,335.9	0.00	0.00	0.00	
10,600.0	90.00	269.66	6,565.0	-250.7	-4,378.7	4,385.8	0.00	0.00	0.00	
10,650.0	90.00	269.66	6,565.0	-251.0	-4,428.7	4,435.8	0.00	0.00	0.00	
10,700.0	90.00	269.66	6,565.0	-251.3	-4,478.7	4,485.7	0.00	0.00	0.00	
10,750.0	90.00	269.66	6,565.0	-251.6	-4,528.7	4,535.7	0.00	0.00	0.00	
10,800.0	90.00	269.66	6,565.0	-251.9	-4,578.7	4,585.6	0.00	0.00	0.00	
10,850.0	90.00	269.66	6,565.0	-252.2	-4,628.7	4,635.6	0.00	0.00	0.00	
10,900.0	90.00	269.66	6,565.0	-252.5	-4,678.7	4,685.5	0.00	0.00	0.00	
10,950.0	90.00	269.66	6,565.0	-252.8	-4,728.7	4,735.5	0.00	0.00	0.00	
11,000.0	90.00	269.66	6,565.0	-253.1	-4,778.7	4,785.4	0.00	0.00	0.00	
11,050.0	90.00	269.66	6,565.0	-253.4	-4,828.7	4,835.4	0.00	0.00	0.00	
11,100.0	90.00	269.66	6,565.0	-253.7	-4,878.7	4,885.3	0.00	0.00	0.00	
11,139.3	90.00	269.66	6,565.0	-253.9	-4,918.0	4,924.5	0.00	0.00	0.00	
TD at 11139.3 - Wells Ranch AA35-68-1AHNA BHL 905°FNL, 535°FWL										

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 AA35-68-1/	0.00	0.00	6,565.0	-253.9	-4,918.0	1,407,814.07	3,302,862.25	40.447750	-104.411770	
- plan hits target center										
- Point										

Noble Energy Inc

Planning Report

Database:	EDM Production	Local Co-ordinate Reference:	Well Wells Ranch AA35-68-1AHNA
Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4838.0usft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4838.0usft (Original Well Elev)
Site:	AA (06N-63W)	North Reference:	Grid
Well:	Wells Ranch AA35-68-1AHNA	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Drilling		
Design:	APD - Rev 0		

Casing Points				
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
6,924.6	6,555.7	7" Casing @ 6924.6' MD	7	8-3/4

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,096.0	1,096.0	PIERRE		0.00	
3,597.9	3,578.0	PARKMAN		0.00	
4,338.9	4,319.0	SUSSEX		0.00	
4,937.9	4,918.0	SHANNON		0.00	
5,806.9	5,787.0	TEEPEE BUTTES		0.00	
6,644.4	6,478.0	SHARON SPRINGS		0.00	
6,736.3	6,515.0	NIO A CHALK		0.00	
6,833.3	6,542.0	NIO A MARL		0.00	

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
1,500.0	1,500.0	0.0	0.0	KOP - Start Build 2.00	
2,603.0	2,587.6	-163.5	-36.3	Start Drop -2.00	
5,862.1	5,842.2	-225.0	-50.0	KOP #2 - Start Build 8.00	
6,924.6	6,555.7	-228.9	-703.7	Start 75.0 hold at 6924.6 MD	
6,999.6	6,562.3	-229.3	-778.5	Start Build 8.00	
11,139.3	6,565.0	-253.9	-4,918.0	TD at 11139.3	

Northern Region Drilling - Working

Wattenberg Field

AA (06N-63W)

Wells Ranch AA35-68-1AHNA

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 AA35-68-1AHNA
Project:	Wattenberg Field	TVD Reference:	WELL @ 4838.0usft (Original Well Elev)
Reference Site:	AA (06N-63W)	MD Reference:	WELL @ 4838.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Wells Ranch AA35-68-1AHNA	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	11,139.3	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 AA35-68-1BHNC - Original Drilling - APD -	1,200.0	1,200.0	36.4	31.3	7.140	CC
Wells Ranch AA35-68-1BHNC - Original Drilling - APD -	11,139.3	11,298.4	224.4	12.8	1.060	Level 2, ES, SF
Wells Ranch AA35-69-1AHNC - Original Drilling - APD -	1,166.0	1,168.0	112.9	108.0	22.799	CC
Wells Ranch AA35-69-1AHNC - Original Drilling - APD -	1,200.0	1,201.9	112.9	107.8	22.117	ES
Wells Ranch AA35-69-1AHNC - Original Drilling - APD -	11,139.3	11,304.0	764.4	501.5	2.908	SF
Wells Ranch AA35-69-1BHNC - Original Drilling - APD -	1,500.0	1,501.0	40.1	33.6	6.211	CC, ES
Wells Ranch AA35-69-1BHNC - Original Drilling - APD -	11,139.3	11,283.7	439.5	184.4	1.723	Level 3, SF
Wells Ranch AA35-69-1HNA - Original Drilling - APD - Re	1,466.3	1,467.3	76.5	70.2	12.141	CC
Wells Ranch AA35-69-1HNA - Original Drilling - APD - Re	1,500.0	1,500.0	76.5	70.1	11.862	ES
Wells Ranch AA35-69-1HNA - Original Drilling - APD - Re	11,139.3	11,228.4	583.0	315.0	2.176	SF
Wells Ranch USX AA35-01 - Wellbore #1 - Wellbore #1-	7,138.5	6,519.3	211.5	173.3	5.544	CC, ES, SF
Wells Ranch USX AA35-02 - Wellbore #1 - Wellbore #1-	8,390.4	6,518.2	137.1	66.4	1.940	Level 3, CC, ES
Wells Ranch USX AA35-02 - Wellbore #1 - Wellbore #1-	8,400.0	6,518.2	137.5	66.5	1.938	Level 3, SF
Wells Ranch USX AA35-03 - Wellbore #1 - Wellbore #1-	9,486.1	6,526.7	301.0	200.2	2.985	CC
Wells Ranch USX AA35-03 - Wellbore #1 - Wellbore #1-	9,500.0	6,527.1	301.3	200.1	2.977	ES, SF
Wells Ranch USX AA35-04 - Wellbore #1 - Wellbore #1-	11,071.8	6,548.0	182.6	37.5	1.259	Level 2, CC, ES, SF
Wells Ranch USX AA35-19 - Wellbore #1 - Wellbore #1-	10,200.3	6,515.7	317.6	196.8	2.630	CC, ES, SF

Noble Energy Inc

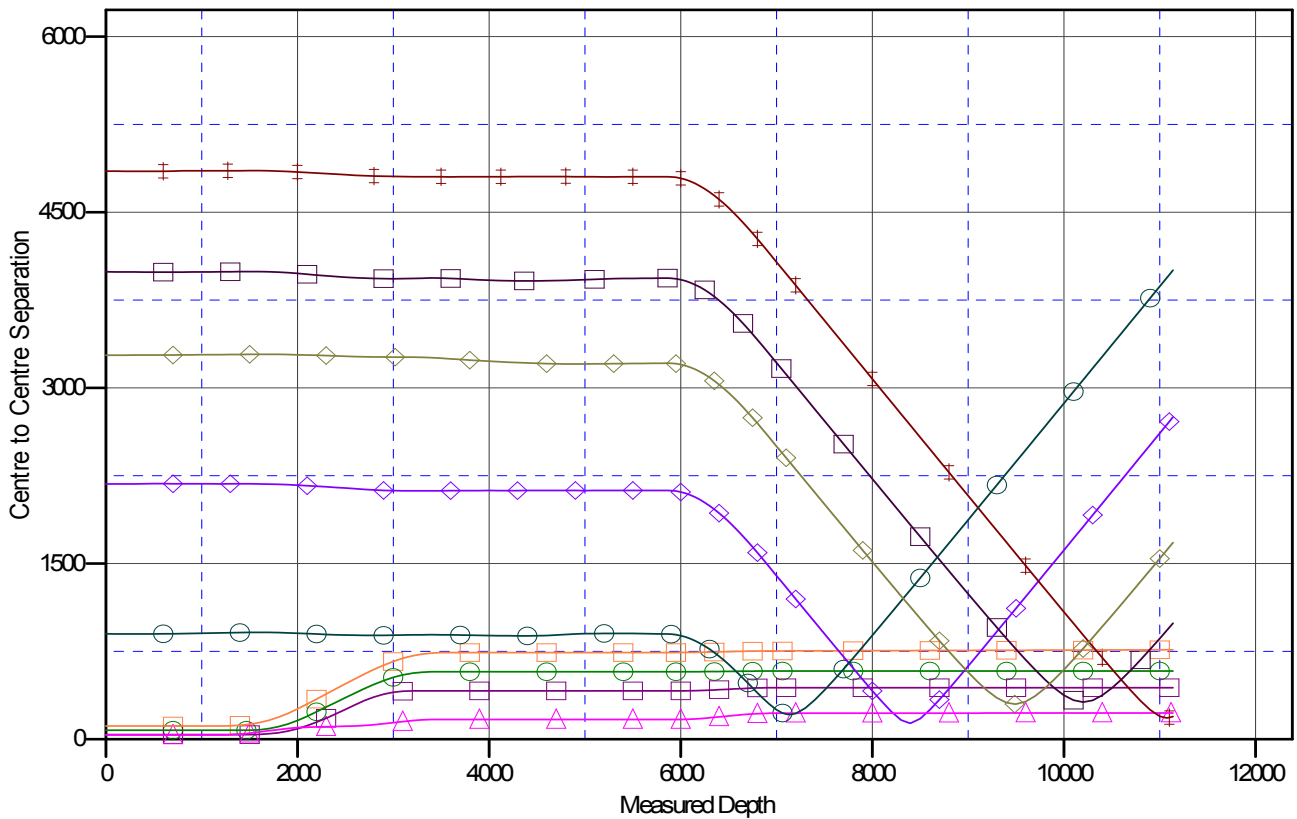
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Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	EDM Production
Reference Design:	APD - Rev 0	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4838.0usft (Original Well Ele)
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000

Coordinates are relative to: Wells Ranch AA35-68-1AHNA
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.71°

Ladder Plot



LEGEND

AHNC, Original Drilling, APD - Rev0 V0
HNA, Original Drilling, APD - Rev0 V0
BHNC, Original Drilling, APD - Rev0 V0

◆ Wells Ranch USX AA35-02, Wellbore #1, Wellbore #1- As Drilled V0
▲ Wells Ranch AA35-68-1BHNC, Original Drilling, APD - Rev0 V0
◆ Wells Ranch USX AA35-04, Wellbore #1, Wellbore #1- As Drilled V0
■ Wells Ranch USX AA35-19, Wellbore
● Wells Ranch USX AA35-01, Wellbore
◆ Wells Ranch USX AA35-03, Wellbore

Noble Energy Inc

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