

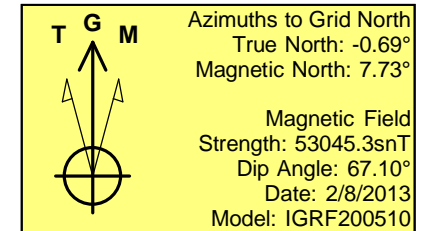
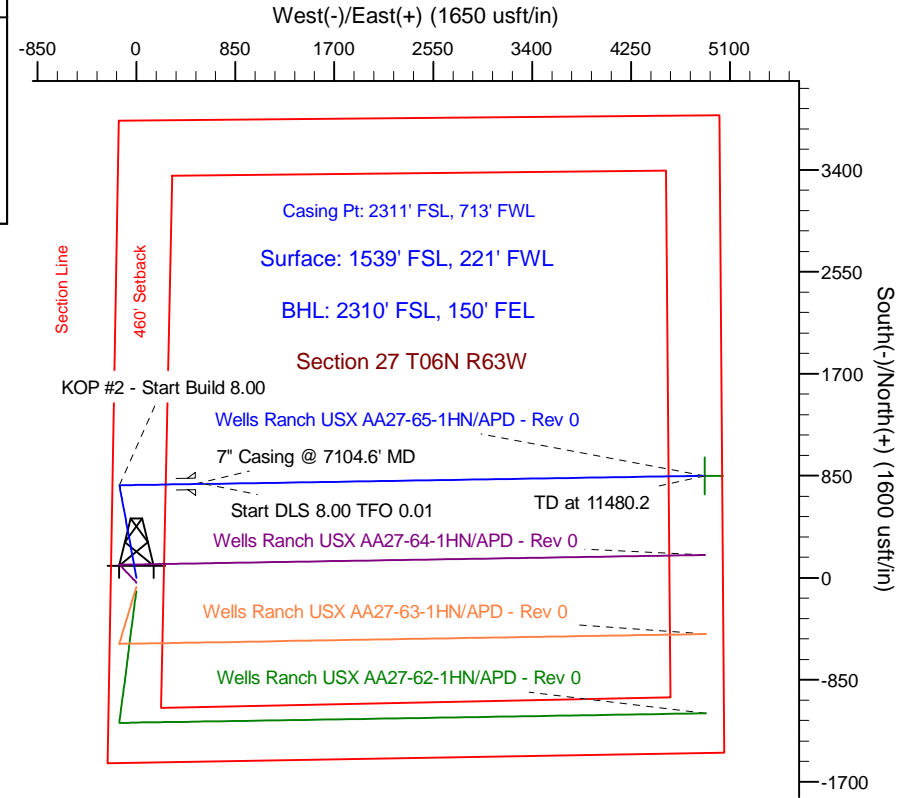
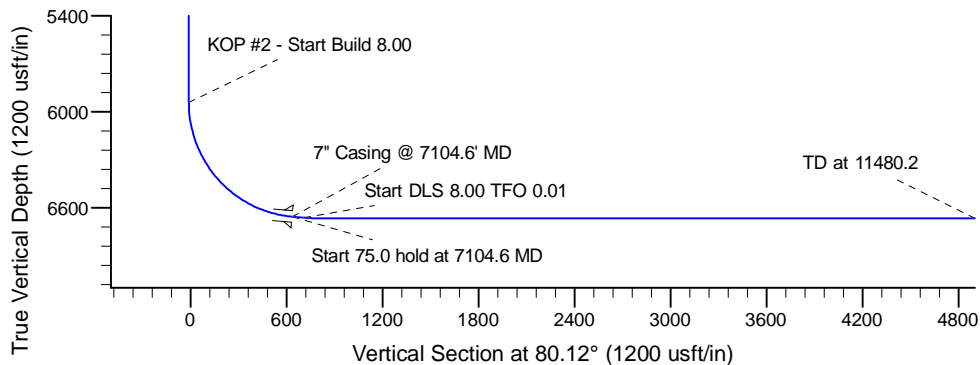
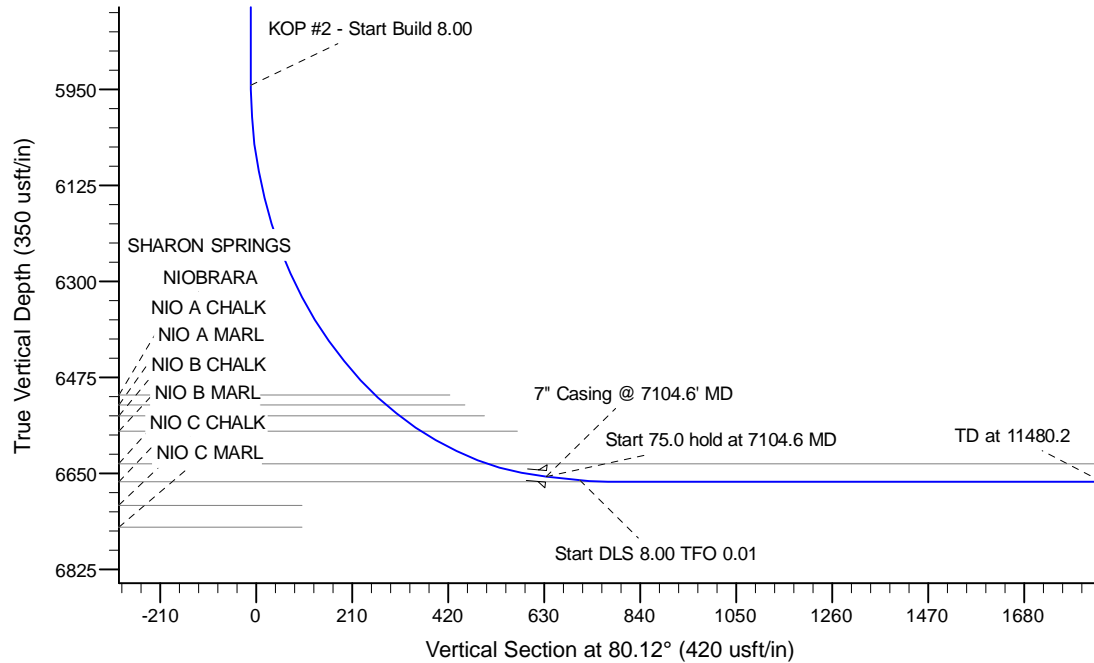
Project: Wattenberg Field
Site: AA (Sec.27-T06N-R63W) Weld County, CO
Well: Wells Ranch USX AA27-65-1HN
Wellbore: Original Drilling
Design: APD - Rev 0

Northern Region Drilling

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	2300.7	16.01	349.28	2290.3	109.2	-20.7	2.00	349.28	-1.6	
4	4339.2	16.01	349.28	4249.7	661.8	-125.3	0.00	0.00	-10.0	
5	5139.9	0.00	0.00	5040.0	771.0	-146.0	2.00	180.00	-11.6	
6	6042.1	0.00	0.00	5942.2	771.0	-146.0	0.00	0.00	-11.6	
7	7104.6	85.00	89.10	6655.7	781.3	507.7	8.00	89.10	634.2	
8	7179.6	85.00	89.10	6662.2	782.4	582.4	0.00	0.00	708.0	
9	7242.1	90.00	89.10	6665.0	783.4	644.8	8.00	0.01	769.6	
10	11480.2	90.00	89.10	6665.0	849.9	4882.4	0.00	0.00	4955.8	Wells Ranch USX AA27-65-1HN BHL 2310'FSL, 150'FEL



WELL DETAILS: Wells Ranch USX AA27-65-1HN				
Ground Level: 4795.0				
0.0	0.0	1410172.41	3297264.36	40° 27' 15.876 N 104° 25' 54.408 W
Plan: APD - Rev 0 (Wells Ranch USX AA27-65-1HN/Original Drilling)				
Created By: Shailey Jewell		Date: 12:47, February 13 2013		
Checked: _____		Date: _____		
Reviewed: _____		Date: _____		
Approved: _____		Date: _____		

Northern Region Drilling

Wattenberg Field

AA (06N-63W)

Wells Ranch USX AA27-65-1HN

Original Drilling

Plan: APD - Rev 0

Standard Planning Report

13 February, 2013

Noble Energy Inc

Planning Report

Database:	edm10p	Local Co-ordinate Reference:	Well Wells Ranch USX AA27-65-1HN
Company:	Northern Region Drilling	TVD Reference:	WELL @ 4825.0usft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4825.0usft (Original Well Elev)
Site:	AA (06N-63W)	North Reference:	Grid
Well:	Wells Ranch USX AA27-65-1HN	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° 30' 9.864 N
		Longitude:	104° 24' 43.128 W
		Grid Convergence:	0.70 °

Well	Wells Ranch USX AA27-65-1HN		
Well Position	+N/-S	-17,673.1 usft	Northing: 1,410,172.42 usft
	+E/-W	-5,293.8 usft	Easting: 3,297,264.37 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	Latitude: 40° 27' 15.876 N
			Longitude: 104° 25' 54.408 W
			Ground Level: 4,795.0 usft

Wellbore	Original Drilling				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	2/8/2013	8.42	67.10	53,045

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	80.12

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	
2,300.7	16.01	349.28	2,290.3	109.2	-20.7	2.00	2.00	0.00	349.28	
4,339.2	16.01	349.28	4,249.7	661.8	-125.3	0.00	0.00	0.00	0.00	
5,139.9	0.00	0.00	5,040.0	771.0	-146.0	2.00	-2.00	0.00	180.00	
6,042.1	0.00	0.00	5,942.2	771.0	-146.0	0.00	0.00	0.00	0.00	
7,104.6	85.00	89.10	6,655.7	781.3	507.7	8.00	8.00	0.00	89.10	
7,179.6	85.00	89.10	6,662.2	782.4	582.4	0.00	0.00	0.00	0.00	
7,242.1	90.00	89.10	6,665.0	783.4	644.8	8.00	8.00	0.00	0.01	
11,480.2	90.00	89.10	6,665.0	849.9	4,882.4	0.00	0.00	0.00	0.00	Wells Ranch USX AA

Noble Energy Inc

Planning Report

Database:	edm10p	Local Co-ordinate Reference:	Well Wells Ranch USX AA27-65-1HN
Company:	Northern Region Drilling	TVD Reference:	WELL @ 4825.0usft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4825.0usft (Original Well Elev)
Site:	AA (06N-63W)	North Reference:	Grid
Well:	Wells Ranch USX AA27-65-1HN	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	349.28	1,550.0	0.4	-0.1	0.0	2.00	2.00	0.00
1,600.0	2.00	349.28	1,600.0	1.7	-0.3	0.0	2.00	2.00	0.00
1,650.0	3.00	349.28	1,649.9	3.9	-0.7	-0.1	2.00	2.00	0.00
1,700.0	4.00	349.28	1,699.8	6.9	-1.3	-0.1	2.00	2.00	0.00
1,750.0	5.00	349.28	1,749.7	10.7	-2.0	-0.2	2.00	2.00	0.00
1,800.0	6.00	349.28	1,799.5	15.4	-2.9	-0.2	2.00	2.00	0.00
1,850.0	7.00	349.28	1,849.1	21.0	-4.0	-0.3	2.00	2.00	0.00
1,900.0	8.00	349.28	1,898.7	27.4	-5.2	-0.4	2.00	2.00	0.00
1,950.0	9.00	349.28	1,948.2	34.7	-6.6	-0.5	2.00	2.00	0.00
2,000.0	10.00	349.28	1,997.5	42.8	-8.1	-0.6	2.00	2.00	0.00
2,050.0	11.00	349.28	2,046.6	51.7	-9.8	-0.8	2.00	2.00	0.00
2,100.0	12.00	349.28	2,095.6	61.5	-11.6	-0.9	2.00	2.00	0.00
2,150.0	13.00	349.28	2,144.4	72.1	-13.7	-1.1	2.00	2.00	0.00
2,200.0	14.00	349.28	2,193.1	83.6	-15.8	-1.3	2.00	2.00	0.00
2,250.0	15.00	349.28	2,241.5	95.9	-18.2	-1.4	2.00	2.00	0.00
2,300.0	16.00	349.28	2,289.6	109.0	-20.6	-1.6	2.00	2.00	0.00
2,300.7	16.01	349.28	2,290.3	109.2	-20.7	-1.6	2.00	2.00	0.00
2,350.0	16.01	349.28	2,337.7	122.6	-23.2	-1.8	0.00	0.00	0.00
2,400.0	16.01	349.28	2,385.8	136.1	-25.8	-2.1	0.00	0.00	0.00
2,450.0	16.01	349.28	2,433.8	149.7	-28.3	-2.3	0.00	0.00	0.00
2,500.0	16.01	349.28	2,481.9	163.3	-30.9	-2.5	0.00	0.00	0.00
2,550.0	16.01	349.28	2,529.9	176.8	-33.5	-2.7	0.00	0.00	0.00

Noble Energy Inc

Planning Report

Database:	edm10p	Local Co-ordinate Reference:	Well Wells Ranch USX AA27-65-1HN
Company:	Northern Region Drilling	TVD Reference:	WELL @ 4825.0usft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4825.0usft (Original Well Elev)
Site:	AA (06N-63W)	North Reference:	Grid
Well:	Wells Ranch USX AA27-65-1HN	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	16.01	349.28	2,578.0	190.4	-36.0	-2.9	0.00	0.00	0.00
2,650.0	16.01	349.28	2,626.1	203.9	-38.6	-3.1	0.00	0.00	0.00
2,700.0	16.01	349.28	2,674.1	217.5	-41.2	-3.3	0.00	0.00	0.00
2,750.0	16.01	349.28	2,722.2	231.0	-43.7	-3.5	0.00	0.00	0.00
2,800.0	16.01	349.28	2,770.2	244.6	-46.3	-3.7	0.00	0.00	0.00
2,850.0	16.01	349.28	2,818.3	258.1	-48.9	-3.9	0.00	0.00	0.00
2,900.0	16.01	349.28	2,866.4	271.7	-51.4	-4.1	0.00	0.00	0.00
2,950.0	16.01	349.28	2,914.4	285.2	-54.0	-4.3	0.00	0.00	0.00
3,000.0	16.01	349.28	2,962.5	298.8	-56.6	-4.5	0.00	0.00	0.00
3,050.0	16.01	349.28	3,010.5	312.3	-59.1	-4.7	0.00	0.00	0.00
3,100.0	16.01	349.28	3,058.6	325.9	-61.7	-4.9	0.00	0.00	0.00
3,150.0	16.01	349.28	3,106.7	339.4	-64.3	-5.1	0.00	0.00	0.00
3,200.0	16.01	349.28	3,154.7	353.0	-66.8	-5.3	0.00	0.00	0.00
3,250.0	16.01	349.28	3,202.8	366.5	-69.4	-5.5	0.00	0.00	0.00
3,300.0	16.01	349.28	3,250.8	380.1	-72.0	-5.7	0.00	0.00	0.00
3,350.0	16.01	349.28	3,298.9	393.6	-74.5	-5.9	0.00	0.00	0.00
3,400.0	16.01	349.28	3,347.0	407.2	-77.1	-6.1	0.00	0.00	0.00
3,450.0	16.01	349.28	3,395.0	420.8	-79.7	-6.3	0.00	0.00	0.00
3,500.0	16.01	349.28	3,443.1	434.3	-82.2	-6.5	0.00	0.00	0.00
3,550.0	16.01	349.28	3,491.1	447.9	-84.8	-6.7	0.00	0.00	0.00
3,600.0	16.01	349.28	3,539.2	461.4	-87.4	-6.9	0.00	0.00	0.00
3,650.0	16.01	349.28	3,587.3	475.0	-89.9	-7.2	0.00	0.00	0.00
3,700.0	16.01	349.28	3,635.3	488.5	-92.5	-7.4	0.00	0.00	0.00
3,750.0	16.01	349.28	3,683.4	502.1	-95.1	-7.6	0.00	0.00	0.00
3,800.0	16.01	349.28	3,731.4	515.6	-97.6	-7.8	0.00	0.00	0.00
3,850.0	16.01	349.28	3,779.5	529.2	-100.2	-8.0	0.00	0.00	0.00
3,900.0	16.01	349.28	3,827.6	542.7	-102.8	-8.2	0.00	0.00	0.00
3,950.0	16.01	349.28	3,875.6	556.3	-105.3	-8.4	0.00	0.00	0.00
4,000.0	16.01	349.28	3,923.7	569.8	-107.9	-8.6	0.00	0.00	0.00
4,050.0	16.01	349.28	3,971.7	583.4	-110.5	-8.8	0.00	0.00	0.00
4,100.0	16.01	349.28	4,019.8	596.9	-113.0	-9.0	0.00	0.00	0.00
4,150.0	16.01	349.28	4,067.9	610.5	-115.6	-9.2	0.00	0.00	0.00
4,200.0	16.01	349.28	4,115.9	624.0	-118.2	-9.4	0.00	0.00	0.00
4,250.0	16.01	349.28	4,164.0	637.6	-120.7	-9.6	0.00	0.00	0.00
4,300.0	16.01	349.28	4,212.0	651.2	-123.3	-9.8	0.00	0.00	0.00
4,339.2	16.01	349.28	4,249.7	661.8	-125.3	-10.0	0.00	0.00	0.00
Start Drop -2.00									
4,350.0	15.80	349.28	4,260.1	664.7	-125.9	-10.0	2.01	-2.01	0.00
4,400.0	14.80	349.28	4,308.3	677.6	-128.3	-10.2	2.00	-2.00	0.00
4,450.0	13.80	349.28	4,356.8	689.8	-130.6	-10.4	2.00	-2.00	0.00
4,500.0	12.80	349.28	4,405.4	701.1	-132.8	-10.6	2.00	-2.00	0.00
4,550.0	11.80	349.28	4,454.3	711.5	-134.7	-10.7	2.00	-2.00	0.00
4,600.0	10.80	349.28	4,503.3	721.2	-136.6	-10.9	2.00	-2.00	0.00
4,650.0	9.80	349.28	4,552.5	729.9	-138.2	-11.0	2.00	-2.00	0.00
4,700.0	8.80	349.28	4,601.9	737.9	-139.7	-11.1	2.00	-2.00	0.00
4,750.0	7.80	349.28	4,651.3	745.0	-141.1	-11.2	2.00	-2.00	0.00
4,800.0	6.80	349.28	4,700.9	751.2	-142.3	-11.3	2.00	-2.00	0.00
4,850.0	5.80	349.28	4,750.6	756.6	-143.3	-11.4	2.00	-2.00	0.00
4,900.0	4.80	349.28	4,800.4	761.1	-144.1	-11.5	2.00	-2.00	0.00
4,950.0	3.80	349.28	4,850.3	764.8	-144.8	-11.5	2.00	-2.00	0.00
5,000.0	2.80	349.28	4,900.2	767.6	-145.4	-11.6	2.00	-2.00	0.00
5,050.0	1.80	349.28	4,950.1	769.6	-145.7	-11.6	2.00	-2.00	0.00
5,100.0	0.80	349.28	5,000.1	770.7	-145.9	-11.6	2.00	-2.00	0.00

Noble Energy Inc

Planning Report

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Company:	Northern Region Drilling	TVD Reference:	WELL @ 4825.0usft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4825.0usft (Original Well Elev)
Site:	AA (06N-63W)	North Reference:	Grid
Well:	Wells Ranch USX AA27-65-1HN	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)
5,139.9	0.00	0.00	5,040.0	771.0	-146.0	-11.6	2.00	-2.00	0.00
5,150.0	0.00	0.00	5,050.1	771.0	-146.0	-11.6	0.00	0.00	0.00
5,200.0	0.00	0.00	5,100.1	771.0	-146.0	-11.6	0.00	0.00	0.00
5,250.0	0.00	0.00	5,150.1	771.0	-146.0	-11.6	0.00	0.00	0.00
5,300.0	0.00	0.00	5,200.1	771.0	-146.0	-11.6	0.00	0.00	0.00
5,350.0	0.00	0.00	5,250.1	771.0	-146.0	-11.6	0.00	0.00	0.00
5,400.0	0.00	0.00	5,300.1	771.0	-146.0	-11.6	0.00	0.00	0.00
5,450.0	0.00	0.00	5,350.1	771.0	-146.0	-11.6	0.00	0.00	0.00
5,500.0	0.00	0.00	5,400.1	771.0	-146.0	-11.6	0.00	0.00	0.00
5,550.0	0.00	0.00	5,450.1	771.0	-146.0	-11.6	0.00	0.00	0.00
5,600.0	0.00	0.00	5,500.1	771.0	-146.0	-11.6	0.00	0.00	0.00
5,650.0	0.00	0.00	5,550.1	771.0	-146.0	-11.6	0.00	0.00	0.00
5,700.0	0.00	0.00	5,600.1	771.0	-146.0	-11.6	0.00	0.00	0.00
5,750.0	0.00	0.00	5,650.1	771.0	-146.0	-11.6	0.00	0.00	0.00
5,800.0	0.00	0.00	5,700.1	771.0	-146.0	-11.6	0.00	0.00	0.00
5,850.0	0.00	0.00	5,750.1	771.0	-146.0	-11.6	0.00	0.00	0.00
5,900.0	0.00	0.00	5,800.1	771.0	-146.0	-11.6	0.00	0.00	0.00
5,950.0	0.00	0.00	5,850.1	771.0	-146.0	-11.6	0.00	0.00	0.00
6,000.0	0.00	0.00	5,900.1	771.0	-146.0	-11.6	0.00	0.00	0.00
6,042.1	0.00	0.00	5,942.2	771.0	-146.0	-11.6	0.00	0.00	0.00
KOP #2 - Start Build 8.00									
6,050.0	0.63	89.10	5,950.1	771.0	-146.0	-11.6	8.00	8.00	0.00
6,100.0	4.63	89.10	6,000.1	771.0	-143.7	-9.3	8.00	8.00	0.00
6,150.0	8.63	89.10	6,049.7	771.1	-137.9	-3.6	8.00	8.00	0.00
6,200.0	12.63	89.10	6,098.8	771.3	-128.7	5.5	8.00	8.00	0.00
6,250.0	16.63	89.10	6,147.2	771.5	-116.0	18.0	8.00	8.00	0.00
6,300.0	20.63	89.10	6,194.6	771.7	-100.1	33.8	8.00	8.00	0.00
6,350.0	24.63	89.10	6,240.7	772.0	-80.8	52.8	8.00	8.00	0.00
6,400.0	28.63	89.10	6,285.4	772.4	-58.4	74.9	8.00	8.00	0.00
6,450.0	32.63	89.10	6,328.4	772.8	-33.0	100.1	8.00	8.00	0.00
6,500.0	36.63	89.10	6,369.6	773.2	-4.6	128.1	8.00	8.00	0.00
6,550.0	40.63	89.10	6,408.6	773.7	26.6	158.9	8.00	8.00	0.00
6,600.0	44.63	89.10	6,445.4	774.2	60.5	192.4	8.00	8.00	0.00
6,650.0	48.63	89.10	6,479.7	774.8	96.8	228.3	8.00	8.00	0.00
6,692.8	52.05	89.10	6,507.0	775.3	129.7	260.8	8.00	8.00	0.00
SHARON SPRINGS									
6,700.0	52.63	89.10	6,511.4	775.4	135.5	266.5	8.00	8.00	0.00
6,722.8	54.46	89.10	6,525.0	775.7	153.9	284.6	8.00	8.00	0.00
NIOBRARA									
6,750.0	56.63	89.10	6,540.4	776.1	176.2	306.7	8.00	8.00	0.00
6,758.5	57.31	89.10	6,545.0	776.2	183.4	313.8	8.00	8.00	0.00
NIO A CHALK									
6,800.0	60.63	89.10	6,566.4	776.7	218.9	348.9	8.00	8.00	0.00
6,813.7	61.73	89.10	6,573.0	776.9	230.9	360.8	8.00	8.00	0.00
NIO A MARL									
6,850.0	64.63	89.10	6,589.4	777.4	263.3	392.7	8.00	8.00	0.00
6,900.0	68.63	89.10	6,609.2	778.2	309.2	438.1	8.00	8.00	0.00
6,950.0	72.63	89.10	6,625.8	778.9	356.3	484.6	8.00	8.00	0.00
6,971.9	74.39	89.10	6,632.0	779.2	377.4	505.4	8.00	8.00	0.00
NIO B CHALK									
7,000.0	76.63	89.10	6,639.0	779.6	404.5	532.3	8.00	8.00	0.00
7,050.0	80.63	89.10	6,648.9	780.4	453.5	580.7	8.00	8.00	0.00
7,100.0	84.63	89.10	6,655.3	781.2	503.1	629.6	8.00	8.00	0.00

Noble Energy Inc

Planning Report

Database:	edm10p	Local Co-ordinate Reference:	Well Wells Ranch USX AA27-65-1HN
Company:	Northern Region Drilling	TVD Reference:	WELL @ 4825.0usft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4825.0usft (Original Well Elev)
Site:	AA (06N-63W)	North Reference:	Grid
Well:	Wells Ranch USX AA27-65-1HN	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)
7,104.6	85.00	89.10	6,655.7	781.3	507.7	634.2	8.00	8.00	0.00
Start 75.0 hold at 7104.6 MD - 7" Casing @ 7104.6' MD									
7,150.0	85.00	89.10	6,659.7	782.0	552.9	678.8	0.00	0.00	0.00
7,179.6	85.00	89.10	6,662.2	782.4	582.4	708.0	0.00	0.00	0.00
Start DLS 8.00 TFO 0.01									
7,200.0	86.63	89.10	6,663.7	782.8	602.7	728.1	8.00	8.00	0.00
7,242.1	90.00	89.10	6,665.0	783.4	644.8	769.6	8.00	8.00	0.00
7,250.0	90.00	89.10	6,665.0	783.5	652.7	777.4	0.00	0.00	0.00
7,300.0	90.00	89.10	6,665.0	784.3	702.7	826.8	0.00	0.00	0.00
7,350.0	90.00	89.10	6,665.0	785.1	752.7	876.2	0.00	0.00	0.00
7,400.0	90.00	89.10	6,665.0	785.9	802.7	925.6	0.00	0.00	0.00
7,450.0	90.00	89.10	6,665.0	786.7	852.7	975.0	0.00	0.00	0.00
7,500.0	90.00	89.10	6,665.0	787.5	902.7	1,024.4	0.00	0.00	0.00
7,550.0	90.00	89.10	6,665.0	788.3	952.7	1,073.7	0.00	0.00	0.00
7,600.0	90.00	89.10	6,665.0	789.0	1,002.7	1,123.1	0.00	0.00	0.00
7,650.0	90.00	89.10	6,665.0	789.8	1,052.7	1,172.5	0.00	0.00	0.00
7,700.0	90.00	89.10	6,665.0	790.6	1,102.7	1,221.9	0.00	0.00	0.00
7,750.0	90.00	89.10	6,665.0	791.4	1,152.7	1,271.3	0.00	0.00	0.00
7,800.0	90.00	89.10	6,665.0	792.2	1,202.6	1,320.7	0.00	0.00	0.00
7,850.0	90.00	89.10	6,665.0	793.0	1,252.6	1,370.1	0.00	0.00	0.00
7,900.0	90.00	89.10	6,665.0	793.7	1,302.6	1,419.5	0.00	0.00	0.00
7,950.0	90.00	89.10	6,665.0	794.5	1,352.6	1,468.8	0.00	0.00	0.00
8,000.0	90.00	89.10	6,665.0	795.3	1,402.6	1,518.2	0.00	0.00	0.00
8,050.0	90.00	89.10	6,665.0	796.1	1,452.6	1,567.6	0.00	0.00	0.00
8,100.0	90.00	89.10	6,665.0	796.9	1,502.6	1,617.0	0.00	0.00	0.00
8,150.0	90.00	89.10	6,665.0	797.7	1,552.6	1,666.4	0.00	0.00	0.00
8,200.0	90.00	89.10	6,665.0	798.5	1,602.6	1,715.8	0.00	0.00	0.00
8,250.0	90.00	89.10	6,665.0	799.2	1,652.6	1,765.2	0.00	0.00	0.00
8,300.0	90.00	89.10	6,665.0	800.0	1,702.6	1,814.6	0.00	0.00	0.00
8,350.0	90.00	89.10	6,665.0	800.8	1,752.6	1,864.0	0.00	0.00	0.00
8,400.0	90.00	89.10	6,665.0	801.6	1,802.6	1,913.3	0.00	0.00	0.00
8,450.0	90.00	89.10	6,665.0	802.4	1,852.6	1,962.7	0.00	0.00	0.00
8,500.0	90.00	89.10	6,665.0	803.2	1,902.6	2,012.1	0.00	0.00	0.00
8,550.0	90.00	89.10	6,665.0	803.9	1,952.6	2,061.5	0.00	0.00	0.00
8,600.0	90.00	89.10	6,665.0	804.7	2,002.5	2,110.9	0.00	0.00	0.00
8,650.0	90.00	89.10	6,665.0	805.5	2,052.5	2,160.3	0.00	0.00	0.00
8,700.0	90.00	89.10	6,665.0	806.3	2,102.5	2,209.7	0.00	0.00	0.00
8,750.0	90.00	89.10	6,665.0	807.1	2,152.5	2,259.1	0.00	0.00	0.00
8,800.0	90.00	89.10	6,665.0	807.9	2,202.5	2,308.4	0.00	0.00	0.00
8,850.0	90.00	89.10	6,665.0	808.7	2,252.5	2,357.8	0.00	0.00	0.00
8,900.0	90.00	89.10	6,665.0	809.4	2,302.5	2,407.2	0.00	0.00	0.00
8,950.0	90.00	89.10	6,665.0	810.2	2,352.5	2,456.6	0.00	0.00	0.00
9,000.0	90.00	89.10	6,665.0	811.0	2,402.5	2,506.0	0.00	0.00	0.00
9,050.0	90.00	89.10	6,665.0	811.8	2,452.5	2,555.4	0.00	0.00	0.00
9,100.0	90.00	89.10	6,665.0	812.6	2,502.5	2,604.8	0.00	0.00	0.00
9,150.0	90.00	89.10	6,665.0	813.4	2,552.5	2,654.2	0.00	0.00	0.00
9,200.0	90.00	89.10	6,665.0	814.1	2,602.5	2,703.5	0.00	0.00	0.00
9,250.0	90.00	89.10	6,665.0	814.9	2,652.5	2,752.9	0.00	0.00	0.00
9,300.0	90.00	89.10	6,665.0	815.7	2,702.5	2,802.3	0.00	0.00	0.00
9,350.0	90.00	89.10	6,665.0	816.5	2,752.5	2,851.7	0.00	0.00	0.00
9,400.0	90.00	89.10	6,665.0	817.3	2,802.4	2,901.1	0.00	0.00	0.00
9,450.0	90.00	89.10	6,665.0	818.1	2,852.4	2,950.5	0.00	0.00	0.00
9,500.0	90.00	89.10	6,665.0	818.9	2,902.4	2,999.9	0.00	0.00	0.00
9,550.0	90.00	89.10	6,665.0	819.6	2,952.4	3,049.3	0.00	0.00	0.00

Noble Energy Inc

Planning Report

Database:	edm10p	Local Co-ordinate Reference:	Well Wells Ranch USX AA27-65-1HN
Company:	Northern Region Drilling	TVD Reference:	WELL @ 4825.0usft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4825.0usft (Original Well Elev)
Site:	AA (06N-63W)	North Reference:	Grid
Well:	Wells Ranch USX AA27-65-1HN	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)	
9,600.0	90.00	89.10	6,665.0	820.4	3,002.4	3,098.6	0.00	0.00	0.00	
9,650.0	90.00	89.10	6,665.0	821.2	3,052.4	3,148.0	0.00	0.00	0.00	
9,700.0	90.00	89.10	6,665.0	822.0	3,102.4	3,197.4	0.00	0.00	0.00	
9,750.0	90.00	89.10	6,665.0	822.8	3,152.4	3,246.8	0.00	0.00	0.00	
9,800.0	90.00	89.10	6,665.0	823.6	3,202.4	3,296.2	0.00	0.00	0.00	
9,850.0	90.00	89.10	6,665.0	824.3	3,252.4	3,345.6	0.00	0.00	0.00	
9,900.0	90.00	89.10	6,665.0	825.1	3,302.4	3,395.0	0.00	0.00	0.00	
9,950.0	90.00	89.10	6,665.0	825.9	3,352.4	3,444.4	0.00	0.00	0.00	
10,000.0	90.00	89.10	6,665.0	826.7	3,402.4	3,493.7	0.00	0.00	0.00	
10,050.0	90.00	89.10	6,665.0	827.5	3,452.4	3,543.1	0.00	0.00	0.00	
10,100.0	90.00	89.10	6,665.0	828.3	3,502.4	3,592.5	0.00	0.00	0.00	
10,150.0	90.00	89.10	6,665.0	829.1	3,552.4	3,641.9	0.00	0.00	0.00	
10,200.0	90.00	89.10	6,665.0	829.8	3,602.3	3,691.3	0.00	0.00	0.00	
10,250.0	90.00	89.10	6,665.0	830.6	3,652.3	3,740.7	0.00	0.00	0.00	
10,300.0	90.00	89.10	6,665.0	831.4	3,702.3	3,790.1	0.00	0.00	0.00	
10,350.0	90.00	89.10	6,665.0	832.2	3,752.3	3,839.5	0.00	0.00	0.00	
10,400.0	90.00	89.10	6,665.0	833.0	3,802.3	3,888.8	0.00	0.00	0.00	
10,450.0	90.00	89.10	6,665.0	833.8	3,852.3	3,938.2	0.00	0.00	0.00	
10,500.0	90.00	89.10	6,665.0	834.5	3,902.3	3,987.6	0.00	0.00	0.00	
10,550.0	90.00	89.10	6,665.0	835.3	3,952.3	4,037.0	0.00	0.00	0.00	
10,600.0	90.00	89.10	6,665.0	836.1	4,002.3	4,086.4	0.00	0.00	0.00	
10,650.0	90.00	89.10	6,665.0	836.9	4,052.3	4,135.8	0.00	0.00	0.00	
10,700.0	90.00	89.10	6,665.0	837.7	4,102.3	4,185.2	0.00	0.00	0.00	
10,750.0	90.00	89.10	6,665.0	838.5	4,152.3	4,234.6	0.00	0.00	0.00	
10,800.0	90.00	89.10	6,665.0	839.3	4,202.3	4,283.9	0.00	0.00	0.00	
10,850.0	90.00	89.10	6,665.0	840.0	4,252.3	4,333.3	0.00	0.00	0.00	
10,900.0	90.00	89.10	6,665.0	840.8	4,302.3	4,382.7	0.00	0.00	0.00	
10,950.0	90.00	89.10	6,665.0	841.6	4,352.3	4,432.1	0.00	0.00	0.00	
11,000.0	90.00	89.10	6,665.0	842.4	4,402.3	4,481.5	0.00	0.00	0.00	
11,050.0	90.00	89.10	6,665.0	843.2	4,452.2	4,530.9	0.00	0.00	0.00	
11,100.0	90.00	89.10	6,665.0	844.0	4,502.2	4,580.3	0.00	0.00	0.00	
11,150.0	90.00	89.10	6,665.0	844.8	4,552.2	4,629.7	0.00	0.00	0.00	
11,200.0	90.00	89.10	6,665.0	845.5	4,602.2	4,679.1	0.00	0.00	0.00	
11,250.0	90.00	89.10	6,665.0	846.3	4,652.2	4,728.4	0.00	0.00	0.00	
11,300.0	90.00	89.10	6,665.0	847.1	4,702.2	4,777.8	0.00	0.00	0.00	
11,350.0	90.00	89.10	6,665.0	847.9	4,752.2	4,827.2	0.00	0.00	0.00	
11,400.0	90.00	89.10	6,665.0	848.7	4,802.2	4,876.6	0.00	0.00	0.00	
11,450.0	90.00	89.10	6,665.0	849.5	4,852.2	4,926.0	0.00	0.00	0.00	
11,480.2	90.00	89.10	6,665.0	849.9	4,882.4	4,955.8	0.00	0.00	0.00	
TD at 11480.2 - Wells Ranch USX AA27-65-1HN BHL 2310'FSL, 150'FEL										

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 USX AA27-	0.00	0.00	6,665.0	849.9	4,882.4	1,411,022.32	3,302,146.61	40° 27' 23.688 N	104° 24' 51.120 W	
- plan hits target center										
- Point										

Noble Energy Inc

Planning Report

Database:	edm10p	Local Co-ordinate Reference:	Well Wells Ranch USX AA27-65-1HN
Company:	Northern Region Drilling	TVD Reference:	WELL @ 4825.0usft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4825.0usft (Original Well Elev)
Site:	AA (06N-63W)	North Reference:	Grid
Well:	Wells Ranch USX AA27-65-1HN	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 (")	
7,104.6	6,655.7	7" Casing @ 7104.6' MD	7	8-3/4	

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
6,692.8	6,507.0	SHARON SPRINGS		0.00	
6,722.8	6,525.0	NIOBRARA		0.00	
6,758.5	6,545.0	NIO A CHALK		0.00	
6,813.7	6,573.0	NIO A MARL		0.00	
6,971.9	6,632.0	NIO B CHALK		0.00	
11,480.2	6,665.0	NIO B 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	
4,339.2	4,249.7	661.8	-125.3	Start Drop -2.00	
6,042.1	5,942.2	771.0	-146.0	KOP #2 - Start Build 8.00	
7,104.6	6,655.7	781.3	507.7	Start 75.0 hold at 7104.6 MD	
7,179.6	6,662.2	782.4	582.4	Start DLS 8.00 TFO 0.01	
11,480.2	6,665.0	849.9	4,882.4	TD at 11480.2	



Northern Region Drilling

Wattenberg Field

AA (06N-63W)

Wells Ranch USX AA27-65-1HN

Original Drilling

APD - Rev 0

Anticollision Summary Report

13 February, 2013

Company:	Northern Region Drilling	Local Co-ordinate Reference:	Well Wells Ranch USX AA27-65-1HN
Project:	Wattenberg Field	TVD Reference:	WELL @ 4825.0usft (Original Well Elev)
Reference Site:	AA (06N-63W)	MD Reference:	WELL @ 4825.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Wells Ranch USX AA27-65-1HN	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.54 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

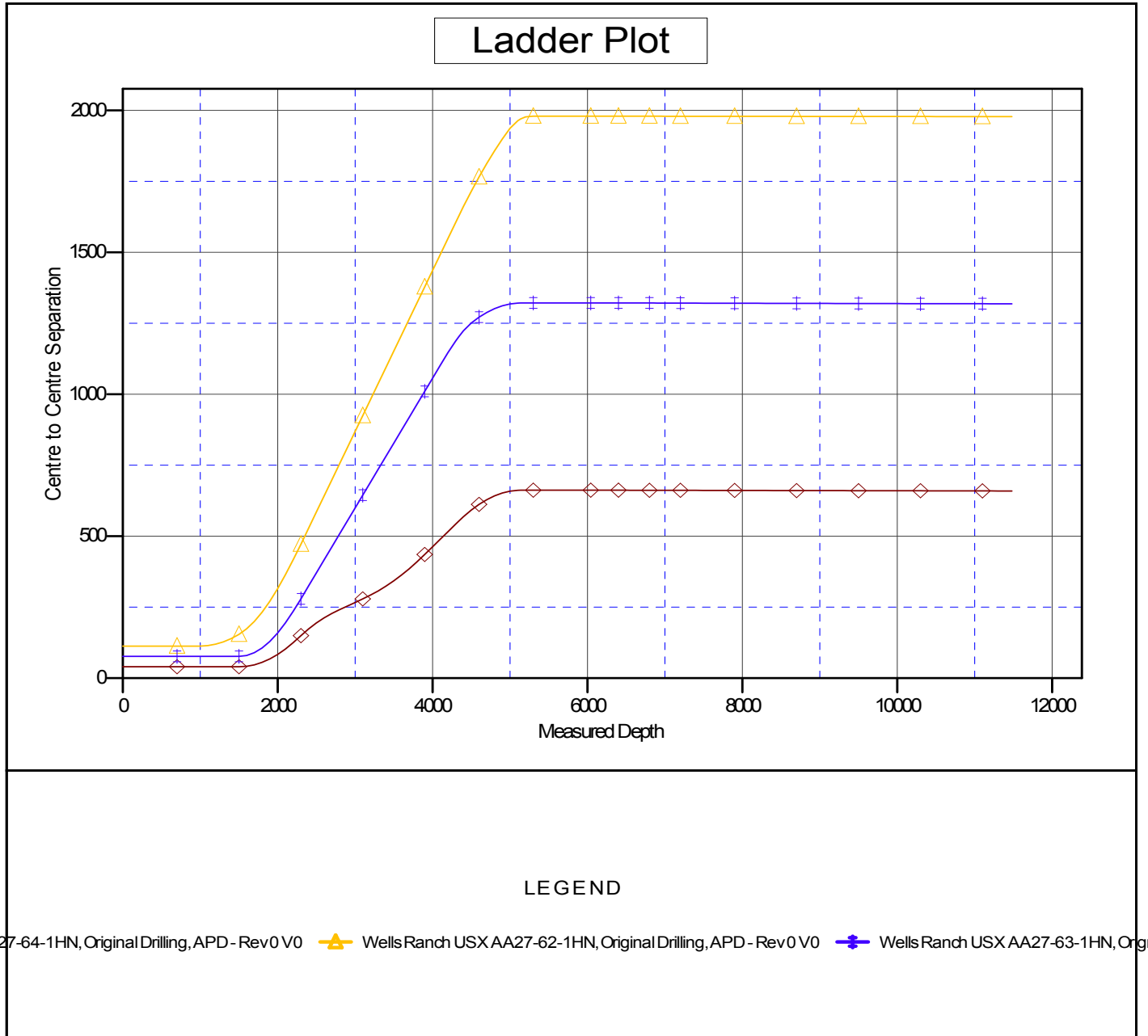
Survey Tool Program	Date	2/13/2013		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	11,480.1	APD - Rev 0 (Original Drilling)	MWD	MWD - Standard

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 USX AA27-62-1HN - Original Drilling - APD	1,000.0	998.0	113.0	108.8	26.907	CC, ES
Wells Ranch USX AA27-62-1HN - Original Drilling - APD	11,480.2	11,553.4	1,978.3	1,701.8	7.156	SF
Wells Ranch USX AA27-63-1HN - Original Drilling - APD	1,500.0	1,499.0	76.6	70.1	11.872	CC, ES
Wells Ranch USX AA27-63-1HN - Original Drilling - APD	11,480.2	11,464.8	1,318.9	1,042.4	4.771	SF
Wells Ranch USX AA27-64-1HN - Original Drilling - APD	1,500.0	1,499.0	40.1	33.6	6.215	CC, ES
Wells Ranch USX AA27-64-1HN - Original Drilling - APD	11,480.2	11,405.8	659.4	382.7	2.383	SF

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Reference Depths are relative to WELL @ 4825.0usft (Original Well Ele
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000

Coordinates are relative to: Wells Ranch USX AA27-65-1HN
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.69°

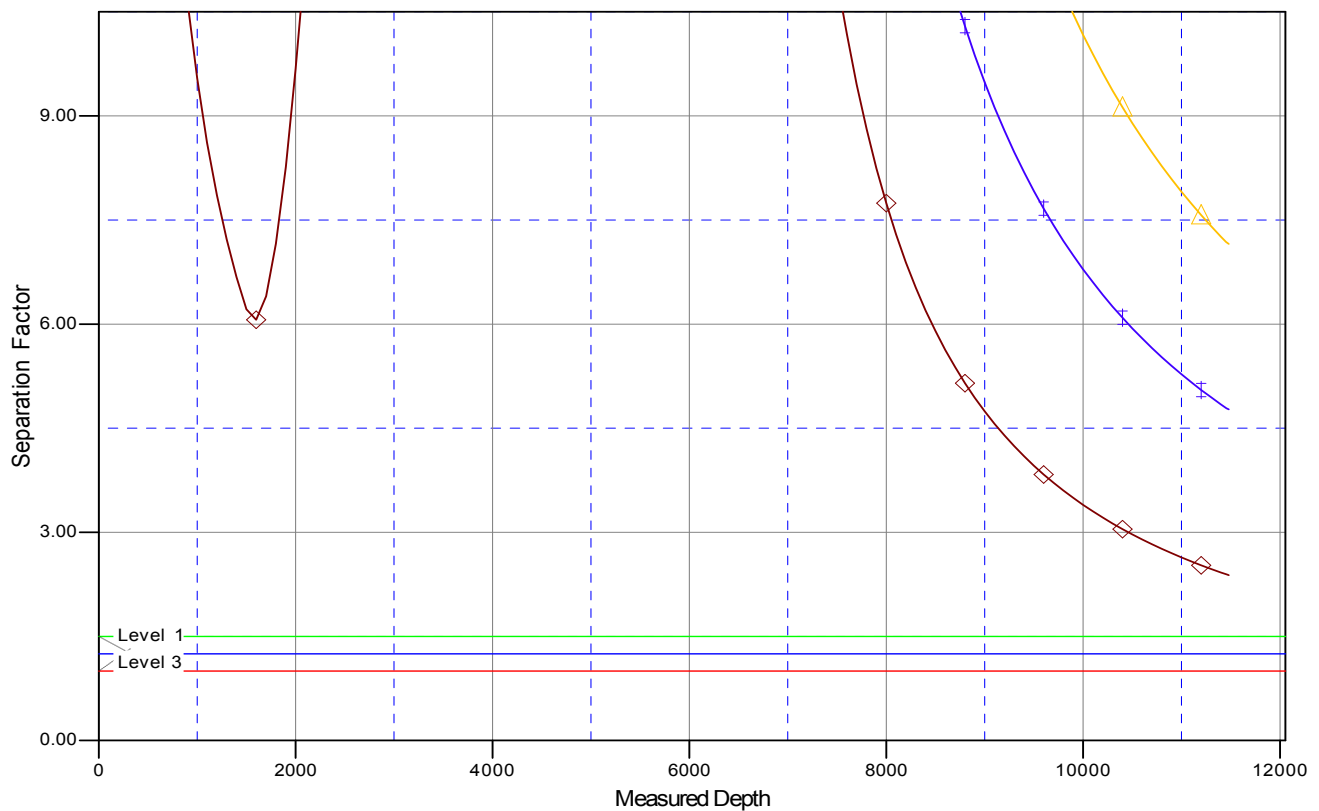


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Separation Factor Plot



LEGEND

AA27-64-1HN, Original Drilling, APD - Rev 0 V0 Wells Ranch USX AA27-62-1HN, Original Drilling, APD - Rev 0 V0 Wells Ranch USX AA27-63-1HN, Original Drilling, APD - Rev 0 V0