

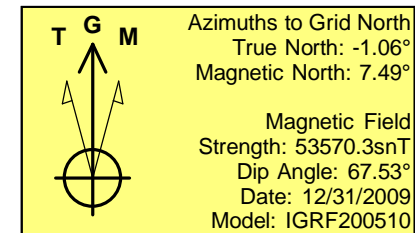
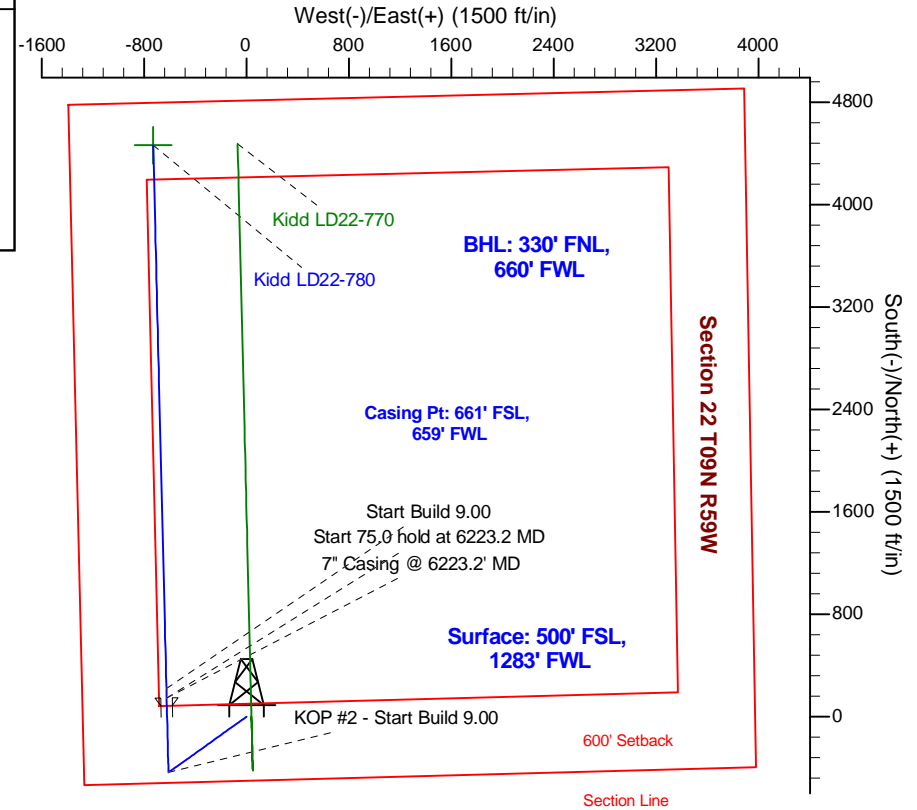
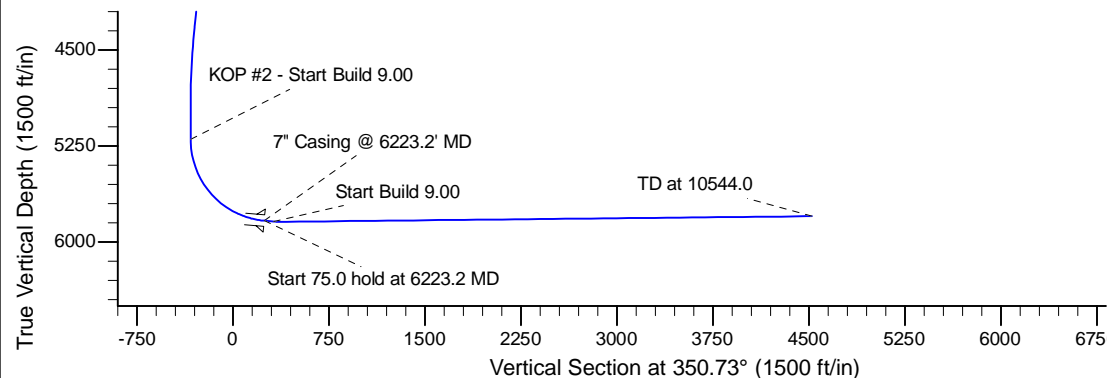
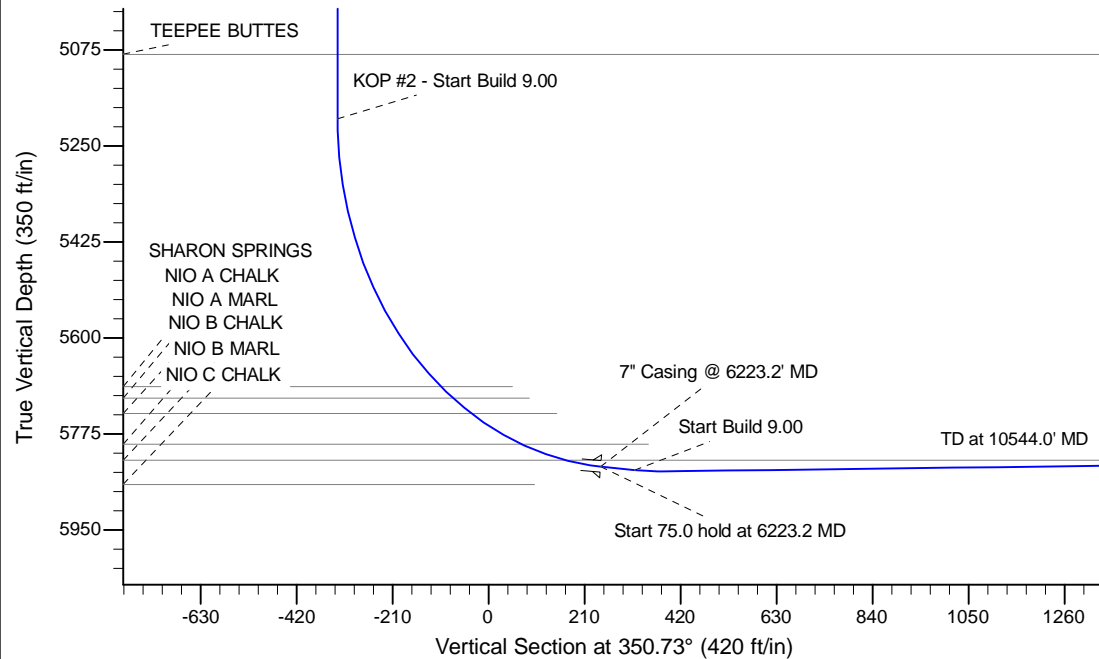
Project: Wattenberg Field
Site: LD (Sec.28-T09N-R58W) Weld County, CO
Well: Kidd LD22-780
Wellbore: Original Drilling
Design: APD - Rev 0

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	1000.0	0.00	0.00	1000.0	0.0	0.0	0.00	0.00	0.0	
3	1637.8	12.76	234.51	1632.5	-41.0	-57.6	2.00	234.51	-31.2	
4	4390.7	12.76	234.51	4317.5	-394.0	-552.4	0.00	0.00	-299.8	
5	5028.4	0.00	0.00	4950.0	-435.0	-610.0	2.00	180.00	-331.1	
6	5278.7	0.00	0.00	5200.3	-435.0	-610.0	0.00	0.00	-331.1	
7	6223.2	85.00	358.61	5834.5	146.0	-624.1	9.00	358.61	244.6	
8	6298.2	85.00	358.61	5841.0	220.7	-625.9	0.00	0.00	318.6	
9	6360.4	90.60	358.61	5843.4	282.8	-627.4	9.00	0.00	380.1	
10	10544.0	90.60	358.61	5799.6	4464.9	-728.6	0.00	0.00	4524.0	Kidd LD22-780 BHL 330'FNL, 660'FWL



WELL DETAILS: Kidd LD22-780

Ground Level: 4822.0		Latitude		Longitude	
0.0	0.0	1513322.60	3455934.50	40.730850	-103.854830

Plan: APD - Rev 0 (Kidd LD22-780/Original Drilling)

Created By: Shailey Jewell Date: 7:56, March 06 2015

Checked: _____ Date: _____

Reviewed: _____ Date: _____

Approved: _____ Date: _____

Northern Region Drilling - Working

Wattenberg Field

LD (09N-58W)

Kidd LD22-780

Original Drilling

Plan: APD - Rev 0

Standard Planning Report

06 March, 2015

Noble Energy Inc

Planning Report

Database:	EDM01P	Local Co-ordinate Reference:	Well Kidd LD22-780
Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4852.0ft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4852.0ft (Original Well Elev)
Site:	LD (09N-58W)	North Reference:	Grid
Well:	Kidd LD22-780	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		LD (09N-58W)			
Site Position:		Northing:	1,523,557.18 usft	Latitude:	40.759270
From:	Lat/Long	Easting:	3,449,341.23 usft	Longitude:	-103.877940
Position Uncertainty:	0.0 ft	Slot Radius:	13-3/16 "	Grid Convergence:	1.05 °

Well	Kidd LD22-780					
Well Position	+N/-S	-10,234.6 ft	Northing:	1,513,322.61 usft	Latitude:	40.730850
	+E/-W	6,593.3 ft	Easting:	3,455,934.50 usft	Longitude:	-103.854830
Position Uncertainty		0.0 ft	Wellhead Elevation:	0.0 ft	Ground Level:	4,822.0 ft

Wellbore	Original Drilling				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	12/31/2009	8.55	67.53	53,570

Design	APD - Rev 0			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	350.73

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	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	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,637.8	12.76	234.51	1,632.5	-41.0	-57.6	2.00	2.00	0.00	234.51	
4,390.7	12.76	234.51	4,317.5	-394.0	-552.4	0.00	0.00	0.00	0.00	
5,028.4	0.00	0.00	4,950.0	-435.0	-610.0	2.00	-2.00	0.00	180.00	
5,278.7	0.00	0.00	5,200.3	-435.0	-610.0	0.00	0.00	0.00	0.00	
6,223.2	85.00	358.61	5,834.5	146.0	-624.1	9.00	9.00	0.00	358.61	
6,298.2	85.00	358.61	5,841.0	220.7	-625.9	0.00	0.00	0.00	0.00	
6,360.4	90.60	358.61	5,843.4	282.8	-627.4	9.00	9.00	0.00	0.00	
10,544.0	90.60	358.61	5,799.6	4,464.9	-728.6	0.00	0.00	0.00	0.00	Kidd LD22-780 BHL 3

Noble Energy Inc

Planning Report

Database:	EDM01P	Local Co-ordinate Reference:	Well Kidd LD22-780
Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4852.0ft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4852.0ft (Original Well Elev)
Site:	LD (09N-58W)	North Reference:	Grid
Well:	Kidd LD22-780	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Drilling		
Design:	APD - Rev 0		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	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
KOP - Start Build 2.00									
1,050.0	1.00	234.51	1,050.0	-0.3	-0.4	-0.2	2.00	2.00	0.00
1,100.0	2.00	234.51	1,100.0	-1.0	-1.4	-0.8	2.00	2.00	0.00
1,150.0	3.00	234.51	1,149.9	-2.3	-3.2	-1.7	2.00	2.00	0.00
1,200.0	4.00	234.51	1,199.8	-4.1	-5.7	-3.1	2.00	2.00	0.00
1,250.0	5.00	234.51	1,249.7	-6.3	-8.9	-4.8	2.00	2.00	0.00
1,300.0	6.00	234.51	1,299.5	-9.1	-12.8	-6.9	2.00	2.00	0.00
1,350.0	7.00	234.51	1,349.1	-12.4	-17.4	-9.4	2.00	2.00	0.00
1,400.0	8.00	234.51	1,398.7	-16.2	-22.7	-12.3	2.00	2.00	0.00
1,450.0	9.00	234.51	1,448.2	-20.5	-28.7	-15.6	2.00	2.00	0.00
1,500.0	10.00	234.51	1,497.5	-25.3	-35.4	-19.2	2.00	2.00	0.00
1,550.0	11.00	234.51	1,546.6	-30.6	-42.9	-23.3	2.00	2.00	0.00
1,600.0	12.00	234.51	1,595.6	-36.3	-51.0	-27.7	2.00	2.00	0.00
1,637.8	12.76	234.51	1,632.5	-41.0	-57.6	-31.2	2.00	2.00	0.00
1,650.0	12.76	234.51	1,644.4	-42.6	-59.8	-32.4	0.00	0.00	0.00
1,700.0	12.76	234.51	1,693.2	-49.0	-68.7	-37.3	0.00	0.00	0.00
1,750.0	12.76	234.51	1,742.0	-55.4	-77.7	-42.2	0.00	0.00	0.00
1,800.0	12.76	234.51	1,790.7	-61.8	-86.7	-47.1	0.00	0.00	0.00
1,850.0	12.76	234.51	1,839.5	-68.3	-95.7	-51.9	0.00	0.00	0.00
1,900.0	12.76	234.51	1,888.3	-74.7	-104.7	-56.8	0.00	0.00	0.00
1,950.0	12.76	234.51	1,937.0	-81.1	-113.7	-61.7	0.00	0.00	0.00
2,000.0	12.76	234.51	1,985.8	-87.5	-122.7	-66.6	0.00	0.00	0.00
2,050.0	12.76	234.51	2,034.6	-93.9	-131.7	-71.5	0.00	0.00	0.00
2,100.0	12.76	234.51	2,083.3	-100.3	-140.7	-76.3	0.00	0.00	0.00
2,150.0	12.76	234.51	2,132.1	-106.7	-149.6	-81.2	0.00	0.00	0.00
2,200.0	12.76	234.51	2,180.9	-113.1	-158.6	-86.1	0.00	0.00	0.00
2,250.0	12.76	234.51	2,229.6	-119.5	-167.6	-91.0	0.00	0.00	0.00
2,300.0	12.76	234.51	2,278.4	-125.9	-176.6	-95.9	0.00	0.00	0.00
2,350.0	12.76	234.51	2,327.2	-132.4	-185.6	-100.7	0.00	0.00	0.00
2,400.0	12.76	234.51	2,375.9	-138.8	-194.6	-105.6	0.00	0.00	0.00
2,450.0	12.76	234.51	2,424.7	-145.2	-203.6	-110.5	0.00	0.00	0.00
2,500.0	12.76	234.51	2,473.5	-151.6	-212.6	-115.4	0.00	0.00	0.00
2,537.5	12.76	234.51	2,510.0	-156.4	-219.3	-119.0	0.00	0.00	0.00

Noble Energy Inc

Planning Report

Database:	EDM01P	Local Co-ordinate Reference:	Well Kidd LD22-780
Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4852.0ft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4852.0ft (Original Well Elev)
Site:	LD (09N-58W)	North Reference:	Grid
Well:	Kidd LD22-780	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Drilling		
Design:	APD - Rev 0		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
PIERRE									
2,550.0	12.76	234.51	2,522.2	-158.0	-221.5	-120.2	0.00	0.00	0.00
2,600.0	12.76	234.51	2,571.0	-164.4	-230.5	-125.1	0.00	0.00	0.00
2,650.0	12.76	234.51	2,619.8	-170.8	-239.5	-130.0	0.00	0.00	0.00
2,700.0	12.76	234.51	2,668.5	-177.2	-248.5	-134.9	0.00	0.00	0.00
2,750.0	12.76	234.51	2,717.3	-183.6	-257.5	-139.8	0.00	0.00	0.00
2,800.0	12.76	234.51	2,766.1	-190.0	-266.5	-144.6	0.00	0.00	0.00
2,850.0	12.76	234.51	2,814.8	-196.4	-275.5	-149.5	0.00	0.00	0.00
2,900.0	12.76	234.51	2,863.6	-202.9	-284.5	-154.4	0.00	0.00	0.00
2,950.0	12.76	234.51	2,912.4	-209.3	-293.5	-159.3	0.00	0.00	0.00
3,000.0	12.76	234.51	2,961.1	-215.7	-302.4	-164.2	0.00	0.00	0.00
3,050.0	12.76	234.51	3,009.9	-222.1	-311.4	-169.0	0.00	0.00	0.00
3,100.0	12.76	234.51	3,058.7	-228.5	-320.4	-173.9	0.00	0.00	0.00
3,150.0	12.76	234.51	3,107.4	-234.9	-329.4	-178.8	0.00	0.00	0.00
3,200.0	12.76	234.51	3,156.2	-241.3	-338.4	-183.7	0.00	0.00	0.00
3,250.0	12.76	234.51	3,205.0	-247.7	-347.4	-188.5	0.00	0.00	0.00
3,300.0	12.76	234.51	3,253.7	-254.1	-356.4	-193.4	0.00	0.00	0.00
3,350.0	12.76	234.51	3,302.5	-260.5	-365.4	-198.3	0.00	0.00	0.00
3,400.0	12.76	234.51	3,351.3	-267.0	-374.4	-203.2	0.00	0.00	0.00
3,450.0	12.76	234.51	3,400.0	-273.4	-383.3	-208.1	0.00	0.00	0.00
3,452.0	12.76	234.51	3,402.0	-273.6	-383.7	-208.3	0.00	0.00	0.00
PARKMAN									
3,500.0	12.76	234.51	3,448.8	-279.8	-392.3	-212.9	0.00	0.00	0.00
3,550.0	12.76	234.51	3,497.6	-286.2	-401.3	-217.8	0.00	0.00	0.00
3,600.0	12.76	234.51	3,546.3	-292.6	-410.3	-222.7	0.00	0.00	0.00
3,650.0	12.76	234.51	3,595.1	-299.0	-419.3	-227.6	0.00	0.00	0.00
3,700.0	12.76	234.51	3,643.9	-305.4	-428.3	-232.4	0.00	0.00	0.00
3,750.0	12.76	234.51	3,692.6	-311.8	-437.3	-237.3	0.00	0.00	0.00
3,800.0	12.76	234.51	3,741.4	-318.2	-446.3	-242.2	0.00	0.00	0.00
3,850.0	12.76	234.51	3,790.2	-324.6	-455.2	-247.1	0.00	0.00	0.00
3,900.0	12.76	234.51	3,838.9	-331.1	-464.2	-252.0	0.00	0.00	0.00
3,950.0	12.76	234.51	3,887.7	-337.5	-473.2	-256.8	0.00	0.00	0.00
4,000.0	12.76	234.51	3,936.5	-343.9	-482.2	-261.7	0.00	0.00	0.00
4,050.0	12.76	234.51	3,985.2	-350.3	-491.2	-266.6	0.00	0.00	0.00
4,093.9	12.76	234.51	4,028.0	-355.9	-499.1	-270.9	0.00	0.00	0.00
SUSSEX									
4,100.0	12.76	234.51	4,034.0	-356.7	-500.2	-271.5	0.00	0.00	0.00
4,150.0	12.76	234.51	4,082.8	-363.1	-509.2	-276.4	0.00	0.00	0.00
4,200.0	12.76	234.51	4,131.5	-369.5	-518.2	-281.2	0.00	0.00	0.00
4,250.0	12.76	234.51	4,180.3	-375.9	-527.2	-286.1	0.00	0.00	0.00
4,300.0	12.76	234.51	4,229.1	-382.3	-536.1	-291.0	0.00	0.00	0.00
4,350.0	12.76	234.51	4,277.8	-388.7	-545.1	-295.9	0.00	0.00	0.00
4,390.7	12.76	234.51	4,317.5	-394.0	-552.4	-299.8	0.00	0.00	0.00
Start Drop -2.00									
4,400.0	12.57	234.51	4,326.6	-395.1	-554.1	-300.7	2.00	-2.00	0.00
4,450.0	11.57	234.51	4,375.5	-401.2	-562.6	-305.4	2.00	-2.00	0.00
4,500.0	10.57	234.51	4,424.6	-406.8	-570.4	-309.6	2.00	-2.00	0.00
4,510.6	10.36	234.51	4,435.0	-407.9	-572.0	-310.5	2.00	-2.00	0.00
SHANNON									
4,550.0	9.57	234.51	4,473.8	-411.9	-577.5	-313.5	2.00	-2.00	0.00
4,600.0	8.57	234.51	4,523.2	-416.4	-584.0	-316.9	2.00	-2.00	0.00
4,650.0	7.57	234.51	4,572.7	-420.5	-589.7	-320.0	2.00	-2.00	0.00
4,700.0	6.57	234.51	4,622.3	-424.1	-594.7	-322.8	2.00	-2.00	0.00

Noble Energy Inc

Planning Report

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Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4852.0ft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4852.0ft (Original Well Elev)
Site:	LD (09N-58W)	North Reference:	Grid
Well:	Kidd LD22-780	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Drilling		
Design:	APD - Rev 0		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,750.0	5.57	234.51	4,672.0	-427.1	-599.0	-325.1	2.00	-2.00	0.00
4,800.0	4.57	234.51	4,721.8	-429.7	-602.6	-327.1	2.00	-2.00	0.00
4,850.0	3.57	234.51	4,771.7	-431.8	-605.5	-328.6	2.00	-2.00	0.00
4,900.0	2.57	234.51	4,821.6	-433.3	-607.7	-329.8	2.00	-2.00	0.00
4,950.0	1.57	234.51	4,871.6	-434.4	-609.1	-330.6	2.00	-2.00	0.00
5,000.0	0.57	234.51	4,921.6	-434.9	-609.9	-331.0	2.00	-2.00	0.00
5,028.4	0.00	0.00	4,950.0	-435.0	-610.0	-331.1	2.00	-2.00	0.00
5,050.0	0.00	0.00	4,971.6	-435.0	-610.0	-331.1	0.00	0.00	0.00
5,100.0	0.00	0.00	5,021.6	-435.0	-610.0	-331.1	0.00	0.00	0.00
5,150.0	0.00	0.00	5,071.6	-435.0	-610.0	-331.1	0.00	0.00	0.00
5,161.4	0.00	0.00	5,083.0	-435.0	-610.0	-331.1	0.00	0.00	0.00
TEEPEE BUTTES									
5,200.0	0.00	0.00	5,121.6	-435.0	-610.0	-331.1	0.00	0.00	0.00
5,250.0	0.00	0.00	5,171.6	-435.0	-610.0	-331.1	0.00	0.00	0.00
5,278.7	0.00	0.00	5,200.3	-435.0	-610.0	-331.1	0.00	0.00	0.00
KOP #2 - Start Build 9.00									
5,300.0	1.91	358.61	5,221.6	-434.6	-610.0	-330.7	8.98	8.98	0.00
5,350.0	6.41	358.61	5,271.4	-431.0	-610.1	-327.1	9.00	9.00	0.00
5,400.0	10.91	358.61	5,320.8	-423.5	-610.3	-319.7	9.00	9.00	0.00
5,450.0	15.41	358.61	5,369.5	-412.1	-610.6	-308.4	9.00	9.00	0.00
5,500.0	19.91	358.61	5,417.1	-396.9	-610.9	-293.4	9.00	9.00	0.00
5,550.0	24.41	358.61	5,463.4	-378.1	-611.4	-274.7	9.00	9.00	0.00
5,600.0	28.91	358.61	5,508.1	-355.7	-611.9	-252.5	9.00	9.00	0.00
5,650.0	33.41	358.61	5,550.9	-329.8	-612.5	-226.8	9.00	9.00	0.00
5,700.0	37.91	358.61	5,591.5	-300.7	-613.3	-198.0	9.00	9.00	0.00
5,750.0	42.41	358.61	5,629.7	-268.4	-614.0	-166.0	9.00	9.00	0.00
5,800.0	46.91	358.61	5,665.2	-233.3	-614.9	-131.2	9.00	9.00	0.00
5,835.9	50.14	358.61	5,689.0	-206.4	-615.5	-104.6	9.00	9.00	0.00
SHARON SPRINGS									
5,850.0	51.41	358.61	5,697.9	-195.5	-615.8	-93.8	8.99	8.99	0.00
5,869.8	53.19	358.61	5,710.0	-179.9	-616.2	-78.3	9.01	9.01	0.00
NIO A CHALK									
5,900.0	55.91	358.61	5,727.5	-155.2	-616.8	-53.9	9.00	9.00	0.00
5,919.1	57.63	358.61	5,738.0	-139.3	-617.2	-38.1	9.01	9.01	0.00
NIO A MARL									
5,950.0	60.41	358.61	5,753.9	-112.8	-617.8	-11.8	9.00	9.00	0.00
6,000.0	64.91	358.61	5,776.9	-68.4	-618.9	32.2	9.00	9.00	0.00
6,043.7	68.84	358.61	5,794.0	-28.3	-619.8	71.9	9.00	9.00	0.00
NIO B CHALK									
6,050.0	69.41	358.61	5,796.3	-22.3	-620.0	77.8	8.98	8.98	0.00
6,100.0	73.91	358.61	5,812.0	25.1	-621.1	124.8	9.00	9.00	0.00
6,145.4	78.00	358.61	5,823.0	69.1	-622.2	168.4	9.00	9.00	0.00
NIO B MARL									
6,150.0	78.41	358.61	5,823.9	73.6	-622.3	172.9	8.98	8.98	0.00
6,200.0	82.91	358.61	5,832.0	122.9	-623.5	221.7	9.00	9.00	0.00
6,223.2	85.00	358.61	5,834.5	146.0	-624.1	244.6	9.00	9.00	0.00
Start 75.0 hold at 6223.2 MD - 7" Casing @ 6223.2' MD									
6,250.0	85.00	358.61	5,836.8	172.7	-624.7	271.0	0.00	0.00	0.00
6,298.2	85.00	358.61	5,841.0	220.7	-625.9	318.6	0.00	0.00	0.00
Start Build 9.00									
6,300.0	85.16	358.61	5,841.2	222.5	-625.9	320.4	9.03	9.03	0.00
6,350.0	89.66	358.61	5,843.4	272.4	-627.1	369.8	9.00	9.00	0.00
6,360.4	90.60	358.61	5,843.4	282.8	-627.4	380.1	9.01	9.01	0.00

Noble Energy Inc

Planning Report

Database:	EDM01P	Local Co-ordinate Reference:	Well Kidd LD22-780
Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4852.0ft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4852.0ft (Original Well Elev)
Site:	LD (09N-58W)	North Reference:	Grid
Well:	Kidd LD22-780	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Drilling		
Design:	APD - Rev 0		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
6,400.0	90.60	358.61	5,843.0	322.4	-628.3	419.4	0.00	0.00	0.00
6,450.0	90.60	358.61	5,842.5	372.4	-629.5	468.9	0.00	0.00	0.00
6,500.0	90.60	358.61	5,841.9	422.4	-630.8	518.4	0.00	0.00	0.00
6,550.0	90.60	358.61	5,841.4	472.3	-632.0	567.9	0.00	0.00	0.00
6,600.0	90.60	358.61	5,840.9	522.3	-633.2	617.5	0.00	0.00	0.00
6,650.0	90.60	358.61	5,840.4	572.3	-634.4	667.0	0.00	0.00	0.00
6,700.0	90.60	358.61	5,839.9	622.3	-635.6	716.5	0.00	0.00	0.00
6,750.0	90.60	358.61	5,839.3	672.3	-636.8	766.0	0.00	0.00	0.00
6,800.0	90.60	358.61	5,838.8	722.2	-638.0	815.6	0.00	0.00	0.00
6,850.0	90.60	358.61	5,838.3	772.2	-639.2	865.1	0.00	0.00	0.00
6,900.0	90.60	358.61	5,837.8	822.2	-640.4	914.6	0.00	0.00	0.00
6,950.0	90.60	358.61	5,837.2	872.2	-641.6	964.1	0.00	0.00	0.00
7,000.0	90.60	358.61	5,836.7	922.2	-642.9	1,013.7	0.00	0.00	0.00
7,050.0	90.60	358.61	5,836.2	972.2	-644.1	1,063.2	0.00	0.00	0.00
7,100.0	90.60	358.61	5,835.7	1,022.1	-645.3	1,112.7	0.00	0.00	0.00
7,150.0	90.60	358.61	5,835.1	1,072.1	-646.5	1,162.2	0.00	0.00	0.00
7,200.0	90.60	358.61	5,834.6	1,122.1	-647.7	1,211.8	0.00	0.00	0.00
7,250.0	90.60	358.61	5,834.1	1,172.1	-648.9	1,261.3	0.00	0.00	0.00
7,300.0	90.60	358.61	5,833.6	1,222.1	-650.1	1,310.8	0.00	0.00	0.00
7,350.0	90.60	358.61	5,833.0	1,272.1	-651.3	1,360.4	0.00	0.00	0.00
7,400.0	90.60	358.61	5,832.5	1,322.0	-652.5	1,409.9	0.00	0.00	0.00
7,450.0	90.60	358.61	5,832.0	1,372.0	-653.7	1,459.4	0.00	0.00	0.00
7,500.0	90.60	358.61	5,831.5	1,422.0	-655.0	1,508.9	0.00	0.00	0.00
7,550.0	90.60	358.61	5,831.0	1,472.0	-656.2	1,558.5	0.00	0.00	0.00
7,600.0	90.60	358.61	5,830.4	1,522.0	-657.4	1,608.0	0.00	0.00	0.00
7,650.0	90.60	358.61	5,829.9	1,572.0	-658.6	1,657.5	0.00	0.00	0.00
7,700.0	90.60	358.61	5,829.4	1,621.9	-659.8	1,707.0	0.00	0.00	0.00
7,750.0	90.60	358.61	5,828.9	1,671.9	-661.0	1,756.6	0.00	0.00	0.00
7,800.0	90.60	358.61	5,828.3	1,721.9	-662.2	1,806.1	0.00	0.00	0.00
7,850.0	90.60	358.61	5,827.8	1,771.9	-663.4	1,855.6	0.00	0.00	0.00
7,900.0	90.60	358.61	5,827.3	1,821.9	-664.6	1,905.1	0.00	0.00	0.00
7,950.0	90.60	358.61	5,826.8	1,871.9	-665.8	1,954.7	0.00	0.00	0.00
8,000.0	90.60	358.61	5,826.2	1,921.8	-667.0	2,004.2	0.00	0.00	0.00
8,050.0	90.60	358.61	5,825.7	1,971.8	-668.3	2,053.7	0.00	0.00	0.00
8,100.0	90.60	358.61	5,825.2	2,021.8	-669.5	2,103.2	0.00	0.00	0.00
8,150.0	90.60	358.61	5,824.7	2,071.8	-670.7	2,152.8	0.00	0.00	0.00
8,200.0	90.60	358.61	5,824.1	2,121.8	-671.9	2,202.3	0.00	0.00	0.00
8,250.0	90.60	358.61	5,823.6	2,171.7	-673.1	2,251.8	0.00	0.00	0.00
8,300.0	90.60	358.61	5,823.1	2,221.7	-674.3	2,301.3	0.00	0.00	0.00
8,350.0	90.60	358.61	5,822.6	2,271.7	-675.5	2,350.9	0.00	0.00	0.00
8,400.0	90.60	358.61	5,822.1	2,321.7	-676.7	2,400.4	0.00	0.00	0.00
8,450.0	90.60	358.61	5,821.5	2,371.7	-677.9	2,449.9	0.00	0.00	0.00
8,500.0	90.60	358.61	5,821.0	2,421.7	-679.1	2,499.4	0.00	0.00	0.00
8,550.0	90.60	358.61	5,820.5	2,471.6	-680.4	2,549.0	0.00	0.00	0.00
8,600.0	90.60	358.61	5,820.0	2,521.6	-681.6	2,598.5	0.00	0.00	0.00
8,650.0	90.60	358.61	5,819.4	2,571.6	-682.8	2,648.0	0.00	0.00	0.00
8,700.0	90.60	358.61	5,818.9	2,621.6	-684.0	2,697.5	0.00	0.00	0.00
8,750.0	90.60	358.61	5,818.4	2,671.6	-685.2	2,747.1	0.00	0.00	0.00
8,800.0	90.60	358.61	5,817.9	2,721.6	-686.4	2,796.6	0.00	0.00	0.00
8,850.0	90.60	358.61	5,817.3	2,771.5	-687.6	2,846.1	0.00	0.00	0.00
8,900.0	90.60	358.61	5,816.8	2,821.5	-688.8	2,895.6	0.00	0.00	0.00
8,950.0	90.60	358.61	5,816.3	2,871.5	-690.0	2,945.2	0.00	0.00	0.00
9,000.0	90.60	358.61	5,815.8	2,921.5	-691.2	2,994.7	0.00	0.00	0.00
9,050.0	90.60	358.61	5,815.2	2,971.5	-692.5	3,044.2	0.00	0.00	0.00

Noble Energy Inc

Planning Report

Database:	EDM01P	Local Co-ordinate Reference:	Well Kidd LD22-780
Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4852.0ft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4852.0ft (Original Well Elev)
Site:	LD (09N-58W)	North Reference:	Grid
Well:	Kidd LD22-780	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Drilling		
Design:	APD - Rev 0		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
9,100.0	90.60	358.61	5,814.7	3,021.5	-693.7	3,093.7	0.00	0.00	0.00	
9,150.0	90.60	358.61	5,814.2	3,071.4	-694.9	3,143.3	0.00	0.00	0.00	
9,200.0	90.60	358.61	5,813.7	3,121.4	-696.1	3,192.8	0.00	0.00	0.00	
9,250.0	90.60	358.61	5,813.2	3,171.4	-697.3	3,242.3	0.00	0.00	0.00	
9,300.0	90.60	358.61	5,812.6	3,221.4	-698.5	3,291.8	0.00	0.00	0.00	
9,350.0	90.60	358.61	5,812.1	3,271.4	-699.7	3,341.4	0.00	0.00	0.00	
9,400.0	90.60	358.61	5,811.6	3,321.3	-700.9	3,390.9	0.00	0.00	0.00	
9,450.0	90.60	358.61	5,811.1	3,371.3	-702.1	3,440.4	0.00	0.00	0.00	
9,500.0	90.60	358.61	5,810.5	3,421.3	-703.3	3,489.9	0.00	0.00	0.00	
9,550.0	90.60	358.61	5,810.0	3,471.3	-704.6	3,539.5	0.00	0.00	0.00	
9,600.0	90.60	358.61	5,809.5	3,521.3	-705.8	3,589.0	0.00	0.00	0.00	
9,650.0	90.60	358.61	5,809.0	3,571.3	-707.0	3,638.5	0.00	0.00	0.00	
9,700.0	90.60	358.61	5,808.4	3,621.2	-708.2	3,688.0	0.00	0.00	0.00	
9,750.0	90.60	358.61	5,807.9	3,671.2	-709.4	3,737.6	0.00	0.00	0.00	
9,800.0	90.60	358.61	5,807.4	3,721.2	-710.6	3,787.1	0.00	0.00	0.00	
9,850.0	90.60	358.61	5,806.9	3,771.2	-711.8	3,836.6	0.00	0.00	0.00	
9,900.0	90.60	358.61	5,806.3	3,821.2	-713.0	3,886.1	0.00	0.00	0.00	
9,950.0	90.60	358.61	5,805.8	3,871.2	-714.2	3,935.7	0.00	0.00	0.00	
10,000.0	90.60	358.61	5,805.3	3,921.1	-715.4	3,985.2	0.00	0.00	0.00	
10,050.0	90.60	358.61	5,804.8	3,971.1	-716.7	4,034.7	0.00	0.00	0.00	
10,100.0	90.60	358.61	5,804.2	4,021.1	-717.9	4,084.2	0.00	0.00	0.00	
10,150.0	90.60	358.61	5,803.7	4,071.1	-719.1	4,133.8	0.00	0.00	0.00	
10,200.0	90.60	358.61	5,803.2	4,121.1	-720.3	4,183.3	0.00	0.00	0.00	
10,250.0	90.60	358.61	5,802.7	4,171.1	-721.5	4,232.8	0.00	0.00	0.00	
10,300.0	90.60	358.61	5,802.2	4,221.0	-722.7	4,282.3	0.00	0.00	0.00	
10,350.0	90.60	358.61	5,801.6	4,271.0	-723.9	4,331.9	0.00	0.00	0.00	
10,400.0	90.60	358.61	5,801.1	4,321.0	-725.1	4,381.4	0.00	0.00	0.00	
10,450.0	90.60	358.61	5,800.6	4,371.0	-726.3	4,430.9	0.00	0.00	0.00	
10,500.0	90.60	358.61	5,800.1	4,421.0	-727.5	4,480.4	0.00	0.00	0.00	
10,544.0	90.60	358.61	5,799.6	4,464.9	-728.6	4,524.0	0.00	0.00	0.00	
TD at 10544.0 - Kidd LD22-780 BHL 330'FNL, 660'FWL										

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Kidd LD22-780 BHL 330	0.00	0.00	5,799.6	4,464.9	-728.6	1,517,787.49	3,455,205.90	40.743140	-103.857160
- hit/miss target									
- Shape									
- plan hits target center									
- Point									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
6,223.2	5,834.5	7" Casing @ 6223.2' MD	7	8-3/4	

Noble Energy Inc

Planning Report

Database:	EDM01P	Local Co-ordinate Reference:	Well Kidd LD22-780
Company:	Northern Region Drilling - Working	TVD Reference:	WELL @ 4852.0ft (Original Well Elev)
Project:	Wattenberg Field	MD Reference:	WELL @ 4852.0ft (Original Well Elev)
Site:	LD (09N-58W)	North Reference:	Grid
Well:	Kidd LD22-780	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Drilling		
Design:	APD - Rev 0		

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,537.5	2,510.0	PIERRE		0.00	
3,452.0	3,402.0	PARKMAN		0.00	
4,093.9	4,028.0	SUSSEX		0.00	
4,510.6	4,435.0	SHANNON		0.00	
5,161.4	5,083.0	TEEPEE BUTTES		0.00	
5,835.9	5,689.0	SHARON SPRINGS		0.00	
5,869.8	5,710.0	NIO A CHALK		0.00	
5,919.1	5,738.0	NIO A MARL		0.00	
6,043.7	5,794.0	NIO B CHALK		0.00	
6,145.4	5,823.0	NIO B MARL		0.00	

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
1,000.0	1,000.0	0.0	0.0	KOP - Start Build 2.00	
4,390.7	4,317.5	-394.0	-552.4	Start Drop -2.00	
5,278.7	5,200.3	-435.0	-610.0	KOP #2 - Start Build 9.00	
6,223.2	5,834.5	146.0	-624.1	Start 75.0 hold at 6223.2 MD	
6,298.2	5,841.0	220.7	-625.9	Start Build 9.00	
10,544.0	5,799.6	4,464.9	-728.6	TD at 10544.0	

Northern Region Drilling - Working

**Wattenberg Field
LD (09N-58W)
Kidd LD22-780**

**Original Drilling
APD - Rev 0**

Anticollision Summary Report

06 March, 2015

Noble Energy Inc
Anticollision Summary Report

Company:	Northern Region Drilling - Working	Local Co-ordinate Reference:	Well Kidd LD22-780
Project:	Wattenberg Field	TVD Reference:	WELL @ 4852.0ft (Original Well Elev)
Reference Site:	LD (09N-58W)	MD Reference:	WELL @ 4852.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	Grid
Reference Well:	Kidd LD22-780	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	EDM01P
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:	MD Interval 100.0ft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 10,000.0 ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program	Date	3/6/2015		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	10,544.0	APD - Rev 0 (Original Drilling)	MWD	MWD - Standard

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
LD (09N-58W)						
Kidd LD22-770 - Original Drilling - APD - Rev 0	1,000.0	999.0	38.8	34.6	9.237	CC, ES
Kidd LD22-770 - Original Drilling - APD - Rev 0	10,544.0	10,426.9	662.1	484.0	3.717	SF

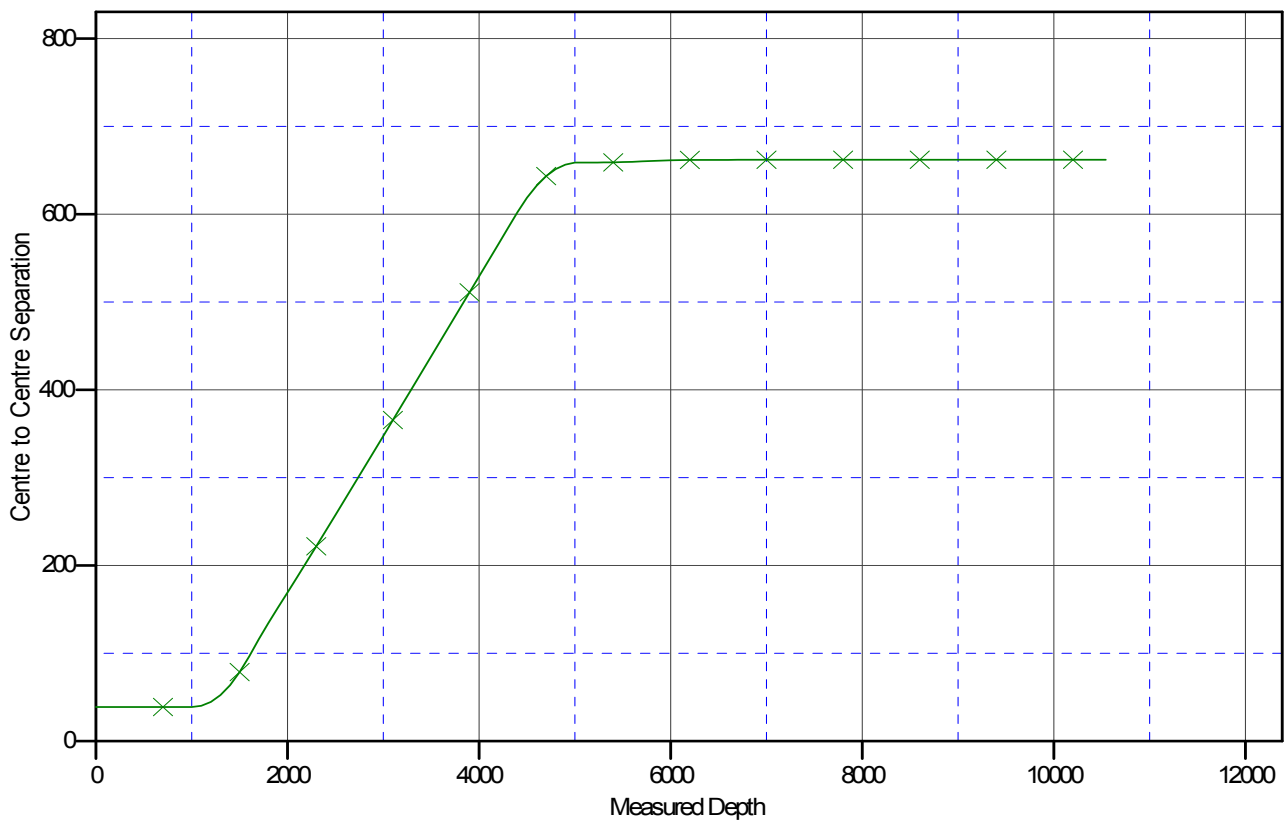
Noble Energy Inc
Anticollision Summary Report

Company:	Northern Region Drilling - Working	Local Co-ordinate Reference:	Well Kidd LD22-780
Project:	Wattenberg Field	TVD Reference:	WELL @ 4852.0ft (Original Well Elev)
Reference Site:	LD (09N-58W)	MD Reference:	WELL @ 4852.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	Grid
Reference Well:	Kidd LD22-780	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	EDM01P
Reference Design:	APD - Rev 0	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4852.0ft (Original Well Elev)
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000

Coordinates are relative to: Kidd LD22-780
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 1.06°

Ladder Plot



LEGEND

✕ Kidd LD22-770, Original Drilling, APD - Rev 0 V0

Noble Energy Inc
Anticollision Summary Report

Company:	Northern Region Drilling - Working	Local Co-ordinate Reference:	Well Kidd LD22-780
Project:	Wattenberg Field	TVD Reference:	WELL @ 4852.0ft (Original Well Elev)
Reference Site:	LD (09N-58W)	MD Reference:	WELL @ 4852.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	Grid
Reference Well:	Kidd LD22-780	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Drilling	Database:	EDM01P
Reference Design:	APD - Rev 0	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4852.0ft (Original Well Elev)
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000

Coordinates are relative to: Kidd LD22-780
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 1.06°

