

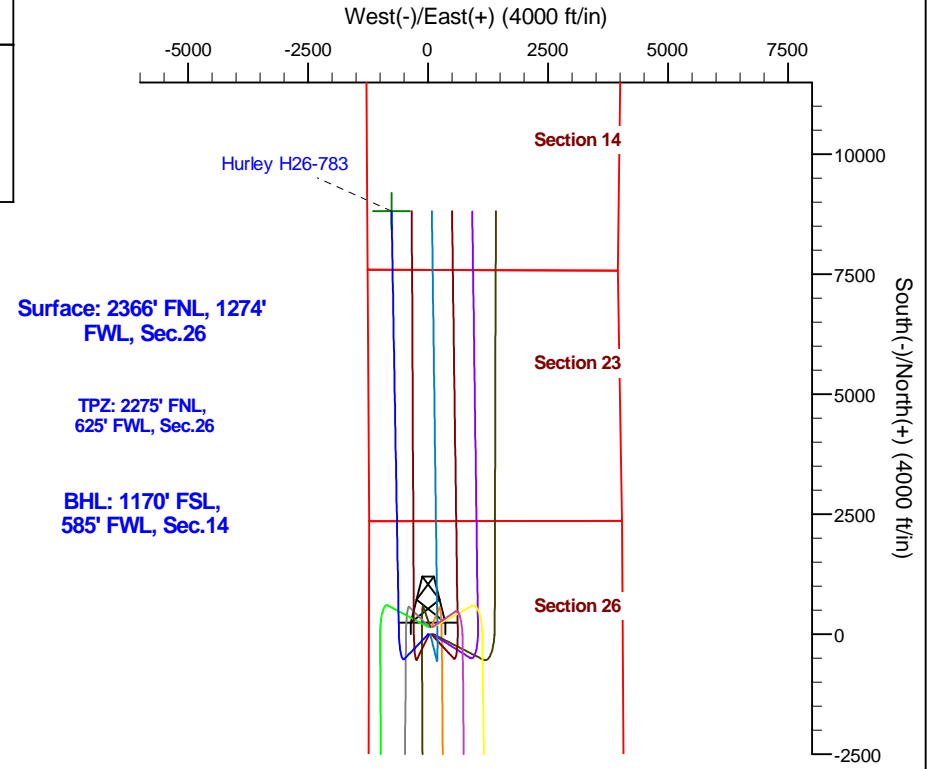
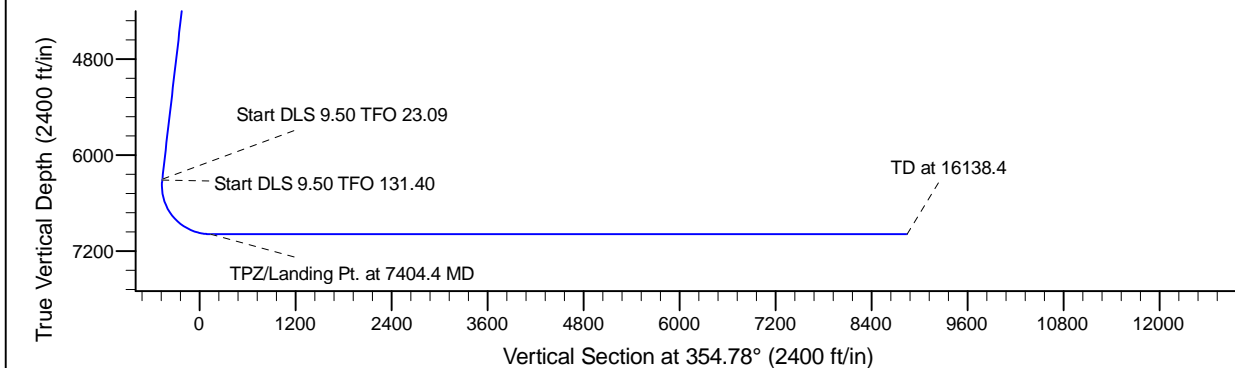
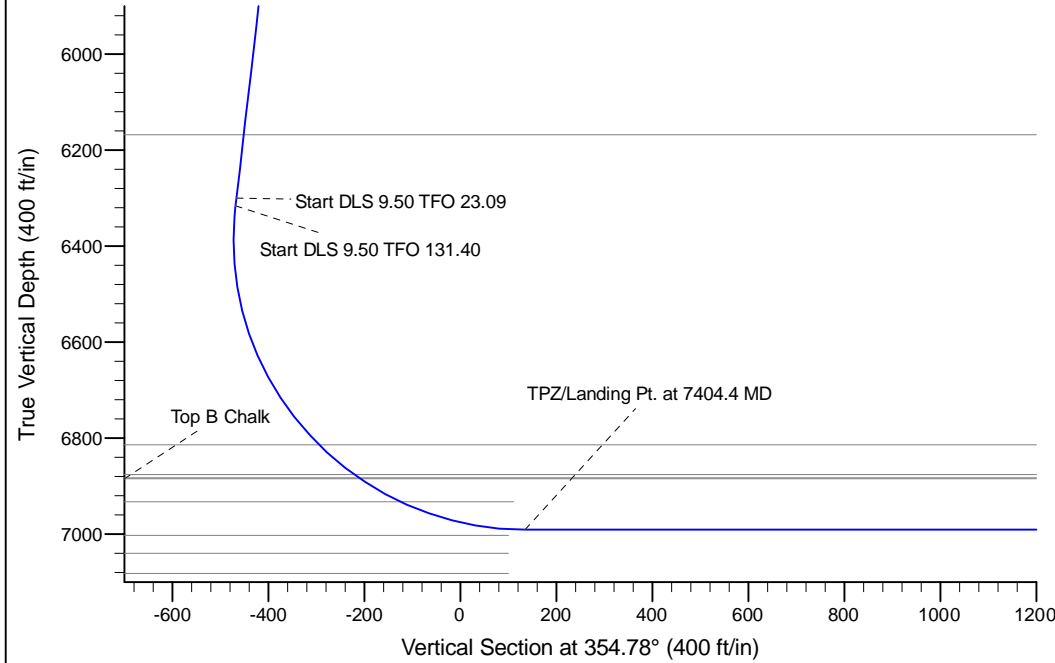
Project: Conceptual Wells  
 Site: DP 408  
 Well: Hurley H26-783  
 Wellbore: Wellbore #1  
 Design: Prelim - Rev 2

# Northern Region Drilling - DJ Basin

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	2000.0	0.00	0.00	2000.0	0.0	0.0	0.00	0.00	0.0	
3	2500.0	10.00	224.00	2497.5	-31.3	-30.2	2.00	224.00	-28.4	
4	6361.2	10.00	224.00	6300.0	-513.6	-496.0	0.00	0.00	-466.4	
5	6377.3	11.42	227.03	6315.8	-515.7	-498.1	9.50	23.09	-468.2	
6	7404.4	90.00	359.00	6991.0	80.0	-610.0	9.50	131.40	135.2	
7	16138.4	90.00	359.01	6991.0	8812.7	-761.7	0.00	90.00	8845.5	Hurley H26-783 BHL



**T G M**

Azimuths to Grid North  
 True North: -0.56°  
 Magnetic North: 7.75°

Magnetic Field  
 Strength: 52672.9snT  
 Dip Angle: 66.79°  
 Date: 12/3/2014  
 Model: IGRF2010

WELL DETAILS: Hurley H26-783			
0.00.0	Northing 1315822.79	Ground Level: Easting 3241447.08	Latitude 4821.0 Longitude -104.635650
Plan: Prelim - Rev 2 (Hurley H26-783/Wellbore #1)			
Created By:	Chad Stich	Date:	14:56, October 30 2017
Checked:	_____	Date:	_____
Reviewed:	_____	Date:	_____
Approved:	_____	Date:	_____

# **Northern Region Drilling - Sandbox**

**Conceptual Wells**

**DP 408**

**Hurley H26-783**

**Wellbore #1**

**Plan: Prelim - Rev 2**

## **Standard Planning Report**

**30 October, 2017**

# Noble Energy, Inc.

## Planning Report

<b>Database:</b>	EDMP	<b>Local Co-ordinate Reference:</b>	Well Hurley H26-783
<b>Company:</b>	Northern Region Drilling - Sandbox	<b>TVD Reference:</b>	WELL @ 4851.0ft (Original Well Elev)
<b>Project:</b>	Conceptual Wells	<b>MD Reference:</b>	WELL @ 4851.0ft (Original Well Elev)
<b>Site:</b>	DP 408	<b>North Reference:</b>	Grid
<b>Well:</b>	Hurley H26-783	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Prelim - Rev 2		

<b>Project</b>	Conceptual Wells		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Colorado Northern Zone		Using geodetic scale factor

<b>Site</b>	DP 408				
<b>Site Position:</b>		<b>Northing:</b>	1,318,184.69 usft	<b>Latitude:</b>	40.203616
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,240,225.17 usft	<b>Longitude:</b>	-104.639942
<b>Position Uncertainty:</b>	0.0 ft	<b>Slot Radius:</b>	13-3/16 "	<b>Grid Convergence:</b>	0.56 °

<b>Well</b>	Hurley H26-783					
<b>Well Position</b>	<b>+N/-S</b>	-2,362.0 ft	<b>Northing:</b>	1,315,822.79 usft	<b>Latitude:</b>	40.197100
	<b>+E/-W</b>	1,222.0 ft	<b>Easting:</b>	3,241,447.08 usft	<b>Longitude:</b>	-104.635650
<b>Position Uncertainty</b>		0.0 ft	<b>Wellhead Elevation:</b>	0.0 ft	<b>Ground Level:</b>	4,821.0 ft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	12/3/2014	8.31	66.79	52,672.91862950

<b>Design</b>	Prelim - Rev 2			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	354.78

<b>Plan Sections</b>										
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	
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,500.0	10.00	224.00	2,497.5	-31.3	-30.2	2.00	2.00	0.00	224.00	
6,361.2	10.00	224.00	6,300.0	-513.6	-496.0	0.00	0.00	0.00	0.00	
6,377.3	11.42	227.03	6,315.8	-515.7	-498.1	9.50	8.84	18.83	23.09	
7,404.4	90.00	359.00	6,991.0	80.0	-610.0	9.50	7.65	12.85	131.40	
16,138.4	90.00	359.01	6,991.0	8,812.7	-761.7	0.00	0.00	0.00	90.00	Hurley H26-783 BHL

# Noble Energy, Inc.

## Planning Report

<b>Database:</b>	EDMP	<b>Local Co-ordinate Reference:</b>	Well Hurley H26-783
<b>Company:</b>	Northern Region Drilling - Sandbox	<b>TVD Reference:</b>	WELL @ 4851.0ft (Original Well Elev)
<b>Project:</b>	Conceptual Wells	<b>MD Reference:</b>	WELL @ 4851.0ft (Original Well Elev)
<b>Site:</b>	DP 408	<b>North Reference:</b>	Grid
<b>Well:</b>	Hurley H26-783	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Prelim - Rev 2		

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
100.0	0.00	0.00	100.0	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
300.0	0.00	0.00	300.0	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
500.0	0.00	0.00	500.0	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
700.0	0.00	0.00	700.0	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
900.0	0.00	0.00	900.0	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
1,100.0	0.00	0.00	1,100.0	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
1,300.0	0.00	0.00	1,300.0	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
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	2.00	224.00	2,100.0	-1.3	-1.2	-1.1	2.00	2.00	0.00
2,200.0	4.00	224.00	2,199.8	-5.0	-4.8	-4.6	2.00	2.00	0.00
2,300.0	6.00	224.00	2,299.5	-11.3	-10.9	-10.3	2.00	2.00	0.00
2,400.0	8.00	224.00	2,398.7	-20.1	-19.4	-18.2	2.00	2.00	0.00
2,500.0	10.00	224.00	2,497.5	-31.3	-30.2	-28.4	2.00	2.00	0.00
2,600.0	10.00	224.00	2,595.9	-43.8	-42.3	-39.8	0.00	0.00	0.00
2,700.0	10.00	224.00	2,694.4	-56.3	-54.4	-51.1	0.00	0.00	0.00
2,800.0	10.00	224.00	2,792.9	-68.8	-66.4	-62.5	0.00	0.00	0.00
2,900.0	10.00	224.00	2,891.4	-81.3	-78.5	-73.8	0.00	0.00	0.00
3,000.0	10.00	224.00	2,989.9	-93.8	-90.5	-85.1	0.00	0.00	0.00
3,100.0	10.00	224.00	3,088.4	-106.3	-102.6	-96.5	0.00	0.00	0.00
3,200.0	10.00	224.00	3,186.8	-118.7	-114.7	-107.8	0.00	0.00	0.00
3,300.0	10.00	224.00	3,285.3	-131.2	-126.7	-119.2	0.00	0.00	0.00
3,400.0	10.00	224.00	3,383.8	-143.7	-138.8	-130.5	0.00	0.00	0.00
3,500.0	10.00	224.00	3,482.3	-156.2	-150.9	-141.8	0.00	0.00	0.00
3,600.0	10.00	224.00	3,580.8	-168.7	-162.9	-153.2	0.00	0.00	0.00
3,700.0	10.00	224.00	3,679.2	-181.2	-175.0	-164.5	0.00	0.00	0.00
3,800.0	10.00	224.00	3,777.7	-193.7	-187.0	-175.9	0.00	0.00	0.00
3,900.0	10.00	224.00	3,876.2	-206.2	-199.1	-187.2	0.00	0.00	0.00
4,000.0	10.00	224.00	3,974.7	-218.7	-211.2	-198.6	0.00	0.00	0.00
4,100.0	10.00	224.00	4,073.2	-231.2	-223.2	-209.9	0.00	0.00	0.00
4,200.0	10.00	224.00	4,171.6	-243.7	-235.3	-221.2	0.00	0.00	0.00
4,300.0	10.00	224.00	4,270.1	-256.1	-247.4	-232.6	0.00	0.00	0.00
4,400.0	10.00	224.00	4,368.6	-268.6	-259.4	-243.9	0.00	0.00	0.00
4,500.0	10.00	224.00	4,467.1	-281.1	-271.5	-255.3	0.00	0.00	0.00
4,600.0	10.00	224.00	4,565.6	-293.6	-283.5	-266.6	0.00	0.00	0.00
4,700.0	10.00	224.00	4,664.0	-306.1	-295.6	-277.9	0.00	0.00	0.00
4,800.0	10.00	224.00	4,762.5	-318.6	-307.7	-289.3	0.00	0.00	0.00
4,900.0	10.00	224.00	4,861.0	-331.1	-319.7	-300.6	0.00	0.00	0.00
5,000.0	10.00	224.00	4,959.5	-343.6	-331.8	-312.0	0.00	0.00	0.00
5,100.0	10.00	224.00	5,058.0	-356.1	-343.9	-323.3	0.00	0.00	0.00
5,200.0	10.00	224.00	5,156.4	-368.6	-355.9	-334.7	0.00	0.00	0.00
5,300.0	10.00	224.00	5,254.9	-381.1	-368.0	-346.0	0.00	0.00	0.00

# Noble Energy, Inc.

## Planning Report

<b>Database:</b>	EDMP	<b>Local Co-ordinate Reference:</b>	Well Hurley H26-783
<b>Company:</b>	Northern Region Drilling - Sandbox	<b>TVD Reference:</b>	WELL @ 4851.0ft (Original Well Elev)
<b>Project:</b>	Conceptual Wells	<b>MD Reference:</b>	WELL @ 4851.0ft (Original Well Elev)
<b>Site:</b>	DP 408	<b>North Reference:</b>	Grid
<b>Well:</b>	Hurley H26-783	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Prelim - Rev 2		

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)
5,400.0	10.00	224.00	5,353.4	-393.6	-380.0	-357.3	0.00	0.00	0.00
5,500.0	10.00	224.00	5,451.9	-406.0	-392.1	-368.7	0.00	0.00	0.00
5,600.0	10.00	224.00	5,550.4	-418.5	-404.2	-380.0	0.00	0.00	0.00
5,700.0	10.00	224.00	5,648.9	-431.0	-416.2	-391.4	0.00	0.00	0.00
5,800.0	10.00	224.00	5,747.3	-443.5	-428.3	-402.7	0.00	0.00	0.00
5,900.0	10.00	224.00	5,845.8	-456.0	-440.4	-414.0	0.00	0.00	0.00
6,000.0	10.00	224.00	5,944.3	-468.5	-452.4	-425.4	0.00	0.00	0.00
6,100.0	10.00	224.00	6,042.8	-481.0	-464.5	-436.7	0.00	0.00	0.00
6,200.0	10.00	224.00	6,141.3	-493.5	-476.6	-448.1	0.00	0.00	0.00
6,300.0	10.00	224.00	6,239.7	-506.0	-488.6	-459.4	0.00	0.00	0.00
6,361.2	10.00	224.00	6,300.0	-513.6	-496.0	-466.4	0.00	0.00	0.00
6,377.3	11.42	227.03	6,315.8	-515.7	-498.1	-468.2	9.50	8.84	18.83
6,400.0	10.13	236.27	6,338.1	-518.4	-501.4	-470.6	9.50	-5.72	40.71
6,500.0	9.45	294.47	6,436.9	-519.8	-516.3	-470.7	9.50	-0.68	58.20
6,600.0	15.98	327.35	6,534.5	-504.8	-531.2	-454.4	9.50	6.53	32.88
6,700.0	24.51	339.75	6,628.3	-473.7	-545.8	-422.1	9.50	8.53	12.41
6,800.0	33.54	345.90	6,715.7	-427.3	-559.8	-374.6	9.50	9.04	6.15
6,900.0	42.76	349.65	6,794.2	-367.0	-572.6	-313.4	9.50	9.22	3.75
7,000.0	52.07	352.27	6,861.8	-294.4	-584.1	-240.0	9.50	9.31	2.63
7,100.0	61.42	354.30	6,916.6	-211.4	-593.7	-156.5	9.50	9.35	2.03
7,200.0	70.80	356.00	6,957.1	-120.4	-601.4	-65.2	9.50	9.38	1.70
7,300.0	80.19	357.51	6,982.1	-23.9	-606.8	31.5	9.50	9.39	1.51
7,400.0	89.58	358.94	6,991.0	75.6	-609.9	130.8	9.50	9.40	1.43
7,404.4	90.00	359.00	6,991.0	80.0	-610.0	135.2	9.50	9.40	1.41
7,500.0	90.00	359.00	6,991.0	175.6	-611.7	230.5	0.00	0.00	0.00
7,600.0	90.00	359.00	6,991.0	275.6	-613.4	330.2	0.00	0.00	0.00
7,700.0	90.00	359.00	6,991.0	375.5	-615.2	430.0	0.00	0.00	0.00
7,800.0	90.00	359.00	6,991.0	475.5	-616.9	529.7	0.00	0.00	0.00
7,900.0	90.00	359.00	6,991.0	575.5	-618.6	629.4	0.00	0.00	0.00
8,000.0	90.00	359.00	6,991.0	675.5	-620.4	729.1	0.00	0.00	0.00
8,100.0	90.00	359.00	6,991.0	775.5	-622.1	828.9	0.00	0.00	0.00
8,200.0	90.00	359.00	6,991.0	875.5	-623.9	928.6	0.00	0.00	0.00
8,300.0	90.00	359.00	6,991.0	975.4	-625.6	1,028.3	0.00	0.00	0.00
8,400.0	90.00	359.00	6,991.0	1,075.4	-627.4	1,128.1	0.00	0.00	0.00
8,500.0	90.00	359.00	6,991.0	1,175.4	-629.1	1,227.8	0.00	0.00	0.00
8,600.0	90.00	359.00	6,991.0	1,275.4	-630.9	1,327.5	0.00	0.00	0.00
8,700.0	90.00	359.00	6,991.0	1,375.4	-632.6	1,427.2	0.00	0.00	0.00
8,800.0	90.00	359.00	6,991.0	1,475.4	-634.3	1,527.0	0.00	0.00	0.00
8,900.0	90.00	359.00	6,991.0	1,575.4	-636.1	1,626.7	0.00	0.00	0.00
9,000.0	90.00	359.00	6,991.0	1,675.3	-637.8	1,726.4	0.00	0.00	0.00
9,100.0	90.00	359.00	6,991.0	1,775.3	-639.6	1,826.2	0.00	0.00	0.00
9,200.0	90.00	359.00	6,991.0	1,875.3	-641.3	1,925.9	0.00	0.00	0.00
9,300.0	90.00	359.00	6,991.0	1,975.3	-643.0	2,025.6	0.00	0.00	0.00
9,400.0	90.00	359.00	6,991.0	2,075.3	-644.8	2,125.3	0.00	0.00	0.00
9,500.0	90.00	359.00	6,991.0	2,175.3	-646.5	2,225.1	0.00	0.00	0.00
9,600.0	90.00	359.00	6,991.0	2,275.3	-648.3	2,324.8	0.00	0.00	0.00
9,700.0	90.00	359.00	6,991.0	2,375.2	-650.0	2,424.5	0.00	0.00	0.00
9,800.0	90.00	359.00	6,991.0	2,475.2	-651.8	2,524.3	0.00	0.00	0.00
9,900.0	90.00	359.00	6,991.0	2,575.2	-653.5	2,624.0	0.00	0.00	0.00
10,000.0	90.00	359.00	6,991.0	2,675.2	-655.2	2,723.7	0.00	0.00	0.00
10,100.0	90.00	359.00	6,991.0	2,775.2	-657.0	2,823.4	0.00	0.00	0.00
10,200.0	90.00	359.00	6,991.0	2,875.2	-658.7	2,923.2	0.00	0.00	0.00
10,300.0	90.00	359.00	6,991.0	2,975.1	-660.5	3,022.9	0.00	0.00	0.00
10,400.0	90.00	359.00	6,991.0	3,075.1	-662.2	3,122.6	0.00	0.00	0.00

# Noble Energy, Inc.

## Planning Report

<b>Database:</b>	EDMP	<b>Local Co-ordinate Reference:</b>	Well Hurley H26-783
<b>Company:</b>	Northern Region Drilling - Sandbox	<b>TVD Reference:</b>	WELL @ 4851.0ft (Original Well Elev)
<b>Project:</b>	Conceptual Wells	<b>MD Reference:</b>	WELL @ 4851.0ft (Original Well Elev)
<b>Site:</b>	DP 408	<b>North Reference:</b>	Grid
<b>Well:</b>	Hurley H26-783	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Prelim - Rev 2		

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)
10,500.0	90.00	359.00	6,991.0	3,175.1	-663.9	3,222.4	0.00	0.00	0.00
10,600.0	90.00	359.00	6,991.0	3,275.1	-665.7	3,322.1	0.00	0.00	0.00
10,700.0	90.00	359.00	6,991.0	3,375.1	-667.4	3,421.8	0.00	0.00	0.00
10,800.0	90.00	359.00	6,991.0	3,475.1	-669.2	3,521.5	0.00	0.00	0.00
10,900.0	90.00	359.00	6,991.0	3,575.1	-670.9	3,621.3	0.00	0.00	0.00
11,000.0	90.00	359.00	6,991.0	3,675.0	-672.6	3,721.0	0.00	0.00	0.00
11,100.0	90.00	359.00	6,991.0	3,775.0	-674.4	3,820.7	0.00	0.00	0.00
11,200.0	90.00	359.00	6,991.0	3,875.0	-676.1	3,920.5	0.00	0.00	0.00
11,300.0	90.00	359.00	6,991.0	3,975.0	-677.8	4,020.2	0.00	0.00	0.00
11,400.0	90.00	359.00	6,991.0	4,075.0	-679.6	4,119.9	0.00	0.00	0.00
11,500.0	90.00	359.00	6,991.0	4,175.0	-681.3	4,219.6	0.00	0.00	0.00
11,600.0	90.00	359.00	6,991.0	4,274.9	-683.1	4,319.4	0.00	0.00	0.00
11,700.0	90.00	359.00	6,991.0	4,374.9	-684.8	4,419.1	0.00	0.00	0.00
11,800.0	90.00	359.00	6,991.0	4,474.9	-686.5	4,518.8	0.00	0.00	0.00
11,900.0	90.00	359.00	6,991.0	4,574.9	-688.3	4,618.6	0.00	0.00	0.00
12,000.0	90.00	359.00	6,991.0	4,674.9	-690.0	4,718.3	0.00	0.00	0.00
12,100.0	90.00	359.00	6,991.0	4,774.9	-691.7	4,818.0	0.00	0.00	0.00
12,200.0	90.00	359.00	6,991.0	4,874.9	-693.5	4,917.7	0.00	0.00	0.00
12,300.0	90.00	359.01	6,991.0	4,974.8	-695.2	5,017.5	0.00	0.00	0.00
12,400.0	90.00	359.01	6,991.0	5,074.8	-697.0	5,117.2	0.00	0.00	0.00
12,500.0	90.00	359.01	6,991.0	5,174.8	-698.7	5,216.9	0.00	0.00	0.00
12,600.0	90.00	359.01	6,991.0	5,274.8	-700.4	5,316.7	0.00	0.00	0.00
12,700.0	90.00	359.01	6,991.0	5,374.8	-702.2	5,416.4	0.00	0.00	0.00
12,800.0	90.00	359.01	6,991.0	5,474.8	-703.9	5,516.1	0.00	0.00	0.00
12,900.0	90.00	359.01	6,991.0	5,574.8	-705.6	5,615.8	0.00	0.00	0.00
13,000.0	90.00	359.01	6,991.0	5,674.7	-707.4	5,715.6	0.00	0.00	0.00
13,100.0	90.00	359.01	6,991.0	5,774.7	-709.1	5,815.3	0.00	0.00	0.00
13,200.0	90.00	359.01	6,991.0	5,874.7	-710.8	5,915.0	0.00	0.00	0.00
13,300.0	90.00	359.01	6,991.0	5,974.7	-712.6	6,014.7	0.00	0.00	0.00
13,400.0	90.00	359.01	6,991.0	6,074.7	-714.3	6,114.5	0.00	0.00	0.00
13,500.0	90.00	359.01	6,991.0	6,174.7	-716.0	6,214.2	0.00	0.00	0.00
13,600.0	90.00	359.01	6,991.0	6,274.6	-717.8	6,313.9	0.00	0.00	0.00
13,700.0	90.00	359.01	6,991.0	6,374.6	-719.5	6,413.7	0.00	0.00	0.00
13,800.0	90.00	359.01	6,991.0	6,474.6	-721.2	6,513.4	0.00	0.00	0.00
13,900.0	90.00	359.01	6,991.0	6,574.6	-723.0	6,613.1	0.00	0.00	0.00
14,000.0	90.00	359.01	6,991.0	6,674.6	-724.7	6,712.8	0.00	0.00	0.00
14,100.0	90.00	359.01	6,991.0	6,774.6	-726.4	6,812.6	0.00	0.00	0.00
14,200.0	90.00	359.01	6,991.0	6,874.6	-728.2	6,912.3	0.00	0.00	0.00
14,300.0	90.00	359.01	6,991.0	6,974.5	-729.9	7,012.0	0.00	0.00	0.00
14,400.0	90.00	359.01	6,991.0	7,074.5	-731.6	7,111.8	0.00	0.00	0.00
14,500.0	90.00	359.01	6,991.0	7,174.5	-733.4	7,211.5	0.00	0.00	0.00
14,600.0	90.00	359.01	6,991.0	7,274.5	-735.1	7,311.2	0.00	0.00	0.00
14,700.0	90.00	359.01	6,991.0	7,374.5	-736.8	7,410.9	0.00	0.00	0.00
14,800.0	90.00	359.01	6,991.0	7,474.5	-738.6	7,510.7	0.00	0.00	0.00
14,900.0	90.00	359.01	6,991.0	7,574.5	-740.3	7,610.4	0.00	0.00	0.00
15,000.0	90.00	359.01	6,991.0	7,674.4	-742.0	7,710.1	0.00	0.00	0.00
15,100.0	90.00	359.01	6,991.0	7,774.4	-743.8	7,809.8	0.00	0.00	0.00
15,200.0	90.00	359.01	6,991.0	7,874.4	-745.5	7,909.6	0.00	0.00	0.00
15,300.0	90.00	359.01	6,991.0	7,974.4	-747.2	8,009.3	0.00	0.00	0.00
15,400.0	90.00	359.01	6,991.0	8,074.4	-749.0	8,109.0	0.00	0.00	0.00
15,500.0	90.00	359.01	6,991.0	8,174.4	-750.7	8,208.8	0.00	0.00	0.00
15,600.0	90.00	359.01	6,991.0	8,274.3	-752.4	8,308.5	0.00	0.00	0.00
15,700.0	90.00	359.01	6,991.0	8,374.3	-754.2	8,408.2	0.00	0.00	0.00
15,800.0	90.00	359.01	6,991.0	8,474.3	-755.9	8,507.9	0.00	0.00	0.00

# Noble Energy, Inc.

## Planning Report

<b>Database:</b>	EDMP	<b>Local Co-ordinate Reference:</b>	Well Hurley H26-783
<b>Company:</b>	Northern Region Drilling - Sandbox	<b>TVD Reference:</b>	WELL @ 4851.0ft (Original Well Elev)
<b>Project:</b>	Conceptual Wells	<b>MD Reference:</b>	WELL @ 4851.0ft (Original Well Elev)
<b>Site:</b>	DP 408	<b>North Reference:</b>	Grid
<b>Well:</b>	Hurley H26-783	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Prelim - Rev 2		

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)
15,900.0	90.00	359.01	6,991.0	8,574.3	-757.6	8,607.7	0.00	0.00	0.00
16,000.0	90.00	359.01	6,991.0	8,674.3	-759.3	8,707.4	0.00	0.00	0.00
16,100.0	90.00	359.01	6,991.0	8,774.3	-761.1	8,807.1	0.00	0.00	0.00
16,138.4	90.00	359.01	6,991.0	8,812.7	-761.7	8,845.5	0.00	0.00	0.00

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Hurley H26-783 BHL - hit/miss target - Shape - Point	0.00	0.01	6,991.0	8,812.7	-761.7	1,324,635.10	3,240,685.38	40.221310	-104.638070

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
617.0	617.0	Pierre			
769.0	769.0	Upper Pierre Aquifer Top			
1,657.0	1,657.0	Upper Pierre Aquifer Base			
3,948.5	3,924.0	Parkman			
4,548.7	4,515.0	Sussex			
5,241.2	5,197.0	Shannon			
6,227.2	6,168.0	Teepee Buttes			
6,927.5	6,814.0	Sharon Springs			
7,023.7	6,876.0	Top A Chalk			
7,035.8	6,883.0	Top A Marl			
7,039.4	6,885.0	Top B Chalk			
7,136.3	6,933.0	Top B Marl			

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
2,000.0	2,000.0	0.0	0.0	KOP - Start Build 2.00
6,361.2	6,300.0	-513.6	-496.0	Start DLS 9.50 TFO 23.09
6,377.3	6,315.8	-515.7	-498.1	Start DLS 9.50 TFO 131.40
7,404.4	6,991.0	80.0	-610.0	TPZ/Landing Pt. at 7404.4 MD
16,138.4	6,991.0	8,812.7	-761.7	TD at 16138.4

# **Northern Region Drilling - Sandbox**

**Conceptual Wells**

**DP 408**

**Hurley H26-783**

**Wellbore #1**

**Prelim - Rev 2**

## **Anticollision Summary Report**

**30 October, 2017**

**Noble Energy, Inc.**  
Anticollision Summary Report

<b>Company:</b>	Northern Region Drilling - Sandbox	<b>Local Co-ordinate Reference:</b>	Well Hurley H26-783
<b>Project:</b>	Conceptual Wells	<b>TVD Reference:</b>	WELL @ 4851.0ft (Original Well Elev)
<b>Reference Site:</b>	DP 408	<b>MD Reference:</b>	WELL @ 4851.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Hurley H26-783	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDMP
<b>Reference Design:</b>	Prelim - Rev 2	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	Prelim - Rev 2		
<b>Filter type:</b>	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
<b>Interpolation Method:</b>	Stations	<b>Error Model:</b>	ISCWSA
<b>Depth Range:</b>	Unlimited	<b>Scan Method:</b>	Closest Approach 3D
<b>Results Limited by:</b>	Maximum center-center distance of 10,000.0 ft	<b>Error Surface:</b>	Pedal Curve
<b>Warning Levels Evaluated at:</b>	2.00 Sigma	<b>Casing Method:</b>	Not applied

<b>Survey Tool Program</b>	<b>Date</b>	10/30/2017		
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.0	16,138.4	Prelim - Rev 2 (Wellbore #1)	MWD+IFR1+MS_WY	Fixed:v2:Rockies, crustal dec + 3-axis correction

Summary						
Site Name	Reference	Offset	Distance		Separation Factor	Warning
	Measured Depth (ft)	Measured Depth (ft)	Between Centres (ft)	Between Ellipses (ft)		
D Section 19						
Butterball H24-69HN - Original Drilling - Original Drilling -	14,930.7	11,992.0	7,745.5	7,640.0	73.424	CC
Butterball H24-69HN - Original Drilling - Original Drilling -	15,000.0	11,992.0	7,745.8	7,639.8	73.070	ES
Butterball H24-69HN - Original Drilling - Original Drilling -	16,138.4	11,992.0	7,839.1	7,719.1	65.372	SF
DP 408						
Emmy H25-711 - Wellbore #1 - Prelim - Rev 2	2,000.0	1,984.0	7,956.2	7,947.5	918.461	CC, ES
Emmy H25-711 - Wellbore #1 - Prelim - Rev 2	16,138.4	17,530.1	9,900.2	9,710.9	52.281	SF
Emmy State H25-718 - Wellbore #1 - Prelim - Rev 2	2,000.0	1,984.0	7,935.1	7,926.5	916.035	CC, ES
Emmy State H25-718 - Wellbore #1 - Prelim - Rev 2	16,138.4	17,376.1	9,465.5	9,276.6	50.122	SF
Emmy State H25-724 - Wellbore #1 - Prelim - Rev 2	2,000.0	1,984.0	7,914.1	7,905.5	913.611	CC, ES
Emmy State H25-724 - Wellbore #1 - Prelim - Rev 2	16,138.4	17,460.5	9,028.8	8,842.3	48.416	SF
Emmy State H25-731 - Wellbore #1 - Prelim - Rev 2	2,000.0	1,983.0	7,893.1	7,884.5	911.423	CC, ES
Emmy State H25-731 - Wellbore #1 - Prelim - Rev 2	16,138.4	17,379.3	8,591.4	8,405.1	46.098	SF
Emmy State H25-738 - Wellbore #1 - Prelim - Rev 2	6,116.3	9,266.9	7,870.7	7,830.1	193.718	CC, ES
Emmy State H25-738 - Wellbore #1 - Prelim - Rev 2	16,138.4	17,299.8	8,155.6	7,968.4	43.567	SF
Emmy State H25-744 - Wellbore #1 - Prelim - Rev 2	6,145.3	9,300.6	7,411.2	7,369.8	178.889	CC, ES
Emmy State H25-744 - Wellbore #1 - Prelim - Rev 2	16,100.0	17,327.4	7,720.6	7,534.3	41.436	SF
Emmy State H25-751 - Wellbore #1 - Design #1	2,000.0	2,005.0	5,953.4	5,944.7	683.535	CC, ES
Emmy State H25-751 - Wellbore #1 - Design #1	16,138.4	17,580.8	7,441.5	7,253.0	39.489	SF
Emmy State H25-757 - Wellbore #1 - Design #1	2,000.0	2,005.0	5,933.5	5,924.8	681.251	CC, ES
Emmy State H25-757 - Wellbore #1 - Design #1	16,100.0	17,501.0	7,003.0	6,815.2	37.301	SF
Emmy State H25-764 - Wellbore #1 - Design #1	2,000.0	2,001.0	5,913.6	5,909.3	1,359.629	CC, ES
Emmy State H25-764 - Wellbore #1 - Design #1	16,138.4	17,466.3	6,579.8	6,493.8	76.511	SF
Emmy State H25-771 - Wellbore #1 - Design #1	6,336.3	9,369.6	5,845.6	5,803.6	139.208	CC, ES
Emmy State H25-771 - Wellbore #1 - Design #1	15,700.0	17,391.2	6,065.7	5,881.3	32.898	SF
Emmy State H25-777 - Wellbore #1 - Design #1	6,366.4	9,440.2	5,458.7	5,416.1	127.873	CC
Emmy State H25-777 - Wellbore #1 - Design #1	14,800.0	17,434.0	5,555.8	5,377.4	31.141	ES
Emmy State H25-777 - Wellbore #1 - Design #1	15,500.0	17,434.0	5,603.0	5,420.0	30.624	SF
Emmy State H25-785 - Wellbore #1 - Prelim - Rev 2	6,371.4	9,438.7	4,946.9	4,904.1	115.634	CC, ES
Emmy State H25-785 - Wellbore #1 - Prelim - Rev 2	15,400.0	17,481.1	5,151.8	4,970.5	28.415	SF
Emmy State H36-753 - Wellbore #1 - Design #1	2,000.0	2,005.0	5,885.4	5,876.7	675.728	CC, ES
Emmy State H36-753 - Wellbore #1 - Design #1	12,400.0	6,276.1	9,932.5	9,879.7	188.223	SF
Emmy State H36-760 - Wellbore #1 - Design #1	2,000.0	1,966.0	5,865.2	5,856.6	677.614	CC, ES
Emmy State H36-760 - Wellbore #1 - Design #1	12,000.0	6,450.0	9,430.7	9,381.3	190.979	SF
Emmy State H36-766 - Wellbore #1 - Design #1	2,000.0	2,004.0	5,845.1	5,836.4	671.281	CC, ES
Emmy State H36-766 - Wellbore #1 - Design #1	11,700.0	6,400.0	8,945.0	8,898.2	190.959	SF
Emmy State H36-773 - Wellbore #1 - Design #1	2,000.0	2,004.0	5,825.0	5,816.3	668.973	CC

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

**Noble Energy, Inc.**  
Anticollision Summary Report

<b>Company:</b>	Northern Region Drilling - Sandbox	<b>Local Co-ordinate Reference:</b>	Well Hurley H26-783
<b>Project:</b>	Conceptual Wells	<b>TVD Reference:</b>	WELL @ 4851.0ft (Original Well Elev)
<b>Reference Site:</b>	DP 408	<b>MD Reference:</b>	WELL @ 4851.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Hurley H26-783	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDMP
<b>Reference Design:</b>	Prelim - Rev 2	<b>Offset TVD Reference:</b>	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
DP 408						
Emmy State H36-773 - Wellbore #1 - Design #1	4,800.0	5,208.9	5,836.4	5,813.7	257.702	ES
Emmy State H36-773 - Wellbore #1 - Design #1	11,100.0	6,550.0	8,202.0	8,158.3	187.844	SF
Emmy State H36-780 - Wellbore #1 - Design #1	6,047.2	6,500.0	5,501.1	5,471.9	188.391	CC, ES
Emmy State H36-780 - Wellbore #1 - Design #1	6,650.0	6,667.7	5,548.0	5,517.3	180.339	SF
Emmy State H36-787 - Wellbore #1 - Prelim - Rev 2	6,271.5	6,770.9	5,070.5	5,039.4	162.612	CC
Emmy State H36-787 - Wellbore #1 - Prelim - Rev 2	6,300.0	6,779.5	5,070.6	5,039.3	162.176	ES
Emmy State H36-787 - Wellbore #1 - Prelim - Rev 2	6,650.0	6,870.2	5,104.0	5,072.0	159.567	SF
Hurley H26-712 - Wellbore #1 - Design #1	1,800.2	1,833.2	3,088.8	3,080.9	392.247	CC
Hurley H26-712 - Wellbore #1 - Design #1	1,900.0	1,917.9	3,088.9	3,080.6	372.831	ES
Hurley H26-712 - Wellbore #1 - Design #1	16,138.4	16,120.0	4,693.5	4,517.0	26.593	SF
Hurley H26-717 - Wellbore #1 - Design #1	1,900.2	1,933.2	3,066.5	3,058.2	368.381	CC
Hurley H26-717 - Wellbore #1 - Design #1	2,000.0	2,019.8	3,066.6	3,057.8	350.951	ES
Hurley H26-717 - Wellbore #1 - Design #1	16,138.4	16,089.5	4,272.7	4,098.3	24.497	SF
Hurley H26-724 - Wellbore #1 - Design #1	2,000.0	2,034.0	3,044.1	3,035.4	346.917	CC, ES
Hurley H26-724 - Wellbore #1 - Design #1	16,138.4	16,041.3	3,852.6	3,678.2	22.091	SF
Hurley H26-730 - Wellbore #1 - Design #1	2,000.0	2,033.0	3,021.8	3,013.0	344.460	CC, ES
Hurley H26-730 - Wellbore #1 - Design #1	16,138.4	15,788.2	3,433.8	3,258.4	19.574	SF
Hurley H26-736 - Wellbore #1 - Design #1	6,338.5	6,787.1	2,913.0	2,883.1	97.454	CC
Hurley H26-736 - Wellbore #1 - Design #1	16,138.4	15,959.0	3,013.0	2,839.0	17.312	ES, SF
Hurley H26-743 - Wellbore #1 - Prelim - Rev 2	7,472.3	7,573.0	2,435.8	2,402.5	73.137	CC, ES
Hurley H26-743 - Wellbore #1 - Prelim - Rev 2	16,138.4	16,207.0	2,593.2	2,416.9	14.717	SF
Hurley H26-750 - Wellbore #1 - Prelim - Rev 2	2,000.0	2,001.0	111.7	103.0	12.843	CC, ES
Hurley H26-750 - Wellbore #1 - Prelim - Rev 2	16,138.4	16,325.6	2,172.9	1,995.5	12.243	SF
Hurley H26-756 - Wellbore #1 - Prelim - Rev 2	2,000.0	2,001.0	89.4	80.7	10.274	CC, ES
Hurley H26-756 - Wellbore #1 - Prelim - Rev 2	16,138.4	16,197.3	1,681.2	1,506.0	9.596	SF
Hurley H26-762 - Wellbore #1 - Prelim - Rev 2	2,000.0	2,000.0	67.0	58.3	7.708	CC, ES
Hurley H26-762 - Wellbore #1 - Prelim - Rev 2	16,138.4	16,164.7	1,259.9	1,084.5	7.186	SF
Hurley H26-768 - Wellbore #1 - Prelim - Rev 2	2,000.0	2,000.0	44.7	36.0	5.139	CC, ES
Hurley H26-768 - Wellbore #1 - Prelim - Rev 2	16,138.4	16,156.8	840.6	664.8	4.781	SF
Hurley H26-776 - Wellbore #1 - Prelim - Rev 2	2,000.0	2,000.0	22.3	13.7	2.569	CC, ES
Hurley H26-776 - Wellbore #1 - Prelim - Rev 2	16,138.4	16,158.5	423.5	245.4	2.378	SF
Hurley H35-720 - Wellbore #1 - Design #1	2,000.0	2,034.0	3,075.4	3,066.6	350.480	CC, ES
Hurley H35-720 - Wellbore #1 - Design #1	10,200.0	6,550.0	4,461.8	4,417.8	101.333	SF
Hurley H35-727 - Wellbore #1 - Design #1	2,000.0	2,034.0	3,053.2	3,044.4	347.943	CC, ES
Hurley H35-727 - Wellbore #1 - Design #1	9,700.0	6,621.1	4,011.0	3,971.0	100.374	SF
Hurley H35-733 - Wellbore #1 - Design #1	2,000.0	2,033.0	3,030.9	3,022.1	345.494	CC, ES
Hurley H35-733 - Wellbore #1 - Design #1	9,300.0	6,784.4	3,505.3	3,467.1	91.539	SF
Hurley H35-740 - Wellbore #1 - Design #1	6,550.0	8,208.3	2,600.3	2,565.9	75.645	SF
Hurley H35-740 - Wellbore #1 - Design #1	6,650.0	8,168.7	2,598.2	2,563.9	75.825	ES
Hurley H35-740 - Wellbore #1 - Design #1	6,653.4	8,167.6	2,598.2	2,563.9	75.833	CC
Hurley H35-746 - Wellbore #1 - Prelim - Rev 2	6,600.0	8,149.0	2,221.5	2,185.9	62.279	SF
Hurley H35-746 - Wellbore #1 - Prelim - Rev 2	6,735.3	8,103.4	2,217.4	2,181.9	62.498	CC, ES
Hurley H35-755 - Wellbore #1 - Prelim - Rev 2	2,000.0	2,001.0	188.2	179.5	21.633	CC, ES
Hurley H35-755 - Wellbore #1 - Prelim - Rev 2	2,200.0	2,200.8	195.1	185.6	20.476	SF
Hurley H35-761 - Wellbore #1 - Prelim - Rev 2	2,000.0	2,001.0	175.5	166.8	20.173	CC, ES
Hurley H35-761 - Wellbore #1 - Prelim - Rev 2	2,200.0	2,200.8	182.3	172.8	19.131	SF
Hurley H35-768 - Wellbore #1 - Prelim - Rev 2	2,000.0	2,001.0	164.9	156.2	18.950	CC, ES
Hurley H35-768 - Wellbore #1 - Prelim - Rev 2	2,200.0	2,200.8	171.5	161.9	17.991	SF
Hurley H35-774 - Wellbore #1 - Prelim - Rev 2	2,000.0	2,001.0	156.7	148.0	18.012	CC, ES
Hurley H35-774 - Wellbore #1 - Prelim - Rev 2	7,150.0	7,543.8	476.8	445.4	15.187	SF
Hurley H35-779 - Wellbore #1 - Prelim - Rev 2	7,207.6	7,474.1	143.3	111.5	4.514	CC, ES, SF
Hurley H35-787 - Wellbore #1 - Prelim - Rev 2	2,000.0	2,000.0	153.0	144.3	17.592	CC, ES
Hurley H35-787 - Wellbore #1 - Prelim - Rev 2	7,700.0	7,099.4	369.3	335.8	11.022	SF

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

**Noble Energy, Inc.**  
Anticollision Summary Report

<b>Company:</b>	Northern Region Drilling - Sandbox	<b>Local Co-ordinate Reference:</b>	Well Hurley H26-783
<b>Project:</b>	Conceptual Wells	<b>TVD Reference:</b>	WELL @ 4851.0ft (Original Well Elev)
<b>Reference Site:</b>	DP 408	<b>MD Reference:</b>	WELL @ 4851.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Hurley H26-783	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDMP
<b>Reference Design:</b>	Prelim - Rev 2	<b>Offset TVD Reference:</b>	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
<b>Offset Well - Wellbore - Design</b>						
DP 408						
Hurley State H35-713 - Wellbore #1 - Design #1	1,900.2	1,933.2	3,097.7	3,089.4	372.130	CC
Hurley State H35-713 - Wellbore #1 - Design #1	2,000.0	2,000.0	3,097.9	3,089.2	356.149	ES
Hurley State H35-713 - Wellbore #1 - Design #1	10,600.0	6,400.0	5,142.2	5,096.6	112.835	SF
H Section 13						
Karakakes H13-25 - Original Drilling - Original Drilling - A	16,138.4	7,058.0	6,194.4	6,079.8	54.065	CC, ES, SF
Karakakes H13-33 - Original Drilling - Original Drilling - A	16,138.4	7,015.6	4,877.9	4,764.7	43.084	CC, ES, SF
Karakakes H14-63HN - Original Drilling - Original Drilling	16,138.4	11,564.3	328.6	182.1	2.243	CC, ES, SF
Sarchet H13-75HN - Original Drilling - Original Drilling	15,300.0	15,300.0	7,469.9	7,286.9	40.809	ES, SF
Sarchet H13-75HN - Original Drilling - Original Drilling	16,138.4	8,593.0	7,424.7	7,296.4	57.894	CC
UPRC 13-13J - Original Drilling - Original Drilling - As Dri	15,679.8	7,141.9	5,550.5	5,441.3	50.818	CC
UPRC 13-13J - Original Drilling - Original Drilling - As Dri	15,700.0	7,141.6	5,550.6	5,441.2	50.737	ES
UPRC 13-13J - Original Drilling - Original Drilling - As Dri	16,138.4	7,135.1	5,569.5	5,456.5	49.316	SF
UPRC 13-14J - Original Drilling - Original Drilling - As Dri	15,854.0	6,844.6	6,608.5	6,497.4	59.501	CC
UPRC 13-14J - Original Drilling - Original Drilling - As Dri	15,900.0	6,845.1	6,608.6	6,497.1	59.280	ES
UPRC 13-14J - Original Drilling - Original Drilling - As Dri	16,138.4	6,848.0	6,614.6	6,501.0	58.255	SF
UPRC 13-15J - Original Drilling - Original Drilling - As Dri	15,577.3	6,954.7	7,965.0	7,856.9	73.666	CC
UPRC 13-15J - Original Drilling - Original Drilling - As Dri	15,600.0	6,954.8	7,965.1	7,856.7	73.526	ES
UPRC 13-15J - Original Drilling - Original Drilling - As Dri	16,138.4	6,957.2	7,984.8	7,871.8	70.661	SF
UPRC 13-16J - Wellbore #1 - Wellbore #1- As Drilled	15,621.6	6,951.1	8,974.5	8,866.6	83.185	CC
UPRC 13-16J - Wellbore #1 - Wellbore #1- As Drilled	15,700.0	6,950.6	8,974.8	8,866.2	82.643	ES
UPRC 13-16J - Wellbore #1 - Wellbore #1- As Drilled	16,138.4	6,947.9	8,989.3	8,876.9	79.951	SF
UPRR 39 Pan Am B1 (PA) - Original Drilling - Original Dr	15,450.8	6,987.0	5,239.5	5,017.7	23.615	CC
UPRR 39 Pan Am B1 (PA) - Original Drilling - Original Dr	15,500.0	6,987.0	5,239.8	5,017.5	23.571	ES
UPRR 39 Pan Am B1 (PA) - Original Drilling - Original Dr	16,138.4	6,987.0	5,284.5	5,057.3	23.261	SF
H Section 14						
Bohlender H14-09 - Original Drilling - Original Drilling - A	16,138.4	7,109.0	4,298.5	4,186.1	38.217	CC, ES, SF
Bohlender H14-15 - Original Drilling - Original Drilling - A	15,274.1	7,031.5	2,813.1	2,708.2	26.823	CC
Bohlender H14-15 - Original Drilling - Original Drilling - A	15,300.0	7,032.0	2,813.2	2,708.1	26.771	ES
Bohlender H14-15 - Original Drilling - Original Drilling - A	15,600.0	7,037.6	2,831.9	2,724.9	26.465	SF
Bohlender H14-16 - Original Drilling - Original Drilling - A	15,885.9	6,966.5	3,686.3	3,575.9	33.375	CC
Bohlender H14-16 - Original Drilling - Original Drilling - A	15,900.0	6,966.7	3,686.3	3,575.8	33.339	ES
Bohlender H14-16 - Original Drilling - Original Drilling - A	16,138.4	6,970.3	3,694.9	3,582.6	32.878	SF
Wilcox H14-03J - Original Drilling - Original Drilling - As D	15,800.0	7,396.7	1,632.1	1,489.4	11.432	SF
Wilcox H14-03J - Original Drilling - Original Drilling - As D	16,100.0	7,396.6	1,597.7	1,462.2	11.790	ES
Wilcox H14-03J - Original Drilling - Original Drilling - As D	16,135.4	7,396.5	1,597.3	1,462.9	11.885	CC
Wilcox H14-10 - Original Drilling - Original Drilling - As Dr	16,138.4	7,351.1	3,067.8	2,942.4	24.471	CC, ES, SF
Wilcox H14-11 - Original Drilling - Original Drilling - As Dr	16,138.4	7,619.5	2,047.0	1,873.8	11.818	CC, ES, SF
Wilcox H14-13 - Original Drilling - Original Drilling - As Dr	15,300.0	7,638.3	833.0	662.8	4.892	SF
Wilcox H14-13 - Original Drilling - Original Drilling - As Dr	15,600.0	7,628.7	734.0	600.3	5.492	ES
Wilcox H14-13 - Original Drilling - Original Drilling - As Dr	15,709.0	7,625.2	725.8	608.1	6.164	CC
H Section 19						
Butterball 13-19 - Original Drilling - Original Drilling - As D						Out of range
H Section 21						
Moser 24-21 - Wellbore #1 - Wellbore #1 - As Drilled	12,370.5	6,836.7	7,244.6	7,167.4	93.892	CC
Moser 24-21 - Wellbore #1 - Wellbore #1 - As Drilled	12,400.0	6,836.9	7,244.7	7,167.2	93.521	ES
Moser 24-21 - Wellbore #1 - Wellbore #1 - As Drilled	15,800.0	6,867.2	8,015.4	7,909.8	75.908	SF

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

**Noble Energy, Inc.**  
Anticollision Summary Report

<b>Company:</b>	Northern Region Drilling - Sandbox	<b>Local Co-ordinate Reference:</b>	Well Hurley H26-783
<b>Project:</b>	Conceptual Wells	<b>TVD Reference:</b>	WELL @ 4851.0ft (Original Well Elev)
<b>Reference Site:</b>	DP 408	<b>MD Reference:</b>	WELL @ 4851.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Hurley H26-783	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDMP
<b>Reference Design:</b>	Prelim - Rev 2	<b>Offset TVD Reference:</b>	Offset Datum

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						
H Section 22						
HSR Demeules 09-22 - Original Drilling - Original Drilling	11,562.6	6,938.9	1,185.2	1,115.6	17.045	CC, ES
HSR Demeules 09-22 - Original Drilling - Original Drilling	11,700.0	6,937.7	1,193.1	1,122.1	16.809	SF
HSR Duryea - Wellbore #1 - Wellbore #1 - As Drilled	10,706.7	6,949.6	1,726.7	1,664.9	27.940	CC, ES
HSR Duryea - Wellbore #1 - Wellbore #1 - As Drilled	11,100.0	6,961.0	1,770.8	1,705.5	27.110	SF
Sarchet 16-22 - Wellbore #1 - Wellbore #1 - As Drilled	10,146.0	6,969.7	1,329.5	1,272.5	23.342	CC, ES
Sarchet 16-22 - Wellbore #1 - Wellbore #1 - As Drilled	10,400.0	6,976.6	1,353.5	1,294.2	22.816	SF

**Noble Energy, Inc.**  
Anticollision Summary Report

<b>Company:</b>	Northern Region Drilling - Sandbox	<b>Local Co-ordinate Reference:</b>	Well Hurley H26-783
<b>Project:</b>	Conceptual Wells	<b>TVD Reference:</b>	WELL @ 4851.0ft (Original Well Elev)
<b>Reference Site:</b>	DP 408	<b>MD Reference:</b>	WELL @ 4851.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Hurley H26-783	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDMP
<b>Reference Design:</b>	Prelim - Rev 2	<b>Offset TVD Reference:</b>	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
<b>Offset Well - Wellbore - Design</b>						
H Section 23						
Eachus 32-23 - Original Drilling - Original Drilling - As Dri	12,922.5	6,966.9	2,841.2	2,759.0	34.563	CC, ES
Eachus 32-23 - Original Drilling - Original Drilling - As Dri	13,400.0	6,961.3	2,881.0	2,795.8	33.811	SF
Eachus 41-23 (PA) - Original Drilling - Original Drilling - A	14,125.0	6,979.0	4,044.2	3,835.1	19.347	CC, ES
Eachus 41-23 (PA) - Original Drilling - Original Drilling - A	14,600.0	6,979.0	4,071.9	3,859.4	19.153	SF
Eachus UPRR 31-23 - Original Drilling - Original Drilling -	14,254.1	6,919.2	2,796.2	2,645.2	18.509	CC, ES
Eachus UPRR 31-23 - Original Drilling - Original Drilling -	14,500.0	6,919.8	2,807.0	2,654.2	18.369	SF
Eachus UPRR 42-23 (PA) - Original Drilling - Original Dri	12,806.0	6,989.0	4,059.5	3,862.7	20.633	CC, ES
Eachus UPRR 42-23 (PA) - Original Drilling - Original Dri	13,400.0	6,989.0	4,102.7	3,901.5	20.397	SF
HSR Alberstein 16-23 - Original Drilling - Original Drilling	10,514.6	7,203.3	3,890.5	3,829.3	63.619	CC, ES
HSR Alberstein 16-23 - Original Drilling - Original Drilling	11,700.0	7,268.6	4,066.5	3,997.4	58.848	SF
HSR Ashley 15-23A - Original Drilling - Original Drilling -	10,592.4	7,058.6	2,565.2	2,503.9	41.861	CC
HSR Ashley 15-23A - Original Drilling - Original Drilling -	10,600.0	7,058.8	2,565.2	2,503.9	41.823	ES
HSR Ashley 15-23A - Original Drilling - Original Drilling -	11,100.0	7,070.8	2,614.9	2,550.5	40.577	SF
HSR Benirschke 10-23 - Original Drilling - Original Drillin	11,581.7	7,040.9	2,887.0	2,816.9	41.165	CC
HSR Benirschke 10-23 - Original Drilling - Original Drillin	11,600.0	7,042.2	2,887.1	2,816.8	41.079	ES
HSR Benirschke 10-23 - Original Drilling - Original Drillin	12,200.0	7,083.0	2,952.2	2,878.0	39.797	SF
HSR Eachus 03-23 - Original Drilling - Original Drilling - A	14,286.3	7,117.6	1,482.4	1,378.4	14.254	CC, ES
HSR Eachus 03-23 - Original Drilling - Original Drilling - A	14,300.0	7,117.6	1,482.4	1,378.4	14.252	SF
HSR Eachus 04-23 - Original Drilling - Original Drilling - A	14,300.0	7,467.3	69.7	-81.6	0.461	Level 1, ES, SF
HSR Eachus 04-23 - Original Drilling - Original Drilling - A	14,323.5	7,467.6	65.6	-62.4	0.512	Level 1, CC
HSR Eachus 05-23 - Original Drilling - Original Drilling - A	12,990.9	7,437.4	30.2	-92.3	0.246	Level 1, CC
HSR Eachus 05-23 - Original Drilling - Original Drilling - A	13,000.0	7,437.6	31.5	-104.8	0.231	Level 1, ES, SF
HSR Fruman 06-23 - Original Drilling - Original Drilling - A	13,352.9	7,053.9	1,094.0	1,007.2	12.598	CC, ES
HSR Fruman 06-23 - Original Drilling - Original Drilling - A	13,400.0	7,054.3	1,095.1	1,008.0	12.584	SF
HSR Grasshopper 09-23 - Original Drilling - Original Drill	11,324.1	6,847.5	3,790.4	3,723.5	56.700	CC, ES
HSR Grasshopper 09-23 - Original Drilling - Original Drill	12,400.0	6,813.9	3,939.9	3,866.1	53.424	SF
Ritchey 21-23 - Original Drilling - Original Drilling - As Dri	13,668.9	6,897.7	2,244.2	2,155.2	25.227	CC
Ritchey 21-23 - Original Drilling - Original Drilling - As Dri	13,700.0	6,897.5	2,244.4	2,155.2	25.164	ES
Ritchey 21-23 - Original Drilling - Original Drilling - As Dri	13,900.0	6,896.0	2,256.0	2,165.6	24.957	SF
Ritchey 24-23 - Original Drilling - Original Drilling - As Dri	12,218.0	7,044.9	3,264.1	3,185.6	41.610	CC, ES
Ritchey 24-23 - Original Drilling - Original Drilling - As Dri	12,900.0	7,046.9	3,334.6	3,251.2	40.011	SF
Ritchey 31-24 - Original Drilling - Original Drilling - As Dri	13,554.0	7,134.1	4,666.8	4,576.5	51.688	CC
Ritchey 31-24 - Original Drilling - Original Drilling - As Dri	13,600.0	7,134.9	4,667.1	4,576.3	51.415	ES
Ritchey 31-24 - Original Drilling - Original Drilling - As Dri	15,100.0	7,157.5	4,916.2	4,812.2	47.265	SF
UPRC 23-11J - Original Drilling - Original Drilling - As Dri	11,593.5	6,964.1	1,157.9	1,088.0	16.563	CC
UPRC 23-11J - Original Drilling - Original Drilling - As Dri	11,600.0	6,964.1	1,158.0	1,088.0	16.554	ES
UPRC 23-11J - Original Drilling - Original Drilling - As Dri	11,700.0	6,963.7	1,162.8	1,092.5	16.528	SF
UPRC 23-12J - Original Drilling - Original Drilling - As Dri	11,604.6	6,948.4	142.2	72.2	2.032	CC, ES, SF
UPRC H23-13 - Wellbore #1 - Wellbore #1 - As Drilled	10,453.6	6,957.5	149.4	89.7	2.503	CC, ES, SF
UPRC H23-14J - Original Drilling - Original Drilling - As D	10,295.7	6,919.9	1,557.4	1,499.3	26.818	CC
UPRC H23-14J - Original Drilling - Original Drilling - As D	10,300.0	6,920.2	1,557.4	1,499.3	26.805	ES
UPRC H23-14J - Original Drilling - Original Drilling - As D	10,500.0	6,934.7	1,570.7	1,511.5	26.518	SF
UPRC H23-24 - Original Drilling - Original Drilling - As Dr	11,208.8	6,996.8	1,804.3	1,737.7	27.102	CC, ES
UPRC H23-24 - Original Drilling - Original Drilling - As Dr	11,400.0	7,005.1	1,814.3	1,746.6	26.789	SF
UPRR 53 Pan Am B#1 (PA) - Original Drilling - Original D	10,662.2	6,946.0	411.9	235.7	2.337	CC, ES, SF
UPRR 53 Pan Am UT V#1 - Original Drilling - Original Dr	13,335.1	7,072.2	3,547.7	3,459.8	40.390	CC, ES
UPRR 53 Pan Am UT V#1 - Original Drilling - Original Dr	14,000.0	7,077.2	3,609.4	3,517.0	39.064	SF

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

# Noble Energy, Inc.

## Anticollision Summary Report

<b>Company:</b>	Northern Region Drilling - Sandbox	<b>Local Co-ordinate Reference:</b>	Well Hurley H26-783
<b>Project:</b>	Conceptual Wells	<b>TVD Reference:</b>	WELL @ 4851.0ft (Original Well Elev)
<b>Reference Site:</b>	DP 408	<b>MD Reference:</b>	WELL @ 4851.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Hurley H26-783	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDMP
<b>Reference Design:</b>	Prelim - Rev 2	<b>Offset TVD Reference:</b>	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
<b>Offset Well - Wellbore - Design</b>						
H Section 24						
Gurtler 24-09J - Original Drilling - Original Drilling - As Dr	11,545.8	6,774.1	9,220.9	9,152.2	134.183	CC
Gurtler 24-09J - Original Drilling - Original Drilling - As Dr	11,600.0	6,774.1	9,221.0	9,151.8	133.269	ES
Gurtler 24-09J - Original Drilling - Original Drilling - As Dr	15,400.0	6,771.8	9,993.8	9,896.3	102.447	SF
Gurtler 24-10J - Original Drilling - Original Drilling - As Dr	11,577.9	6,980.5	8,029.7	7,959.9	115.088	CC
Gurtler 24-10J - Original Drilling - Original Drilling - As Dr	11,600.0	6,980.6	8,029.7	7,959.8	114.772	ES
Gurtler 24-10J - Original Drilling - Original Drilling - As Dr	15,500.0	7,001.2	8,936.2	8,839.0	91.941	SF
Gurtler 24-11J - Original Drilling - Original Drilling - As Dr	11,525.9	6,800.0	6,563.2	6,494.7	95.712	CC
Gurtler 24-11J - Original Drilling - Original Drilling - As Dr	11,600.0	6,800.0	6,563.6	6,494.4	94.842	ES
Gurtler 24-11J - Original Drilling - Original Drilling - As Dr	14,400.0	6,800.0	7,164.9	7,076.6	81.115	SF
Gurtler 24-12J - Original Drilling - Original Drilling - As Dr	11,549.7	6,500.0	5,380.5	5,313.2	79.859	CC
Gurtler 24-12J - Original Drilling - Original Drilling - As Dr	11,600.0	6,500.0	5,380.8	5,313.0	79.363	ES
Gurtler 24-12J - Original Drilling - Original Drilling - As Dr	13,600.0	6,500.0	5,757.9	5,676.6	70.824	SF
Gurtler 24-12J - Original Drilling - ST01 - ST01 Original D	11,544.9	6,579.9	5,382.6	5,315.9	80.680	CC
Gurtler 24-12J - Original Drilling - ST01 - ST01 Original D	11,600.0	6,577.5	5,382.9	5,315.8	80.141	ES
Gurtler 24-12J - Original Drilling - ST01 - ST01 Original D	13,600.0	6,526.0	5,760.5	5,680.1	71.626	SF
Gurtler 24-13J - Original Drilling - Original Drilling - As Dr	10,267.3	6,200.0	5,368.0	5,313.5	98.422	CC
Gurtler 24-13J - Original Drilling - Original Drilling - As Dr	10,300.0	6,200.0	5,368.1	5,313.3	97.957	ES
Gurtler 24-13J - Original Drilling - Original Drilling - As Dr	12,600.0	6,134.5	5,851.5	5,781.6	83.709	SF
Gurtler 24-15J - Original Drilling - Original Drilling - As Dr	100.0	33.9	7,856.7	7,856.5	10,000.000	CC
Gurtler 24-15J - Original Drilling - Original Drilling - As Dr	2,020.8	2,029.4	7,865.6	7,854.3	695.105	ES
Gurtler 24-15J - Original Drilling - Original Drilling - As Dr	14,600.0	7,008.5	9,057.6	8,969.9	103.231	SF
Gurtler 24-16J - Original Drilling - Original Drilling - As Dr	2,026.2	2,036.2	8,839.8	8,828.4	779.731	CC, ES
Gurtler 24-16J - Original Drilling - Original Drilling - As Dr	14,700.0	6,936.9	9,970.7	9,881.0	111.076	SF
Gurtler H24-14 - Original Drilling - Original Drilling - As D	2,007.1	2,000.0	6,681.8	6,670.6	596.636	CC, ES
Gurtler H24-14 - Original Drilling - Original Drilling - As D	13,600.0	6,894.3	7,611.5	7,531.5	95.210	SF
Gurtler H24-21 (PA) - Original Drilling - Original Drilling -	12,066.1	7,059.9	7,326.2	7,251.6	98.197	CC
Gurtler H24-21 (PA) - Original Drilling - Original Drilling -	12,100.0	7,062.3	7,326.3	7,251.4	97.799	ES
Gurtler H24-21 (PA) - Original Drilling - Original Drilling -	15,300.0	7,236.0	8,005.2	7,907.4	81.879	SF
Gurtler H24-23 - Original Drilling - Original Drilling - As D	10,898.5	6,900.0	8,575.6	8,512.3	135.479	CC
Gurtler H24-23 - Original Drilling - Original Drilling - As D	11,000.0	6,900.0	8,576.2	8,512.0	133.667	ES
Gurtler H24-23 - Original Drilling - Original Drilling - As D	15,600.0	6,883.0	9,779.6	9,683.9	102.163	SF
Gurtler H24-24 - Original Drilling - Original Drilling - As D	10,912.8	6,400.0	7,455.0	7,393.5	121.388	CC
Gurtler H24-24 - Original Drilling - Original Drilling - As D	11,000.0	6,400.0	7,455.5	7,393.3	119.957	ES
Gurtler H24-24 - Original Drilling - Original Drilling - As D	14,700.0	6,362.5	8,361.5	8,274.1	95.684	SF
Gurtler H24-99HZ - Wellbore #1 - Original Drilling	10,889.3	11,118.0	5,093.9	5,028.1	77.378	CC
Gurtler H24-99HZ - Wellbore #1 - Original Drilling	11,000.0	11,118.0	5,095.1	5,027.0	74.864	ES
Gurtler H24-99HZ - Wellbore #1 - Original Drilling	14,600.0	11,118.0	6,302.0	6,160.6	44.563	SF
Gurtler H25-27 - Original Drilling - Original Drilling - As D	9,673.4	6,956.6	8,512.1	8,457.3	155.318	CC
Gurtler H25-27 - Original Drilling - Original Drilling - As D	9,700.0	6,956.5	8,512.2	8,457.2	154.713	ES
Gurtler H25-27 - Original Drilling - Original Drilling - As D	14,900.0	6,926.3	9,988.4	9,897.2	109.506	SF
Gurtler Russell L1 (PA) - Original Drilling - Original Drillin	10,649.9	7,038.4	6,150.6	6,079.1	85.973	CC
Gurtler Russell L1 (PA) - Original Drilling - Original Drillin	10,700.0	7,038.7	6,150.8	6,078.9	85.474	ES
Gurtler Russell L1 (PA) - Original Drilling - Original Drillin	13,300.0	7,056.3	6,697.2	6,607.0	74.232	SF
HSR Brutschy 04-24 - Original Drilling - Original Drilling -	14,061.6	7,223.9	5,464.4	5,370.3	58.111	CC
HSR Brutschy 04-24 - Original Drilling - Original Drilling -	14,100.0	7,225.5	5,464.5	5,370.1	57.904	ES
HSR Brutschy 04-24 - Original Drilling - Original Drilling -	15,600.0	7,287.5	5,676.4	5,571.6	54.145	SF
HSR Epstein 05-24 - Original Drilling - Original Drilling - A	13,233.0	7,012.6	5,986.2	5,900.9	70.153	CC
HSR Epstein 05-24 - Original Drilling - Original Drilling - A	13,400.0	13,400.0	5,988.5	5,879.5	54.920	ES
HSR Epstein 05-24 - Original Drilling - Original Drilling - A	13,700.0	13,700.0	6,004.4	5,891.8	53.346	SF
HSR Hoffman 03-24 - Original Drilling - Original Drilling -	14,097.9	7,017.6	6,778.8	6,678.9	67.851	CC
HSR Hoffman 03-24 - Original Drilling - Original Drilling -	14,200.0	7,015.8	6,779.6	6,678.8	67.264	ES
HSR Hoffman 03-24 - Original Drilling - Original Drilling -	16,100.0	6,983.6	7,068.2	6,954.1	61.944	SF
HSR Sarchet 02-24 - Original Drilling - Original Drilling - A	14,085.0	6,930.9	8,130.9	8,037.8	87.347	CC

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

**Noble Energy, Inc.**  
Anticollision Summary Report

<b>Company:</b>	Northern Region Drilling - Sandbox	<b>Local Co-ordinate Reference:</b>	Well Hurley H26-783
<b>Project:</b>	Conceptual Wells	<b>TVD Reference:</b>	WELL @ 4851.0ft (Original Well Elev)
<b>Reference Site:</b>	DP 408	<b>MD Reference:</b>	WELL @ 4851.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Hurley H26-783	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDMP
<b>Reference Design:</b>	Prelim - Rev 2	<b>Offset TVD Reference:</b>	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
H Section 24						
Offset Well - Wellbore - Design						
HSR Sarchet 02-24 - Original Drilling - Original Drilling - A	14,200.0	6,931.4	8,131.7	8,037.6	86.398	ES
HSR Sarchet 02-24 - Original Drilling - Original Drilling - A	16,138.4	6,938.3	8,386.2	8,277.0	76.818	SF
HSR Sarchet 06-24 - Original Drilling - Original Drilling - A	12,737.1	6,883.4	6,903.2	6,823.0	86.119	CC
HSR Sarchet 06-24 - Original Drilling - Original Drilling - A	12,800.0	6,884.1	6,903.5	6,822.8	85.530	ES
HSR Sarchet 06-24 - Original Drilling - Original Drilling - A	15,500.0	6,922.8	7,435.5	7,336.0	74.735	SF
HSR Traurig 01-24 - Original Drilling - Original Drilling - A	14,321.5	7,016.0	9,012.7	8,917.0	94.196	CC
HSR Traurig 01-24 - Original Drilling - Original Drilling - A	14,400.0	7,016.4	9,013.1	8,916.7	93.505	ES
HSR Traurig 01-24 - Original Drilling - Original Drilling - A	16,138.4	7,025.0	9,194.0	9,083.4	83.125	SF
Nopens D19-31 - Original Drilling - Original Drilling - As D	13,467.2	6,931.9	9,719.2	9,631.9	111.355	CC
Nopens D19-31 - Original Drilling - Original Drilling - As D	13,600.0	6,934.2	9,720.1	9,631.6	109.849	ES
Nopens D19-31 - Original Drilling - Original Drilling - As D	15,800.0	6,972.4	9,995.1	9,888.5	93.843	SF
Nopens H24-08 - Original Drilling - Original Drilling - As D	12,876.7	6,783.4	9,218.2	9,137.1	113.627	CC
Nopens H24-08 - Original Drilling - Original Drilling - As D	13,000.0	6,785.2	9,219.0	9,136.8	112.105	ES
Nopens H24-08 - Original Drilling - Original Drilling - As D	16,138.4	6,892.0	9,777.9	9,671.4	91.869	SF
Sarchet H24-22 - Original Drilling - Original Drilling - As D	12,559.2	6,956.9	8,378.9	8,300.1	106.288	CC
Sarchet H24-22 - Original Drilling - Original Drilling - As D	12,600.0	6,958.8	8,379.0	8,299.8	105.794	ES
Sarchet H24-22 - Original Drilling - Original Drilling - As D	16,138.4	7,230.2	9,107.1	9,001.5	86.215	SF
Weld County Lumber 01 - Original Drilling - Original Drilling	13,305.4	6,946.0	8,203.2	8,117.4	95.638	CC
Weld County Lumber 01 - Original Drilling - Original Drilling	13,400.0	6,946.7	8,203.8	8,117.1	94.711	ES
Weld County Lumber 01 - Original Drilling - Original Drilling	16,138.4	6,967.7	8,678.5	8,571.6	81.179	SF

**Noble Energy, Inc.**  
Anticollision Summary Report

<b>Company:</b>	Northern Region Drilling - Sandbox	<b>Local Co-ordinate Reference:</b>	Well Hurley H26-783
<b>Project:</b>	Conceptual Wells	<b>TVD Reference:</b>	WELL @ 4851.0ft (Original Well Elev)
<b>Reference Site:</b>	DP 408	<b>MD Reference:</b>	WELL @ 4851.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Hurley H26-783	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDMP
<b>Reference Design:</b>	Prelim - Rev 2	<b>Offset TVD Reference:</b>	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
H Section 25						
Dechant 21-25 - Original Drilling - Original Drilling - As D	575.1	554.1	5,866.8	5,863.9	2,016.868	CC
Dechant 21-25 - Original Drilling - Original Drilling - As D	1,400.0	1,358.4	5,867.7	5,860.2	775.204	ES
Dechant 21-25 - Original Drilling - Original Drilling - As D	13,200.0	7,101.5	8,897.7	8,814.1	106.435	SF
Dechant D30-33D - Original Drilling - Original Drilling - As	0.0	0.0	8,409.5			
Dechant D30-33D - Original Drilling - Original Drilling - As	100.0	34.0	8,409.5	8,409.4	10,000.000	ES
Dechant D30-33D - Original Drilling - Original Drilling - As	8,000.0	6,765.7	9,976.1	9,933.8	235.898	SF
Dechant D31-30D - Original Drilling - Original Drilling - As	100.0	37.6	8,412.5	8,412.4	10,000.000	CC, ES
Dechant D31-30D - Original Drilling - Original Drilling - As	7,050.0	6,858.6	9,863.0	9,820.2	230.426	SF
Dechant H25-64-1HN - Original Drilling - Original Drilling	3,116.1	3,547.0	4,362.0	4,342.4	221.768	CC
Dechant H25-64-1HN - Original Drilling - Original Drilling	3,200.0	3,575.0	4,362.3	4,342.3	217.996	ES
Dechant H25-64-1HN - Original Drilling - Original Drilling	6,500.0	6,328.0	4,642.1	4,605.3	126.275	SF
Dechant H25-65HN - Original Drilling - Original Drilling	3,856.0	4,397.3	4,288.0	4,265.0	186.453	CC
Dechant H25-65HN - Original Drilling - Original Drilling	3,900.0	4,424.0	4,288.2	4,264.9	184.605	ES
Dechant H25-65HN - Original Drilling - Original Drilling	9,800.0	6,417.0	5,562.7	5,518.3	125.248	SF
HSR Cohn 03-25 - Original Drilling - Original Drilling - As	2,042.9	2,042.9	6,032.7	6,021.3	528.793	CC, ES
HSR Cohn 03-25 - Original Drilling - Original Drilling - As	14,800.0	14,800.0	8,727.0	8,620.2	81.719	SF
HSR Crowe 06-25 - Original Drilling - Original Drilling - A	2,022.3	2,035.2	5,862.1	5,850.8	517.536	CC, ES
HSR Crowe 06-25 - Original Drilling - Original Drilling - A	12,000.0	6,944.4	7,855.2	7,791.5	123.272	SF
HSR Dechant 04-25 - Original Drilling - Original Drilling -	2,109.9	2,300.0	4,990.7	4,974.7	310.614	CC, ES
HSR Dechant 04-25 - Original Drilling - Original Drilling -	10,500.0	7,383.4	5,570.7	5,492.7	71.483	SF
HSR Dechant 05-25 - Original Drilling - Original Drilling -	1,998.8	1,989.9	4,843.8	4,832.7	435.453	CC
HSR Dechant 05-25 - Original Drilling - Original Drilling -	2,000.0	1,990.7	4,843.8	4,832.7	435.233	ES
HSR Dechant 05-25 - Original Drilling - Original Drilling -	10,900.0	7,165.4	6,452.2	6,394.5	111.872	SF
KY Blue D30-32 - Original Drilling - Original Drilling - As D	2,041.5	2,070.2	8,977.6	8,966.1	781.682	CC, ES
KY Blue D30-32 - Original Drilling - Original Drilling - As D	9,500.0	6,913.3	9,998.2	9,948.3	200.394	SF
KY Blue H25-04J - Original Drilling - Original Drilling - As	2,000.0	1,949.0	8,419.7	8,412.0	1,086.169	CC, ES
KY Blue H25-04J - Original Drilling - Original Drilling - As	10,000.0	6,940.0	9,961.4	9,922.1	253.038	SF
KY Blue H25-09 - Original Drilling - Original Drilling - As D	100.0	41.1	8,567.1	8,566.9	10,000.000	CC
KY Blue H25-09 - Original Drilling - Original Drilling - As D	2,010.4	1,975.5	8,567.2	8,556.1	772.395	ES
KY Blue H25-09 - Original Drilling - Original Drilling - As D	10,400.0	6,885.3	9,986.1	9,931.1	181.692	SF
KY Blue H25-10 - Original Drilling - Original Drilling - As D	100.0	38.4	7,057.6	7,057.4	10,000.000	CC
KY Blue H25-10 - Original Drilling - Original Drilling - As D	1,400.0	1,315.8	7,062.8	7,055.4	950.795	ES
KY Blue H25-10 - Original Drilling - Original Drilling - As D	12,800.0	7,026.3	9,937.6	9,870.5	147.970	SF
KY Blue H25-11 - Original Drilling - Original Drilling - As D	289.2	255.2	6,008.5	6,007.3	4,912.278	CC
KY Blue H25-11 - Original Drilling - Original Drilling - As D	900.0	829.4	6,009.5	6,004.9	1,305.755	ES
KY Blue H25-11 - Original Drilling - Original Drilling - As D	10,000.0	7,108.4	7,462.5	7,379.2	89.574	SF
KY Blue H25-12 - Original Drilling - Original Drilling - As D	2,169.9	2,303.5	4,497.6	4,484.7	348.797	CC
KY Blue H25-12 - Original Drilling - Original Drilling - As D	2,200.0	2,329.5	4,497.7	4,484.7	345.045	ES
KY Blue H25-12 - Original Drilling - Original Drilling - As D	9,700.0	6,939.5	6,051.0	6,002.7	125.508	SF
KY Blue H25-14 - Original Drilling - Original Drilling - As D	100.0	41.9	6,456.5	6,456.3	10,000.000	CC
KY Blue H25-14 - Original Drilling - Original Drilling - As D	2,000.0	1,930.1	6,458.5	6,447.6	591.756	ES
KY Blue H25-14 - Original Drilling - Original Drilling - As D	11,000.0	6,803.6	8,995.6	8,943.1	171.209	SF
KY Blue H25-15 - Original Drilling - Original Drilling - As D	306.1	260.1	7,385.3	7,384.0	5,782.113	CC
KY Blue H25-15 - Original Drilling - Original Drilling - As D	2,000.0	1,934.2	7,391.9	7,381.0	676.067	ES
KY Blue H25-15 - Original Drilling - Original Drilling - As D	11,400.0	11,400.0	9,947.5	9,875.0	137.280	SF
KY H25-24 - Original Drilling - Original Drilling - As Drilled	175.8	131.8	6,822.4	6,821.9	10,000.000	CC
KY H25-24 - Original Drilling - Original Drilling - As Drilled	600.0	521.7	6,823.3	6,820.5	2,393.071	ES
KY H25-24 - Original Drilling - Original Drilling - As Drilled	12,200.0	6,908.3	9,747.6	9,686.6	159.747	SF
Moore UPRC H25-01 - Original Drilling - Original Drilling	2,013.0	1,978.1	8,781.5	8,770.3	788.678	CC, ES
Moore UPRC H25-01 - Original Drilling - Original Drilling	12,600.0	6,910.8	9,969.3	9,895.1	134.403	SF
Moore UPRC H25-02 - Original Drilling - Original Drilling	1,323.0	1,282.0	7,388.3	7,381.1	1,035.267	CC
Moore UPRC H25-02 - Original Drilling - Original Drilling	2,003.7	1,970.9	7,389.6	7,378.6	667.905	ES
Moore UPRC H25-02 - Original Drilling - Original Drilling	14,000.0	6,938.1	9,416.9	9,336.9	117.732	SF

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

**Noble Energy, Inc.**  
Anticollision Summary Report

<b>Company:</b>	Northern Region Drilling - Sandbox	<b>Local Co-ordinate Reference:</b>	Well Hurley H26-783
<b>Project:</b>	Conceptual Wells	<b>TVD Reference:</b>	WELL @ 4851.0ft (Original Well Elev)
<b>Reference Site:</b>	DP 408	<b>MD Reference:</b>	WELL @ 4851.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Hurley H26-783	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDMP
<b>Reference Design:</b>	Prelim - Rev 2	<b>Offset TVD Reference:</b>	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
H Section 25						
Offset Well - Wellbore - Design						
Moser 25-32 - Original Drilling - Original Drilling - As Drill	100.0	41.6	6,943.3	6,943.1	10,000.000	CC
Moser 25-32 - Original Drilling - Original Drilling - As Drill	2,025.9	2,029.1	6,945.2	6,933.9	613.808	ES
Moser 25-32 - Original Drilling - Original Drilling - As Drill	13,900.0	13,900.0	9,958.7	9,860.3	101.298	SF
Moser 25-42 - Original Drilling - Original Drilling - As Drill	772.9	713.9	8,594.7	8,590.8	2,197.732	CC
Moser 25-42 - Original Drilling - Original Drilling - As Drill	2,000.0	1,900.0	8,597.1	8,586.3	795.313	ES
Moser 25-42 - Original Drilling - Original Drilling - As Drill	11,400.0	6,910.9	9,987.8	9,924.1	156.706	SF
UPRR 53 Pan Am T#2 - Original Drilling - Original Drilling	2,059.3	2,143.8	5,640.6	5,628.8	478.968	CC, ES
UPRR 53 Pan Am T#2 - Original Drilling - Original Drilling	12,100.0	6,845.8	7,307.2	7,242.0	112.100	SF
UPRR 53 Pan Am UT T#1 - Original Drilling - Original Dr	2,000.0	1,942.0	7,995.8	7,952.6	185.133	CC
UPRR 53 Pan Am UT T#1 - Original Drilling - Original Dr	2,100.0	2,042.0	7,997.1	7,951.7	176.193	ES
UPRR 53 Pan Am UT T#1 - Original Drilling - Original Dr	11,200.0	6,933.0	9,142.7	8,965.4	51.587	SF
Von Feldt 1-25B - Original Drilling - Original Drilling - As D	2,010.8	1,992.8	5,402.8	5,391.7	484.288	CC
Von Feldt 1-25B - Original Drilling - Original Drilling - As D	2,200.0	2,259.0	5,404.0	5,391.6	434.406	ES
Von Feldt 1-25B - Original Drilling - Original Drilling - As D	8,800.0	8,800.0	6,608.8	6,558.9	132.543	SF

**Noble Energy, Inc.**  
Anticollision Summary Report

<b>Company:</b>	Northern Region Drilling - Sandbox	<b>Local Co-ordinate Reference:</b>	Well Hurley H26-783
<b>Project:</b>	Conceptual Wells	<b>TVD Reference:</b>	WELL @ 4851.0ft (Original Well Elev)
<b>Reference Site:</b>	DP 408	<b>MD Reference:</b>	WELL @ 4851.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Hurley H26-783	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDMP
<b>Reference Design:</b>	Prelim - Rev 2	<b>Offset TVD Reference:</b>	Offset Datum

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						
H Section 26						
Bullard 31-26 - Original Drilling - Original Drilling - As Dril	9,232.7	7,032.7	2,573.4	2,523.5	51.628	CC, ES
Bullard 31-26 - Original Drilling - Original Drilling - As Dril	9,900.0	7,062.0	2,658.3	2,604.5	49.460	SF
Bullard 32-26 - Original Drilling - Original Drilling - As Dril	2,029.5	2,046.9	2,051.1	2,039.7	180.033	CC, ES
Bullard 32-26 - Original Drilling - Original Drilling - As Dril	8,200.0	7,001.5	2,787.9	2,745.5	65.763	SF
Bullard 41-26 - Original Drilling - Original Drilling - As Dril	1,865.8	1,867.9	3,287.5	3,277.1	315.933	CC
Bullard 41-26 - Original Drilling - Original Drilling - As Dril	2,000.0	1,987.4	3,287.8	3,276.7	295.581	ES
Bullard 41-26 - Original Drilling - Original Drilling - As Dril	10,000.0	7,069.8	3,756.9	3,703.3	70.148	SF
Dechant H25-29D - Original Drilling - Original Drilling - As	110.7	129.7	3,876.3	3,875.9	9,605.088	CC
Dechant H25-29D - Original Drilling - Original Drilling - As	200.0	196.6	3,876.6	3,875.8	4,611.674	ES
Dechant H25-29D - Original Drilling - Original Drilling - As	13,200.0	7,418.4	7,113.3	7,021.1	77.168	SF
Dechant H25-33D - Original Drilling - Original Drilling - As	2,169.8	2,518.1	3,771.2	3,752.2	198.423	CC, ES
Dechant H25-33D - Original Drilling - Original Drilling - As	10,000.0	10,000.0	5,941.0	5,848.5	64.236	SF
Harsh H26-09D - Original Drilling - Original Drilling - As D	2,211.8	2,341.2	3,508.8	3,496.0	274.967	CC, ES
Harsh H26-09D - Original Drilling - Original Drilling - As D	7,150.0	6,906.4	4,119.4	4,079.5	103.426	SF
Harsh H26-10 - Original Drilling - Original Drilling - As Dr	2,034.7	2,052.2	2,315.6	2,304.2	202.825	CC, ES
Harsh H26-10 - Original Drilling - Original Drilling - As Dr	6,950.0	6,850.3	2,782.8	2,743.3	70.434	SF
Harsh H26-15 - Original Drilling - Original Drilling - As Dr	213.1	223.1	3,028.9	3,028.0	3,220.548	CC
Harsh H26-15 - Original Drilling - Original Drilling - As Dr	3,500.0	3,500.0	3,030.7	3,011.0	154.240	ES
Harsh H26-15 - Original Drilling - Original Drilling - As Dr	6,700.0	6,655.7	3,147.8	3,108.8	80.823	SF
Harsh H26-16 - Original Drilling - Original Drilling - As Dr	2,511.6	2,607.6	3,898.3	3,884.0	273.171	CC
Harsh H26-16 - Original Drilling - Original Drilling - As Dr	2,600.0	2,677.0	3,898.5	3,883.8	265.282	ES
Harsh H26-16 - Original Drilling - Original Drilling - As Dr	6,800.0	6,679.2	4,148.1	4,109.1	106.185	SF
Harsh H26-23D - Original Drilling - Original Drilling - As D	1,055.0	1,074.0	2,333.2	2,328.5	493.231	CC
Harsh H26-23D - Original Drilling - Original Drilling - As D	1,100.0	1,109.5	2,333.3	2,328.4	471.339	ES
Harsh H26-23D - Original Drilling - Original Drilling - As D	6,700.0	6,852.5	3,518.3	3,477.7	86.732	SF
HSR Moser 04-26 - Original Drilling - Original Drilling - As	9,363.1	6,960.3	76.7	26.0	1.513	CC, ES, SF
HSR Moser 06-26 - Original Drilling - Original Drilling - As	1,821.8	1,804.8	899.1	889.0	89.117	CC
HSR Moser 06-26 - Original Drilling - Original Drilling - As	2,000.0	1,980.0	899.5	888.5	81.052	ES
HSR Moser 06-26 - Original Drilling - Original Drilling - As	7,800.0	7,024.6	1,577.0	1,535.7	38.260	SF
HSR Regalia 05-26 - Original Drilling - Original Drilling - A	8,180.4	6,954.3	484.5	441.9	11.367	CC, ES, SF
HSR-Moser 03-26A - Original Drilling - Original Drilling - A	9,221.1	7,090.1	1,603.0	1,553.0	32.073	CC, ES
HSR-Moser 03-26A - Original Drilling - Original Drilling - A	9,400.0	7,100.1	1,612.9	1,562.0	31.682	SF
John 03-26 - Original Drilling - Original Drilling - As Drille	8,967.1	7,041.7	1,458.1	1,410.1	30.399	CC, ES
John 03-26 - Original Drilling - Original Drilling - As Drille	9,200.0	7,048.8	1,476.5	1,427.5	30.111	SF
Lamp H25-31 - Original Drilling - Original Drilling - As Dri	470.5	478.5	3,993.8	3,991.4	1,656.680	CC
Lamp H25-31 - Original Drilling - Original Drilling - As Dri	2,047.8	2,119.6	4,002.8	3,991.1	342.680	ES
Lamp H25-31 - Original Drilling - Original Drilling - As Dri	10,500.0	7,083.9	5,029.0	4,973.0	89.827	SF
Lamp H26-01 - Original Drilling - Original Drilling - As Dri	1,822.0	1,830.7	3,995.9	3,985.7	391.077	CC, ES
Lamp H26-01 - Original Drilling - Original Drilling - As Dri	10,600.0	7,092.6	4,424.2	4,364.0	73.407	SF
Lamp H26-08 - Original Drilling - Original Drilling - As Dri	2,054.6	2,107.5	3,381.1	3,369.4	290.014	CC, ES
Lamp H26-08 - Original Drilling - Original Drilling - As Dri	9,700.0	6,733.8	4,483.7	4,434.9	91.738	SF
Lamp H26-22 - Original Drilling - Original Drilling - As Dri	4,792.4	5,271.2	3,102.6	3,067.4	88.095	CC
Lamp H26-22 - Original Drilling - Original Drilling - As Dri	4,800.0	5,276.3	3,102.6	3,067.4	87.994	ES
Lamp H26-22 - Original Drilling - Original Drilling - As Dri	8,000.0	7,159.6	3,454.5	3,405.0	69.901	SF
Moser 05-26 - Original Drilling - Original Drilling - As Drill	7,554.2	6,962.0	64.4	23.9	1.591	CC, ES, SF
Moser 41-27 - Original Drilling - Original Drilling - As Drill	8,357.3	7,071.7	715.1	667.1	14.887	CC, ES
Moser 41-27 - Original Drilling - Original Drilling - As Drill	8,500.0	7,072.9	729.2	679.1	14.551	SF
Moser H26-11 - Original Drilling - Original Drilling - As Dr	3,637.9	3,608.2	878.6	858.2	43.091	CC
Moser H26-11 - Original Drilling - Original Drilling - As Dr	3,700.0	3,665.3	878.8	858.1	42.361	ES
Moser H26-11 - Original Drilling - Original Drilling - As Dr	6,400.0	6,297.7	1,059.7	1,022.8	28.713	SF
Moser H26-12 - Wellbore #1 - Wellbore #1 - As Drilled	6,496.4	6,417.3	422.4	385.4	11.418	CC
Moser H26-12 - Wellbore #1 - Wellbore #1 - As Drilled	6,500.0	6,420.4	422.4	385.4	11.412	ES
Moser H26-12 - Wellbore #1 - Wellbore #1 - As Drilled	6,550.0	6,464.2	425.2	387.9	11.397	SF

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

**Noble Energy, Inc.**  
Anticollision Summary Report

<b>Company:</b>	Northern Region Drilling - Sandbox	<b>Local Co-ordinate Reference:</b>	Well Hurley H26-783
<b>Project:</b>	Conceptual Wells	<b>TVD Reference:</b>	WELL @ 4851.0ft (Original Well Elev)
<b>Reference Site:</b>	DP 408	<b>MD Reference:</b>	WELL @ 4851.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Hurley H26-783	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDMP
<b>Reference Design:</b>	Prelim - Rev 2	<b>Offset TVD Reference:</b>	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance		Separation Factor	Warning
			Between Centres (ft)	Between Ellipses (ft)		
<b>Offset Well - Wellbore - Design</b>						
H Section 26						
Moser H26-13 - Wellbore #1 - Wellbore #1 - As Drilled	6,475.2	6,421.9	1,737.5	1,700.4	46.766	CC, ES
Moser H26-13 - Wellbore #1 - Wellbore #1 - As Drilled	6,600.0	6,534.5	1,750.8	1,713.0	46.313	SF
Moser H26-14 - Original Drilling - Original Drilling - As Dr	6,406.2	6,371.9	2,396.3	2,358.9	64.022	CC, ES
Moser H26-14 - Original Drilling - Original Drilling - As Dr	6,650.0	6,610.4	2,436.2	2,397.4	62.923	SF
Moser H26-18D - Original Drilling - Original Drilling - As D	8,326.8	7,432.6	2,104.6	2,056.0	43.279	CC, ES
Moser H26-18D - Original Drilling - Original Drilling - As D	9,300.0	7,446.1	2,318.7	2,259.2	38.969	SF
Moser H26-24 - Original Drilling - Original Drilling - As Dr	3,391.0	3,369.4	1,921.3	1,902.4	101.535	CC
Moser H26-24 - Original Drilling - Original Drilling - As Dr	5,700.0	5,705.5	1,924.3	1,891.1	58.003	ES
Moser H26-24 - Original Drilling - Original Drilling - As Dr	6,600.0	6,540.2	1,964.3	1,925.9	51.185	SF
Moser H26-25 - Original Drilling - Original Drilling - As Dr	6,400.9	6,352.2	1,442.9	1,405.5	38.597	CC, ES
Moser H26-25 - Original Drilling - Original Drilling - As Dr	6,550.0	6,480.7	1,458.5	1,420.4	38.241	SF
Moser H26-27D - Original Drilling - Original Drilling - As D	9,553.2	7,162.8	3,411.0	3,355.3	61.185	CC, ES
Moser H26-27D - Original Drilling - Original Drilling - As D	10,400.0	7,161.3	3,514.5	3,454.5	58.531	SF
Moser H26-28D - Original Drilling - Original Drilling - As D	9,500.0	7,622.1	1,930.1	1,865.0	29.623	SF
Moser H26-28D - Original Drilling - Original Drilling - As D	9,796.9	7,632.9	1,907.2	1,843.4	29.887	CC, ES
Moser H26-29D - Original Drilling - Original Drilling - As D	9,600.0	8,056.6	718.5	637.4	8.855	SF
Moser H26-29D - Original Drilling - Original Drilling - As D	9,800.0	8,073.4	678.8	607.4	9.510	ES
Moser H26-29D - Original Drilling - Original Drilling - As D	9,839.8	8,076.6	677.6	608.1	9.745	CC
Moser, Wesley E. G. U. B1 (PA) - Original Drilling - Origin	6,442.0	6,360.5	1,441.3	1,298.9	10.127	CC
Moser, Wesley E. G. U. B1 (PA) - Original Drilling - Origin	6,450.0	6,368.5	1,441.3	1,298.8	10.115	ES
Moser, Wesley E. G. U. B1 (PA) - Original Drilling - Origin	6,550.0	6,467.0	1,450.9	1,306.2	10.028	SF
H Section 27						
HSR Moser 1-27 - Original Drilling - Original Drilling - As	9,262.7	6,946.2	1,154.1	1,104.3	23.194	CC, ES
HSR Moser 1-27 - Original Drilling - Original Drilling - As	9,500.0	6,947.0	1,178.2	1,126.4	22.712	SF
HSR Moser 16-27 - Original Drilling - Original Drilling - As	6,522.3	6,449.6	2,263.4	2,226.5	61.228	CC, ES
HSR Moser 16-27 - Original Drilling - Original Drilling - As	6,700.0	6,616.8	2,285.4	2,247.6	60.370	SF
Moser 09-27X (PA) - Original Drilling - Original Drilling - A	6,659.1	6,573.3	1,350.5	1,312.2	35.305	CC, ES
Moser 09-27X (PA) - Original Drilling - Original Drilling - A	6,800.0	6,699.7	1,358.4	1,319.6	35.010	SF
Moser 24-27 - Original Drilling - Original Drilling - As Drill	7,128.9	6,957.9	1,927.7	1,885.5	45.623	CC, ES
Moser 24-27 - Original Drilling - Original Drilling - As Drill	7,404.4	7,011.7	1,955.4	1,911.9	44.933	SF
Moser H22-711 - Original Drilling - Original Drilling - As D	16,138.4	13,373.7	664.8	518.1	4.533	CC, ES, SF
H Section 34						
Moser H34-09 - Wellbore #1 - Wellbore #1 - As Drilled	6,483.7	6,448.0	5,866.8	5,829.6	157.946	CC, ES
Moser H34-09 - Wellbore #1 - Wellbore #1 - As Drilled	6,850.0	6,796.9	5,972.5	5,933.6	153.336	SF
Moser H34-16 - Wellbore #1 - Wellbore #1 - As Drilled	6,478.4	6,436.0	7,082.8	7,045.7	190.692	CC, ES
Moser H34-16 - Wellbore #1 - Wellbore #1 - As Drilled	6,850.0	6,700.0	7,193.3	7,154.6	186.030	SF
Moser H34-31 - Wellbore #1 - Wellbore #1 - As Drilled	6,586.5	6,400.6	7,004.3	6,967.3	189.355	CC, ES
Moser H34-31 - Wellbore #1 - Wellbore #1 - As Drilled	10,100.0	6,940.2	9,109.5	9,058.7	179.315	SF

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

# Noble Energy, Inc.

## Anticollision Summary Report

<b>Company:</b>	Northern Region Drilling - Sandbox	<b>Local Co-ordinate Reference:</b>	Well Hurley H26-783
<b>Project:</b>	Conceptual Wells	<b>TVD Reference:</b>	WELL @ 4851.0ft (Original Well Elev)
<b>Reference Site:</b>	DP 408	<b>MD Reference:</b>	WELL @ 4851.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Hurley H26-783	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDMP
<b>Reference Design:</b>	Prelim - Rev 2	<b>Offset TVD Reference:</b>	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
<b>Offset Well - Wellbore - Design</b>						
H Section 35						
Cannon Farms 01-35C - Original Drilling - Original Drilling	6,421.6	6,437.4	7,427.0	7,389.4	197.293	CC, ES
Cannon Farms 01-35C - Original Drilling - Original Drilling	7,050.0	7,059.3	7,696.4	7,655.7	188.964	SF
Cannon H35-03D - Original Drilling - Original Drilling - As	6,441.4	6,341.2	6,166.9	6,129.8	166.409	CC, ES
Cannon H35-03D - Original Drilling - Original Drilling - As	6,750.0	6,597.7	6,244.3	6,205.8	162.196	SF
Cannon H35-09 - Original Drilling - Original Drilling - As D	6,412.3	6,441.5	6,816.5	6,778.8	180.689	CC, ES
Cannon H35-09 - Original Drilling - Original Drilling - As D	7,250.0	7,139.6	7,231.6	7,184.1	152.114	SF
Cannon H35-10 - Original Drilling - Original Drilling - As D	6,412.1	6,262.0	6,302.6	6,265.6	170.561	CC, ES
Cannon H35-10 - Original Drilling - Original Drilling - As D	6,750.0	6,588.9	6,387.7	6,349.0	165.162	SF
Cannon H35-11 - Original Drilling - Original Drilling - As D	6,436.0	6,374.0	5,864.1	5,826.8	157.197	CC, ES
Cannon H35-11 - Original Drilling - Original Drilling - As D	6,800.0	6,748.2	5,965.7	5,926.5	152.188	SF
Cannon H35-12 - Original Drilling - Original Drilling - As D	6,457.5	6,364.1	5,791.2	5,754.2	156.408	CC, ES
Cannon H35-12 - Original Drilling - Original Drilling - As D	6,800.0	6,692.6	5,885.9	5,847.1	151.895	SF
Cannon H35-13 - Wellbore #1 - Wellbore #1 - As Drilled	6,461.1	6,402.5	6,990.1	6,953.0	188.238	CC, ES
Cannon H35-13 - Wellbore #1 - Wellbore #1 - As Drilled	7,000.0	7,078.1	7,214.4	7,174.2	179.351	SF
Cannon H35-14 - Original Drilling - Original Drilling - As D	6,446.2	6,432.2	7,137.3	7,099.9	190.746	CC
Cannon H35-14 - Original Drilling - Original Drilling - As D	6,450.0	6,436.1	7,137.4	7,099.9	190.635	ES
Cannon H35-14 - Original Drilling - Original Drilling - As D	7,250.0	7,018.6	7,592.1	7,545.0	161.091	SF
Cannon H35-15 (PA) - Original Drilling - Original Drilling -	6,426.9	6,357.7	7,481.3	7,338.9	52.547	CC
Cannon H35-15 (PA) - Original Drilling - Original Drilling -	6,450.0	6,380.5	7,481.7	7,338.8	52.363	ES
Cannon H35-15 (PA) - Original Drilling - Original Drilling -	6,950.0	6,822.5	7,683.2	7,530.8	50.417	SF
Cannon H35-20 - Original Drilling - Original Drilling - As D	6,438.4	6,280.2	5,212.6	5,175.9	141.744	CC, ES
Cannon H35-20 - Original Drilling - Original Drilling - As D	6,850.0	6,707.7	5,346.7	5,307.7	137.337	SF
Cannon H35-21 - Original Drilling - Original Drilling - As D	6,417.6	6,288.5	5,628.7	5,591.7	151.920	CC, ES
Cannon H35-21 - Original Drilling - Original Drilling - As D	6,800.0	6,756.8	5,734.5	5,695.2	145.909	SF
Cannon H35-22 - Original Drilling - Original Drilling - As D	6,406.7	6,224.7	5,940.5	5,903.5	160.634	CC, ES
Cannon H35-22 - Original Drilling - Original Drilling - As D	6,850.0	6,665.4	6,077.3	6,038.1	155.104	SF
Cannon H35-24 - Original Drilling - Original Drilling - As D	6,425.8	6,275.2	6,690.4	6,653.5	181.336	CC, ES
Cannon H35-24 - Original Drilling - Original Drilling - As D	7,100.0	7,100.0	7,018.3	6,977.7	173.014	SF
Cannon X02-27 - Original Drilling - Original Drilling - As D	6,427.6	6,400.0	8,080.1	8,042.6	215.700	CC, ES
Cannon X02-27 - Original Drilling - Original Drilling - As D	7,050.0	7,050.0	8,359.3	8,318.8	206.553	SF
Cannon X02-28 - Original Drilling - Original Drilling - As D	6,437.0	6,374.0	7,510.3	7,473.0	201.426	CC, ES
Cannon X02-28 - Original Drilling - Original Drilling - As D	6,850.0	6,812.0	7,641.7	7,602.2	193.671	SF
Cannon X02-29 - Original Drilling - Original Drilling - As D	6,411.7	5,844.0	7,311.8	7,276.6	207.405	CC, ES
Cannon X02-29 - Original Drilling - Original Drilling - As D	6,800.0	6,068.6	7,436.0	7,399.3	202.839	SF
Foster 18-35 - Original Drilling - Original Drilling - As Drill	6,440.5	6,320.5	3,546.9	3,510.0	95.996	CC, ES
Foster 18-35 - Original Drilling - Original Drilling - As Drill	6,700.0	6,610.2	3,602.3	3,563.9	93.724	SF
Foster UPRR 31-35 #1 (PA) - Original Drilling - Original D	6,382.6	6,326.0	3,894.7	3,753.1	27.498	CC
Foster UPRR 31-35 #1 (PA) - Original Drilling - Original D	6,400.0	6,343.1	3,894.9	3,752.9	27.424	ES
Foster UPRR 31-35 #1 (PA) - Original Drilling - Original D	6,800.0	6,720.7	4,001.9	3,851.7	26.646	SF
Foster UPRR 32-35 - Original Drilling - Original Drilling -	6,413.8	6,393.2	4,918.5	4,881.0	131.196	CC, ES
Foster UPRR 32-35 - Original Drilling - Original Drilling -	6,850.0	6,811.1	5,053.4	5,013.7	127.600	SF
Foster UPRR 41-35 - Original Drilling - Original Drilling -	5,040.8	5,022.0	4,973.7	4,944.6	171.332	CC
Foster UPRR 41-35 - Original Drilling - Original Drilling -	5,100.0	5,058.7	4,973.8	4,944.5	169.647	ES
Foster UPRR 41-35 - Original Drilling - Original Drilling -	7,250.0	6,936.5	5,370.7	5,322.4	111.060	SF
Foster UPRR 42-35 #2 - Original Drilling - Original Drilling	4,291.0	4,110.1	5,715.0	5,691.2	239.991	CC
Foster UPRR 42-35 #2 - Original Drilling - Original Drilling	6,402.3	6,500.0	5,723.4	5,685.5	150.957	ES
Foster UPRR 42-35 #2 - Original Drilling - Original Drilling	6,750.0	6,675.0	5,802.0	5,762.9	148.331	SF
HSR Foster 03-35 - Original Drilling - Original Drilling - A	6,427.9	6,391.4	3,437.0	3,399.6	91.834	CC, ES
HSR Foster 03-35 - Original Drilling - Original Drilling - A	6,750.0	6,797.8	3,513.7	3,474.3	89.235	SF
HSR Foster 04-35 - Wellbore #1 - Wellbore #1 - As Drille	6,480.5	6,448.5	2,890.4	2,853.2	77.687	CC, ES
HSR Foster 04-35 - Wellbore #1 - Wellbore #1 - As Drille	6,700.0	6,640.8	2,930.0	2,891.7	76.525	SF
HSR Foster 05-35 - Wellbore #1 - Wellbore #1 - As Drille	6,424.9	6,080.1	4,441.6	4,405.6	123.660	CC, ES
HSR Foster 05-35 - Wellbore #1 - Wellbore #1 - As Drille	6,800.0	6,687.5	4,548.1	4,509.4	117.527	SF

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

**Noble Energy, Inc.**  
Anticollision Summary Report

<b>Company:</b>	Northern Region Drilling - Sandbox	<b>Local Co-ordinate Reference:</b>	Well Hurley H26-783
<b>Project:</b>	Conceptual Wells	<b>TVD Reference:</b>	WELL @ 4851.0ft (Original Well Elev)
<b>Reference Site:</b>	DP 408	<b>MD Reference:</b>	WELL @ 4851.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Hurley H26-783	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDMP
<b>Reference Design:</b>	Prelim - Rev 2	<b>Offset TVD Reference:</b>	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
H Section 35						
Offset Well - Wellbore - Design						
HSR Foster 06-35 - Original Drilling - Original Drilling - A	6,437.8	6,406.3	4,517.3	4,479.8	120.738	CC, ES
HSR Foster 06-35 - Original Drilling - Original Drilling - A	6,700.0	6,699.2	4,570.4	4,531.5	117.476	SF
UPRR 53 Pan Am Unit P1 - Original Drilling - Original Dri	6,396.5	6,431.7	5,013.4	4,975.8	133.158	CC
UPRR 53 Pan Am Unit P1 - Original Drilling - Original Dri	6,400.0	6,433.8	5,013.4	4,975.8	133.100	ES
UPRR 53 Pan Am Unit P1 - Original Drilling - Original Dri	6,800.0	6,713.1	5,117.5	5,078.2	130.306	SF
UPRR 53 Pan Am UT P2 - Original Drilling - Original Drill	6,434.5	6,354.6	3,485.4	3,448.2	93.774	CC, ES
UPRR 53 Pan Am UT P2 - Original Drilling - Original Drill	6,650.0	6,527.9	3,523.8	3,485.6	92.278	SF

**Noble Energy, Inc.**  
Anticollision Summary Report

<b>Company:</b>	Northern Region Drilling - Sandbox	<b>Local Co-ordinate Reference:</b>	Well Hurley H26-783
<b>Project:</b>	Conceptual Wells	<b>TVD Reference:</b>	WELL @ 4851.0ft (Original Well Elev)
<b>Reference Site:</b>	DP 408	<b>MD Reference:</b>	WELL @ 4851.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Hurley H26-783	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDMP
<b>Reference Design:</b>	Prelim - Rev 2	<b>Offset TVD Reference:</b>	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
<b>Offset Well - Wellbore - Design</b>						
H Section 36						
Dechant 07-36 - Original Drilling - Original Drilling - As D	2,149.3	2,174.5	8,671.0	8,659.0	717.562	CC
Dechant 07-36 - Original Drilling - Original Drilling - As D	2,900.0	3,027.3	8,673.3	8,656.7	523.103	ES
Dechant 07-36 - Original Drilling - Original Drilling - As D	7,000.0	6,700.3	9,016.1	8,976.8	229.719	SF
Dechant 13N-1HZ - Original Drilling - Original Drilling - A	6,398.4	6,350.0	9,029.9	8,989.4	223.241	CC
Dechant 13N-1HZ - Original Drilling - Original Drilling - A	6,400.0	6,350.0	9,029.9	8,989.4	223.220	ES
Dechant 13N-1HZ - Original Drilling - Original Drilling - A	6,650.0	6,400.0	9,076.7	9,035.6	220.790	SF
Dechant 14C-1HZ - Original Drilling - Original Drilling - A	1,000.0	979.0	9,637.7	9,632.2	1,774.318	CC, ES
Dechant 14C-1HZ - Original Drilling - Original Drilling - A	6,850.0	6,114.0	9,981.7	9,943.2	259.120	SF
Dechant 15-36 - Original Drilling - Original Drilling - As D						Out of range
Dechant 15C-1HZ - Original Drilling - Original Drilling - A	902.5	859.5	7,622.0	7,617.2	1,593.185	CC
Dechant 15C-1HZ - Original Drilling - Original Drilling - A	1,000.0	900.0	7,622.2	7,617.1	1,480.456	ES
Dechant 15C-1HZ - Original Drilling - Original Drilling - A	10,400.0	6,500.0	9,982.6	9,932.8	200.340	SF
Dechant 24-36 - Original Drilling - Original Drilling - As D	937.9	900.0	8,697.2	8,692.3	1,759.829	CC, ES
Dechant 24-36 - Original Drilling - Original Drilling - As D	6,950.0	6,999.6	9,757.2	9,716.9	242.004	SF
Dechant 35N-E1HZ - Original Drilling - Original Drilling -	1,100.0	1,078.0	9,620.4	9,614.3	1,600.348	CC
Dechant 35N-E1HZ - Original Drilling - Original Drilling -	5,600.0	5,238.6	9,641.4	9,609.6	303.345	ES
Dechant 35N-E1HZ - Original Drilling - Original Drilling -	6,750.0	6,187.1	9,744.3	9,706.3	256.392	SF
Dechant 35N-W1HZ - Original Drilling - Original Drilling -	6,390.9	6,276.5	9,315.0	9,277.1	246.049	CC, ES
Dechant 35N-W1HZ - Original Drilling - Original Drilling -	6,650.0	6,300.0	9,363.0	9,324.6	243.739	SF
Dechant 36N-W1HZ - Original Drilling - Original Drilling -	900.0	880.0	9,653.2	9,648.4	1,989.491	CC, ES
Dechant 36N-W1HZ - Original Drilling - Original Drilling -	6,550.0	5,604.6	9,987.0	9,950.0	269.769	SF
Dechant 37N-E1HZ - Original Drilling - Original Drilling -						Out of range
Dechant 37N-W1HZ - Original Drilling - Original Drilling -						Out of range
Dechant State 16C-1HZ - Original Drilling - Original Drillin	2,827.7	3,471.9	9,010.7	8,992.2	486.589	CC
Dechant State 16C-1HZ - Original Drilling - Original Drillin	2,900.0	3,504.4	9,010.8	8,992.0	479.429	ES
Dechant State 16C-1HZ - Original Drilling - Original Drillin	8,600.0	6,548.7	9,991.8	9,949.9	238.229	SF
Dechant State 36N-E1HZ - Original Drilling - Original Dril	2,030.3	2,014.6	7,600.7	7,589.4	669.546	CC
Dechant State 36N-E1HZ - Original Drilling - Original Dril	2,100.0	2,084.3	7,601.0	7,589.3	647.539	ES
Dechant State 36N-E1HZ - Original Drilling - Original Dril	10,700.0	6,400.0	9,996.0	9,945.6	198.371	SF
Dechant State 37N-E36HZ - Original Drilling - Original Dr	5,658.1	6,322.7	9,002.4	8,966.5	250.920	CC
Dechant State 37N-E36HZ - Original Drilling - Original Dr	5,700.0	6,330.5	9,002.5	8,966.5	249.941	ES
Dechant State 37N-E36HZ - Original Drilling - Original Dr	9,000.0	6,450.0	9,989.1	9,945.4	228.538	SF
Dechant State 37N-W36HZ - Original Drilling - Original D	904.2	860.2	7,639.3	7,634.5	1,594.571	CC
Dechant State 37N-W36HZ - Original Drilling - Original D	1,000.0	900.0	7,639.5	7,634.4	1,483.815	ES
Dechant State 37N-W36HZ - Original Drilling - Original D	10,100.0	6,313.1	9,991.3	9,942.4	204.295	SF
Dechant State 38N-1HZ - Original Drilling - Original Drillin	909.1	862.1	9,326.2	9,321.4	1,939.621	CC
Dechant State 38N-1HZ - Original Drilling - Original Drillin	1,000.0	900.0	9,326.4	9,321.3	1,811.452	ES
Dechant State 38N-1HZ - Original Drilling - Original Drillin	6,850.0	6,400.0	9,818.3	9,779.9	255.681	SF
Dechant State H36-11D - Original Drilling - Original Drillin	3,646.9	3,561.3	8,585.6	8,565.4	424.149	CC
Dechant State H36-11D - Original Drilling - Original Drillin	3,700.0	3,600.0	8,585.7	8,565.2	418.598	ES
Dechant State H36-11D - Original Drilling - Original Drillin	6,900.0	6,900.0	8,779.0	8,739.1	219.578	SF
Dechant State H36-18D - Original Drilling - Original Drillin	100.0	74.8	6,501.8	6,501.6	10,000.000	CC
Dechant State H36-18D - Original Drilling - Original Drillin	600.0	554.1	6,502.9	6,500.7	2,984.216	ES
Dechant State H36-18D - Original Drilling - Original Drillin	6,950.0	6,847.7	8,029.1	7,988.0	195.531	SF
Dechant State H36-19 - Original Drilling - Original Drilling	2,214.7	2,227.1	6,450.2	6,437.8	521.897	CC
Dechant State H36-19 - Original Drilling - Original Drilling	2,400.0	2,419.8	6,451.1	6,437.7	482.202	ES
Dechant State H36-19 - Original Drilling - Original Drilling	6,950.0	7,108.6	6,664.1	6,623.4	163.740	SF
Dechant State H36-20D - Original Drilling - Original Drillin	855.1	888.5	7,542.8	7,539.4	2,239.397	CC, ES
Dechant State H36-20D - Original Drilling - Original Drillin	6,850.0	6,980.9	7,877.8	7,834.4	181.294	SF
Dechant State H36-21D - Original Drilling - Original Drillin	2,323.5	2,303.7	8,573.4	8,560.7	673.631	CC
Dechant State H36-21D - Original Drilling - Original Drillin	3,500.0	3,494.0	8,575.6	8,554.7	409.531	ES
Dechant State H36-21D - Original Drilling - Original Drillin	6,950.0	6,891.0	8,830.5	8,787.9	207.397	SF
Dechant State H36-24 - Original Drilling - Original Drilling	163.8	149.8	8,702.8	8,702.2	10,000.000	CC

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

**Noble Energy, Inc.**  
Anticollision Summary Report

<b>Company:</b>	Northern Region Drilling - Sandbox	<b>Local Co-ordinate Reference:</b>	Well Hurley H26-783
<b>Project:</b>	Conceptual Wells	<b>TVD Reference:</b>	WELL @ 4851.0ft (Original Well Elev)
<b>Reference Site:</b>	DP 408	<b>MD Reference:</b>	WELL @ 4851.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Hurley H26-783	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDMP
<b>Reference Design:</b>	Prelim - Rev 2	<b>Offset TVD Reference:</b>	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
H Section 36						
Dechant State H36-24 - Original Drilling - Original Drilling	400.0	331.9	8,703.2	8,701.4	4,913.242	ES
Dechant State H36-24 - Original Drilling - Original Drilling	7,000.0	7,083.5	9,698.2	9,653.7	218.232	SF
Dechant State H36-31D - Original Drilling - Original Drilling	5,875.0	6,004.2	5,876.9	5,836.8	146.897	CC
Dechant State H36-31D - Original Drilling - Original Drilling	6,265.9	6,402.0	5,876.9	5,834.9	139.872	ES
Dechant State H36-31D - Original Drilling - Original Drilling	6,750.0	6,718.3	5,962.9	5,919.2	136.487	SF
Dechant State H36-32D - Original Drilling - Original Drilling	6,382.0	6,383.9	6,750.0	6,713.2	183.884	CC, ES
Dechant State H36-32D - Original Drilling - Original Drilling	7,100.0	7,100.0	7,043.0	7,003.1	176.754	SF
Dechant State H36-33 - Original Drilling - Original Drilling	6,395.0	6,506.3	7,741.3	7,696.7	173.393	CC
Dechant State H36-33 - Original Drilling - Original Drilling	6,400.0	6,511.4	7,741.3	7,696.7	173.299	ES
Dechant State H36-33 - Original Drilling - Original Drilling	6,800.0	7,147.8	7,844.8	7,797.6	166.292	SF
HSR Dechant State 02-36 - Original Drilling - Original Drilling	2,499.1	2,886.3	7,755.3	7,740.1	510.009	CC
HSR Dechant State 02-36 - Original Drilling - Original Drilling	2,600.0	2,966.4	7,755.5	7,739.8	494.194	ES
HSR Dechant State 02-36 - Original Drilling - Original Drilling	10,400.0	6,700.0	9,991.6	9,942.3	202.485	SF
HSR Dechant/State 07-36 (PA) - Original Drilling - Original Drilling	2,000.0	1,958.0	8,835.8	8,792.2	203.077	CC
HSR Dechant/State 07-36 (PA) - Original Drilling - Original Drilling	2,300.0	2,257.5	8,839.3	8,789.2	176.582	ES
HSR Dechant/State 07-36 (PA) - Original Drilling - Original Drilling	7,150.0	6,896.7	9,272.2	9,118.3	60.226	SF
Spike State GWS H36-03 - Original Drilling - Original Drilling	487.7	445.8	6,982.8	6,980.5	2,988.226	CC
Spike State GWS H36-03 - Original Drilling - Original Drilling	2,000.0	1,929.2	6,984.1	6,973.2	640.034	ES
Spike State GWS H36-03 - Original Drilling - Original Drilling	6,900.0	6,682.2	7,334.9	7,295.8	187.559	SF
Spike State GWS H36-04 - Original Drilling - Original Drilling	2,018.2	1,991.8	5,690.5	5,679.3	509.091	CC
Spike State GWS H36-04 - Original Drilling - Original Drilling	2,100.0	2,056.7	5,690.7	5,679.2	491.975	ES
Spike State GWS H36-04 - Original Drilling - Original Drilling	7,150.0	7,036.6	6,067.4	6,018.3	123.556	SF
Spike State GWS H36-13 - Original Drilling - Original Drilling	6,393.1	6,237.7	8,728.3	8,691.4	236.318	CC
Spike State GWS H36-13 - Original Drilling - Original Drilling	6,400.0	6,243.5	8,728.4	8,691.4	236.077	ES
Spike State GWS H36-13 - Original Drilling - Original Drilling	6,700.0	7,453.9	8,771.4	8,726.6	195.769	SF
Spike State GWS H36-14 - Original Drilling - Original Drilling	6,398.0	6,398.0	9,782.7	9,745.2	260.621	CC
Spike State GWS H36-14 - Original Drilling - Original Drilling	6,400.0	6,400.0	9,782.7	9,745.2	260.535	ES
Spike State GWS H36-14 - Original Drilling - Original Drilling	7,000.0	7,115.9	9,988.3	9,947.5	244.892	SF
Spike State H36-02J - Original Drilling - Original Drilling	2,636.1	2,694.0	7,164.1	7,149.3	483.331	CC
Spike State H36-02J - Original Drilling - Original Drilling	2,800.0	2,829.7	7,164.5	7,148.8	457.734	ES
Spike State H36-02J - Original Drilling - Original Drilling	7,300.0	6,802.9	7,631.9	7,563.8	112.067	SF
Spike State H36-05 - Original Drilling - Original Drilling - A	3,351.7	3,277.1	6,524.7	6,506.2	352.142	CC
Spike State H36-05 - Original Drilling - Original Drilling - A	3,500.0	3,407.3	6,525.1	6,505.7	337.146	ES
Spike State H36-05 - Original Drilling - Original Drilling - A	6,950.0	7,004.2	6,754.3	6,713.9	167.216	SF
Spike State H36-11J - Original Drilling - Original Drilling - A	6,254.9	6,056.2	8,643.4	8,607.4	240.510	CC
Spike State H36-11J - Original Drilling - Original Drilling - A	6,377.3	6,377.3	8,643.5	8,606.1	231.108	ES
Spike State H36-11J - Original Drilling - Original Drilling - A	6,900.0	6,845.6	8,802.7	8,762.9	221.237	SF
Spike State H36-12 - Original Drilling - Original Drilling - A	6,379.0	6,273.7	7,395.0	7,358.0	199.618	CC, ES
Spike State H36-12 - Original Drilling - Original Drilling - A	6,850.0	6,858.6	7,525.7	7,485.9	189.081	SF

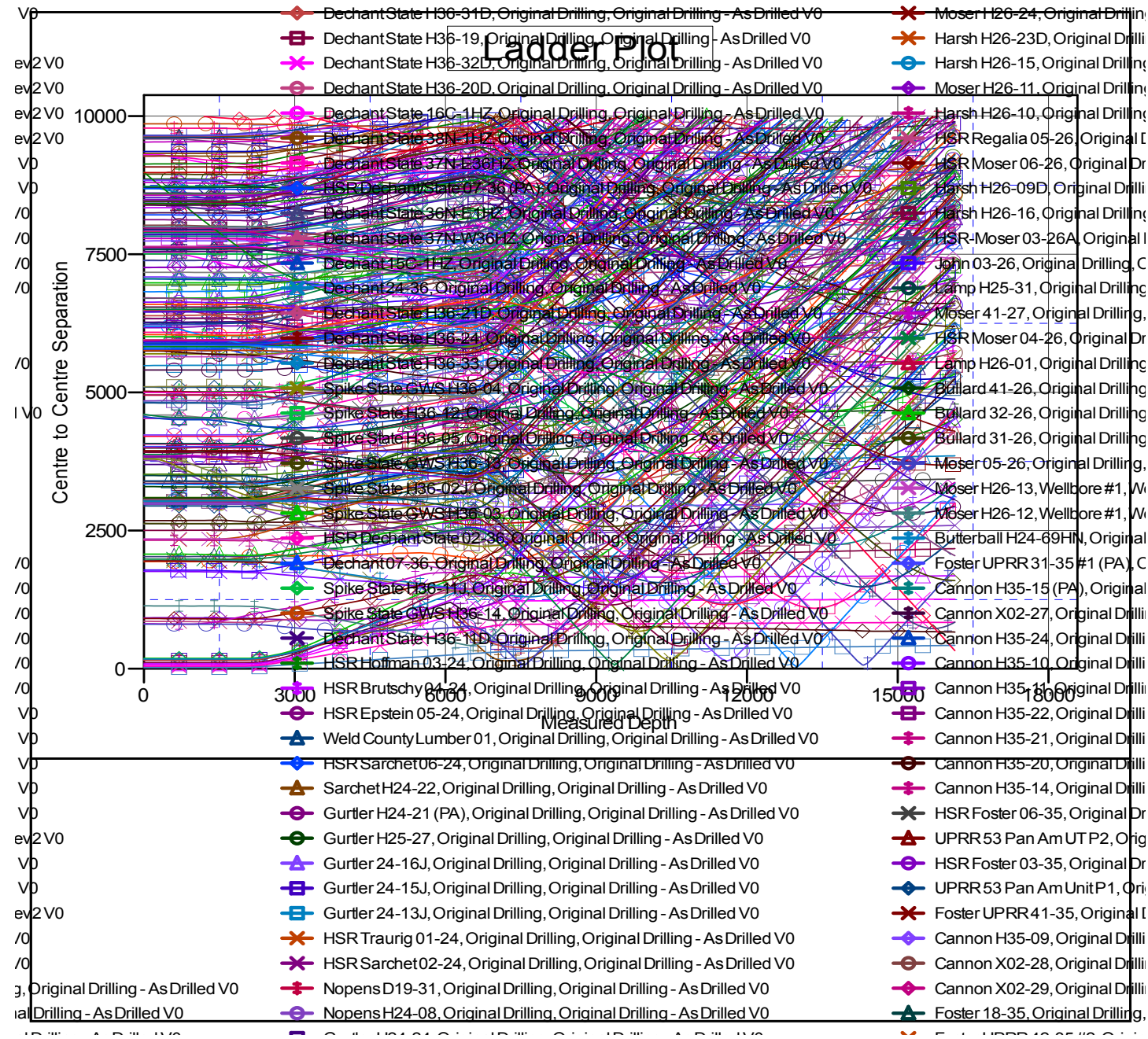
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Noble Energy, Inc.

## Anticollision Summary Report

<b>Company:</b>	Northern Region Drilling - Sandbox	<b>Local Co-ordinate Reference:</b>	Well Hurley H26-783
<b>Project:</b>	Conceptual Wells	<b>TVD Reference:</b>	WELL @ 4851.0ft (Original Well Elev)
<b>Reference Site:</b>	DP 408	<b>MD Reference:</b>	WELL @ 4851.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Hurley H26-783	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDMP
<b>Reference Design:</b>	Prelim - Rev 2	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4851.0ft (Original Well Elev)      Coordinates are relative to: Hurley H26-783  
 Offset Depths are relative to Offset Datum      Coordinate System is US State Plane 1983, Colorado Northern Zone  
 Central Meridian is -105.500000      Grid Convergence at Surface is: 0.56°



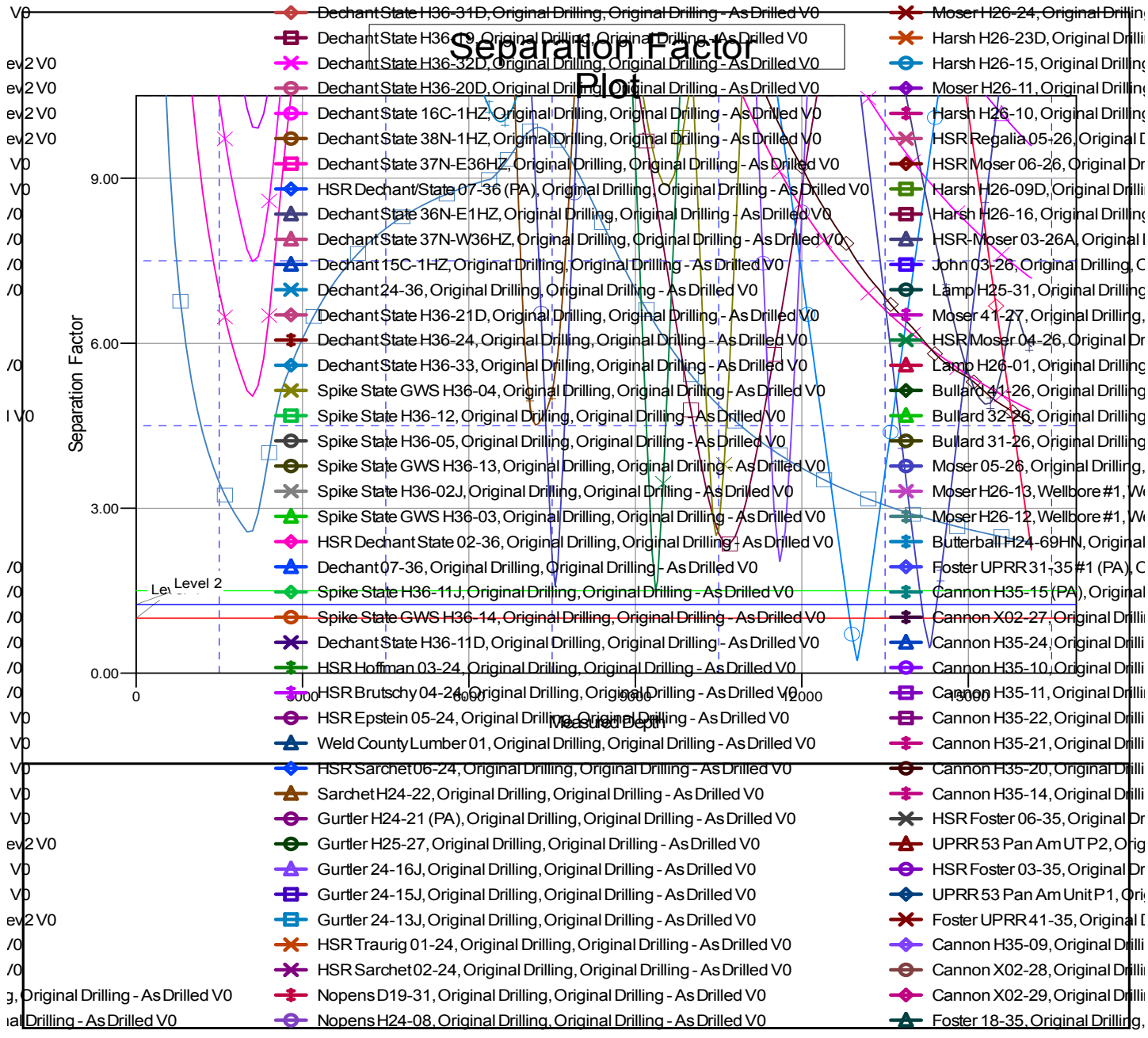
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

# Noble Energy, Inc.

## Anticollision Summary Report

<b>Company:</b>	Northern Region Drilling - Sandbox	<b>Local Co-ordinate Reference:</b>	Well Hurley H26-783
<b>Project:</b>	Conceptual Wells	<b>TVD Reference:</b>	WELL @ 4851.0ft (Original Well Elev)
<b>Reference Site:</b>	DP 408	<b>MD Reference:</b>	WELL @ 4851.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Hurley H26-783	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDMP
<b>Reference Design:</b>	Prelim - Rev 2	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4851.0ft (Original Well Elev)      Coordinates are relative to: Hurley H26-783  
 Offset Depths are relative to Offset Datum      Coordinate System is US State Plane 1983, Colorado Northern Zone  
 Central Meridian is -105.500000      Grid Convergence at Surface is: 0.56°



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