

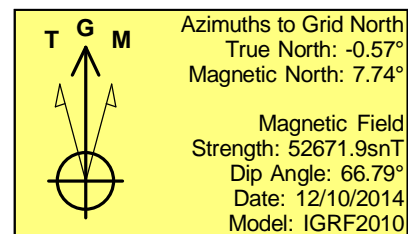
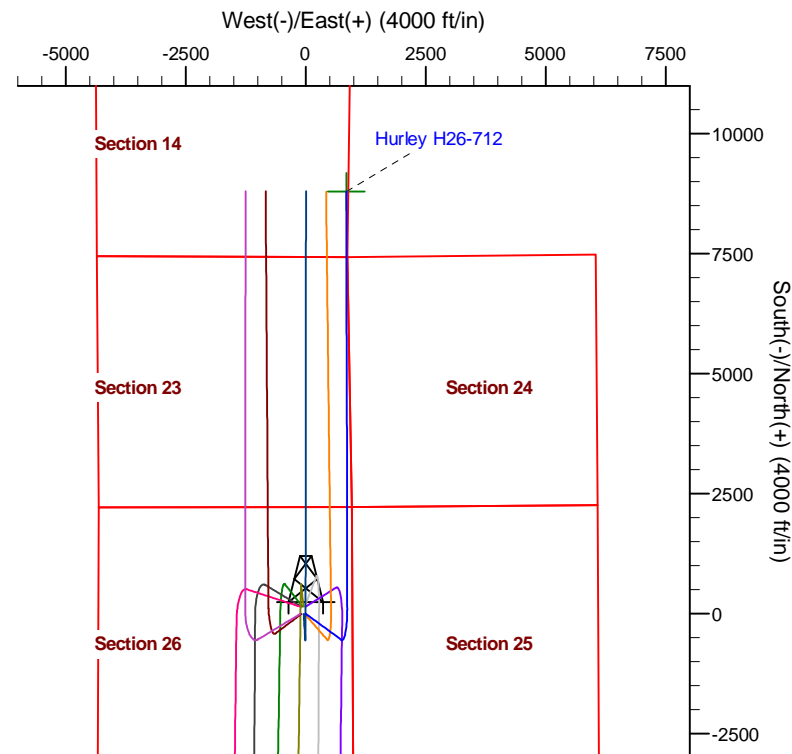
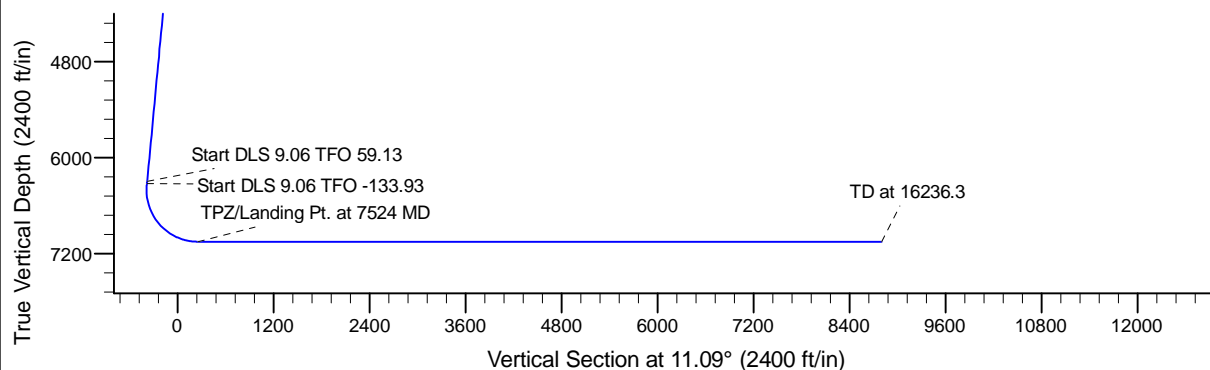
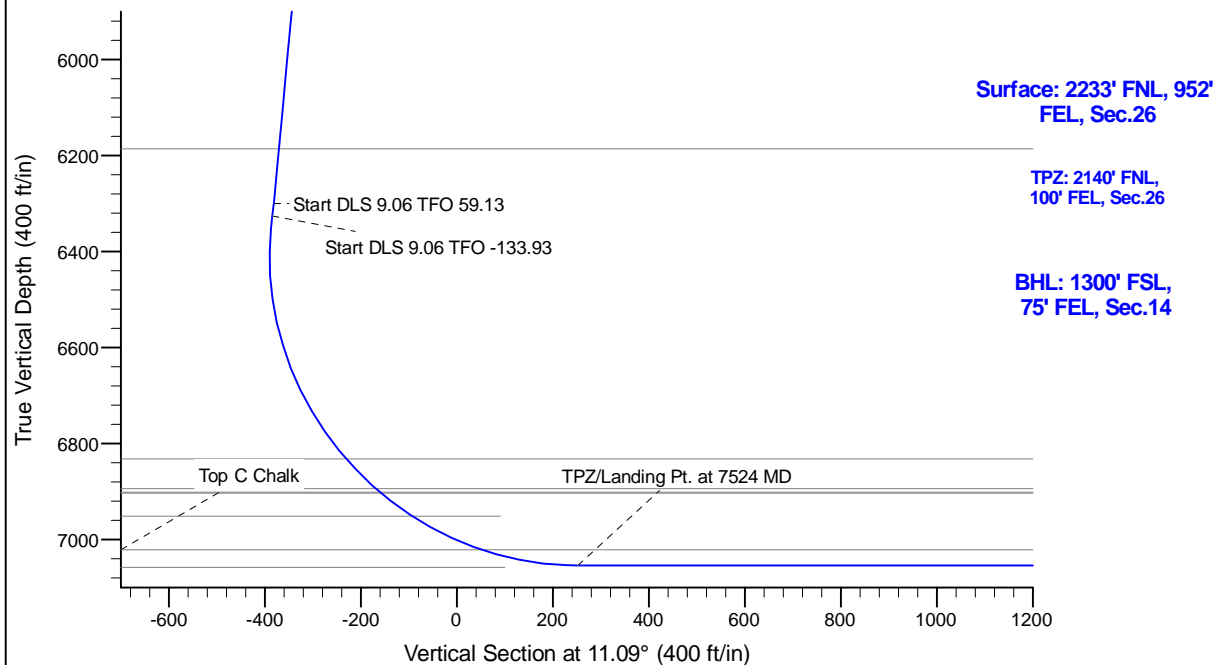
Project: Conceptual Wells  
Site: DP 408  
Well: Hurley H26-712  
Wellbore: Wellbore #1  
Design: Design #1

# 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	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	1900.0	0.00	0.00	1900.0	0.0	0.0	0.00	0.00	0.0	
3	2525.0	12.50	126.00	2520.1	-39.9	54.9	2.00	126.00	-28.6	
4	6396.7	12.50	126.00	6300.0	-532.5	732.9	0.00	0.00	-381.5	
5	6423.4	13.89	134.66	6325.9	-536.4	737.5	9.06	59.13	-384.5	
6	7524.0	90.00	359.88	7054.0	87.0	864.0	9.06	-133.93	251.6	
7	16236.3	90.00	359.88	7054.0	8799.4	845.9	0.00	0.00	8797.7	Hurley H26-712 BHL



## WELL DETAILS: Hurley H26-712

Ground Level:	4854.0
Northing	1315962.34
Easting	3244532.60
Latitude	40.197400
Longitude	-104.624600

Plan: Design #1 (Hurley H26-712/Wellbore #1)

Created By: Chad Stich Date: 10:59, November 01 2017

Checked: \_\_\_\_\_ Date: \_\_\_\_\_

Reviewed: \_\_\_\_\_ Date: \_\_\_\_\_

Approved: \_\_\_\_\_ Date: \_\_\_\_\_

# **Northern Region Drilling - Sandbox**

**Conceptual Wells**

**DP 408**

**Hurley H26-712**

**Wellbore #1**

**Plan: Design #1**

## **Standard Planning Report**

**01 November, 2017**

# Noble Energy, Inc.

## Planning Report

<b>Database:</b>	EDMP	<b>Local Co-ordinate Reference:</b>	Well Hurley H26-712
<b>Company:</b>	Northern Region Drilling - Sandbox	<b>TVD Reference:</b>	WELL @ 4884.0ft (Original Well Elev)
<b>Project:</b>	Conceptual Wells	<b>MD Reference:</b>	WELL @ 4884.0ft (Original Well Elev)
<b>Site:</b>	DP 408	<b>North Reference:</b>	Grid
<b>Well:</b>	Hurley H26-712	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1		

<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

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

Well	Hurley H26-712					
Well Position	+N/-S	-2,222.4 ft	Northing:	1,315,962.34 usft	Latitude:	40.197400
	+E/-W	4,307.6 ft	Easting:	3,244,532.60 usft	Longitude:	-104.624600
Position Uncertainty		0.0 ft	Wellhead Elevation:	0.0 ft	Ground Level:	4,854.0 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	12/10/2014	8.30	66.79	52,671.93344417

<b>Design</b>	Design #1			
<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)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	11.09

<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	
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,525.0	12.50	126.00	2,520.1	-39.9	54.9	2.00	2.00	0.00	126.00	
6,396.7	12.50	126.00	6,300.0	-532.5	732.9	0.00	0.00	0.00	0.00	
6,423.4	13.89	134.66	6,325.9	-536.4	737.5	9.06	5.22	32.51	59.13	
7,524.0	90.00	359.88	7,054.0	87.0	864.0	9.06	6.92	-12.25	-133.93	
16,236.3	90.00	359.88	7,054.0	8,799.4	845.9	0.00	0.00	0.00	0.00	Hurley H26-712 BHL

# Noble Energy, Inc.

## Planning Report

<b>Database:</b>	EDMP	<b>Local Co-ordinate Reference:</b>	Well Hurley H26-712
<b>Company:</b>	Northern Region Drilling - Sandbox	<b>TVD Reference:</b>	WELL @ 4884.0ft (Original Well Elev)
<b>Project:</b>	Conceptual Wells	<b>MD Reference:</b>	WELL @ 4884.0ft (Original Well Elev)
<b>Site:</b>	DP 408	<b>North Reference:</b>	Grid
<b>Well:</b>	Hurley H26-712	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1		

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	2.00	126.00	2,000.0	-1.0	1.4	-0.7	2.00	2.00	0.00
2,100.0	4.00	126.00	2,099.8	-4.1	5.6	-2.9	2.00	2.00	0.00
2,200.0	6.00	126.00	2,199.5	-9.2	12.7	-6.6	2.00	2.00	0.00
2,300.0	8.00	126.00	2,298.7	-16.4	22.6	-11.7	2.00	2.00	0.00
2,400.0	10.00	126.00	2,397.5	-25.6	35.2	-18.3	2.00	2.00	0.00
2,500.0	12.00	126.00	2,495.6	-36.8	50.6	-26.4	2.00	2.00	0.00
2,525.0	12.50	126.00	2,520.1	-39.9	54.9	-28.6	2.00	2.00	0.00
2,600.0	12.50	126.00	2,593.3	-49.5	68.1	-35.4	0.00	0.00	0.00
2,700.0	12.50	126.00	2,690.9	-62.2	85.6	-44.5	0.00	0.00	0.00
2,800.0	12.50	126.00	2,788.5	-74.9	103.1	-53.7	0.00	0.00	0.00
2,900.0	12.50	126.00	2,886.2	-87.6	120.6	-62.8	0.00	0.00	0.00
3,000.0	12.50	126.00	2,983.8	-100.3	138.1	-71.9	0.00	0.00	0.00
3,100.0	12.50	126.00	3,081.4	-113.1	155.6	-81.0	0.00	0.00	0.00
3,200.0	12.50	126.00	3,179.1	-125.8	173.1	-90.1	0.00	0.00	0.00
3,300.0	12.50	126.00	3,276.7	-138.5	190.6	-99.2	0.00	0.00	0.00
3,400.0	12.50	126.00	3,374.3	-151.2	208.2	-108.4	0.00	0.00	0.00
3,500.0	12.50	126.00	3,471.9	-164.0	225.7	-117.5	0.00	0.00	0.00
3,600.0	12.50	126.00	3,569.6	-176.7	243.2	-126.6	0.00	0.00	0.00
3,700.0	12.50	126.00	3,667.2	-189.4	260.7	-135.7	0.00	0.00	0.00
3,800.0	12.50	126.00	3,764.8	-202.1	278.2	-144.8	0.00	0.00	0.00
3,900.0	12.50	126.00	3,862.5	-214.8	295.7	-153.9	0.00	0.00	0.00
4,000.0	12.50	126.00	3,960.1	-227.6	313.2	-163.0	0.00	0.00	0.00
4,100.0	12.50	126.00	4,057.7	-240.3	330.7	-172.2	0.00	0.00	0.00
4,200.0	12.50	126.00	4,155.3	-253.0	348.2	-181.3	0.00	0.00	0.00
4,300.0	12.50	126.00	4,253.0	-265.7	365.7	-190.4	0.00	0.00	0.00
4,400.0	12.50	126.00	4,350.6	-278.5	383.3	-199.5	0.00	0.00	0.00
4,500.0	12.50	126.00	4,448.2	-291.2	400.8	-208.6	0.00	0.00	0.00
4,600.0	12.50	126.00	4,545.9	-303.9	418.3	-217.7	0.00	0.00	0.00
4,700.0	12.50	126.00	4,643.5	-316.6	435.8	-226.9	0.00	0.00	0.00
4,800.0	12.50	126.00	4,741.1	-329.3	453.3	-236.0	0.00	0.00	0.00
4,900.0	12.50	126.00	4,838.8	-342.1	470.8	-245.1	0.00	0.00	0.00
5,000.0	12.50	126.00	4,936.4	-354.8	488.3	-254.2	0.00	0.00	0.00
5,100.0	12.50	126.00	5,034.0	-367.5	505.8	-263.3	0.00	0.00	0.00
5,200.0	12.50	126.00	5,131.6	-380.2	523.3	-272.4	0.00	0.00	0.00

# Noble Energy, Inc.

## Planning Report

<b>Database:</b>	EDMP	<b>Local Co-ordinate Reference:</b>	Well Hurley H26-712
<b>Company:</b>	Northern Region Drilling - Sandbox	<b>TVD Reference:</b>	WELL @ 4884.0ft (Original Well Elev)
<b>Project:</b>	Conceptual Wells	<b>MD Reference:</b>	WELL @ 4884.0ft (Original Well Elev)
<b>Site:</b>	DP 408	<b>North Reference:</b>	Grid
<b>Well:</b>	Hurley H26-712	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1		

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)
5,300.0	12.50	126.00	5,229.3	-393.0	540.8	-281.5	0.00	0.00	0.00
5,400.0	12.50	126.00	5,326.9	-405.7	558.4	-290.7	0.00	0.00	0.00
5,500.0	12.50	126.00	5,424.5	-418.4	575.9	-299.8	0.00	0.00	0.00
5,600.0	12.50	126.00	5,522.2	-431.1	593.4	-308.9	0.00	0.00	0.00
5,700.0	12.50	126.00	5,619.8	-443.8	610.9	-318.0	0.00	0.00	0.00
5,800.0	12.50	126.00	5,717.4	-456.6	628.4	-327.1	0.00	0.00	0.00
5,900.0	12.50	126.00	5,815.1	-469.3	645.9	-336.2	0.00	0.00	0.00
6,000.0	12.50	126.00	5,912.7	-482.0	663.4	-345.4	0.00	0.00	0.00
6,100.0	12.50	126.00	6,010.3	-494.7	680.9	-354.5	0.00	0.00	0.00
6,200.0	12.50	126.00	6,107.9	-507.4	698.4	-363.6	0.00	0.00	0.00
6,300.0	12.50	126.00	6,205.6	-520.2	716.0	-372.7	0.00	0.00	0.00
6,396.7	12.50	126.00	6,300.0	-532.5	732.9	-381.5	0.00	0.00	0.00
6,400.0	12.65	127.16	6,303.2	-532.9	733.5	-381.8	9.06	4.73	35.51
6,423.4	13.89	134.66	6,325.9	-536.4	737.5	-384.5	9.06	5.29	32.09
6,500.0	10.34	105.63	6,400.9	-544.7	750.7	-390.1	9.06	-4.64	-37.88
6,600.0	11.75	57.45	6,499.3	-541.7	767.9	-383.8	9.06	1.41	-48.19
6,700.0	18.22	32.12	6,595.9	-522.9	784.9	-362.1	9.06	6.47	-25.33
6,800.0	26.23	20.75	6,688.5	-488.9	801.0	-325.7	9.06	8.02	-11.37
6,900.0	34.74	14.54	6,774.6	-440.6	816.1	-275.4	9.06	8.51	-6.21
7,000.0	43.45	10.56	6,852.1	-379.1	829.5	-212.4	9.06	8.71	-3.98
7,100.0	52.26	7.69	6,919.2	-305.9	841.2	-138.4	9.06	8.81	-2.87
7,200.0	61.13	5.44	6,974.0	-223.0	850.6	-55.2	9.06	8.87	-2.25
7,300.0	70.02	3.54	7,015.3	-132.3	857.7	35.2	9.06	8.90	-1.90
7,400.0	78.94	1.85	7,042.1	-36.2	862.2	130.4	9.06	8.91	-1.69
7,500.0	87.86	0.26	7,053.6	63.0	864.0	228.1	9.06	8.92	-1.59
7,524.0	90.00	359.88	7,054.0	87.0	864.0	251.6	9.06	8.93	-1.57
7,600.0	90.00	359.88	7,054.0	163.0	863.8	326.2	0.00	0.00	0.00
7,700.0	90.00	359.88	7,054.0	263.0	863.6	424.3	0.00	0.00	0.00
7,800.0	90.00	359.88	7,054.0	363.0	863.4	522.4	0.00	0.00	0.00
7,900.0	90.00	359.88	7,054.0	463.0	863.2	620.5	0.00	0.00	0.00
8,000.0	90.00	359.88	7,054.0	563.0	863.0	718.6	0.00	0.00	0.00
8,100.0	90.00	359.88	7,054.0	663.0	862.8	816.7	0.00	0.00	0.00
8,200.0	90.00	359.88	7,054.0	763.0	862.6	914.7	0.00	0.00	0.00
8,300.0	90.00	359.88	7,054.0	863.0	862.4	1,012.8	0.00	0.00	0.00
8,400.0	90.00	359.88	7,054.0	963.0	862.2	1,110.9	0.00	0.00	0.00
8,500.0	90.00	359.88	7,054.0	1,063.0	862.0	1,209.0	0.00	0.00	0.00
8,600.0	90.00	359.88	7,054.0	1,163.0	861.7	1,307.1	0.00	0.00	0.00
8,700.0	90.00	359.88	7,054.0	1,263.0	861.5	1,405.2	0.00	0.00	0.00
8,800.0	90.00	359.88	7,054.0	1,363.0	861.3	1,503.3	0.00	0.00	0.00
8,900.0	90.00	359.88	7,054.0	1,463.0	861.1	1,601.4	0.00	0.00	0.00
9,000.0	90.00	359.88	7,054.0	1,563.0	860.9	1,699.5	0.00	0.00	0.00
9,100.0	90.00	359.88	7,054.0	1,663.0	860.7	1,797.6	0.00	0.00	0.00
9,200.0	90.00	359.88	7,054.0	1,763.0	860.5	1,895.7	0.00	0.00	0.00
9,300.0	90.00	359.88	7,054.0	1,863.0	860.3	1,993.7	0.00	0.00	0.00
9,400.0	90.00	359.88	7,054.0	1,963.0	860.1	2,091.8	0.00	0.00	0.00
9,500.0	90.00	359.88	7,054.0	2,063.0	859.9	2,189.9	0.00	0.00	0.00
9,600.0	90.00	359.88	7,054.0	2,163.0	859.7	2,288.0	0.00	0.00	0.00
9,700.0	90.00	359.88	7,054.0	2,263.0	859.4	2,386.1	0.00	0.00	0.00
9,800.0	90.00	359.88	7,054.0	2,363.0	859.2	2,484.2	0.00	0.00	0.00
9,900.0	90.00	359.88	7,054.0	2,463.0	859.0	2,582.3	0.00	0.00	0.00
10,000.0	90.00	359.88	7,054.0	2,563.0	858.8	2,680.4	0.00	0.00	0.00
10,100.0	90.00	359.88	7,054.0	2,663.0	858.6	2,778.5	0.00	0.00	0.00
10,200.0	90.00	359.88	7,054.0	2,763.0	858.4	2,876.6	0.00	0.00	0.00
10,300.0	90.00	359.88	7,054.0	2,863.0	858.2	2,974.7	0.00	0.00	0.00

# Noble Energy, Inc.

## Planning Report

<b>Database:</b>	EDMP	<b>Local Co-ordinate Reference:</b>	Well Hurley H26-712
<b>Company:</b>	Northern Region Drilling - Sandbox	<b>TVD Reference:</b>	WELL @ 4884.0ft (Original Well Elev)
<b>Project:</b>	Conceptual Wells	<b>MD Reference:</b>	WELL @ 4884.0ft (Original Well Elev)
<b>Site:</b>	DP 408	<b>North Reference:</b>	Grid
<b>Well:</b>	Hurley H26-712	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1		

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)
10,400.0	90.00	359.88	7,054.0	2,963.0	858.0	3,072.7	0.00	0.00	0.00
10,500.0	90.00	359.88	7,054.0	3,063.0	857.8	3,170.8	0.00	0.00	0.00
10,600.0	90.00	359.88	7,054.0	3,163.0	857.6	3,268.9	0.00	0.00	0.00
10,700.0	90.00	359.88	7,054.0	3,263.0	857.3	3,367.0	0.00	0.00	0.00
10,800.0	90.00	359.88	7,054.0	3,363.0	857.1	3,465.1	0.00	0.00	0.00
10,900.0	90.00	359.88	7,054.0	3,463.0	856.9	3,563.2	0.00	0.00	0.00
11,000.0	90.00	359.88	7,054.0	3,563.0	856.7	3,661.3	0.00	0.00	0.00
11,100.0	90.00	359.88	7,054.0	3,663.0	856.5	3,759.4	0.00	0.00	0.00
11,200.0	90.00	359.88	7,054.0	3,763.0	856.3	3,857.5	0.00	0.00	0.00
11,300.0	90.00	359.88	7,054.0	3,863.0	856.1	3,955.6	0.00	0.00	0.00
11,400.0	90.00	359.88	7,054.0	3,963.0	855.9	4,053.7	0.00	0.00	0.00
11,500.0	90.00	359.88	7,054.0	4,063.0	855.7	4,151.7	0.00	0.00	0.00
11,600.0	90.00	359.88	7,054.0	4,163.0	855.5	4,249.8	0.00	0.00	0.00
11,700.0	90.00	359.88	7,054.0	4,263.0	855.3	4,347.9	0.00	0.00	0.00
11,800.0	90.00	359.88	7,054.0	4,363.0	855.0	4,446.0	0.00	0.00	0.00
11,900.0	90.00	359.88	7,054.0	4,463.0	854.8	4,544.1	0.00	0.00	0.00
12,000.0	90.00	359.88	7,054.0	4,563.0	854.6	4,642.2	0.00	0.00	0.00
12,100.0	90.00	359.88	7,054.0	4,663.0	854.4	4,740.3	0.00	0.00	0.00
12,200.0	90.00	359.88	7,054.0	4,763.0	854.2	4,838.4	0.00	0.00	0.00
12,300.0	90.00	359.88	7,054.0	4,863.0	854.0	4,936.5	0.00	0.00	0.00
12,400.0	90.00	359.88	7,054.0	4,963.0	853.8	5,034.6	0.00	0.00	0.00
12,500.0	90.00	359.88	7,054.0	5,063.0	853.6	5,132.7	0.00	0.00	0.00
12,600.0	90.00	359.88	7,054.0	5,163.0	853.4	5,230.7	0.00	0.00	0.00
12,700.0	90.00	359.88	7,054.0	5,263.0	853.2	5,328.8	0.00	0.00	0.00
12,800.0	90.00	359.88	7,054.0	5,363.0	852.9	5,426.9	0.00	0.00	0.00
12,900.0	90.00	359.88	7,054.0	5,463.0	852.7	5,525.0	0.00	0.00	0.00
13,000.0	90.00	359.88	7,054.0	5,563.0	852.5	5,623.1	0.00	0.00	0.00
13,100.0	90.00	359.88	7,054.0	5,663.0	852.3	5,721.2	0.00	0.00	0.00
13,200.0	90.00	359.88	7,054.0	5,763.0	852.1	5,819.3	0.00	0.00	0.00
13,300.0	90.00	359.88	7,054.0	5,863.0	851.9	5,917.4	0.00	0.00	0.00
13,400.0	90.00	359.88	7,054.0	5,963.0	851.7	6,015.5	0.00	0.00	0.00
13,500.0	90.00	359.88	7,054.0	6,063.0	851.5	6,113.6	0.00	0.00	0.00
13,600.0	90.00	359.88	7,054.0	6,163.0	851.3	6,211.7	0.00	0.00	0.00
13,700.0	90.00	359.88	7,054.0	6,263.0	851.1	6,309.7	0.00	0.00	0.00
13,800.0	90.00	359.88	7,054.0	6,363.0	850.9	6,407.8	0.00	0.00	0.00
13,900.0	90.00	359.88	7,054.0	6,463.0	850.6	6,505.9	0.00	0.00	0.00
14,000.0	90.00	359.88	7,054.0	6,563.0	850.4	6,604.0	0.00	0.00	0.00
14,100.0	90.00	359.88	7,054.0	6,663.0	850.2	6,702.1	0.00	0.00	0.00
14,200.0	90.00	359.88	7,054.0	6,763.0	850.0	6,800.2	0.00	0.00	0.00
14,300.0	90.00	359.88	7,054.0	6,863.0	849.8	6,898.3	0.00	0.00	0.00
14,400.0	90.00	359.88	7,054.0	6,963.0	849.6	6,996.4	0.00	0.00	0.00
14,500.0	90.00	359.88	7,054.0	7,063.0	849.4	7,094.5	0.00	0.00	0.00
14,600.0	90.00	359.88	7,054.0	7,163.0	849.2	7,192.6	0.00	0.00	0.00
14,700.0	90.00	359.88	7,054.0	7,263.0	849.0	7,290.7	0.00	0.00	0.00
14,800.0	90.00	359.88	7,054.0	7,363.0	848.8	7,388.8	0.00	0.00	0.00
14,900.0	90.00	359.88	7,054.0	7,463.0	848.6	7,486.8	0.00	0.00	0.00
15,000.0	90.00	359.88	7,054.0	7,563.0	848.3	7,584.9	0.00	0.00	0.00
15,100.0	90.00	359.88	7,054.0	7,663.0	848.1	7,683.0	0.00	0.00	0.00
15,200.0	90.00	359.88	7,054.0	7,763.0	847.9	7,781.1	0.00	0.00	0.00
15,300.0	90.00	359.88	7,054.0	7,863.0	847.7	7,879.2	0.00	0.00	0.00
15,400.0	90.00	359.88	7,054.0	7,963.0	847.5	7,977.3	0.00	0.00	0.00
15,500.0	90.00	359.88	7,054.0	8,063.0	847.3	8,075.4	0.00	0.00	0.00
15,600.0	90.00	359.88	7,054.0	8,163.0	847.1	8,173.5	0.00	0.00	0.00
15,700.0	90.00	359.88	7,054.0	8,263.0	846.9	8,271.6	0.00	0.00	0.00

# Noble Energy, Inc.

## Planning Report

<b>Database:</b>	EDMP	<b>Local Co-ordinate Reference:</b>	Well Hurley H26-712
<b>Company:</b>	Northern Region Drilling - Sandbox	<b>TVD Reference:</b>	WELL @ 4884.0ft (Original Well Elev)
<b>Project:</b>	Conceptual Wells	<b>MD Reference:</b>	WELL @ 4884.0ft (Original Well Elev)
<b>Site:</b>	DP 408	<b>North Reference:</b>	Grid
<b>Well:</b>	Hurley H26-712	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1		

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)	
15,800.0	90.00	359.88	7,054.0	8,363.0	846.7	8,369.7	0.00	0.00	0.00	
15,900.0	90.00	359.88	7,054.0	8,463.0	846.5	8,467.8	0.00	0.00	0.00	
16,000.0	90.00	359.88	7,054.0	8,563.0	846.2	8,565.8	0.00	0.00	0.00	
16,100.0	90.00	359.88	7,054.0	8,663.0	846.0	8,663.9	0.00	0.00	0.00	
16,200.0	90.00	359.88	7,054.0	8,763.0	845.8	8,762.0	0.00	0.00	0.00	
16,236.3	90.00	359.88	7,054.0	8,799.4	845.9	8,797.7	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	
- hit/miss target										
- Shape										
Hurley H26-712 BHL	0.00	0.00	7,054.0	8,799.4	845.9	1,324,761.31	3,245,378.45	40.221530	-104.621260	
- plan hits target center										
- Point										

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
635.0	635.0	Pierre				
787.0	787.0	Upper Pierre Aquifer Top				
1,675.0	1,675.0	Upper Pierre Aquifer Base				
3,981.5	3,942.0	Parkman				
4,586.8	4,533.0	Sussex				
5,285.4	5,215.0	Shannon				
6,280.0	6,186.0	Teepee Buttes				
6,972.8	6,832.0	Sharon Springs				
7,060.4	6,894.0	Top A Chalk				
7,071.1	6,901.0	Top A Marl				
7,074.2	6,903.0	Top B Chalk				
7,155.1	6,951.0	Top B Marl				
7,317.2	7,021.0	Top C Chalk				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
1,900.0	1,900.0	0.0	0.0	KOP - Start Build 2.00	
6,396.7	6,300.0	-39.9	54.9	Start DLS 9.06 TFO 59.13	
6,423.4	6,325.9	-532.5	732.9	Start DLS 9.06 TFO -133.93	
7,524.0	7,054.0	-536.4	737.5	TPZ/Landing Pt. at 7524 MD	
16,236.3	7,054.0	87.0	864.0	TD at 16236.3	

# **Northern Region Drilling - Sandbox**

**Conceptual Wells**

**DP 408**

**Hurley H26-712**

**Wellbore #1**

**Design #1**

## **Anticollision Summary Report**

**01 November, 2017**



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

<b>Company:</b>	Northern Region Drilling - Sandbox	<b>Local Co-ordinate Reference:</b>	Well Hurley H26-712
<b>Project:</b>	Conceptual Wells	<b>TVD Reference:</b>	WELL @ 4884.0ft (Original Well Elev)
<b>Reference Site:</b>	DP 408	<b>MD Reference:</b>	WELL @ 4884.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Hurley H26-712	<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>	Design #1	<b>Offset TVD Reference:</b>	Offset Datum

Reference	Design #1		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 10,000.0 ft	Error Surface:	Pedal Curve
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program		Date	11/1/2017		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.0	16,236.3	Design #1 (Wellbore #1)	MWD+IFR1+MS_WY	Fixed:v2:Rockies, crustal dec + 3-axis correction	

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
D Section 19						
Butterball H24-69HN - Original Drilling - Original Drilling -	15,030.3	11,992.0	3,070.2	2,964.4	29.031	CC, ES
Butterball H24-69HN - Original Drilling - Original Drilling -	16,236.3	11,992.0	3,298.4	3,158.8	23.617	SF
DP 408						
Emmy State H25-724 - Wellbore #1 - Prelim - Rev 2	7,506.0	10,082.1	4,211.1	4,163.3	88.167	CC
Emmy State H25-724 - Wellbore #1 - Prelim - Rev 2	14,900.0	17,460.5	4,247.7	4,071.9	24.165	ES
Emmy State H25-724 - Wellbore #1 - Prelim - Rev 2	15,500.0	17,460.5	4,295.0	4,113.7	23.698	SF
Emmy State H25-731 - Wellbore #1 - Prelim - Rev 2	7,519.1	10,007.9	3,799.1	3,751.2	79.228	CC
Emmy State H25-731 - Wellbore #1 - Prelim - Rev 2	14,900.0	17,379.3	3,809.0	3,632.7	21.605	ES
Emmy State H25-731 - Wellbore #1 - Prelim - Rev 2	15,400.0	17,379.3	3,843.6	3,663.0	21.287	SF
Emmy State H25-738 - Wellbore #1 - Prelim - Rev 2	14,880.9	17,309.7	3,367.7	3,190.0	18.952	CC
Emmy State H25-738 - Wellbore #1 - Prelim - Rev 2	14,900.0	17,299.8	3,367.7	3,189.9	18.939	ES
Emmy State H25-738 - Wellbore #1 - Prelim - Rev 2	15,200.0	17,299.8	3,382.6	3,202.3	18.758	SF
Emmy State H25-744 - Wellbore #1 - Prelim - Rev 2	14,833.7	17,310.0	2,929.4	2,752.2	16.535	CC
Emmy State H25-744 - Wellbore #1 - Prelim - Rev 2	14,900.0	17,327.4	2,930.0	2,752.0	16.463	ES
Emmy State H25-744 - Wellbore #1 - Prelim - Rev 2	15,100.0	17,327.4	2,940.0	2,760.5	16.385	SF
Emmy State H25-751 - Wellbore #1 - Design #1	7,471.4	10,163.9	2,532.2	2,482.3	50.708	CC
Emmy State H25-751 - Wellbore #1 - Design #1	14,900.0	17,580.8	2,639.5	2,461.1	14.797	ES
Emmy State H25-751 - Wellbore #1 - Design #1	15,100.0	17,580.8	2,650.7	2,470.1	14.677	SF
Emmy State H25-757 - Wellbore #1 - Design #1	14,847.4	17,501.0	2,200.8	2,022.5	12.348	CC
Emmy State H25-757 - Wellbore #1 - Design #1	14,900.0	17,501.0	2,201.4	2,022.5	12.303	ES
Emmy State H25-757 - Wellbore #1 - Design #1	15,000.0	17,501.0	2,206.0	2,026.1	12.257	SF
Emmy State H25-764 - Wellbore #1 - Design #1	14,848.4	17,472.9	1,762.1	1,686.4	23.277	CC, ES
Emmy State H25-764 - Wellbore #1 - Design #1	15,100.0	17,466.3	1,780.1	1,701.9	22.787	SF
Emmy State H25-771 - Wellbore #1 - Design #1	14,843.6	17,399.4	1,321.2	1,142.9	7.413	CC, ES
Emmy State H25-771 - Wellbore #1 - Design #1	14,900.0	17,391.2	1,322.4	1,143.6	7.396	SF
Emmy State H25-777 - Wellbore #1 - Design #1	14,840.7	17,434.0	882.4	704.3	4.954	CC, ES, SF
Emmy State H25-785 - Wellbore #1 - Prelim - Rev 2	14,845.7	17,486.5	442.1	264.7	2.491	CC, ES, SF
Emmy State H36-760 - Wellbore #1 - Design #1	6,613.3	6,386.4	2,627.9	2,597.0	85.012	CC, ES
Emmy State H36-760 - Wellbore #1 - Design #1	6,800.0	6,450.0	2,649.4	2,617.9	84.296	SF
Emmy State H36-766 - Wellbore #1 - Design #1	6,605.0	6,400.0	2,342.0	2,311.6	77.130	CC, ES
Emmy State H36-766 - Wellbore #1 - Design #1	6,750.0	6,450.0	2,356.8	2,326.1	76.725	SF
Emmy State H36-773 - Wellbore #1 - Design #1	6,615.7	6,500.0	2,033.0	2,002.8	67.287	CC, ES
Emmy State H36-773 - Wellbore #1 - Design #1	6,750.0	6,550.0	2,047.2	2,016.7	67.013	SF
Emmy State H36-780 - Wellbore #1 - Design #1	6,592.4	6,500.0	1,843.5	1,813.1	60.576	CC, ES
Emmy State H36-780 - Wellbore #1 - Design #1	6,700.0	6,519.1	1,854.1	1,823.4	60.417	SF
Emmy State H36-787 - Wellbore #1 - Prelim - Rev 2	6,583.7	6,600.0	1,523.8	1,491.6	47.383	CC, ES

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 H26-712
<b>Project:</b>	Conceptual Wells	<b>TVD Reference:</b>	WELL @ 4884.0ft (Original Well Elev)
<b>Reference Site:</b>	DP 408	<b>MD Reference:</b>	WELL @ 4884.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Hurley H26-712	<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>	Design #1	<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						
DP 408						
Emmy State H36-787 - Wellbore #1 - Prelim - Rev 2	6,650.0	6,618.8	1,528.1	1,495.7	47.236	SF
Hurley H26-717 - Wellbore #1 - Design #1	1,900.0	1,900.0	22.3	14.1	2.709	CC, ES
Hurley H26-717 - Wellbore #1 - Design #1	16,236.3	16,162.4	422.7	248.1	2.421	SF
Hurley H26-724 - Wellbore #1 - Design #1	1,900.0	1,901.0	44.7	36.4	5.417	CC, ES
Hurley H26-724 - Wellbore #1 - Design #1	16,236.3	16,173.3	840.6	664.6	4.776	SF
Hurley H26-736 - Wellbore #1 - Design #1	1,900.0	1,901.0	89.4	81.1	10.834	CC, ES
Hurley H26-736 - Wellbore #1 - Design #1	16,236.3	16,054.1	1,681.2	1,506.0	9.596	SF
Hurley H26-743 - Wellbore #1 - Prelim - Rev 2	1,900.0	1,900.0	111.7	103.5	13.546	CC, ES
Hurley H26-743 - Wellbore #1 - Prelim - Rev 2	16,236.3	16,314.3	2,100.3	1,922.7	11.824	SF
Hurley H26-750 - Wellbore #1 - Prelim - Rev 2	16,114.7	16,328.2	2,520.7	2,343.9	14.261	CC, ES
Hurley H26-750 - Wellbore #1 - Prelim - Rev 2	16,200.0	16,325.6	2,522.1	2,345.2	14.252	SF
Hurley H26-756 - Wellbore #1 - Prelim - Rev 2	6,506.0	7,087.2	2,870.5	2,838.2	88.939	CC, ES
Hurley H26-756 - Wellbore #1 - Prelim - Rev 2	16,236.3	16,197.3	3,014.9	2,840.1	17.247	SF
Hurley H26-762 - Wellbore #1 - Prelim - Rev 2	1,900.0	1,867.0	3,021.8	3,013.6	369.652	CC, ES
Hurley H26-762 - Wellbore #1 - Prelim - Rev 2	16,236.3	16,164.7	3,436.1	3,260.8	19.602	SF
Hurley H26-768 - Wellbore #1 - Prelim - Rev 2	1,900.0	1,867.0	3,044.1	3,036.0	372.385	CC, ES
Hurley H26-768 - Wellbore #1 - Prelim - Rev 2	16,236.3	16,156.8	3,854.8	3,679.0	21.918	SF
Hurley H26-776 - Wellbore #1 - Prelim - Rev 2	1,900.0	1,867.0	3,066.5	3,058.3	375.117	CC, ES
Hurley H26-776 - Wellbore #1 - Prelim - Rev 2	16,236.3	16,158.9	4,273.5	4,095.3	23.984	SF
Hurley H26-783 - Wellbore #1 - Prelim - Rev 2	1,900.0	1,867.0	3,088.8	3,080.6	377.849	CC, ES
Hurley H26-783 - Wellbore #1 - Prelim - Rev 2	16,236.3	16,138.4	4,695.1	4,517.5	26.441	SF
Hurley H35-720 - Wellbore #1 - Design #1	1,900.0	1,901.0	151.0	142.8	18.303	CC, ES
Hurley H35-720 - Wellbore #1 - Design #1	2,200.0	2,200.5	162.5	153.0	17.101	SF
Hurley H35-727 - Wellbore #1 - Design #1	1,900.0	1,901.0	155.9	147.7	18.895	CC, ES
Hurley H35-727 - Wellbore #1 - Design #1	2,200.0	2,200.5	168.7	159.2	17.757	SF
Hurley H35-733 - Wellbore #1 - Design #1	1,900.0	1,900.0	163.7	155.5	19.847	CC, ES
Hurley H35-733 - Wellbore #1 - Design #1	2,200.0	2,200.5	177.6	168.1	18.687	SF
Hurley H35-740 - Wellbore #1 - Design #1	1,900.0	1,901.0	174.1	165.8	21.096	CC, ES
Hurley H35-740 - Wellbore #1 - Design #1	2,200.0	2,200.5	188.7	179.2	19.856	SF
Hurley H35-746 - Wellbore #1 - Prelim - Rev 2	1,900.0	1,900.0	186.5	178.3	22.613	CC, ES
Hurley H35-746 - Wellbore #1 - Prelim - Rev 2	2,100.0	2,094.5	194.6	185.5	21.470	SF
Hurley H35-755 - Wellbore #1 - Prelim - Rev 2	6,641.6	7,914.1	2,770.0	2,735.6	80.642	CC, ES
Hurley H35-755 - Wellbore #1 - Prelim - Rev 2	6,650.0	7,912.6	2,770.0	2,735.6	80.636	SF
Hurley H35-761 - Wellbore #1 - Prelim - Rev 2	1,900.0	1,868.0	2,995.0	2,986.8	366.266	CC, ES
Hurley H35-761 - Wellbore #1 - Prelim - Rev 2	6,750.0	7,705.1	3,182.6	3,149.4	95.990	SF
Hurley H35-768 - Wellbore #1 - Prelim - Rev 2	1,900.0	1,868.0	3,017.3	3,009.1	368.999	CC, ES
Hurley H35-768 - Wellbore #1 - Prelim - Rev 2	9,700.0	6,650.0	4,161.4	4,121.8	105.171	SF
Hurley H35-774 - Wellbore #1 - Prelim - Rev 2	1,900.0	1,868.0	3,039.6	3,031.5	371.732	CC, ES
Hurley H35-774 - Wellbore #1 - Prelim - Rev 2	10,100.0	6,550.0	4,651.4	4,609.5	111.024	SF
Hurley H35-779 - Wellbore #1 - Prelim - Rev 2	1,900.0	1,867.0	3,062.0	3,053.9	374.574	CC, ES
Hurley H35-779 - Wellbore #1 - Prelim - Rev 2	10,400.0	6,500.0	5,061.5	5,017.7	115.494	SF
Hurley H35-787 - Wellbore #1 - Prelim - Rev 2	1,900.0	1,867.0	3,084.4	3,076.2	377.307	CC, ES
Hurley H35-787 - Wellbore #1 - Prelim - Rev 2	10,500.0	10,500.0	5,491.9	5,433.9	94.649	SF
Hurley State H35-713 - Wellbore #1 - Design #1	7,285.6	7,518.7	99.8	66.4	2.993	CC, ES, 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 H26-712
<b>Project:</b>	Conceptual Wells	<b>TVD Reference:</b>	WELL @ 4884.0ft (Original Well Elev)
<b>Reference Site:</b>	DP 408	<b>MD Reference:</b>	WELL @ 4884.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Hurley H26-712	<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>	Design #1	<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 13						
Karakakes H13-25 - Original Drilling - Original Drilling - A	16,236.3	7,152.0	1,500.5	1,385.4	13.036	CC, ES, SF
Karakakes H13-33 - Original Drilling - Original Drilling - A	16,236.3	7,019.3	256.9	173.8	3.091	CC, ES, SF
Karakakes H14-63HN - Original Drilling - Original Drilling	16,236.3	6,964.8	253.7	169.3	3.008	CC, ES, SF
Sarchet H13-75HN - Original Drilling - Original Drilling	16,236.3	8,341.6	2,737.3	2,613.1	22.047	CC, ES, SF
UPRC 13-13J - Original Drilling - Original Drilling - As Dri	15,747.4	7,039.0	864.5	755.9	7.960	CC, ES
UPRC 13-13J - Original Drilling - Original Drilling - As Dri	15,800.0	7,038.2	866.1	756.8	7.926	SF
UPRC 13-14J - Original Drilling - Original Drilling - As Dri	15,937.7	6,978.6	1,920.4	1,808.0	17.091	CC, ES
UPRC 13-14J - Original Drilling - Original Drilling - As Dri	16,200.0	6,981.8	1,938.2	1,823.4	16.876	SF
UPRC 13-15J - Original Drilling - Original Drilling - As Dri	15,680.2	6,998.4	3,279.3	3,170.6	30.161	CC
UPRC 13-15J - Original Drilling - Original Drilling - As Dri	15,700.0	6,998.5	3,279.4	3,170.5	30.101	ES
UPRC 13-15J - Original Drilling - Original Drilling - As Dri	16,236.3	7,000.9	3,326.0	3,212.3	29.237	SF
UPRC 13-16J - Wellbore #1 - Wellbore #1- As Drilled	15,739.4	6,981.3	4,288.0	4,179.5	39.531	CC
UPRC 13-16J - Wellbore #1 - Wellbore #1- As Drilled	15,800.0	6,980.8	4,288.4	4,179.3	39.301	ES
UPRC 13-16J - Wellbore #1 - Wellbore #1- As Drilled	16,236.3	6,977.5	4,316.5	4,203.3	38.106	SF
UPRR 39 Pan Am B1 (PA) - Original Drilling - Original Dr	15,512.1	7,017.0	556.0	333.6	2.500	CC, ES, SF
H Section 14						
Bohlender H14-09 - Original Drilling - Original Drilling - A	16,236.3	6,991.0	991.7	914.4	12.827	CC, ES, SF
Bohlender H14-15 - Original Drilling - Original Drilling - A	15,296.8	6,932.2	1,866.6	1,762.8	17.977	CC
Bohlender H14-15 - Original Drilling - Original Drilling - A	15,300.0	6,932.2	1,866.6	1,762.8	17.973	ES
Bohlender H14-15 - Original Drilling - Original Drilling - A	15,400.0	6,934.2	1,869.5	1,765.0	17.901	SF
Bohlender H14-16 - Original Drilling - Original Drilling - A	15,923.9	6,997.5	1,003.7	893.4	9.104	CC, ES, SF
Wilcox H14-03J - Original Drilling - Original Drilling - As D	16,141.8	7,269.0	3,094.6	2,962.2	23.381	CC
Wilcox H14-03J - Original Drilling - Original Drilling - As D	16,200.0	7,268.4	3,095.1	2,961.2	23.107	ES
Wilcox H14-03J - Original Drilling - Original Drilling - As D	16,236.3	7,268.0	3,096.1	2,961.2	22.946	SF
Wilcox H14-10 - Original Drilling - Original Drilling - As Dr	16,236.3	7,405.1	1,969.4	1,847.3	16.128	CC, ES, SF
Wilcox H14-11 - Original Drilling - Original Drilling - As Dr	16,236.3	7,495.8	3,007.8	2,860.9	20.474	CC, ES, SF
Wilcox H14-13 - Original Drilling - Original Drilling - As Dr	15,701.2	7,637.7	3,961.2	3,845.6	34.254	CC
Wilcox H14-13 - Original Drilling - Original Drilling - As Dr	15,800.0	7,634.5	3,962.4	3,843.7	33.378	ES
Wilcox H14-13 - Original Drilling - Original Drilling - As Dr	16,236.3	7,620.5	3,997.3	3,863.3	29.836	SF
H Section 19						
Butterball 13-19 - Original Drilling - Original Drilling - As D	11,725.4	6,877.7	5,925.3	5,854.9	84.176	CC
Butterball 13-19 - Original Drilling - Original Drilling - As D	11,800.0	6,880.7	5,925.8	5,854.7	83.300	ES
Butterball 13-19 - Original Drilling - Original Drilling - As D	12,800.0	12,800.0	6,021.9	5,921.0	59.685	SF
H Section 21						
Moser 24-21 - Wellbore #1 - Wellbore #1 - As Drilled						Out of range
H Section 22						
HSR Demeules 09-22 - Original Drilling - Original Drilling	11,526.6	6,932.0	5,808.8	5,740.1	84.569	CC
HSR Demeules 09-22 - Original Drilling - Original Drilling	11,600.0	6,931.6	5,809.2	5,739.9	83.844	ES
HSR Demeules 09-22 - Original Drilling - Original Drilling	13,800.0	6,919.0	6,237.8	6,154.0	74.462	SF
HSR Duryea - Wellbore #1 - Wellbore #1 - As Drilled	1,906.7	1,842.5	6,253.8	6,243.4	600.440	CC, ES
HSR Duryea - Wellbore #1 - Wellbore #1 - As Drilled	13,600.0	7,061.1	6,983.8	6,902.9	86.271	SF
Sarchet 16-22 - Wellbore #1 - Wellbore #1 - As Drilled	946.6	867.7	5,550.6	5,545.8	1,145.707	CC
Sarchet 16-22 - Wellbore #1 - Wellbore #1 - As Drilled	1,200.0	1,096.8	5,551.1	5,544.9	893.223	ES
Sarchet 16-22 - Wellbore #1 - Wellbore #1 - As Drilled	12,900.0	7,000.0	6,554.9	6,480.2	87.808	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 H26-712
<b>Project:</b>	Conceptual Wells	<b>TVD Reference:</b>	WELL @ 4884.0ft (Original Well Elev)
<b>Reference Site:</b>	DP 408	<b>MD Reference:</b>	WELL @ 4884.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Hurley H26-712	<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>	Design #1	<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	12,947.2	7,011.6	1,803.5	1,721.4	21.970	CC, ES
Eachus 32-23 - Original Drilling - Original Drilling - As Dri	13,100.0	7,009.6	1,809.9	1,727.0	21.836	SF
Eachus 41-23 (PA) - Original Drilling - Original Drilling - A	14,168.4	7,009.0	619.1	409.6	2.956	CC, ES, SF
Eachus UPRR 31-23 - Original Drilling - Original Drilling -	14,278.7	7,015.0	1,867.9	1,713.8	12.119	CC
Eachus UPRR 31-23 - Original Drilling - Original Drilling -	14,300.0	7,015.1	1,868.1	1,713.8	12.109	ES
Eachus UPRR 31-23 - Original Drilling - Original Drilling -	14,400.0	7,015.3	1,871.9	1,717.1	12.091	SF
Eachus UPRR 42-23 (PA) - Original Drilling - Original Dri	12,849.9	7,019.0	583.7	386.4	2.959	CC, ES, SF
HSR Alberstein 16-23 - Original Drilling - Original Drilling	10,544.6	6,989.2	712.6	652.7	11.898	CC, ES, SF
HSR Ashley 15-23A - Original Drilling - Original Drilling -	10,609.9	6,919.7	2,042.2	1,981.9	33.864	CC, ES
HSR Ashley 15-23A - Original Drilling - Original Drilling -	10,900.0	6,934.5	2,062.6	2,000.6	33.266	SF
HSR Benirschke 10-23 - Original Drilling - Original Drillin	11,603.4	6,974.3	1,736.9	1,667.4	24.994	CC, ES
HSR Benirschke 10-23 - Original Drilling - Original Drillin	11,800.0	6,987.9	1,747.9	1,677.3	24.766	SF
HSR Eachus 03-23 - Original Drilling - Original Drilling - A	14,291.0	7,246.8	3,181.3	3,077.5	30.644	CC
HSR Eachus 03-23 - Original Drilling - Original Drilling - A	14,300.0	7,246.8	3,181.3	3,077.4	30.616	ES
HSR Eachus 03-23 - Original Drilling - Original Drilling - A	14,900.0	7,248.5	3,239.1	3,130.4	29.806	SF
HSR Eachus 04-23 - Original Drilling - Original Drilling - A	14,305.2	7,380.7	4,599.5	4,474.4	36.786	CC
HSR Eachus 04-23 - Original Drilling - Original Drilling - A	14,400.0	7,381.9	4,600.4	4,473.0	36.087	ES
HSR Eachus 04-23 - Original Drilling - Original Drilling - A	16,236.3	7,404.6	4,988.5	4,823.4	30.220	SF
HSR Eachus 05-23 - Original Drilling - Original Drilling - A	12,300.0	7,314.7	4,662.6	4,540.8	38.286	SF
HSR Eachus 05-23 - Original Drilling - Original Drilling - A	12,971.2	7,327.4	4,614.1	4,494.4	38.535	CC, ES
HSR Fruman 06-23 - Original Drilling - Original Drilling - A	13,351.1	7,023.7	3,557.1	3,471.0	41.346	CC
HSR Fruman 06-23 - Original Drilling - Original Drilling - A	13,400.0	7,024.1	3,557.4	3,471.0	41.158	ES
HSR Fruman 06-23 - Original Drilling - Original Drilling - A	14,100.0	7,028.7	3,635.0	3,543.8	39.839	SF
HSR Grasshopper 09-23 - Original Drilling - Original Drill	11,354.0	7,062.2	824.5	756.7	12.156	CC, ES, SF
Ritchey 21-23 - Original Drilling - Original Drilling - As Dri	13,683.2	7,056.2	2,408.9	2,319.6	26.973	CC
Ritchey 21-23 - Original Drilling - Original Drilling - As Dri	13,700.0	7,056.0	2,409.0	2,319.5	26.937	ES
Ritchey 21-23 - Original Drilling - Original Drilling - As Dri	14,000.0	7,053.1	2,429.6	2,338.5	26.675	SF
Ritchey 24-23 - Original Drilling - Original Drilling - As Dri	12,249.9	7,089.0	1,369.9	1,291.4	17.461	CC, ES
Ritchey 24-23 - Original Drilling - Original Drilling - As Dri	12,300.0	7,089.1	1,370.8	1,292.2	17.437	SF
Ritchey 31-24 - Original Drilling - Original Drilling - As Dri	13,607.3	7,161.0	12.2	-78.2	0.135	Level 1, CC, ES, SF
UPRC 23-11J - Original Drilling - Original Drilling - As Dri	11,593.3	6,932.0	3,466.3	3,397.1	50.045	CC
UPRC 23-11J - Original Drilling - Original Drilling - As Dri	11,600.0	6,932.0	3,466.3	3,397.0	50.009	ES
UPRC 23-11J - Original Drilling - Original Drilling - As Dri	12,400.0	6,928.3	3,558.9	3,484.6	47.883	SF
UPRC 23-12J - Original Drilling - Original Drilling - As Dri	11,584.4	6,945.2	4,766.6	4,697.3	68.802	CC
UPRC 23-12J - Original Drilling - Original Drilling - As Dri	11,600.0	6,945.3	4,766.6	4,697.2	68.678	ES
UPRC 23-12J - Original Drilling - Original Drilling - As Dri	13,100.0	6,957.7	5,001.7	4,922.4	63.054	SF
UPRC H23-13 - Wellbore #1 - Wellbore #1 - As Drilled	10,434.1	6,977.9	4,756.1	4,696.8	80.223	CC
UPRC H23-13 - Wellbore #1 - Wellbore #1 - As Drilled	10,500.0	6,980.3	4,756.6	4,696.8	79.543	ES
UPRC H23-13 - Wellbore #1 - Wellbore #1 - As Drilled	12,200.0	7,043.8	5,073.0	5,002.0	71.529	SF
UPRC H23-14J - Original Drilling - Original Drilling - As D	10,309.7	7,034.3	3,045.8	2,987.3	52.062	CC, ES
UPRC H23-14J - Original Drilling - Original Drilling - As D	11,100.0	7,090.1	3,146.2	3,082.7	49.597	SF
UPRC H23-24 - Original Drilling - Original Drilling - As Dr	11,216.5	6,939.8	2,813.9	2,748.0	42.698	CC, ES
UPRC H23-24 - Original Drilling - Original Drilling - As Dr	11,800.0	6,956.0	2,873.7	2,804.3	41.373	SF
UPRR 53 Pan Am B#1 (PA) - Original Drilling - Original D	10,650.7	6,976.0	4,198.1	4,021.7	23.799	CC
UPRR 53 Pan Am B#1 (PA) - Original Drilling - Original D	10,700.0	6,976.0	4,198.4	4,021.6	23.750	ES
UPRR 53 Pan Am B#1 (PA) - Original Drilling - Original D	11,300.0	6,976.0	4,248.0	4,067.0	23.468	SF
UPRR 53 Pan Am UT V#1 - Original Drilling - Original Dr	13,370.5	6,994.9	1,102.9	1,017.1	12.857	CC, ES
UPRR 53 Pan Am UT V#1 - Original Drilling - Original Dr	13,400.0	6,995.1	1,103.3	1,017.4	12.843	SF

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

<b>Company:</b>	Northern Region Drilling - Sandbox	<b>Local Co-ordinate Reference:</b>	Well Hurley H26-712
<b>Project:</b>	Conceptual Wells	<b>TVD Reference:</b>	WELL @ 4884.0ft (Original Well Elev)
<b>Reference Site:</b>	DP 408	<b>MD Reference:</b>	WELL @ 4884.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Hurley H26-712	<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>	Design #1	<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 24						
Gurtler 24-09J - Original Drilling - Original Drilling - As Dr	11,668.6	6,847.9	4,598.1	4,528.2	65.820	CC
Gurtler 24-09J - Original Drilling - Original Drilling - As Dr	11,700.0	6,847.9	4,598.2	4,528.0	65.524	ES
Gurtler 24-09J - Original Drilling - Original Drilling - As Dr	13,400.0	6,846.1	4,913.2	4,829.1	58.435	SF
Gurtler 24-10J - Original Drilling - Original Drilling - As Dr	11,682.8	6,995.2	3,404.8	3,334.5	48.410	CC
Gurtler 24-10J - Original Drilling - Original Drilling - As Dr	11,700.0	6,995.3	3,404.8	3,334.3	48.287	ES
Gurtler 24-10J - Original Drilling - Original Drilling - As Dr	12,700.0	7,001.6	3,553.5	3,474.4	44.934	SF
Gurtler 24-11J - Original Drilling - Original Drilling - As Dr	11,609.8	6,894.2	1,945.7	1,876.1	27.958	CC, ES
Gurtler 24-11J - Original Drilling - Original Drilling - As Dr	12,000.0	6,903.9	1,984.4	1,911.1	27.062	SF
Gurtler 24-12J - Original Drilling - Original Drilling - As Dr	11,613.7	6,500.0	898.9	834.3	13.916	CC, ES
Gurtler 24-12J - Original Drilling - Original Drilling - As Dr	11,700.0	6,500.0	903.1	837.4	13.741	SF
Gurtler 24-12J - Original Drilling - ST01 - ST01 Original D	11,559.6	6,869.0	796.6	728.4	11.682	CC, ES
Gurtler 24-12J - Original Drilling - ST01 - ST01 Original D	11,600.0	6,862.1	797.6	728.9	11.607	SF
Gurtler 24-13J - Original Drilling - Original Drilling - As Dr	10,097.5	7,020.8	813.6	755.6	14.034	CC
Gurtler 24-13J - Original Drilling - Original Drilling - As Dr	10,100.0	7,019.8	813.6	755.6	14.028	ES
Gurtler 24-13J - Original Drilling - Original Drilling - As Dr	10,200.0	6,984.9	819.1	760.2	13.915	SF
Gurtler 24-15J - Original Drilling - Original Drilling - As Dr	10,330.6	7,011.7	3,328.0	3,269.6	57.000	CC, ES
Gurtler 24-15J - Original Drilling - Original Drilling - As Dr	11,500.0	7,006.0	3,527.5	3,459.3	51.778	SF
Gurtler 24-16J - Original Drilling - Original Drilling - As Dr	10,361.1	6,960.4	4,314.5	4,255.9	73.729	CC
Gurtler 24-16J - Original Drilling - Original Drilling - As Dr	10,400.0	6,960.4	4,314.6	4,255.7	73.268	ES
Gurtler 24-16J - Original Drilling - Original Drilling - As Dr	12,200.0	6,960.0	4,690.0	4,616.7	63.966	SF
Gurtler H24-14 - Original Drilling - Original Drilling - As D	10,206.1	6,965.7	2,167.9	2,110.6	37.823	CC, ES
Gurtler H24-14 - Original Drilling - Original Drilling - As D	10,800.0	6,970.8	2,247.8	2,185.2	35.933	SF
Gurtler H24-21 (PA) - Original Drilling - Original Drilling -	12,158.1	7,032.2	2,694.1	2,619.3	36.030	CC
Gurtler H24-21 (PA) - Original Drilling - Original Drilling -	12,200.0	7,035.1	2,694.4	2,619.2	35.814	ES
Gurtler H24-21 (PA) - Original Drilling - Original Drilling -	12,800.0	7,076.4	2,769.1	2,688.6	34.372	SF
Gurtler H24-23 - Original Drilling - Original Drilling - As D	11,011.8	6,968.3	3,961.5	3,897.2	61.646	CC, ES
Gurtler H24-23 - Original Drilling - Original Drilling - As D	12,500.0	6,972.8	4,231.8	4,155.2	55.288	SF
Gurtler H24-24 - Original Drilling - Original Drilling - As D	11,001.9	6,736.1	2,859.9	2,796.2	44.872	CC, ES
Gurtler H24-24 - Original Drilling - Original Drilling - As D	11,800.0	6,712.7	2,969.1	2,898.4	41.981	SF
Gurtler H24-99HZ - Wellbore #1 - Original Drilling	10,949.4	11,118.0	490.4	422.5	7.229	CC
Gurtler H24-99HZ - Wellbore #1 - Original Drilling	11,000.0	11,118.0	493.0	416.7	6.458	ES
Gurtler H24-99HZ - Wellbore #1 - Original Drilling	11,300.0	11,118.0	602.8	480.0	4.906	SF
Gurtler H25-27 - Original Drilling - Original Drilling - As D	9,785.9	6,978.6	3,916.3	3,860.7	70.357	CC
Gurtler H25-27 - Original Drilling - Original Drilling - As D	9,800.0	6,978.5	3,916.3	3,860.5	70.184	ES
Gurtler H25-27 - Original Drilling - Original Drilling - As D	11,500.0	6,969.3	4,275.0	4,204.7	60.843	SF
Gurtler Russell L1 (PA) - Original Drilling - Original Drilling	10,726.1	7,029.6	1,540.1	1,468.5	21.513	CC, ES
Gurtler Russell L1 (PA) - Original Drilling - Original Drilling	11,000.0	7,031.4	1,564.3	1,489.9	21.043	SF
HSR Brutschy 04-24 - Original Drilling - Original Drilling -	14,119.7	7,054.7	805.0	712.0	8.654	CC, ES
HSR Brutschy 04-24 - Original Drilling - Original Drilling -	14,200.0	7,057.9	809.0	715.1	8.612	SF
HSR Epstein 05-24 - Original Drilling - Original Drilling - A	13,306.2	7,018.1	1,336.2	1,250.8	15.640	CC, ES
HSR Epstein 05-24 - Original Drilling - Original Drilling - A	13,500.0	7,019.5	1,350.2	1,262.7	15.434	SF
HSR Hoffman 03-24 - Original Drilling - Original Drilling -	14,183.0	7,016.8	2,115.6	2,015.5	21.144	CC
HSR Hoffman 03-24 - Original Drilling - Original Drilling -	14,200.0	7,016.6	2,115.7	2,015.4	21.103	ES
HSR Hoffman 03-24 - Original Drilling - Original Drilling -	14,500.0	7,011.4	2,139.2	2,036.2	20.759	SF
HSR Sarchet 02-24 - Original Drilling - Original Drilling - A	14,190.8	6,968.7	3,468.1	3,374.4	37.022	CC
HSR Sarchet 02-24 - Original Drilling - Original Drilling - A	14,200.0	6,968.7	3,468.1	3,374.3	36.983	ES
HSR Sarchet 02-24 - Original Drilling - Original Drilling - A	15,000.0	6,970.6	3,561.2	3,460.5	35.373	SF
HSR Sarchet 06-24 - Original Drilling - Original Drilling - A	12,825.6	6,975.5	2,261.5	2,180.6	27.956	CC, ES
HSR Sarchet 06-24 - Original Drilling - Original Drilling - A	13,300.0	6,985.6	2,310.7	2,225.5	27.116	SF
HSR Traurig 01-24 - Original Drilling - Original Drilling - A	14,440.5	7,016.8	4,345.8	4,249.7	45.199	CC
HSR Traurig 01-24 - Original Drilling - Original Drilling - A	14,500.0	7,017.1	4,346.2	4,249.5	44.909	ES
HSR Traurig 01-24 - Original Drilling - Original Drilling - A	15,600.0	7,022.4	4,497.8	4,391.9	42.460	SF
Nopens D19-31 - Original Drilling - Original Drilling - As D	13,598.1	6,962.7	5,065.4	4,977.3	57.510	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 H26-712
<b>Project:</b>	Conceptual Wells	<b>TVD Reference:</b>	WELL @ 4884.0ft (Original Well Elev)
<b>Reference Site:</b>	DP 408	<b>MD Reference:</b>	WELL @ 4884.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Hurley H26-712	<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>	Design #1	<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 24						
Nopens D19-31 - Original Drilling - Original Drilling - As D	13,700.0	6,964.8	5,066.4	4,977.3	56.839	ES
Nopens D19-31 - Original Drilling - Original Drilling - As D	15,300.0	7,000.0	5,343.5	5,241.4	52.335	SF
Nopens H24-08 - Original Drilling - Original Drilling - As D	13,002.4	6,912.2	4,574.5	4,492.2	55.543	CC, ES
Nopens H24-08 - Original Drilling - Original Drilling - As D	14,500.0	6,951.4	4,813.3	4,718.4	50.735	SF
Sarchet H24-22 - Original Drilling - Original Drilling - As D	12,670.4	7,027.0	3,739.0	3,659.4	46.960	CC
Sarchet H24-22 - Original Drilling - Original Drilling - As D	12,700.0	7,024.5	3,739.1	3,659.2	46.785	ES
Sarchet H24-22 - Original Drilling - Original Drilling - As D	13,800.0	7,069.5	3,904.7	3,815.6	43.797	SF
Weld County Lumber 01 - Original Drilling - Original Drilling	13,412.7	6,971.2	3,552.1	3,465.7	41.143	CC, ES
Weld County Lumber 01 - Original Drilling - Original Drilling	14,300.0	6,980.7	3,661.2	3,567.1	38.935	SF

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

<b>Company:</b>	Northern Region Drilling - Sandbox	<b>Local Co-ordinate Reference:</b>	Well Hurley H26-712
<b>Project:</b>	Conceptual Wells	<b>TVD Reference:</b>	WELL @ 4884.0ft (Original Well Elev)
<b>Reference Site:</b>	DP 408	<b>MD Reference:</b>	WELL @ 4884.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Hurley H26-712	<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>	Design #1	<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 25						
Dechant 21-25 - Original Drilling - Original Drilling - As D	8,253.8	7,150.2	2,759.7	2,711.6	57.364	CC
Dechant 21-25 - Original Drilling - Original Drilling - As D	8,300.0	7,149.7	2,760.1	2,711.6	56.857	ES
Dechant 21-25 - Original Drilling - Original Drilling - As D	9,600.0	7,135.8	3,070.5	3,008.7	49.661	SF
Dechant D30-33D - Original Drilling - Original Drilling - As	6,861.7	6,614.3	5,345.5	5,304.8	131.574	CC, ES
Dechant D30-33D - Original Drilling - Original Drilling - As	7,900.0	7,900.0	5,596.8	5,549.4	117.923	SF
Dechant D31-30D - Original Drilling - Original Drilling - As	100.0	19.4	5,489.8	5,489.7	10,000.000	CC, ES
Dechant D31-30D - Original Drilling - Original Drilling - As	7,150.0	6,927.6	5,633.5	5,591.3	133.433	SF
Dechant H25-64-1HN - Original Drilling - Original Drilling	6,527.2	6,423.0	955.0	917.9	25.698	CC, ES
Dechant H25-64-1HN - Original Drilling - Original Drilling	6,600.0	6,519.6	958.3	920.8	25.550	SF
Dechant H25-65HN - Original Drilling - Original Drilling	6,546.6	6,450.6	225.4	188.7	6.139	CC, ES, SF
HSR Cohn 03-25 - Original Drilling - Original Drilling - As	8,980.0	6,975.5	1,846.7	1,798.9	38.642	CC
HSR Cohn 03-25 - Original Drilling - Original Drilling - As	9,000.0	6,975.9	1,846.8	1,798.8	38.507	ES
HSR Cohn 03-25 - Original Drilling - Original Drilling - As	9,500.0	6,985.9	1,918.5	1,866.5	36.905	SF
HSR Crowe 06-25 - Original Drilling - Original Drilling - A	7,628.7	7,004.6	1,908.7	1,867.4	46.140	CC, ES
HSR Crowe 06-25 - Original Drilling - Original Drilling - A	8,100.0	7,006.5	1,966.0	1,922.9	45.631	SF
HSR Dechant 04-25 - Original Drilling - Original Drilling -	9,052.2	7,472.0	777.1	706.0	10.918	CC, ES, SF
HSR Dechant 05-25 - Original Drilling - Original Drilling -	7,532.2	7,028.4	902.1	860.9	21.877	CC, ES, SF
KY Blue D30-32 - Original Drilling - Original Drilling - As D	7,278.0	6,901.4	5,095.5	5,055.0	125.789	CC, ES
KY Blue D30-32 - Original Drilling - Original Drilling - As D	10,600.0	6,959.4	6,262.4	6,204.6	108.288	SF
KY Blue H25-04J - Original Drilling - Original Drilling - As	6,817.1	6,619.7	4,582.0	4,554.7	167.370	CC, ES
KY Blue H25-04J - Original Drilling - Original Drilling - As	9,600.0	6,970.0	5,964.8	5,926.9	157.510	SF
KY Blue H25-09 - Original Drilling - Original Drilling - As D	7,056.6	6,768.0	4,635.9	4,596.1	116.637	CC, ES
KY Blue H25-09 - Original Drilling - Original Drilling - As D	9,700.0	6,941.5	5,619.4	5,567.7	108.682	SF
KY Blue H25-10 - Original Drilling - Original Drilling - As D	7,053.0	6,831.5	3,191.6	3,151.6	79.909	CC, ES
KY Blue H25-10 - Original Drilling - Original Drilling - As D	7,350.0	6,983.6	3,218.1	3,177.4	79.043	SF
KY Blue H25-11 - Original Drilling - Original Drilling - As D	6,890.2	6,738.8	2,087.6	2,021.0	31.379	CC
KY Blue H25-11 - Original Drilling - Original Drilling - As D	6,900.0	6,747.0	2,087.6	2,020.9	31.316	ES
KY Blue H25-11 - Original Drilling - Original Drilling - As D	7,200.0	6,949.3	2,124.5	2,054.5	30.327	SF
KY Blue H25-12 - Original Drilling - Original Drilling - As D	6,631.3	6,471.2	755.5	717.6	19.904	CC, ES
KY Blue H25-12 - Original Drilling - Original Drilling - As D	6,700.0	6,537.2	758.2	719.9	19.789	SF
KY Blue H25-14 - Original Drilling - Original Drilling - As D	6,646.0	6,474.3	2,899.2	2,861.4	76.671	CC
KY Blue H25-14 - Original Drilling - Original Drilling - As D	6,650.0	6,477.5	2,899.3	2,861.4	76.632	ES
KY Blue H25-14 - Original Drilling - Original Drilling - As D	6,900.0	6,674.9	2,936.9	2,897.9	75.423	SF
KY Blue H25-15 - Original Drilling - Original Drilling - As D	6,706.6	6,499.0	3,648.9	3,610.9	95.888	CC, ES
KY Blue H25-15 - Original Drilling - Original Drilling - As D	7,250.0	7,250.0	3,777.9	3,736.5	91.280	SF
KY H25-24 - Original Drilling - Original Drilling - As Drilled	6,770.1	6,587.4	2,999.4	2,960.8	77.838	CC, ES
KY H25-24 - Original Drilling - Original Drilling - As Drilled	7,050.0	6,816.0	3,029.1	2,989.4	76.452	SF
Moore UPRC H25-01 - Original Drilling - Original Drilling	9,105.2	6,944.5	4,703.9	4,655.4	96.950	CC, ES
Moore UPRC H25-01 - Original Drilling - Original Drilling	11,600.0	6,949.5	5,324.6	5,257.3	79.220	SF
Moore UPRC H25-02 - Original Drilling - Original Drilling	8,983.9	6,959.5	3,320.3	3,272.6	69.574	CC
Moore UPRC H25-02 - Original Drilling - Original Drilling	9,000.0	6,959.6	3,320.4	3,272.5	69.393	ES
Moore UPRC H25-02 - Original Drilling - Original Drilling	10,400.0	6,970.6	3,609.7	3,551.2	61.715	SF
Moser 25-32 - Original Drilling - Original Drilling - As Drill	7,545.5	6,989.8	3,024.0	2,982.8	73.457	CC, ES
Moser 25-32 - Original Drilling - Original Drilling - As Drill	8,900.0	6,975.3	3,313.5	3,266.0	69.792	SF
Moser 25-42 - Original Drilling - Original Drilling - As Drill	7,784.6	6,951.8	4,696.4	4,654.8	112.923	CC
Moser 25-42 - Original Drilling - Original Drilling - As Drill	7,800.0	6,951.8	4,696.4	4,654.8	112.812	ES
Moser 25-42 - Original Drilling - Original Drilling - As Drill	10,700.0	6,948.6	5,527.7	5,468.3	93.066	SF
UPRR 53 Pan Am T#2 - Original Drilling - Original Drilling	8,287.0	6,934.0	1,615.4	1,571.8	37.051	CC
UPRR 53 Pan Am T#2 - Original Drilling - Original Drilling	8,300.0	6,934.4	1,615.5	1,571.8	36.985	ES
UPRR 53 Pan Am T#2 - Original Drilling - Original Drilling	8,700.0	6,945.7	1,667.4	1,621.0	35.972	SF
UPRR 53 Pan Am UT T#1 - Original Drilling - Original Dr	8,136.5	6,963.0	4,002.4	3,844.4	25.337	CC, ES
UPRR 53 Pan Am UT T#1 - Original Drilling - Original Dr	8,800.0	6,963.0	4,057.0	3,895.1	25.053	SF
Von Feldt 1-25B - Original Drilling - Original Drilling - As D	6,598.5	6,405.4	1,924.6	1,887.0	51.215	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 H26-712
<b>Project:</b>	Conceptual Wells	<b>TVD Reference:</b>	WELL @ 4884.0ft (Original Well Elev)
<b>Reference Site:</b>	DP 408	<b>MD Reference:</b>	WELL @ 4884.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Hurley H26-712	<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>	Design #1	<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 25						
Von Feldt 1-25B - Original Drilling - Original Drilling - As D	6,600.0	6,406.7	1,924.6	1,887.0	51.204	ES
Von Feldt 1-25B - Original Drilling - Original Drilling - As D	6,800.0	6,578.6	1,952.1	1,913.6	50.604	SF



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

<b>Company:</b>	Northern Region Drilling - Sandbox	<b>Local Co-ordinate Reference:</b>	Well Hurley H26-712
<b>Project:</b>	Conceptual Wells	<b>TVD Reference:</b>	WELL @ 4884.0ft (Original Well Elev)
<b>Reference Site:</b>	DP 408	<b>MD Reference:</b>	WELL @ 4884.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Hurley H26-712	<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>	Design #1	<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 26						
Bullard 31-26 - Original Drilling - Original Drilling - As Dril	9,251.4	6,972.4	2,014.6	1,965.0	40.635	CC, ES
Bullard 31-26 - Original Drilling - Original Drilling - As Dril	9,600.0	6,989.0	2,044.4	1,993.0	39.754	SF
Bullard 32-26 - Original Drilling - Original Drilling - As Dril	575.5	543.5	1,022.6	1,019.7	355.185	CC
Bullard 32-26 - Original Drilling - Original Drilling - As Dril	800.0	761.1	1,023.7	1,019.5	247.023	ES
Bullard 32-26 - Original Drilling - Original Drilling - As Dril	7,700.0	7,022.7	1,858.3	1,816.7	44.695	SF
Bullard 41-26 - Original Drilling - Original Drilling - As Dril	8,735.9	6,999.0	1,055.1	1,009.0	22.860	CC, ES
Bullard 41-26 - Original Drilling - Original Drilling - As Dril	8,800.0	6,998.9	1,057.1	1,010.7	22.795	SF
Dechant H25-29D - Original Drilling - Original Drilling - As	0.0	0.0	1,546.0			
Dechant H25-29D - Original Drilling - Original Drilling - As	9,800.0	7,474.9	1,582.4	1,520.2	25.458	ES
Dechant H25-29D - Original Drilling - Original Drilling - As	10,400.0	7,479.2	1,710.4	1,637.1	23.338	SF
Dechant H25-33D - Original Drilling - Original Drilling - As	4,575.4	4,898.6	367.8	322.7	8.149	CC, ES, SF
Harsh H26-09D - Original Drilling - Original Drilling - As D	6,225.9	6,108.2	564.7	527.6	15.209	CC
Harsh H26-09D - Original Drilling - Original Drilling - As D	6,300.0	6,179.8	565.0	527.4	15.023	ES
Harsh H26-09D - Original Drilling - Original Drilling - As D	6,500.0	6,373.6	568.6	529.7	14.639	SF
Harsh H26-10 - Original Drilling - Original Drilling - As Dr	935.9	908.9	1,292.5	1,287.6	260.714	CC
Harsh H26-10 - Original Drilling - Original Drilling - As Dr	2,200.0	2,187.1	1,297.8	1,285.7	106.709	ES
Harsh H26-10 - Original Drilling - Original Drilling - As Dr	6,700.0	6,557.1	1,722.2	1,683.1	43.973	SF
Harsh H26-15 - Original Drilling - Original Drilling - As Dr	5,647.0	5,584.0	2,433.5	2,400.0	72.689	CC
Harsh H26-15 - Original Drilling - Original Drilling - As Dr	5,800.0	5,720.7	2,434.1	2,399.6	70.718	ES
Harsh H26-15 - Original Drilling - Original Drilling - As Dr	6,700.0	6,559.9	2,492.7	2,452.9	62.634	SF
Harsh H26-16 - Original Drilling - Original Drilling - As Dr	6,495.8	6,379.3	1,935.3	1,896.7	50.089	CC
Harsh H26-16 - Original Drilling - Original Drilling - As Dr	6,500.0	6,383.3	1,935.3	1,896.6	50.057	ES
Harsh H26-16 - Original Drilling - Original Drilling - As Dr	6,650.0	6,520.0	1,953.4	1,913.9	49.494	SF
Harsh H26-23D - Original Drilling - Original Drilling - As D	1,180.7	1,167.4	1,308.8	1,303.4	245.653	CC
Harsh H26-23D - Original Drilling - Original Drilling - As D	1,200.0	1,183.6	1,308.8	1,303.4	241.269	ES
Harsh H26-23D - Original Drilling - Original Drilling - As D	6,600.0	6,605.9	1,551.6	1,507.2	34.913	SF
HSR Moser 04-26 - Original Drilling - Original Drilling - As	1,900.8	1,833.1	4,203.8	4,193.5	406.082	CC, ES
HSR Moser 04-26 - Original Drilling - Original Drilling - As	11,600.0	7,065.8	5,182.6	5,118.4	80.763	SF
HSR Moser 06-26 - Original Drilling - Original Drilling - As	100.0	45.3	2,210.0	2,209.9	10,000.000	CC
HSR Moser 06-26 - Original Drilling - Original Drilling - As	1,914.2	1,873.5	2,219.0	2,208.4	210.709	ES
HSR Moser 06-26 - Original Drilling - Original Drilling - As	8,400.0	7,031.0	3,095.1	3,051.4	70.811	SF
HSR Regalia 05-26 - Original Drilling - Original Drilling - A	532.0	466.0	3,391.0	3,388.5	1,353.492	CC
HSR Regalia 05-26 - Original Drilling - Original Drilling - A	1,900.0	1,828.7	3,393.1	3,382.8	327.918	ES
HSR Regalia 05-26 - Original Drilling - Original Drilling - A	9,900.0	7,028.5	4,437.8	4,386.0	85.754	SF
HSR-Moser 03-26A - Original Drilling - Original Drilling - A	615.7	549.7	2,766.5	2,763.5	927.545	CC
HSR-Moser 03-26A - Original Drilling - Original Drilling - A	1,902.0	1,838.0	2,769.0	2,758.6	266.973	ES
HSR-Moser 03-26A - Original Drilling - Original Drilling - A	10,100.0	6,872.2	3,105.6	3,051.9	57.783	SF
John 03-26 - Original Drilling - Original Drilling - As Drille	1,911.6	1,861.8	2,713.4	2,702.9	258.608	CC, ES
John 03-26 - Original Drilling - Original Drilling - As Drille	9,900.0	6,859.8	3,257.4	3,205.3	62.541	SF
Lamp H25-31 - Original Drilling - Original Drilling - As Dri	8,337.6	7,029.3	58.4	14.4	1.329	Level 3, CC, ES, SF
Lamp H26-01 - Original Drilling - Original Drilling - As Dri	9,129.2	7,125.7	430.1	377.3	8.147	CC, ES, SF
Lamp H26-08 - Original Drilling - Original Drilling - As Dri	2,197.7	2,166.2	419.9	407.7	34.667	CC
Lamp H26-08 - Original Drilling - Original Drilling - As Dri	2,200.0	2,168.4	419.9	407.7	34.633	ES
Lamp H26-08 - Original Drilling - Original Drilling - As Dri	7,800.0	7,038.5	519.7	477.1	12.210	SF
Lamp H26-22 - Original Drilling - Original Drilling - As Dri	3,055.4	3,083.0	240.9	222.0	12.745	CC, ES
Lamp H26-22 - Original Drilling - Original Drilling - As Dri	3,300.0	3,309.6	260.5	238.7	11.947	SF
Moser 05-26 - Original Drilling - Original Drilling - As Drill	848.5	784.5	3,861.9	3,857.6	892.660	CC
Moser 05-26 - Original Drilling - Original Drilling - As Drill	1,905.4	1,847.4	3,862.6	3,852.2	371.026	ES
Moser 05-26 - Original Drilling - Original Drilling - As Drill	10,000.0	7,076.9	5,240.8	5,189.0	101.040	SF
Moser 41-27 - Original Drilling - Original Drilling - As Drill	964.0	900.0	3,858.6	3,853.6	771.970	CC, ES
Moser 41-27 - Original Drilling - Original Drilling - As Drill	10,500.0	10,500.0	5,717.6	5,649.5	83.981	SF
Moser H26-11 - Original Drilling - Original Drilling - As Dr	963.2	909.8	2,709.9	2,704.9	539.373	CC
Moser H26-11 - Original Drilling - Original Drilling - As Dr	1,300.0	1,229.9	2,711.2	2,704.3	393.052	ES

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 H26-712
<b>Project:</b>	Conceptual Wells	<b>TVD Reference:</b>	WELL @ 4884.0ft (Original Well Elev)
<b>Reference Site:</b>	DP 408	<b>MD Reference:</b>	WELL @ 4884.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Hurley H26-712	<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>	Design #1	<b>Offset TVD Reference:</b>	Offset Datum

**Summary**

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
H Section 26						
Moser H26-11 - Original Drilling - Original Drilling - As Dr	7,250.0	6,995.9	3,466.0	3,424.9	84.339	SF
Moser H26-12 - Wellbore #1 - Wellbore #1 - As Drilled	100.0	31.9	3,861.1	3,861.0	10,000.000	CC
Moser H26-12 - Wellbore #1 - Wellbore #1 - As Drilled	1,914.8	1,866.1	3,861.4	3,850.9	367.852	ES
Moser H26-12 - Wellbore #1 - Wellbore #1 - As Drilled	7,100.0	6,907.9	4,592.1	4,551.4	112.845	SF
Moser H26-13 - Wellbore #1 - Wellbore #1 - As Drilled	172.8	118.8	4,395.4	4,394.9	9,094.747	CC
Moser H26-13 - Wellbore #1 - Wellbore #1 - As Drilled	1,900.0	1,825.8	4,400.9	4,390.5	425.944	ES
Moser H26-13 - Wellbore #1 - Wellbore #1 - As Drilled	6,900.0	6,662.0	4,936.0	4,896.0	123.243	SF
Moser H26-14 - Original Drilling - Original Drilling - As Dr	382.3	338.3	3,387.3	3,385.6	1,963.784	CC
Moser H26-14 - Original Drilling - Original Drilling - As Dr	2,100.0	2,062.3	3,388.6	3,377.1	293.726	ES
Moser H26-14 - Original Drilling - Original Drilling - As Dr	6,800.0	6,647.6	3,646.6	3,606.5	90.874	SF
Moser H26-18D - Original Drilling - Original Drilling - As D	1,938.4	1,990.7	1,380.6	1,366.3	96.243	CC
Moser H26-18D - Original Drilling - Original Drilling - As D	2,000.0	2,063.4	1,381.0	1,366.0	91.524	ES
Moser H26-18D - Original Drilling - Original Drilling - As D	8,100.0	7,438.2	2,481.6	2,432.2	50.198	SF
Moser H26-24 - Original Drilling - Original Drilling - As Dr	2,017.0	2,008.4	2,483.9	2,472.7	221.616	CC
Moser H26-24 - Original Drilling - Original Drilling - As Dr	2,100.0	2,083.0	2,484.3	2,472.6	213.779	ES
Moser H26-24 - Original Drilling - Original Drilling - As Dr	6,850.0	6,714.0	2,907.0	2,866.8	72.320	SF
Moser H26-25 - Original Drilling - Original Drilling - As Dr	1,918.7	1,881.9	3,247.3	3,236.7	307.389	CC, ES
Moser H26-25 - Original Drilling - Original Drilling - As Dr	6,900.0	6,831.2	3,746.0	3,705.4	92.243	SF
Moser H26-27D - Original Drilling - Original Drilling - As D	9,587.7	7,156.4	1,182.4	1,126.7	21.210	CC
Moser H26-27D - Original Drilling - Original Drilling - As D	9,600.0	7,156.4	1,182.5	1,126.6	21.171	ES
Moser H26-27D - Original Drilling - Original Drilling - As D	9,700.0	7,156.1	1,187.7	1,131.1	20.973	SF
Moser H26-28D - Original Drilling - Original Drilling - As D	0.0	0.0	1,489.9			
Moser H26-28D - Original Drilling - Original Drilling - As D	300.0	276.2	1,490.9	1,489.6	1,144.331	ES
Moser H26-28D - Original Drilling - Original Drilling - As D	10,900.0	7,595.7	2,903.0	2,825.4	37.406	SF
Moser H26-29D - Original Drilling - Original Drilling - As D	0.0	0.0	1,471.5			
Moser H26-29D - Original Drilling - Original Drilling - As D	300.0	275.2	1,472.1	1,470.8	1,139.861	ES
Moser H26-29D - Original Drilling - Original Drilling - As D	9,700.0	9,700.0	3,711.9	3,634.7	48.065	SF
Moser, Wesley E. G. U. B1 (PA) - Original Drilling - Origin	1,900.0	1,848.0	3,919.1	3,878.0	95.391	CC
Moser, Wesley E. G. U. B1 (PA) - Original Drilling - Origin	2,100.0	2,047.8	3,921.7	3,876.2	86.256	ES
Moser, Wesley E. G. U. B1 (PA) - Original Drilling - Origin	7,050.0	6,835.1	4,505.8	4,352.1	29.313	SF
H Section 27						
HSR Moser 1-27 - Original Drilling - Original Drilling - As	100.0	24.1	5,114.5	5,114.4	10,000.000	CC
HSR Moser 1-27 - Original Drilling - Original Drilling - As	700.0	593.9	5,116.2	5,112.8	1,536.133	ES
HSR Moser 1-27 - Original Drilling - Original Drilling - As	12,200.0	6,947.8	6,466.3	6,398.5	95.419	SF
HSR Moser 16-27 - Original Drilling - Original Drilling - As	100.0	35.0	5,480.7	5,480.6	10,000.000	CC
HSR Moser 16-27 - Original Drilling - Original Drilling - As	1,400.0	1,307.1	5,482.7	5,475.4	741.669	ES
HSR Moser 16-27 - Original Drilling - Original Drilling - As	7,050.0	6,912.2	6,074.7	6,033.7	148.269	SF
Moser 09-27X (PA) - Original Drilling - Original Drilling - A	100.0	33.0	4,951.0	4,950.8	10,000.000	CC
Moser 09-27X (PA) - Original Drilling - Original Drilling - A	1,700.0	1,616.6	4,957.3	4,948.1	541.446	ES
Moser 09-27X (PA) - Original Drilling - Original Drilling - A	10,400.0	7,074.9	7,052.8	6,997.0	126.456	SF
Moser 24-27 - Original Drilling - Original Drilling - As Drill	864.0	800.0	4,944.7	4,940.3	1,120.214	CC
Moser 24-27 - Original Drilling - Original Drilling - As Drill	900.0	823.6	4,944.7	4,940.1	1,080.201	ES
Moser 24-27 - Original Drilling - Original Drilling - As Drill	11,700.0	6,928.3	8,017.7	7,952.5	123.013	SF
H Section 34						
Moser H34-09 - Wellbore #1 - Wellbore #1 - As Drilled	1,887.8	1,836.8	8,077.1	8,066.8	781.348	CC
Moser H34-09 - Wellbore #1 - Wellbore #1 - As Drilled	4,400.0	4,415.6	8,081.8	8,056.2	314.807	ES
Moser H34-09 - Wellbore #1 - Wellbore #1 - As Drilled	6,950.0	6,900.0	8,253.1	8,211.8	199.957	SF
Moser H34-16 - Wellbore #1 - Wellbore #1 - As Drilled	3,865.4	3,719.2	9,025.8	9,004.1	415.876	CC
Moser H34-16 - Wellbore #1 - Wellbore #1 - As Drilled	6,450.0	6,328.9	9,038.4	8,999.9	234.670	ES
Moser H34-16 - Wellbore #1 - Wellbore #1 - As Drilled	6,950.0	6,700.0	9,190.2	9,149.6	226.394	SF
Moser H34-31 - Wellbore #1 - Wellbore #1 - As Drilled						Out of range

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 H26-712
<b>Project:</b>	Conceptual Wells	<b>TVD Reference:</b>	WELL @ 4884.0ft (Original Well Elev)
<b>Reference Site:</b>	DP 408	<b>MD Reference:</b>	WELL @ 4884.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Hurley H26-712	<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>	Design #1	<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 35						
Cannon Farms 01-35C - Original Drilling - Original Drilling	6,520.7	6,439.9	6,797.1	6,758.5	175.943	CC, ES
Cannon Farms 01-35C - Original Drilling - Original Drilling	7,100.0	7,042.7	7,039.8	6,998.1	168.827	SF
Cannon H35-03D - Original Drilling - Original Drilling - As	6,465.9	6,277.8	7,067.6	7,029.3	184.548	CC, ES
Cannon H35-03D - Original Drilling - Original Drilling - As	6,850.0	6,578.6	7,168.7	7,128.7	179.038	SF
Cannon H35-09 - Original Drilling - Original Drilling - As D	6,530.3	6,476.3	5,829.9	5,791.2	150.523	CC, ES
Cannon H35-09 - Original Drilling - Original Drilling - As D	7,300.0	7,082.3	6,239.7	6,192.1	131.168	SF
Cannon H35-10 - Original Drilling - Original Drilling - As D	6,485.9	6,245.0	6,172.2	6,134.1	162.178	CC, ES
Cannon H35-10 - Original Drilling - Original Drilling - As D	6,900.0	6,637.2	6,298.6	6,258.5	156.868	SF
Cannon H35-11 - Original Drilling - Original Drilling - As D	6,485.0	6,437.3	6,476.5	6,437.5	166.418	CC, ES
Cannon H35-11 - Original Drilling - Original Drilling - As D	6,850.0	6,659.3	6,571.0	6,530.7	162.864	SF
Cannon H35-12 - Original Drilling - Original Drilling - As D	100.0	37.9	7,342.0	7,341.9	10,000.000	CC
Cannon H35-12 - Original Drilling - Original Drilling - As D	6,450.0	6,275.7	7,343.8	7,305.4	191.600	ES
Cannon H35-12 - Original Drilling - Original Drilling - As D	6,950.0	6,774.6	7,495.8	7,455.0	183.438	SF
Cannon H35-13 - Wellbore #1 - Wellbore #1 - As Drilled	6,471.8	6,435.7	8,370.9	8,332.0	215.220	CC, ES
Cannon H35-13 - Wellbore #1 - Wellbore #1 - As Drilled	7,000.0	7,074.4	8,547.9	8,506.0	203.995	SF
Cannon H35-14 - Original Drilling - Original Drilling - As D	6,490.6	6,432.6	7,744.8	7,706.0	199.484	CC, ES
Cannon H35-14 - Original Drilling - Original Drilling - As D	7,350.0	7,048.3	8,207.2	8,157.9	166.505	SF
Cannon H35-15 (PA) - Original Drilling - Original Drilling -	6,503.0	6,363.8	7,378.4	7,234.7	51.356	CC, ES
Cannon H35-15 (PA) - Original Drilling - Original Drilling -	7,050.0	6,847.1	7,594.0	7,439.9	49.263	SF
Cannon H35-20 - Original Drilling - Original Drilling - As D	5,669.8	5,500.0	6,492.4	6,459.1	195.398	CC
Cannon H35-20 - Original Drilling - Original Drilling - As D	6,450.0	6,250.8	6,494.1	6,455.9	170.006	ES
Cannon H35-20 - Original Drilling - Original Drilling - As D	6,900.0	6,671.2	6,621.6	6,581.2	163.792	SF
Cannon H35-21 - Original Drilling - Original Drilling - As D	6,468.1	6,207.0	5,866.0	5,828.0	154.344	CC, ES
Cannon H35-21 - Original Drilling - Original Drilling - As D	6,900.0	6,814.4	5,990.3	5,949.4	146.553	SF
Cannon H35-22 - Original Drilling - Original Drilling - As D	6,500.2	6,260.5	5,478.2	5,439.8	142.439	CC, ES
Cannon H35-22 - Original Drilling - Original Drilling - As D	7,150.0	7,150.0	5,770.7	5,728.4	136.225	SF
Cannon H35-24 - Original Drilling - Original Drilling - As D	6,479.0	6,244.6	7,023.2	6,985.1	184.290	CC, ES
Cannon H35-24 - Original Drilling - Original Drilling - As D	6,900.0	6,568.4	7,151.2	7,111.3	178.921	SF
Cannon X02-27 - Original Drilling - Original Drilling - As D	6,511.4	6,376.6	7,759.1	7,720.6	201.654	CC, ES
Cannon X02-27 - Original Drilling - Original Drilling - As D	7,050.0	6,885.0	7,971.9	7,930.9	194.150	SF
Cannon X02-28 - Original Drilling - Original Drilling - As D	6,491.7	6,347.0	7,840.7	7,802.2	203.685	CC, ES
Cannon X02-28 - Original Drilling - Original Drilling - As D	6,950.0	6,754.9	7,991.0	7,950.4	196.506	SF
Cannon X02-29 - Original Drilling - Original Drilling - As D	5,988.2	5,600.0	8,387.3	8,352.4	240.238	CC
Cannon X02-29 - Original Drilling - Original Drilling - As D	6,100.0	5,650.7	8,387.8	8,352.3	236.831	ES
Cannon X02-29 - Original Drilling - Original Drilling - As D	7,050.0	6,284.3	8,641.9	8,602.4	218.944	SF
Foster 18-35 - Original Drilling - Original Drilling - As Drill	703.6	655.6	5,229.1	5,225.5	1,471.487	CC
Foster 18-35 - Original Drilling - Original Drilling - As Drill	3,400.0	3,365.5	5,237.6	5,218.4	272.958	ES
Foster 18-35 - Original Drilling - Original Drilling - As Drill	6,800.0	6,690.1	5,412.0	5,371.6	133.993	SF
Foster UPRR 31-35 #1 (PA) - Original Drilling - Original D	6,467.2	6,340.7	3,530.8	3,387.6	24.662	CC, ES
Foster UPRR 31-35 #1 (PA) - Original Drilling - Original D	6,800.0	6,660.5	3,605.1	3,454.9	24.006	SF
Foster UPRR 32-35 - Original Drilling - Original Drilling -	6,489.3	6,402.4	4,782.3	4,743.6	123.453	CC, ES
Foster UPRR 32-35 - Original Drilling - Original Drilling -	6,900.0	6,817.7	4,903.0	4,862.1	119.929	SF
Foster UPRR 41-35 - Original Drilling - Original Drilling -	6,511.6	6,351.2	3,289.8	3,251.5	85.877	CC, ES
Foster UPRR 41-35 - Original Drilling - Original Drilling -	7,200.0	6,914.2	3,626.0	3,577.0	74.017	SF
Foster UPRR 42-35 #2 - Original Drilling - Original Drilling	6,537.2	6,534.3	4,387.8	4,348.9	112.595	CC, ES
Foster UPRR 42-35 #2 - Original Drilling - Original Drilling	6,750.0	6,678.0	4,424.4	4,384.5	110.849	SF
HSR Foster 03-35 - Original Drilling - Original Drilling - A	5,646.1	5,600.0	4,449.0	4,415.5	132.658	CC
HSR Foster 03-35 - Original Drilling - Original Drilling - A	5,700.0	5,632.2	4,449.1	4,415.3	131.581	ES
HSR Foster 03-35 - Original Drilling - Original Drilling - A	6,800.0	6,837.7	4,538.1	4,497.2	110.916	SF
HSR Foster 04-35 - Wellbore #1 - Wellbore #1 - As Drille	1,166.2	1,108.6	5,251.7	5,245.6	850.284	CC
HSR Foster 04-35 - Wellbore #1 - Wellbore #1 - As Drille	1,500.0	1,426.9	5,252.5	5,244.4	653.585	ES
HSR Foster 04-35 - Wellbore #1 - Wellbore #1 - As Drille	6,850.0	6,600.0	5,638.5	5,598.5	141.042	SF
HSR Foster 05-35 - Wellbore #1 - Wellbore #1 - As Drille	100.0	42.5	6,245.7	6,245.5	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 H26-712
<b>Project:</b>	Conceptual Wells	<b>TVD Reference:</b>	WELL @ 4884.0ft (Original Well Elev)
<b>Reference Site:</b>	DP 408	<b>MD Reference:</b>	WELL @ 4884.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Hurley H26-712	<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>	Design #1	<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 35						
HSR Foster 05-35 - Wellbore #1 - Wellbore #1 - As Drille	2,400.0	2,321.3	6,251.6	6,238.6	479.101	ES
HSR Foster 05-35 - Wellbore #1 - Wellbore #1 - As Drille	6,900.0	6,517.0	6,502.0	6,462.1	163.014	SF
HSR Foster 06-35 - Original Drilling - Original Drilling - A	6,459.9	6,362.2	5,427.4	5,388.8	140.516	CC, ES
HSR Foster 06-35 - Original Drilling - Original Drilling - A	6,850.0	6,709.7	5,524.6	5,484.1	136.308	SF
UPRR 53 Pan Am Unit P1 - Original Drilling - Original Dri	6,510.7	6,426.0	3,980.6	3,941.9	102.836	CC, ES
UPRR 53 Pan Am Unit P1 - Original Drilling - Original Dri	6,800.0	6,641.1	4,046.3	4,006.2	101.102	SF
UPRR 53 Pan Am UT P2 - Original Drilling - Original Drill	4,139.0	4,115.9	4,879.4	4,855.5	204.394	CC
UPRR 53 Pan Am UT P2 - Original Drilling - Original Drill	4,700.0	4,652.0	4,880.7	4,853.3	178.225	ES
UPRR 53 Pan Am UT P2 - Original Drilling - Original Drill	6,750.0	6,536.5	4,981.5	4,941.7	125.213	SF

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

<b>Company:</b>	Northern Region Drilling - Sandbox	<b>Local Co-ordinate Reference:</b>	Well Hurley H26-712
<b>Project:</b>	Conceptual Wells	<b>TVD Reference:</b>	WELL @ 4884.0ft (Original Well Elev)
<b>Reference Site:</b>	DP 408	<b>MD Reference:</b>	WELL @ 4884.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Hurley H26-712	<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>	Design #1	<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 36						
Dechant 07-36 - Original Drilling - Original Drilling - As D	6,594.6	6,357.9	5,689.9	5,652.4	151.916	CC
Dechant 07-36 - Original Drilling - Original Drilling - As D	6,600.0	6,363.4	5,689.9	5,652.4	151.792	ES
Dechant 07-36 - Original Drilling - Original Drilling - As D	7,000.0	6,715.7	5,797.0	5,757.7	147.176	SF
Dechant 13N-1HZ - Original Drilling - Original Drilling - A	6,530.3	6,300.0	7,637.4	7,595.8	183.539	CC, ES
Dechant 13N-1HZ - Original Drilling - Original Drilling - A	6,800.0	6,350.0	7,697.8	7,655.5	181.742	SF
Dechant 14C-1HZ - Original Drilling - Original Drilling - A	6,543.0	6,208.7	7,865.0	7,825.9	201.097	CC
Dechant 14C-1HZ - Original Drilling - Original Drilling - A	6,550.0	6,215.6	7,865.0	7,825.9	200.876	ES
Dechant 14C-1HZ - Original Drilling - Original Drilling - A	6,750.0	6,410.7	7,897.5	7,857.2	195.860	SF
Dechant 15-36 - Original Drilling - Original Drilling - As D	6,574.7	6,367.9	7,853.0	7,811.6	189.531	CC
Dechant 15-36 - Original Drilling - Original Drilling - As D	6,600.0	6,392.7	7,853.5	7,811.4	186.356	ES
Dechant 15-36 - Original Drilling - Original Drilling - As D	7,400.0	6,933.9	8,286.1	8,228.5	143.956	SF
Dechant 15C-1HZ - Original Drilling - Original Drilling - A	6,634.8	6,336.2	4,269.1	4,231.2	112.754	CC, ES
Dechant 15C-1HZ - Original Drilling - Original Drilling - A	6,850.0	6,500.0	4,293.1	4,254.3	110.609	SF
Dechant 24-36 - Original Drilling - Original Drilling - As D	6,621.4	6,626.9	6,372.9	6,332.2	156.841	CC, ES
Dechant 24-36 - Original Drilling - Original Drilling - As D	7,100.0	7,009.2	6,515.6	6,472.7	152.073	SF
Dechant 35N-E1HZ - Original Drilling - Original Drilling -	6,550.0	6,184.2	7,791.1	7,753.1	204.986	CC, ES
Dechant 35N-E1HZ - Original Drilling - Original Drilling -	6,750.0	6,200.0	7,827.6	7,789.1	203.449	SF
Dechant 35N-W1HZ - Original Drilling - Original Drilling -	6,536.7	6,250.0	7,690.0	7,651.6	200.136	CC, ES
Dechant 35N-W1HZ - Original Drilling - Original Drilling -	6,750.0	6,300.0	7,727.6	7,688.5	197.923	SF
Dechant 36N-W1HZ - Original Drilling - Original Drilling -	6,537.5	6,120.6	7,923.9	7,883.9	197.763	CC, ES
Dechant 36N-W1HZ - Original Drilling - Original Drilling -	6,800.0	6,300.0	7,975.8	7,934.5	192.884	SF
Dechant 37N-E1HZ - Original Drilling - Original Drilling -	6,497.0	5,383.2	8,597.1	8,556.3	210.982	CC
Dechant 37N-E1HZ - Original Drilling - Original Drilling -	6,500.0	5,386.2	8,597.1	8,556.3	210.862	ES
Dechant 37N-E1HZ - Original Drilling - Original Drilling -	7,250.0	5,986.8	8,949.1	8,903.7	197.183	SF
Dechant 37N-W1HZ - Original Drilling - Original Drilling -	6,536.5	5,881.9	8,380.5	8,341.8	216.179	CC, ES
Dechant 37N-W1HZ - Original Drilling - Original Drilling -	7,050.0	6,328.5	8,559.5	8,517.9	205.856	SF
Dechant State 16C-1HZ - Original Drilling - Original Drilling	6,696.7	6,458.6	5,218.9	5,180.6	136.393	CC
Dechant State 16C-1HZ - Original Drilling - Original Drilling	6,700.0	6,461.7	5,218.9	5,180.6	136.336	ES
Dechant State 16C-1HZ - Original Drilling - Original Drilling	7,050.0	6,569.0	5,276.6	5,237.5	135.043	SF
Dechant State 36N-E1HZ - Original Drilling - Original Drilling	6,629.6	6,350.0	4,088.7	4,050.9	108.156	CC, ES
Dechant State 36N-E1HZ - Original Drilling - Original Drilling	6,800.0	6,400.0	4,106.7	4,068.4	107.283	SF
Dechant State 37N-E36HZ - Original Drilling - Original Drilling	6,679.5	6,400.0	5,035.6	4,997.1	130.929	CC, ES
Dechant State 37N-E36HZ - Original Drilling - Original Drilling	6,850.0	6,450.0	5,049.9	5,011.0	129.898	SF
Dechant State 37N-W36HZ - Original Drilling - Original Drilling	6,612.8	6,166.2	4,451.4	4,413.4	117.149	CC, ES
Dechant State 37N-W36HZ - Original Drilling - Original Drilling	6,850.0	6,362.9	4,477.8	4,438.6	114.381	SF
Dechant State 38N-1HZ - Original Drilling - Original Drilling	6,685.7	6,350.0	5,713.7	5,675.8	150.493	CC, ES
Dechant State 38N-1HZ - Original Drilling - Original Drilling	6,900.0	6,400.0	5,735.1	5,696.6	149.131	SF
Dechant State H36-11D - Original Drilling - Original Drilling	6,571.4	6,442.2	6,266.4	6,228.4	164.951	CC, ES
Dechant State H36-11D - Original Drilling - Original Drilling	6,950.0	6,889.3	6,370.3	6,330.1	158.489	SF
Dechant State H36-18D - Original Drilling - Original Drilling	100.0	43.9	4,629.6	4,629.5	10,000.000	CC
Dechant State H36-18D - Original Drilling - Original Drilling	6,600.0	6,606.5	4,634.7	4,591.0	106.007	ES
Dechant State H36-18D - Original Drilling - Original Drilling	6,900.0	6,819.2	4,697.1	4,652.1	104.283	SF
Dechant State H36-19 - Original Drilling - Original Drilling	6,579.1	6,491.1	3,726.8	3,688.6	97.566	CC, ES
Dechant State H36-19 - Original Drilling - Original Drilling	6,850.0	6,671.0	3,783.6	3,744.2	96.088	SF
Dechant State H36-20D - Original Drilling - Original Drilling	6,562.3	6,545.3	5,493.4	5,450.8	128.961	CC, ES
Dechant State H36-20D - Original Drilling - Original Drilling	6,850.0	6,802.4	5,555.9	5,512.2	126.887	SF
Dechant State H36-21D - Original Drilling - Original Drilling	6,583.4	6,501.6	5,885.6	5,844.8	144.325	CC, ES
Dechant State H36-21D - Original Drilling - Original Drilling	7,000.0	6,866.9	6,007.5	5,965.1	141.471	SF
Dechant State H36-24 - Original Drilling - Original Drilling	6,582.1	6,654.6	7,025.0	6,979.7	154.939	CC, ES
Dechant State H36-24 - Original Drilling - Original Drilling	7,000.0	7,046.8	7,151.5	7,104.2	151.295	SF
Dechant State H36-31D - Original Drilling - Original Drilling	6,537.7	6,547.1	3,889.4	3,844.3	86.259	CC, ES
Dechant State H36-31D - Original Drilling - Original Drilling	6,750.0	6,721.5	3,925.6	3,879.7	85.496	SF
Dechant State H36-32D - Original Drilling - Original Drilling	6,530.2	6,413.5	5,138.4	5,100.1	134.404	CC, ES

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 H26-712
<b>Project:</b>	Conceptual Wells	<b>TVD Reference:</b>	WELL @ 4884.0ft (Original Well Elev)
<b>Reference Site:</b>	DP 408	<b>MD Reference:</b>	WELL @ 4884.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Hurley H26-712	<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>	Design #1	<b>Offset TVD Reference:</b>	Offset Datum

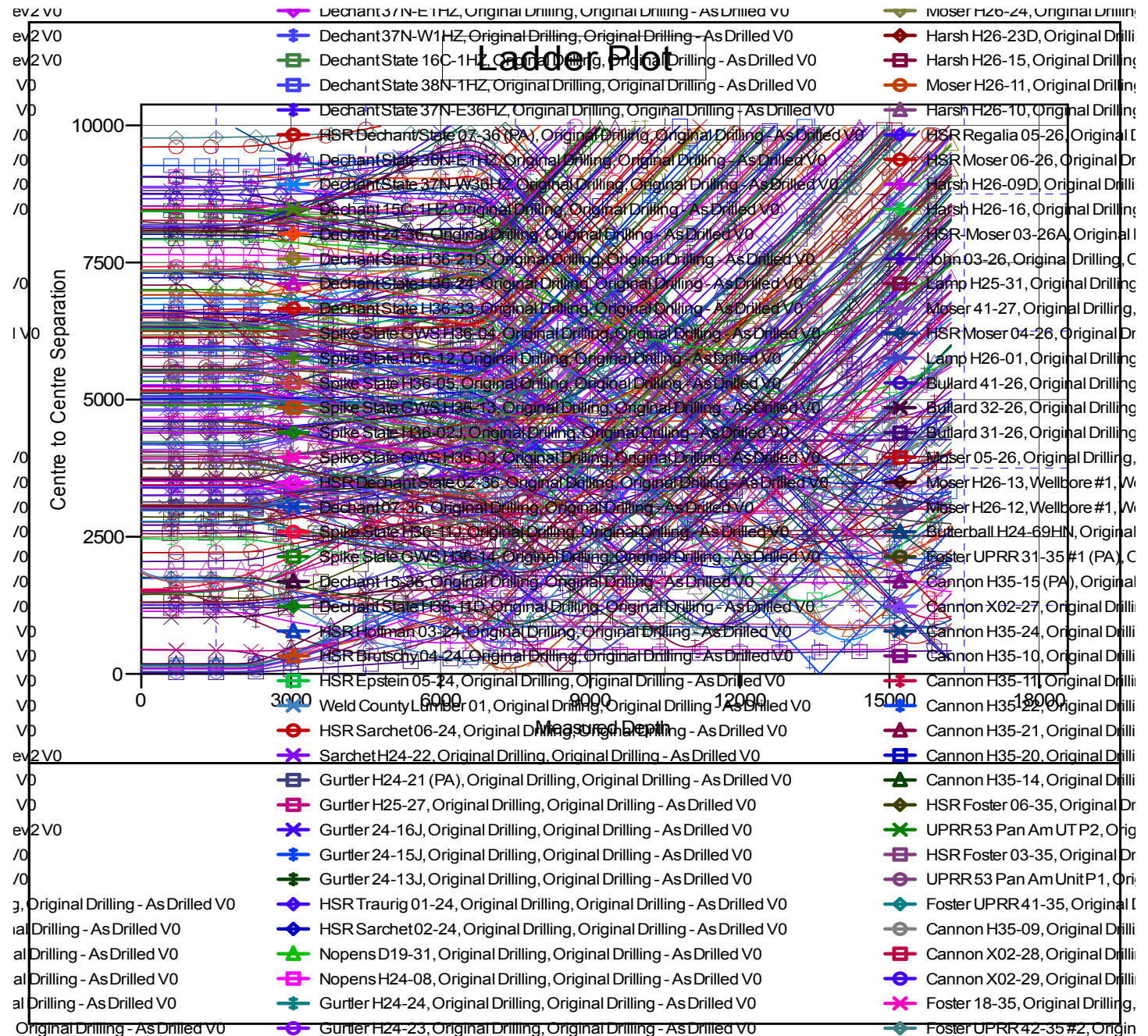
Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
H Section 36						
Dechant State H36-32D - Original Drilling - Original Drilling	7,200.0	7,200.0	5,462.8	5,421.0	130.744	SF
Dechant State H36-33 - Original Drilling - Original Drilling	6,539.3	6,624.6	6,364.9	6,316.3	130.950	CC, ES
Dechant State H36-33 - Original Drilling - Original Drilling	6,900.0	6,963.3	6,465.8	6,415.7	128.903	SF
HSR Dechant State 02-36 - Original Drilling - Original Dri	6,618.6	6,323.5	4,294.1	4,256.9	115.270	CC, ES
HSR Dechant State 02-36 - Original Drilling - Original Dri	6,950.0	6,647.5	4,355.0	4,316.1	111.916	SF
HSR Dechant/State 07-36 (PA) - Original Drilling - Origin	6,626.8	6,450.4	5,578.2	5,433.8	38.635	CC
HSR Dechant/State 07-36 (PA) - Original Drilling - Origin	6,650.0	6,473.0	5,578.5	5,433.6	38.505	ES
HSR Dechant/State 07-36 (PA) - Original Drilling - Origin	7,100.0	6,844.2	5,709.9	5,556.9	37.321	SF
Spike State GWS H36-03 - Original Drilling - Original Dri	6,589.8	6,323.4	3,799.4	3,762.1	101.865	CC, ES
Spike State GWS H36-03 - Original Drilling - Original Dri	6,900.0	6,525.9	3,865.3	3,826.7	100.184	SF
Spike State GWS H36-04 - Original Drilling - Original Dri	6,564.1	6,436.6	3,066.2	3,024.0	72.674	CC, ES
Spike State GWS H36-04 - Original Drilling - Original Dri	7,000.0	6,824.4	3,208.9	3,161.6	67.871	SF
Spike State GWS H36-13 - Original Drilling - Original Dri	6,623.3	7,444.0	7,218.9	7,175.5	166.171	CC, ES
Spike State GWS H36-13 - Original Drilling - Original Dri	6,800.0	7,444.0	7,245.5	7,201.6	165.245	SF
Spike State GWS H36-14 - Original Drilling - Original Dri	6,597.5	6,831.4	7,648.1	7,608.7	194.192	CC
Spike State GWS H36-14 - Original Drilling - Original Dri	6,600.0	6,832.9	7,648.1	7,608.7	194.138	ES
Spike State GWS H36-14 - Original Drilling - Original Dri	7,100.0	7,220.2	7,833.0	7,791.5	188.532	SF
Spike State H36-02J - Original Drilling - Original Drilling -	6,560.3	6,302.6	4,498.5	4,446.7	86.817	CC
Spike State H36-02J - Original Drilling - Original Drilling -	6,600.0	6,341.6	4,499.7	4,446.5	84.675	ES
Spike State H36-02J - Original Drilling - Original Drilling -	7,300.0	6,851.5	4,863.8	4,793.4	69.140	SF
Spike State H36-05 - Original Drilling - Original Drilling - A	6,537.8	6,318.0	4,420.7	4,382.9	116.849	CC, ES
Spike State H36-05 - Original Drilling - Original Drilling - A	6,850.0	6,593.3	4,496.4	4,457.0	114.139	SF
Spike State H36-11J - Original Drilling - Original Drilling -	6,565.2	6,521.4	6,697.6	6,659.2	174.358	CC, ES
Spike State H36-11J - Original Drilling - Original Drilling -	6,950.0	6,869.4	6,809.5	6,769.2	168.961	SF
Spike State H36-12 - Original Drilling - Original Drilling - A	6,539.3	6,367.7	5,679.6	5,641.5	149.349	CC, ES
Spike State H36-12 - Original Drilling - Original Drilling - A	7,000.0	6,906.2	5,836.8	5,796.1	143.516	SF

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

<b>Company:</b>	Northern Region Drilling - Sandbox	<b>Local Co-ordinate Reference:</b>	Well Hurley H26-712
<b>Project:</b>	Conceptual Wells	<b>TVD Reference:</b>	WELL @ 4884.0ft (Original Well Elev)
<b>Reference Site:</b>	DP 408	<b>MD Reference:</b>	WELL @ 4884.0ft (Original Well Elev)
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Hurley H26-712	<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>	Design #1	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4884.0ft (Original Well Elev)  
Offset Depths are relative to Offset Datum  
Central Meridian is -105.500000

Coordinates are relative to: Hurley H26-712  
Coordinate System is US State Plane 1983, Colorado Northern Zone  
Grid Convergence at Surface is: 0.57°

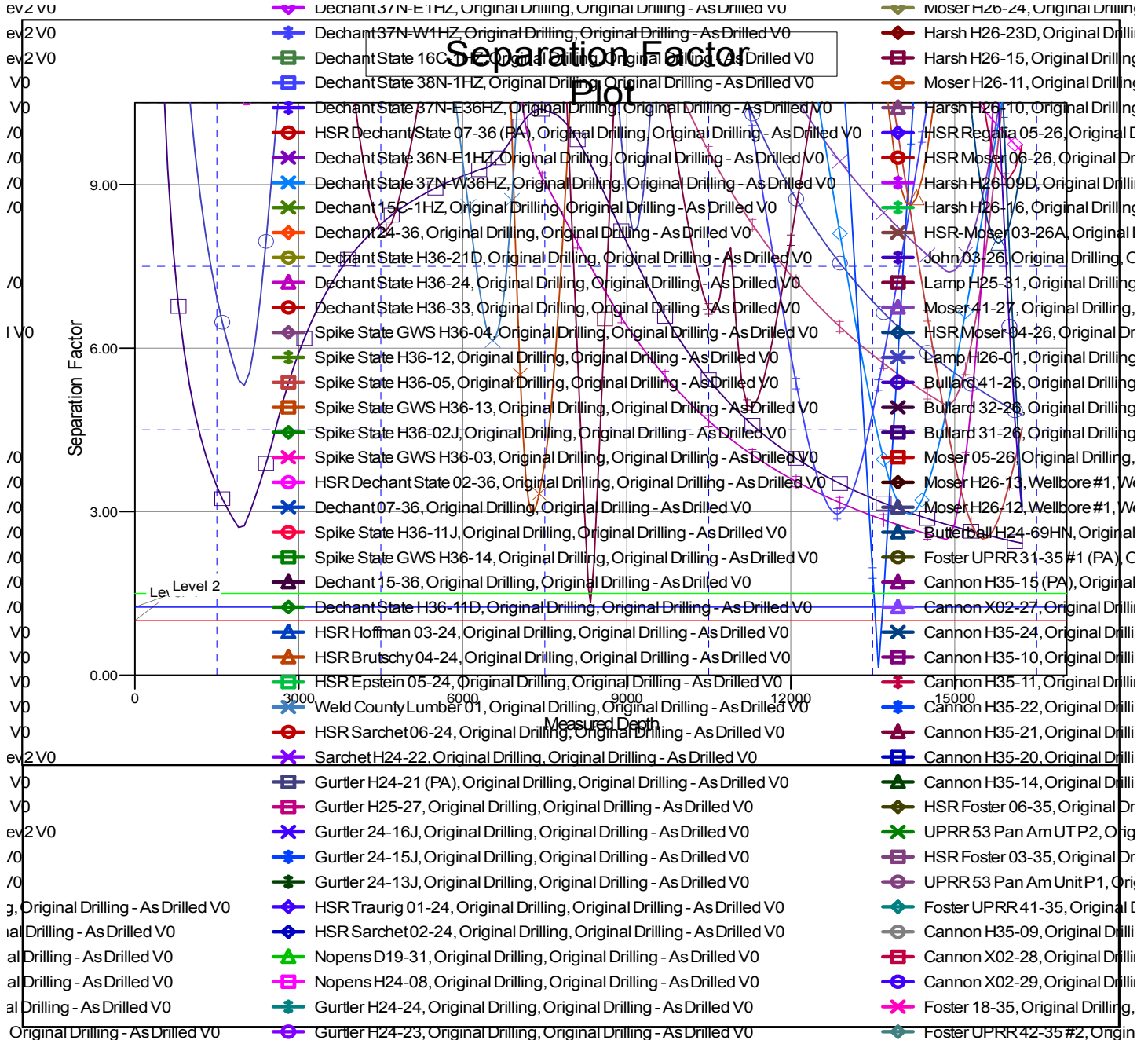


**Noble Energy, Inc.**  
**Anticollision Summary Report**

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<b>Reference Well:</b>	Hurley H26-712	<b>Survey Calculation Method:</b>	Minimum Curvature
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<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDMP
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Reference Depths are relative to WELL @ 4884.0ft (Original Well Elev)  
Offset Depths are relative to Offset Datum  
Central Meridian is -105.500000

Coordinates are relative to: Hurley H26-712  
Coordinate System is US State Plane 1983, Colorado Northern Zone  
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CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation