

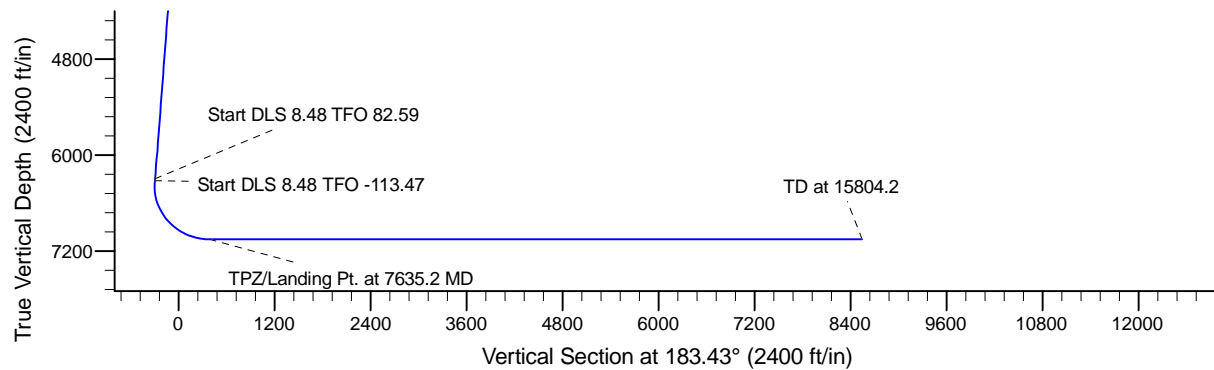
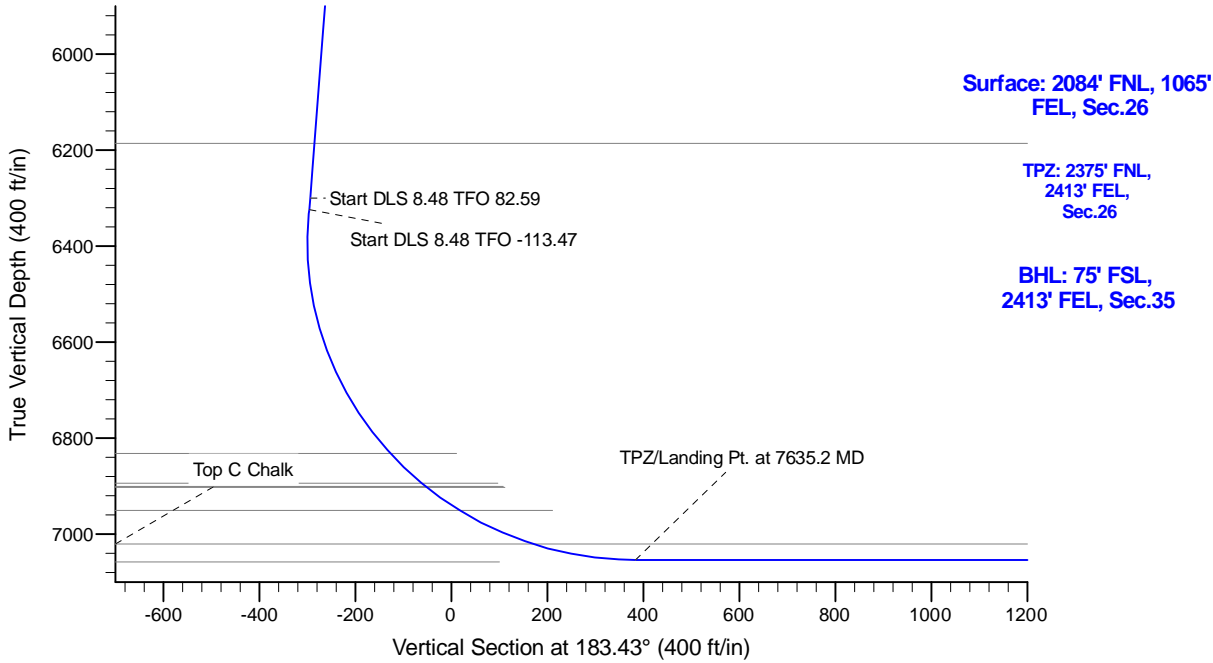
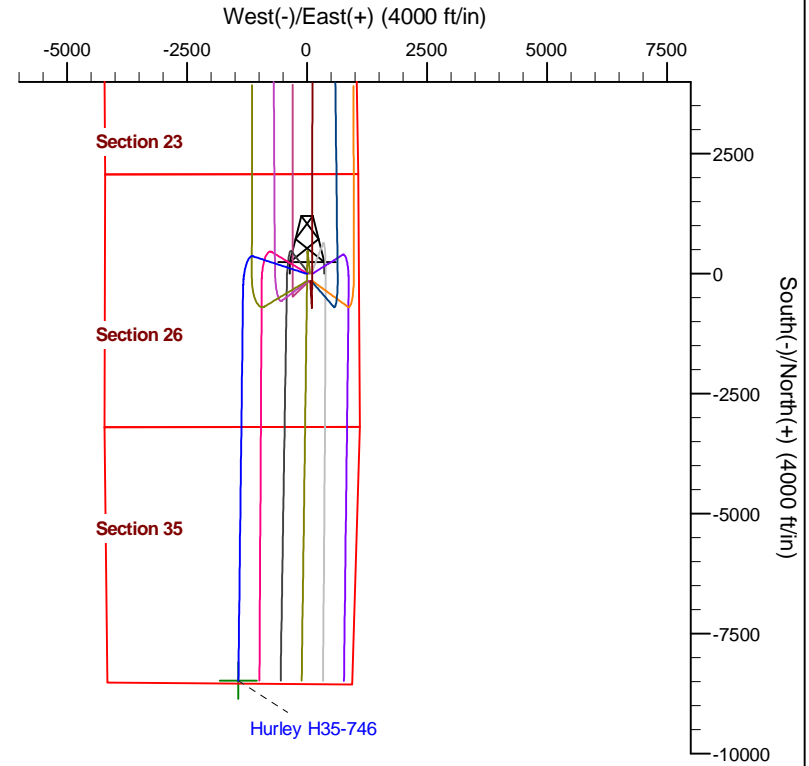
Project: Conceptual Wells
 Site: DP 408
 Well: Hurley H35-746
 Wellbore: Wellbore #1
 Design: Prelim - Rev 2

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	2837.5	16.75	288.00	2825.6	37.6	-115.6	2.00	288.00	-30.6	
4	6465.8	16.75	288.00	6300.0	360.7	-1110.1	0.00	0.00	-293.7	
5	6490.8	17.15	295.13	6323.9	363.4	-1116.8	8.48	82.59	-296.0	
6	7635.2	90.00	180.69	7054.0	-305.0	-1330.0	8.48	-113.47	383.9	
7	15804.2	90.00	180.69	7054.0	-8473.5	-1428.3	0.00	0.00	8543.7	Hurley H35-746 BHL



T G M

Azimuths to Grid North
 True North: -0.56°
 Magnetic North: 7.74°
 Magnetic Field
 Strength: 52671.5snT
 Dip Angle: 66.79°
 Date: 12/12/2014
 Model: IGRF2010

WELL DETAILS: Hurley H35-746			
0.00.0	Northing 1316110.59	Ground Level: Easting 3244419.39	4854.0 Latitude 40.197810 Longitude -104.625000
Plan: Prelim - Rev 2 (Hurley H35-746/Wellbore #1)			
Created By: Chad Stich		Date: 11:59, October 31 2017	
Checked: _____		Date: _____	
Reviewed: _____		Date: _____	
Approved: _____		Date: _____	

Northern Region Drilling - Sandbox

Conceptual Wells

DP 408

Hurley H35-746

Wellbore #1

Plan: Prelim - Rev 2

Standard Planning Report

31 October, 2017

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Hurley H35-746
Company:	Northern Region Drilling - Sandbox	TVD Reference:	WELL @ 4884.0ft (Original Well Elev)
Project:	Conceptual Wells	MD Reference:	WELL @ 4884.0ft (Original Well Elev)
Site:	DP 408	North Reference:	Grid
Well:	Hurley H35-746	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Prelim - Rev 2		

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

Site	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 H35-746					
Well Position	+N/-S	-2,074.2 ft	Northing:	1,316,110.59 usft	Latitude:	40.197810
	+E/-W	4,194.4 ft	Easting:	3,244,419.40 usft	Longitude:	-104.625000
Position Uncertainty		0.0 ft	Wellhead Elevation:	0.0 ft	Ground Level:	4,854.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	12/12/2014	8.30	66.79	52,671.52983712

Design	Prelim - Rev 2			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	183.43

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,837.5	16.75	288.00	2,825.6	37.6	-115.6	2.00	2.00	0.00	288.00	
6,465.8	16.75	288.00	6,300.0	360.7	-1,110.1	0.00	0.00	0.00	0.00	
6,490.8	17.15	295.13	6,323.9	363.4	-1,116.8	8.48	1.59	28.58	82.59	
7,635.2	90.00	180.69	7,054.0	-305.0	-1,330.0	8.48	6.37	-10.00	-113.47	
15,804.2	90.00	180.69	7,054.0	-8,473.5	-1,428.3	0.00	0.00	0.00	0.00	Hurley H35-746 BHL

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Hurley H35-746
Company:	Northern Region Drilling - Sandbox	TVD Reference:	WELL @ 4884.0ft (Original Well Elev)
Project:	Conceptual Wells	MD Reference:	WELL @ 4884.0ft (Original Well Elev)
Site:	DP 408	North Reference:	Grid
Well:	Hurley H35-746	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	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	288.00	2,100.0	0.5	-1.7	-0.4	2.00	2.00	0.00
2,200.0	4.00	288.00	2,199.8	2.2	-6.6	-1.8	2.00	2.00	0.00
2,300.0	6.00	288.00	2,299.5	4.8	-14.9	-3.9	2.00	2.00	0.00
2,400.0	8.00	288.00	2,398.7	8.6	-26.5	-7.0	2.00	2.00	0.00
2,500.0	10.00	288.00	2,497.5	13.4	-41.4	-11.0	2.00	2.00	0.00
2,600.0	12.00	288.00	2,595.6	19.3	-59.5	-15.8	2.00	2.00	0.00
2,700.0	14.00	288.00	2,693.1	26.3	-80.9	-21.4	2.00	2.00	0.00
2,800.0	16.00	288.00	2,789.6	34.3	-105.5	-27.9	2.00	2.00	0.00
2,837.5	16.75	288.00	2,825.6	37.6	-115.6	-30.6	2.00	2.00	0.00
2,900.0	16.75	288.00	2,885.5	43.1	-132.7	-35.1	0.00	0.00	0.00
3,000.0	16.75	288.00	2,981.2	52.0	-160.1	-42.4	0.00	0.00	0.00
3,100.0	16.75	288.00	3,077.0	60.9	-187.5	-49.6	0.00	0.00	0.00
3,200.0	16.75	288.00	3,172.7	69.8	-215.0	-56.9	0.00	0.00	0.00
3,300.0	16.75	288.00	3,268.5	78.7	-242.4	-64.1	0.00	0.00	0.00
3,400.0	16.75	288.00	3,364.3	87.7	-269.8	-71.4	0.00	0.00	0.00
3,500.0	16.75	288.00	3,460.0	96.6	-297.2	-78.6	0.00	0.00	0.00
3,600.0	16.75	288.00	3,555.8	105.5	-324.6	-85.9	0.00	0.00	0.00
3,700.0	16.75	288.00	3,651.5	114.4	-352.0	-93.1	0.00	0.00	0.00
3,800.0	16.75	288.00	3,747.3	123.3	-379.4	-100.4	0.00	0.00	0.00
3,900.0	16.75	288.00	3,843.0	132.2	-406.8	-107.6	0.00	0.00	0.00
4,000.0	16.75	288.00	3,938.8	141.1	-434.2	-114.9	0.00	0.00	0.00
4,100.0	16.75	288.00	4,034.6	150.0	-461.6	-122.1	0.00	0.00	0.00
4,200.0	16.75	288.00	4,130.3	158.9	-489.0	-129.4	0.00	0.00	0.00
4,300.0	16.75	288.00	4,226.1	167.8	-516.5	-136.6	0.00	0.00	0.00
4,400.0	16.75	288.00	4,321.8	176.7	-543.9	-143.9	0.00	0.00	0.00
4,500.0	16.75	288.00	4,417.6	185.6	-571.3	-151.1	0.00	0.00	0.00
4,600.0	16.75	288.00	4,513.3	194.5	-598.7	-158.4	0.00	0.00	0.00
4,700.0	16.75	288.00	4,609.1	203.4	-626.1	-165.7	0.00	0.00	0.00
4,800.0	16.75	288.00	4,704.9	212.3	-653.5	-172.9	0.00	0.00	0.00
4,900.0	16.75	288.00	4,800.6	221.2	-680.9	-180.2	0.00	0.00	0.00
5,000.0	16.75	288.00	4,896.4	230.1	-708.3	-187.4	0.00	0.00	0.00
5,100.0	16.75	288.00	4,992.1	239.1	-735.7	-194.7	0.00	0.00	0.00
5,200.0	16.75	288.00	5,087.9	248.0	-763.1	-201.9	0.00	0.00	0.00

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Hurley H35-746
Company:	Northern Region Drilling - Sandbox	TVD Reference:	WELL @ 4884.0ft (Original Well Elev)
Project:	Conceptual Wells	MD Reference:	WELL @ 4884.0ft (Original Well Elev)
Site:	DP 408	North Reference:	Grid
Well:	Hurley H35-746	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	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)
5,300.0	16.75	288.00	5,183.6	256.9	-790.5	-209.2	0.00	0.00	0.00
5,400.0	16.75	288.00	5,279.4	265.8	-818.0	-216.4	0.00	0.00	0.00
5,500.0	16.75	288.00	5,375.2	274.7	-845.4	-223.7	0.00	0.00	0.00
5,600.0	16.75	288.00	5,470.9	283.6	-872.8	-230.9	0.00	0.00	0.00
5,700.0	16.75	288.00	5,566.7	292.5	-900.2	-238.2	0.00	0.00	0.00
5,800.0	16.75	288.00	5,662.4	301.4	-927.6	-245.4	0.00	0.00	0.00
5,900.0	16.75	288.00	5,758.2	310.3	-955.0	-252.7	0.00	0.00	0.00
6,000.0	16.75	288.00	5,853.9	319.2	-982.4	-259.9	0.00	0.00	0.00
6,100.0	16.75	288.00	5,949.7	328.1	-1,009.8	-267.2	0.00	0.00	0.00
6,200.0	16.75	288.00	6,045.5	337.0	-1,037.2	-274.4	0.00	0.00	0.00
6,300.0	16.75	288.00	6,141.2	345.9	-1,064.6	-281.7	0.00	0.00	0.00
6,400.0	16.75	288.00	6,237.0	354.8	-1,092.0	-288.9	0.00	0.00	0.00
6,465.8	16.75	288.00	6,300.0	360.7	-1,110.1	-293.7	0.00	0.00	0.00
6,490.8	17.15	295.13	6,323.9	363.4	-1,116.8	-296.0	8.48	1.59	28.58
6,500.0	16.85	292.66	6,332.7	364.5	-1,119.3	-296.9	8.48	-3.22	-26.83
6,600.0	15.85	262.42	6,428.8	368.2	-1,146.3	-299.1	8.48	-1.00	-30.24
6,700.0	18.93	235.68	6,524.4	357.3	-1,173.2	-286.5	8.48	3.08	-26.74
6,800.0	24.61	218.52	6,617.3	331.8	-1,199.7	-259.5	8.48	5.68	-17.16
6,900.0	31.51	207.96	6,705.6	292.3	-1,224.9	-218.6	8.48	6.90	-10.55
7,000.0	38.99	201.00	6,787.2	239.8	-1,248.5	-164.8	8.48	7.48	-6.96
7,100.0	46.76	196.01	6,860.5	175.3	-1,269.8	-99.1	8.48	7.77	-4.99
7,200.0	54.70	192.16	6,923.7	100.3	-1,288.5	-23.1	8.48	7.94	-3.84
7,300.0	62.74	189.01	6,975.6	16.3	-1,304.1	61.6	8.48	8.04	-3.15
7,400.0	70.84	186.29	7,015.0	-74.7	-1,316.3	153.2	8.48	8.10	-2.72
7,500.0	78.97	183.83	7,041.0	-170.8	-1,324.7	249.6	8.48	8.14	-2.46
7,600.0	87.13	181.50	7,053.1	-269.8	-1,329.3	348.8	8.48	8.16	-2.33
7,635.2	90.00	180.69	7,054.0	-305.0	-1,330.0	383.9	8.48	8.16	-2.29
7,700.0	90.00	180.69	7,054.0	-369.8	-1,330.8	448.7	0.00	0.00	0.00
7,800.0	90.00	180.69	7,054.0	-469.8	-1,332.0	548.6	0.00	0.00	0.00
7,900.0	90.00	180.69	7,054.0	-569.8	-1,333.2	648.4	0.00	0.00	0.00
8,000.0	90.00	180.69	7,054.0	-669.8	-1,334.4	748.3	0.00	0.00	0.00
8,100.0	90.00	180.69	7,054.0	-769.8	-1,335.6	848.2	0.00	0.00	0.00
8,200.0	90.00	180.69	7,054.0	-869.8	-1,336.8	948.1	0.00	0.00	0.00
8,300.0	90.00	180.69	7,054.0	-969.8	-1,338.0	1,048.0	0.00	0.00	0.00
8,400.0	90.00	180.69	7,054.0	-1,069.8	-1,339.2	1,147.9	0.00	0.00	0.00
8,500.0	90.00	180.69	7,054.0	-1,169.7	-1,340.4	1,247.8	0.00	0.00	0.00
8,600.0	90.00	180.69	7,054.0	-1,269.7	-1,341.6	1,347.6	0.00	0.00	0.00
8,700.0	90.00	180.69	7,054.0	-1,369.7	-1,342.8	1,447.5	0.00	0.00	0.00
8,800.0	90.00	180.69	7,054.0	-1,469.7	-1,344.0	1,547.4	0.00	0.00	0.00
8,900.0	90.00	180.69	7,054.0	-1,569.7	-1,345.2	1,647.3	0.00	0.00	0.00
9,000.0	90.00	180.69	7,054.0	-1,669.7	-1,346.4	1,747.2	0.00	0.00	0.00
9,100.0	90.00	180.69	7,054.0	-1,769.7	-1,347.6	1,847.1	0.00	0.00	0.00
9,200.0	90.00	180.69	7,054.0	-1,869.7	-1,348.8	1,947.0	0.00	0.00	0.00
9,300.0	90.00	180.69	7,054.0	-1,969.7	-1,350.0	2,046.8	0.00	0.00	0.00
9,400.0	90.00	180.69	7,054.0	-2,069.7	-1,351.3	2,146.7	0.00	0.00	0.00
9,500.0	90.00	180.69	7,054.0	-2,169.7	-1,352.5	2,246.6	0.00	0.00	0.00
9,600.0	90.00	180.69	7,054.0	-2,269.7	-1,353.7	2,346.5	0.00	0.00	0.00
9,700.0	90.00	180.69	7,054.0	-2,369.7	-1,354.9	2,446.4	0.00	0.00	0.00
9,800.0	90.00	180.69	7,054.0	-2,469.7	-1,356.1	2,546.3	0.00	0.00	0.00
9,900.0	90.00	180.69	7,054.0	-2,569.6	-1,357.3	2,646.2	0.00	0.00	0.00
10,000.0	90.00	180.69	7,054.0	-2,669.6	-1,358.5	2,746.1	0.00	0.00	0.00
10,100.0	90.00	180.69	7,054.0	-2,769.6	-1,359.7	2,845.9	0.00	0.00	0.00
10,200.0	90.00	180.69	7,054.0	-2,869.6	-1,360.9	2,945.8	0.00	0.00	0.00
10,300.0	90.00	180.69	7,054.0	-2,969.6	-1,362.1	3,045.7	0.00	0.00	0.00

Noble Energy, Inc.

Planning Report

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Company:	Northern Region Drilling - Sandbox	TVD Reference:	WELL @ 4884.0ft (Original Well Elev)
Project:	Conceptual Wells	MD Reference:	WELL @ 4884.0ft (Original Well Elev)
Site:	DP 408	North Reference:	Grid
Well:	Hurley H35-746	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	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)	
10,400.0	90.00	180.69	7,054.0	-3,069.6	-1,363.3	3,145.6	0.00	0.00	0.00	
10,500.0	90.00	180.69	7,054.0	-3,169.6	-1,364.5	3,245.5	0.00	0.00	0.00	
10,600.0	90.00	180.69	7,054.0	-3,269.6	-1,365.7	3,345.4	0.00	0.00	0.00	
10,700.0	90.00	180.69	7,054.0	-3,369.6	-1,366.9	3,445.3	0.00	0.00	0.00	
10,800.0	90.00	180.69	7,054.0	-3,469.6	-1,368.1	3,545.1	0.00	0.00	0.00	
10,900.0	90.00	180.69	7,054.0	-3,569.6	-1,369.3	3,645.0	0.00	0.00	0.00	
11,000.0	90.00	180.69	7,054.0	-3,669.6	-1,370.5	3,744.9	0.00	0.00	0.00	
11,100.0	90.00	180.69	7,054.0	-3,769.6	-1,371.7	3,844.8	0.00	0.00	0.00	
11,200.0	90.00	180.69	7,054.0	-3,869.6	-1,372.9	3,944.7	0.00	0.00	0.00	
11,300.0	90.00	180.69	7,054.0	-3,969.5	-1,374.1	4,044.6	0.00	0.00	0.00	
11,400.0	90.00	180.69	7,054.0	-4,069.5	-1,375.3	4,144.5	0.00	0.00	0.00	
11,500.0	90.00	180.69	7,054.0	-4,169.5	-1,376.5	4,244.3	0.00	0.00	0.00	
11,600.0	90.00	180.69	7,054.0	-4,269.5	-1,377.7	4,344.2	0.00	0.00	0.00	
11,700.0	90.00	180.69	7,054.0	-4,369.5	-1,379.0	4,444.1	0.00	0.00	0.00	
11,800.0	90.00	180.69	7,054.0	-4,469.5	-1,380.2	4,544.0	0.00	0.00	0.00	
11,900.0	90.00	180.69	7,054.0	-4,569.5	-1,381.4	4,643.9	0.00	0.00	0.00	
12,000.0	90.00	180.69	7,054.0	-4,669.5	-1,382.6	4,743.8	0.00	0.00	0.00	
12,100.0	90.00	180.69	7,054.0	-4,769.5	-1,383.8	4,843.7	0.00	0.00	0.00	
12,200.0	90.00	180.69	7,054.0	-4,869.5	-1,385.0	4,943.5	0.00	0.00	0.00	
12,300.0	90.00	180.69	7,054.0	-4,969.5	-1,386.2	5,043.4	0.00	0.00	0.00	
12,400.0	90.00	180.69	7,054.0	-5,069.5	-1,387.4	5,143.3	0.00	0.00	0.00	
12,500.0	90.00	180.69	7,054.0	-5,169.5	-1,388.6	5,243.2	0.00	0.00	0.00	
12,600.0	90.00	180.69	7,054.0	-5,269.5	-1,389.8	5,343.1	0.00	0.00	0.00	
12,700.0	90.00	180.69	7,054.0	-5,369.4	-1,391.0	5,443.0	0.00	0.00	0.00	
12,800.0	90.00	180.69	7,054.0	-5,469.4	-1,392.2	5,542.9	0.00	0.00	0.00	
12,900.0	90.00	180.69	7,054.0	-5,569.4	-1,393.4	5,642.7	0.00	0.00	0.00	
13,000.0	90.00	180.69	7,054.0	-5,669.4	-1,394.6	5,742.6	0.00	0.00	0.00	
13,100.0	90.00	180.69	7,054.0	-5,769.4	-1,395.8	5,842.5	0.00	0.00	0.00	
13,200.0	90.00	180.69	7,054.0	-5,869.4	-1,397.0	5,942.4	0.00	0.00	0.00	
13,300.0	90.00	180.69	7,054.0	-5,969.4	-1,398.2	6,042.3	0.00	0.00	0.00	
13,400.0	90.00	180.69	7,054.0	-6,069.4	-1,399.4	6,142.2	0.00	0.00	0.00	
13,500.0	90.00	180.69	7,054.0	-6,169.4	-1,400.6	6,242.1	0.00	0.00	0.00	
13,600.0	90.00	180.69	7,054.0	-6,269.4	-1,401.8	6,341.9	0.00	0.00	0.00	
13,700.0	90.00	180.69	7,054.0	-6,369.4	-1,403.0	6,441.8	0.00	0.00	0.00	
13,800.0	90.00	180.69	7,054.0	-6,469.4	-1,404.2	6,541.7	0.00	0.00	0.00	
13,900.0	90.00	180.69	7,054.0	-6,569.4	-1,405.4	6,641.6	0.00	0.00	0.00	
14,000.0	90.00	180.69	7,054.0	-6,669.4	-1,406.6	6,741.5	0.00	0.00	0.00	
14,100.0	90.00	180.69	7,054.0	-6,769.3	-1,407.9	6,841.4	0.00	0.00	0.00	
14,200.0	90.00	180.69	7,054.0	-6,869.3	-1,409.1	6,941.3	0.00	0.00	0.00	
14,300.0	90.00	180.69	7,054.0	-6,969.3	-1,410.3	7,041.2	0.00	0.00	0.00	
14,400.0	90.00	180.69	7,054.0	-7,069.3	-1,411.5	7,141.0	0.00	0.00	0.00	
14,500.0	90.00	180.69	7,054.0	-7,169.3	-1,412.7	7,240.9	0.00	0.00	0.00	
14,600.0	90.00	180.69	7,054.0	-7,269.3	-1,413.9	7,340.8	0.00	0.00	0.00	
14,700.0	90.00	180.69	7,054.0	-7,369.3	-1,415.1	7,440.7	0.00	0.00	0.00	
14,800.0	90.00	180.69	7,054.0	-7,469.3	-1,416.3	7,540.6	0.00	0.00	0.00	
14,900.0	90.00	180.69	7,054.0	-7,569.3	-1,417.5	7,640.5	0.00	0.00	0.00	
15,000.0	90.00	180.69	7,054.0	-7,669.3	-1,418.7	7,740.4	0.00	0.00	0.00	
15,100.0	90.00	180.69	7,054.0	-7,769.3	-1,419.9	7,840.2	0.00	0.00	0.00	
15,200.0	90.00	180.69	7,054.0	-7,869.3	-1,421.1	7,940.1	0.00	0.00	0.00	
15,300.0	90.00	180.69	7,054.0	-7,969.3	-1,422.3	8,040.0	0.00	0.00	0.00	
15,400.0	90.00	180.69	7,054.0	-8,069.2	-1,423.5	8,139.9	0.00	0.00	0.00	
15,500.0	90.00	180.69	7,054.0	-8,169.2	-1,424.7	8,239.8	0.00	0.00	0.00	
15,600.0	90.00	180.69	7,054.0	-8,269.2	-1,425.9	8,339.7	0.00	0.00	0.00	
15,700.0	90.00	180.69	7,054.0	-8,369.2	-1,427.1	8,439.6	0.00	0.00	0.00	

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Hurley H35-746
Company:	Northern Region Drilling - Sandbox	TVD Reference:	WELL @ 4884.0ft (Original Well Elev)
Project:	Conceptual Wells	MD Reference:	WELL @ 4884.0ft (Original Well Elev)
Site:	DP 408	North Reference:	Grid
Well:	Hurley H35-746	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	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)
15,800.0	90.00	180.69	7,054.0	-8,469.2	-1,428.3	8,539.4	0.00	0.00	0.00
15,804.2	90.00	180.69	7,054.0	-8,473.5	-1,428.3	8,543.7	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
Hurley H35-746 BHL - hit/miss target - Shape - Point	0.00	0.00	7,054.0	-8,473.5	-1,428.3	1,307,637.50	3,242,991.18	40.174590	-104.630410

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				
4,003.3	3,942.0	Parkman				
4,620.5	4,533.0	Sussex				
5,332.7	5,215.0	Shannon				
6,346.8	6,186.0	Teepee Buttes				
7,059.6	6,832.0	Sharon Springs				
7,150.9	6,894.0	Top A Chalk				
7,162.1	6,901.0	Top A Marl				
7,165.3	6,903.0	Top B Chalk				
7,249.7	6,951.0	Top B Marl				
7,419.0	7,021.0	Top C Chalk				

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	
6,465.8	6,300.0	360.7	-1,110.1	Start DLS 8.48 TFO 82.59	
6,490.8	6,323.9	363.4	-1,116.8	Start DLS 8.48 TFO -113.47	
7,635.2	7,054.0	-305.0	-1,330.0	TPZ/Landing Pt. at 7635.2 MD	
15,804.2	7,054.0	-8,473.4	-1,428.4	TD at 15804.2	

Northern Region Drilling - Sandbox

Conceptual Wells

DP 408

Hurley H35-746

Wellbore #1

Prelim - Rev 2

Anticollision Summary Report

31 October, 2017

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region Drilling - Sandbox	Local Co-ordinate Reference:	Well Hurley H35-746
Project:	Conceptual Wells	TVD Reference:	WELL @ 4884.0ft (Original Well Elev)
Reference Site:	DP 408	MD Reference:	WELL @ 4884.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	Grid
Reference Well:	Hurley H35-746	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Prelim - Rev 2	Offset TVD Reference:	Offset Datum

Reference	Prelim - Rev 2		
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	10/31/2017		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	15,804.2	Prelim - Rev 2 (Wellbore #1)	MWD+IFR1+MS_WY	Fixed:v2:Rockies, crustal dec + 3-axis correction

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 -	6,346.3	11,992.0	8,784.5	8,657.3	69.056	CC, ES
Butterball H24-69HN - Original Drilling - Original Drilling -	6,600.0	11,992.0	8,791.3	8,663.7	68.856	SF
DP 408						
Emmy H25-711 - Wellbore #1 - Prelim - Rev 2	2,000.0	1,951.0	5,394.4	5,385.8	628.112	CC, ES
Emmy H25-711 - Wellbore #1 - Prelim - Rev 2	14,300.0	5,008.6	8,109.4	8,041.5	119.375	SF
Emmy State H25-718 - Wellbore #1 - Prelim - Rev 2	2,000.0	1,951.0	5,375.8	5,367.2	625.940	CC, ES
Emmy State H25-718 - Wellbore #1 - Prelim - Rev 2	14,300.0	5,449.7	7,875.3	7,806.7	114.816	SF
Emmy State H25-724 - Wellbore #1 - Prelim - Rev 2	2,000.0	1,951.0	5,357.1	5,348.5	623.771	CC, ES
Emmy State H25-724 - Wellbore #1 - Prelim - Rev 2	13,800.0	6,385.8	7,208.4	7,138.7	103.382	SF
Emmy State H25-731 - Wellbore #1 - Prelim - Rev 2	2,000.0	1,950.0	5,338.5	5,330.0	621.768	CC, ES
Emmy State H25-731 - Wellbore #1 - Prelim - Rev 2	13,400.0	6,450.0	6,747.7	6,681.1	101.318	SF
Emmy State H25-738 - Wellbore #1 - Prelim - Rev 2	2,000.0	1,951.0	5,320.0	5,311.4	619.443	CC, ES
Emmy State H25-738 - Wellbore #1 - Prelim - Rev 2	13,000.0	6,522.7	6,295.6	6,232.2	99.314	SF
Emmy State H25-744 - Wellbore #1 - Prelim - Rev 2	5,778.8	10,366.3	5,026.0	4,975.7	99.975	CC
Emmy State H25-744 - Wellbore #1 - Prelim - Rev 2	5,800.0	10,368.2	5,026.0	4,975.7	99.801	ES
Emmy State H25-744 - Wellbore #1 - Prelim - Rev 2	12,700.0	6,700.0	5,786.8	5,724.6	93.036	SF
Emmy State H25-751 - Wellbore #1 - Design #1	2,000.0	1,962.0	3,769.5	3,760.9	437.652	CC, ES
Emmy State H25-751 - Wellbore #1 - Design #1	12,600.0	6,223.1	5,080.0	5,018.3	82.422	SF
Emmy State H25-757 - Wellbore #1 - Design #1	2,000.0	1,962.0	3,755.8	3,747.1	436.055	CC, ES
Emmy State H25-757 - Wellbore #1 - Design #1	12,200.0	6,350.0	4,727.6	4,668.0	79.353	SF
Emmy State H25-764 - Wellbore #1 - Design #1	2,000.0	1,966.0	3,742.1	3,737.7	860.362	CC, ES
Emmy State H25-764 - Wellbore #1 - Design #1	12,200.0	6,500.0	4,405.0	4,361.0	100.251	SF
Emmy State H25-771 - Wellbore #1 - Design #1	6,216.6	10,509.7	3,505.3	3,453.4	67.523	CC, ES
Emmy State H25-771 - Wellbore #1 - Design #1	6,650.0	10,517.2	3,531.0	3,477.4	65.822	SF
Emmy State H25-777 - Wellbore #1 - Design #1	6,357.4	10,564.0	3,128.9	3,075.8	58.933	CC, ES
Emmy State H25-777 - Wellbore #1 - Design #1	6,650.0	10,578.6	3,141.7	3,087.5	57.937	SF
Emmy State H25-785 - Wellbore #1 - Prelim - Rev 2	6,464.7	10,606.2	2,637.5	2,583.4	48.814	CC
Emmy State H25-785 - Wellbore #1 - Prelim - Rev 2	6,490.8	10,603.4	2,637.5	2,583.4	48.766	ES
Emmy State H25-785 - Wellbore #1 - Prelim - Rev 2	6,700.0	10,609.3	2,646.9	2,592.3	48.500	SF
Emmy State H36-753 - Wellbore #1 - Design #1	2,000.0	1,962.0	3,650.4	3,641.7	423.818	CC, ES
Emmy State H36-753 - Wellbore #1 - Design #1	15,804.2	12,699.7	4,873.7	4,736.2	35.446	SF
Emmy State H36-760 - Wellbore #1 - Design #1	2,000.0	1,933.0	3,636.2	3,627.6	423.717	CC, ES
Emmy State H36-760 - Wellbore #1 - Design #1	15,804.2	12,527.7	4,434.1	4,296.9	32.331	SF
Emmy State H36-766 - Wellbore #1 - Design #1	2,000.0	1,963.0	3,622.0	3,613.4	420.420	CC, ES
Emmy State H36-766 - Wellbore #1 - Design #1	15,700.0	12,453.6	3,995.4	3,861.2	29.778	SF
Emmy State H36-773 - Wellbore #1 - Design #1	15,293.4	12,608.4	3,522.0	3,387.9	26.270	CC

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region Drilling - Sandbox	Local Co-ordinate Reference:	Well Hurley H35-746
Project:	Conceptual Wells	TVD Reference:	WELL @ 4884.0ft (Original Well Elev)
Reference Site:	DP 408	MD Reference:	WELL @ 4884.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	Grid
Reference Well:	Hurley H35-746	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Prelim - Rev 2	Offset TVD Reference:	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	15,300.0	12,608.4	3,522.0	3,387.8	26.262	ES
Emmy State H36-773 - Wellbore #1 - Design #1	15,600.0	12,608.4	3,535.3	3,399.7	26.083	SF
Emmy State H36-780 - Wellbore #1 - Design #1	15,306.7	12,543.0	3,083.6	2,949.5	23.004	CC, ES
Emmy State H36-780 - Wellbore #1 - Design #1	15,500.0	12,543.0	3,089.6	2,954.9	22.929	SF
Emmy State H36-787 - Wellbore #1 - Prelim - Rev 2	15,320.0	12,821.8	2,642.1	2,508.3	19.747	CC, ES
Emmy State H36-787 - Wellbore #1 - Prelim - Rev 2	15,400.0	12,821.8	2,643.3	2,509.4	19.736	SF
Hurley H26-712 - Wellbore #1 - Design #1	1,900.0	1,900.0	186.5	178.3	22.613	CC, ES
Hurley H26-712 - Wellbore #1 - Design #1	2,100.0	2,087.9	194.3	185.2	21.483	SF
Hurley H26-717 - Wellbore #1 - Design #1	2,000.0	2,000.0	174.1	165.4	20.012	CC, ES
Hurley H26-717 - Wellbore #1 - Design #1	2,100.0	2,094.2	177.0	167.9	19.453	SF
Hurley H26-724 - Wellbore #1 - Design #1	2,000.0	2,001.0	163.7	155.0	18.816	CC, ES
Hurley H26-724 - Wellbore #1 - Design #1	2,200.0	2,200.8	168.5	159.0	17.601	SF
Hurley H26-730 - Wellbore #1 - Design #1	2,000.0	2,000.0	155.9	147.2	17.923	CC, ES
Hurley H26-730 - Wellbore #1 - Design #1	2,300.0	2,300.5	165.5	155.4	16.524	SF
Hurley H26-736 - Wellbore #1 - Design #1	2,000.0	2,001.0	151.0	142.3	17.357	CC, ES
Hurley H26-736 - Wellbore #1 - Design #1	2,400.0	2,400.3	165.6	155.1	15.836	SF
Hurley H26-743 - Wellbore #1 - Prelim - Rev 2	2,000.0	2,000.0	149.4	140.7	17.171	CC
Hurley H26-743 - Wellbore #1 - Prelim - Rev 2	7,300.0	7,686.6	163.0	127.1	4.542	ES, SF
Hurley H26-750 - Wellbore #1 - Prelim - Rev 2	7,589.4	7,549.8	257.7	222.2	7.251	CC, ES
Hurley H26-750 - Wellbore #1 - Prelim - Rev 2	7,600.0	7,540.5	257.7	222.2	7.250	SF
Hurley H26-756 - Wellbore #1 - Prelim - Rev 2	7,612.0	7,403.3	604.5	570.0	17.520	CC, ES
Hurley H26-756 - Wellbore #1 - Prelim - Rev 2	7,700.0	7,338.1	606.7	572.0	17.483	SF
Hurley H26-762 - Wellbore #1 - Prelim - Rev 2	7,657.6	7,322.1	1,025.1	991.4	30.464	CC, ES
Hurley H26-762 - Wellbore #1 - Prelim - Rev 2	8,200.0	6,985.5	1,077.2	1,040.8	29.579	SF
Hurley H26-768 - Wellbore #1 - Prelim - Rev 2	7,801.7	7,172.5	1,445.6	1,412.1	43.085	CC, ES
Hurley H26-768 - Wellbore #1 - Prelim - Rev 2	8,600.0	6,782.6	1,556.2	1,517.3	40.047	SF
Hurley H26-776 - Wellbore #1 - Prelim - Rev 2	8,017.0	6,911.5	1,925.8	1,891.3	55.752	CC, ES
Hurley H26-776 - Wellbore #1 - Prelim - Rev 2	8,900.0	6,650.0	2,081.8	2,040.4	50.367	SF
Hurley H26-783 - Wellbore #1 - Prelim - Rev 2	8,103.4	6,735.3	2,217.4	2,181.9	62.498	CC, ES
Hurley H26-783 - Wellbore #1 - Prelim - Rev 2	9,100.0	6,570.8	2,416.1	2,372.7	55.674	SF
Hurley H35-720 - Wellbore #1 - Design #1	2,000.0	2,001.0	89.4	80.7	10.274	CC, ES
Hurley H35-720 - Wellbore #1 - Design #1	2,100.0	2,101.0	91.0	81.9	9.961	SF
Hurley H35-727 - Wellbore #1 - Design #1	2,000.0	2,001.0	67.0	58.3	7.706	CC, ES
Hurley H35-727 - Wellbore #1 - Design #1	2,100.0	2,101.0	68.7	59.6	7.516	SF
Hurley H35-733 - Wellbore #1 - Design #1	2,000.0	2,000.0	44.7	36.0	5.138	CC, ES
Hurley H35-733 - Wellbore #1 - Design #1	2,100.0	2,100.0	46.4	37.2	5.073	SF
Hurley H35-740 - Wellbore #1 - Design #1	2,000.0	2,001.0	22.3	13.6	2.569	CC, ES, SF
Hurley H35-755 - Wellbore #1 - Prelim - Rev 2	15,804.2	15,673.5	308.8	140.4	1.834	CC, ES, SF
Hurley H35-761 - Wellbore #1 - Prelim - Rev 2	15,804.2	15,476.2	749.1	581.0	4.456	CC, ES, SF
Hurley H35-768 - Wellbore #1 - Prelim - Rev 2	15,804.2	15,507.8	1,188.3	1,020.7	7.090	CC, ES, SF
Hurley H35-774 - Wellbore #1 - Prelim - Rev 2	15,799.7	15,541.2	1,629.6	1,462.4	9.749	CC, ES
Hurley H35-774 - Wellbore #1 - Prelim - Rev 2	15,804.2	15,541.2	1,629.7	1,462.4	9.745	SF
Hurley H35-779 - Wellbore #1 - Prelim - Rev 2	15,784.0	15,509.6	2,068.4	1,900.7	12.331	CC
Hurley H35-779 - Wellbore #1 - Prelim - Rev 2	15,804.2	15,500.0	2,068.7	1,900.6	12.311	ES, SF
Hurley H35-787 - Wellbore #1 - Prelim - Rev 2	15,797.0	15,639.9	2,510.1	2,341.9	14.919	CC
Hurley H35-787 - Wellbore #1 - Prelim - Rev 2	15,804.2	15,639.9	2,510.2	2,341.8	14.910	ES, SF
Hurley State H35-713 - Wellbore #1 - Design #1	2,000.0	2,000.0	111.7	103.0	12.846	CC, ES
Hurley State H35-713 - Wellbore #1 - Design #1	2,100.0	2,096.7	114.8	105.7	12.589	SF

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region Drilling - Sandbox	Local Co-ordinate Reference:	Well Hurley H35-746
Project:	Conceptual Wells	TVD Reference:	WELL @ 4884.0ft (Original Well Elev)
Reference Site:	DP 408	MD Reference:	WELL @ 4884.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	Grid
Reference Well:	Hurley H35-746	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Prelim - Rev 2	Offset TVD Reference:	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 13						
Karakakes H13-25 - Original Drilling - Original Drilling - A	3,045.8	2,700.0	8,917.4	8,897.0	436.538	CC
Karakakes H13-25 - Original Drilling - Original Drilling - A	3,200.0	2,757.3	8,918.3	8,896.8	414.439	ES
Karakakes H13-25 - Original Drilling - Original Drilling - A	6,800.0	6,722.7	9,116.9	9,053.7	144.175	SF
Karakakes H13-33 - Original Drilling - Original Drilling - A	6,523.8	6,267.3	8,787.1	8,746.9	218.525	CC, ES
Karakakes H13-33 - Original Drilling - Original Drilling - A	7,100.0	7,252.5	8,990.7	8,946.0	200.816	SF
Karakakes H14-63HN - Original Drilling - Original Drilling	6,611.7	8,558.0	8,428.4	8,361.4	125.673	CC, ES
Karakakes H14-63HN - Original Drilling - Original Drilling	7,050.0	8,594.0	8,574.8	8,505.8	124.353	SF
Sarchet H13-75HN - Original Drilling - Original Drilling	2,084.3	2,099.6	8,110.8	8,101.6	886.358	CC
Sarchet H13-75HN - Original Drilling - Original Drilling	2,100.0	2,108.7	8,110.8	8,101.6	879.976	ES
Sarchet H13-75HN - Original Drilling - Original Drilling	6,750.0	6,220.0	8,469.2	8,431.7	226.283	SF
UPRC 13-13J - Original Drilling - Original Drilling - As Dri	5,316.7	5,180.4	8,340.8	8,308.7	259.179	CC
UPRC 13-13J - Original Drilling - Original Drilling - As Dri	5,800.0	5,647.9	8,342.4	8,306.9	235.120	ES
UPRC 13-13J - Original Drilling - Original Drilling - As Dri	7,050.0	7,005.9	8,535.4	8,491.6	194.925	SF
UPRC 13-14J - Original Drilling - Original Drilling - As Dri	100.0	52.3	8,706.7	8,706.5	10,000.000	CC
UPRC 13-14J - Original Drilling - Original Drilling - As Dri	1,400.0	1,325.9	8,708.9	8,701.4	1,167.351	ES
UPRC 13-14J - Original Drilling - Original Drilling - As Dri	7,250.0	6,723.9	9,285.6	9,242.0	212.719	SF
UPRC 13-15J - Original Drilling - Original Drilling - As Dri	2,178.0	2,228.8	9,188.1	9,175.7	744.943	CC
UPRC 13-15J - Original Drilling - Original Drilling - As Dri	2,300.0	2,362.2	9,188.5	9,175.4	703.650	ES
UPRC 13-15J - Original Drilling - Original Drilling - As Dri	6,950.0	6,749.1	9,556.8	9,514.3	224.884	SF
UPRC 13-16J - Wellbore #1 - Wellbore #1- As Drilled	100.0	34.2	9,707.3	9,707.2	10,000.000	CC
UPRC 13-16J - Wellbore #1 - Wellbore #1- As Drilled	700.0	588.6	9,709.2	9,705.9	2,931.744	ES
UPRC 13-16J - Wellbore #1 - Wellbore #1- As Drilled	5,600.0	5,643.3	9,996.2	9,961.8	290.437	SF
UPRR 39 Pan Am B1 (PA) - Original Drilling - Original Dr	5,912.2	5,732.8	8,008.6	7,877.6	61.153	CC
UPRR 39 Pan Am B1 (PA) - Original Drilling - Original Dr	6,512.3	6,307.5	8,009.5	7,865.0	55.419	ES
UPRR 39 Pan Am B1 (PA) - Original Drilling - Original Dr	7,100.0	6,823.5	8,238.2	8,082.2	52.805	SF
H Section 14						
Bohlender H14-09 - Original Drilling - Original Drilling - A	6,546.9	6,360.6	9,282.2	9,241.6	228.678	CC
Bohlender H14-09 - Original Drilling - Original Drilling - A	6,550.0	6,363.3	9,282.2	9,241.6	228.576	ES
Bohlender H14-09 - Original Drilling - Original Drilling - A	7,150.0	7,019.5	9,525.1	9,481.0	216.093	SF
Bohlender H14-15 - Original Drilling - Original Drilling - A	6,547.9	6,070.0	7,337.5	7,298.0	185.622	CC
Bohlender H14-15 - Original Drilling - Original Drilling - A	6,550.0	6,071.1	7,337.5	7,298.0	185.577	ES
Bohlender H14-15 - Original Drilling - Original Drilling - A	6,850.0	6,850.0	7,400.8	7,357.8	172.118	SF
Bohlender H14-16 - Original Drilling - Original Drilling - A	6,553.8	6,367.1	8,037.9	7,997.3	197.930	CC, ES
Bohlender H14-16 - Original Drilling - Original Drilling - A	7,000.0	6,676.9	8,182.0	8,139.3	191.580	SF
Wilcox H14-03J - Original Drilling - Original Drilling - As D	384.3	323.3	7,961.4	7,959.8	4,751.666	CC
Wilcox H14-03J - Original Drilling - Original Drilling - As D	800.0	800.0	7,963.4	7,959.1	1,863.477	ES
Wilcox H14-03J - Original Drilling - Original Drilling - As D	6,900.0	7,174.4	8,310.1	8,217.3	89.566	SF
Wilcox H14-10 - Original Drilling - Original Drilling - As Dr	1,306.1	1,245.2	8,020.1	8,013.1	1,151.630	CC
Wilcox H14-10 - Original Drilling - Original Drilling - As Dr	1,400.0	1,300.0	8,020.4	8,013.1	1,088.795	ES
Wilcox H14-10 - Original Drilling - Original Drilling - As Dr	7,100.0	7,328.3	9,328.1	9,283.3	208.063	SF
Wilcox H14-11 - Original Drilling - Original Drilling - As Dr	947.0	920.7	7,989.3	7,984.3	1,590.454	CC, ES
Wilcox H14-11 - Original Drilling - Original Drilling - As Dr	7,050.0	7,458.5	9,309.3	9,236.3	127.632	SF
Wilcox H14-13 - Original Drilling - Original Drilling - As Dr	1,153.4	1,100.0	7,927.2	7,919.7	1,067.294	CC
Wilcox H14-13 - Original Drilling - Original Drilling - As Dr	6,610.5	6,932.5	7,965.9	7,798.4	47.560	ES
Wilcox H14-13 - Original Drilling - Original Drilling - As Dr	6,800.0	7,458.9	7,991.0	7,822.5	47.439	SF
H Section 19						
Butterball 13-19 - Original Drilling - Original Drilling - As D	1,893.1	1,793.2	7,935.5	7,925.3	778.163	CC
Butterball 13-19 - Original Drilling - Original Drilling - As D	2,000.0	1,850.6	7,935.8	7,925.2	745.986	ES
Butterball 13-19 - Original Drilling - Original Drilling - As D	7,050.0	6,294.3	9,044.0	9,004.5	228.937	SF

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region Drilling - Sandbox	Local Co-ordinate Reference:	Well Hurley H35-746
Project:	Conceptual Wells	TVD Reference:	WELL @ 4884.0ft (Original Well Elev)
Reference Site:	DP 408	MD Reference:	WELL @ 4884.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	Grid
Reference Well:	Hurley H35-746	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Prelim - Rev 2	Offset TVD Reference:	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 21						
Moser 24-21 - Wellbore #1 - Wellbore #1 - As Drilled						Out of range
H Section 22						
HSR Demeules 09-22 - Original Drilling - Original Drilling	6,751.1	6,448.5	5,113.4	5,073.6	128.593	CC, ES
HSR Demeules 09-22 - Original Drilling - Original Drilling	7,250.0	6,916.7	5,247.0	5,204.3	122.865	SF
HSR Duryea - Wellbore #1 - Wellbore #1 - As Drilled	6,823.6	6,465.0	4,974.4	4,934.8	125.672	CC, ES
HSR Duryea - Wellbore #1 - Wellbore #1 - As Drilled	11,900.0	11,900.0	8,609.8	8,532.7	111.637	SF
Sarchet 16-22 - Wellbore #1 - Wellbore #1 - As Drilled	6,867.6	6,585.0	4,342.1	4,302.0	108.278	CC, ES
Sarchet 16-22 - Wellbore #1 - Wellbore #1 - As Drilled	7,450.0	6,924.0	4,490.7	4,447.8	104.537	SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region Drilling - Sandbox	Local Co-ordinate Reference:	Well Hurley H35-746
Project:	Conceptual Wells	TVD Reference:	WELL @ 4884.0ft (Original Well Elev)
Reference Site:	DP 408	MD Reference:	WELL @ 4884.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	Grid
Reference Well:	Hurley H35-746	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Prelim - Rev 2	Offset TVD Reference:	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 23						
Eachus 32-23 - Original Drilling - Original Drilling - As Dri	6,551.4	6,228.0	5,002.3	4,962.1	124.658	CC, ES
Eachus 32-23 - Original Drilling - Original Drilling - As Dri	6,900.0	6,718.3	5,083.7	5,041.0	119.140	SF
Eachus 41-23 (PA) - Original Drilling - Original Drilling - A	6,532.5	6,318.9	6,386.6	6,241.7	44.088	CC
Eachus 41-23 (PA) - Original Drilling - Original Drilling - A	6,550.0	6,335.7	6,386.8	6,241.6	43.973	ES
Eachus 41-23 (PA) - Original Drilling - Original Drilling - A	7,050.0	6,780.0	6,571.6	6,416.4	42.347	SF
Eachus UPRR 31-23 - Original Drilling - Original Drilling -	6,567.2	6,312.5	6,323.1	6,245.0	81.018	CC
Eachus UPRR 31-23 - Original Drilling - Original Drilling -	6,600.0	6,343.9	6,323.9	6,244.6	79.824	ES
Eachus UPRR 31-23 - Original Drilling - Original Drilling -	7,350.0	6,908.7	6,729.9	6,629.8	67.226	SF
Eachus UPRR 42-23 (PA) - Original Drilling - Original Dri	6,519.7	6,316.6	5,123.7	4,978.9	35.396	CC
Eachus UPRR 42-23 (PA) - Original Drilling - Original Dri	6,550.0	6,345.7	5,124.3	4,978.9	35.238	ES
Eachus UPRR 42-23 (PA) - Original Drilling - Original Dri	6,950.0	6,712.3	5,251.7	5,098.0	34.182	SF
HSR Alberstein 16-23 - Original Drilling - Original Drilling	4,118.6	3,975.2	2,844.1	2,820.2	118.993	CC
HSR Alberstein 16-23 - Original Drilling - Original Drilling	4,400.0	4,250.4	2,844.6	2,818.8	110.284	ES
HSR Alberstein 16-23 - Original Drilling - Original Drilling	6,800.0	6,562.6	2,999.3	2,957.6	71.989	SF
HSR Ashley 15-23A - Original Drilling - Original Drilling -	6,553.4	6,268.4	2,634.2	2,593.9	65.385	CC, ES
HSR Ashley 15-23A - Original Drilling - Original Drilling -	6,800.0	6,517.2	2,679.0	2,637.2	64.083	SF
HSR Benirschke 10-23 - Original Drilling - Original Drillin	6,529.9	6,187.9	3,625.5	3,585.6	90.832	CC, ES
HSR Benirschke 10-23 - Original Drilling - Original Drillin	6,800.0	6,400.0	3,679.0	3,637.7	88.985	SF
HSR Eachus 03-23 - Original Drilling - Original Drilling - A	3,511.5	2,457.9	6,097.4	6,081.0	369.932	CC
HSR Eachus 03-23 - Original Drilling - Original Drilling - A	3,613.0	2,500.0	6,097.6	6,080.7	360.368	ES
HSR Eachus 03-23 - Original Drilling - Original Drilling - A	7,050.0	6,964.4	6,560.6	6,515.6	145.556	SF
HSR Eachus 04-23 - Original Drilling - Original Drilling - A	100.0	29.6	6,151.5	6,151.3	10,000.000	CC
HSR Eachus 04-23 - Original Drilling - Original Drilling - A	1,000.0	900.0	6,155.0	6,149.9	1,212.872	ES
HSR Eachus 04-23 - Original Drilling - Original Drilling - A	7,050.0	7,046.8	6,917.3	6,820.1	71.207	SF
HSR Eachus 05-23 - Original Drilling - Original Drilling - A	6,644.1	6,714.4	5,578.7	5,446.9	42.314	CC
HSR Eachus 05-23 - Original Drilling - Original Drilling - A	6,650.0	6,720.0	5,578.7	5,446.8	42.289	ES
HSR Eachus 05-23 - Original Drilling - Original Drilling - A	7,000.0	7,030.6	5,662.2	5,525.8	41.490	SF
HSR Fruman 06-23 - Original Drilling - Original Drilling - A	6,621.4	6,440.2	5,574.3	5,526.8	117.424	CC, ES
HSR Fruman 06-23 - Original Drilling - Original Drilling - A	7,000.0	6,727.8	5,676.5	5,627.2	115.116	SF
HSR Grasshopper 09-23 - Original Drilling - Original Drill	4,595.1	4,347.3	3,617.5	3,590.7	134.807	CC
HSR Grasshopper 09-23 - Original Drilling - Original Drill	4,700.0	4,432.2	3,617.9	3,590.4	131.617	ES
HSR Grasshopper 09-23 - Original Drilling - Original Drill	6,900.0	6,796.7	3,744.6	3,701.7	87.369	SF
Ritchey 21-23 - Original Drilling - Original Drilling - As Dri	6,591.2	6,407.2	5,739.4	5,698.6	140.876	CC, ES
Ritchey 21-23 - Original Drilling - Original Drilling - As Dri	7,000.0	6,787.8	5,859.6	5,816.6	136.137	SF
Ritchey 24-23 - Original Drilling - Original Drilling - As Dri	1,711.3	1,665.4	4,064.3	4,054.9	434.773	CC
Ritchey 24-23 - Original Drilling - Original Drilling - As Dri	1,800.0	1,734.7	4,064.4	4,054.6	415.164	ES
Ritchey 24-23 - Original Drilling - Original Drilling - As Dri	6,900.0	6,716.7	4,444.6	4,401.4	102.740	SF
Ritchey 31-24 - Original Drilling - Original Drilling - As Dri	1,482.1	1,447.1	5,745.6	5,737.5	712.475	CC
Ritchey 31-24 - Original Drilling - Original Drilling - As Dri	1,500.0	1,458.2	5,745.6	5,737.5	705.584	ES
Ritchey 31-24 - Original Drilling - Original Drilling - As Dri	6,800.0	6,740.1	6,089.7	6,035.6	112.509	SF
UPRC 23-11J - Original Drilling - Original Drilling - As Dri	6,641.9	6,389.1	3,874.3	3,833.9	96.040	CC, ES
UPRC 23-11J - Original Drilling - Original Drilling - As Dri	7,000.0	6,711.5	3,963.1	3,920.7	93.465	SF
UPRC 23-12J - Original Drilling - Original Drilling - As Dri	6,711.4	6,486.5	4,481.3	4,441.1	111.469	CC, ES
UPRC 23-12J - Original Drilling - Original Drilling - As Dri	7,100.0	6,763.1	4,574.1	4,531.8	108.310	SF
UPRC H23-13 - Wellbore #1 - Wellbore #1 - As Drilled	6,753.0	6,462.4	3,591.3	3,551.4	89.986	CC, ES
UPRC H23-13 - Wellbore #1 - Wellbore #1 - As Drilled	7,150.0	6,759.4	3,679.7	3,637.6	87.487	SF
UPRC H23-14J - Original Drilling - Original Drilling - As D	6,635.6	6,343.9	2,500.0	2,459.8	62.223	CC, ES
UPRC H23-14J - Original Drilling - Original Drilling - As D	6,850.0	6,533.6	2,532.8	2,491.3	61.106	SF
UPRC H23-24 - Original Drilling - Original Drilling - As Dr	6,581.2	6,175.6	3,305.1	3,265.4	83.159	CC, ES
UPRC H23-24 - Original Drilling - Original Drilling - As Dr	6,900.0	6,506.5	3,376.5	3,334.7	80.873	SF
UPRR 53 Pan Am B#1 (PA) - Original Drilling - Original D	6,713.6	6,459.2	3,392.0	3,245.1	23.101	CC, ES
UPRR 53 Pan Am B#1 (PA) - Original Drilling - Original D	7,050.0	6,747.0	3,461.5	3,308.0	22.548	SF
UPRR 53 Pan Am UT V#1 - Original Drilling - Original Dr	6,555.6	6,469.0	5,506.6	5,465.7	134.463	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

Company:	Northern Region Drilling - Sandbox	Local Co-ordinate Reference:	Well Hurley H35-746
Project:	Conceptual Wells	TVD Reference:	WELL @ 4884.0ft (Original Well Elev)
Reference Site:	DP 408	MD Reference:	WELL @ 4884.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	Grid
Reference Well:	Hurley H35-746	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Prelim - Rev 2	Offset TVD Reference:	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 23						
Offset Well - Wellbore - Design						
UPRR 53 Pan Am UT V#1 - Original Drilling - Original Dr	6,900.0	6,669.0	5,595.5	5,553.1	131.696	SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region Drilling - Sandbox	Local Co-ordinate Reference:	Well Hurley H35-746
Project:	Conceptual Wells	TVD Reference:	WELL @ 4884.0ft (Original Well Elev)
Reference Site:	DP 408	MD Reference:	WELL @ 4884.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	Grid
Reference Well:	Hurley H35-746	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Prelim - Rev 2	Offset TVD Reference:	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	100.0	0.0	6,847.5	6,847.4	10,000.000	CC
Gurtler 24-09J - Original Drilling - Original Drilling - As Dr	2,000.0	1,870.7	6,856.0	6,845.2	639.635	ES
Gurtler 24-09J - Original Drilling - Original Drilling - As Dr	7,100.0	7,100.0	7,876.4	7,833.8	184.766	SF
Gurtler 24-10J - Original Drilling - Original Drilling - As Dr	2,045.5	2,018.9	5,883.1	5,871.8	518.795	CC, ES
Gurtler 24-10J - Original Drilling - Original Drilling - As Dr	7,000.0	7,000.0	6,822.4	6,780.0	160.858	SF
Gurtler 24-11J - Original Drilling - Original Drilling - As Dr	100.0	34.1	4,954.9	4,954.7	10,000.000	CC
Gurtler 24-11J - Original Drilling - Original Drilling - As Dr	2,000.0	1,936.5	4,959.5	4,948.5	453.367	ES
Gurtler 24-11J - Original Drilling - Original Drilling - As Dr	6,900.0	6,673.0	5,566.2	5,524.7	134.053	SF
Gurtler 24-12J - Original Drilling - Original Drilling - As Dr	1,730.9	1,694.9	4,368.4	4,358.9	460.179	CC
Gurtler 24-12J - Original Drilling - Original Drilling - As Dr	2,200.0	2,158.8	4,369.8	4,357.7	359.947	ES
Gurtler 24-12J - Original Drilling - Original Drilling - As Dr	6,650.0	6,498.0	4,651.2	4,610.3	113.895	SF
Gurtler 24-12J - Original Drilling - ST01 - ST01 Original D	969.0	933.0	4,369.4	4,365.2	1,060.558	CC
Gurtler 24-12J - Original Drilling - ST01 - ST01 Original D	2,200.0	2,167.4	4,371.6	4,360.4	391.341	ES
Gurtler 24-12J - Original Drilling - ST01 - ST01 Original D	7,150.0	7,329.7	4,869.1	4,824.4	108.927	SF
Gurtler 24-13J - Original Drilling - Original Drilling - As Dr	146.1	115.1	3,181.0	3,180.6	7,734.979	CC
Gurtler 24-13J - Original Drilling - Original Drilling - As Dr	2,000.0	1,954.7	3,187.4	3,176.4	289.516	ES
Gurtler 24-13J - Original Drilling - Original Drilling - As Dr	6,850.0	7,380.0	3,710.5	3,663.8	79.493	SF
Gurtler 24-15J - Original Drilling - Original Drilling - As Dr	100.0	16.1	5,082.1	5,082.0	10,000.000	CC
Gurtler 24-15J - Original Drilling - Original Drilling - As Dr	2,100.0	2,059.3	5,091.0	5,079.4	439.272	ES
Gurtler 24-15J - Original Drilling - Original Drilling - As Dr	7,000.0	6,817.5	6,093.2	6,051.8	147.311	SF
Gurtler 24-16J - Original Drilling - Original Drilling - As Dr	2,031.4	1,981.6	5,997.5	5,986.4	537.318	CC, ES
Gurtler 24-16J - Original Drilling - Original Drilling - As Dr	7,400.0	7,400.0	7,194.7	7,151.3	166.012	SF
Gurtler H24-14 - Original Drilling - Original Drilling - As D	2,021.0	1,980.6	4,018.0	4,006.8	359.931	CC, ES
Gurtler H24-14 - Original Drilling - Original Drilling - As D	6,950.0	6,628.6	4,966.1	4,925.3	121.713	SF
Gurtler H24-21 (PA) - Original Drilling - Original Drilling -	2,197.5	2,272.7	5,745.9	5,733.3	458.002	CC
Gurtler H24-21 (PA) - Original Drilling - Original Drilling -	2,200.0	2,274.0	5,745.9	5,733.3	457.635	ES
Gurtler H24-21 (PA) - Original Drilling - Original Drilling -	7,050.0	6,682.1	6,574.1	6,532.4	157.835	SF
Gurtler H24-23 - Original Drilling - Original Drilling - As D	2,007.6	1,933.3	5,978.5	5,967.5	546.015	CC, ES
Gurtler H24-23 - Original Drilling - Original Drilling - As D	7,050.0	6,781.4	6,980.5	6,939.1	168.689	SF
Gurtler H24-24 - Original Drilling - Original Drilling - As D	2,007.6	1,950.0	4,958.6	4,947.6	450.436	CC, ES
Gurtler H24-24 - Original Drilling - Original Drilling - As D	6,900.0	6,339.6	5,918.9	5,879.1	148.474	SF
Gurtler H24-99HZ - Wellbore #1 - Original Drilling	6,543.7	11,118.0	3,996.8	3,896.9	40.033	CC, ES
Gurtler H24-99HZ - Wellbore #1 - Original Drilling	6,550.0	11,118.0	3,996.8	3,897.0	40.032	SF
Gurtler H25-27 - Original Drilling - Original Drilling - As D	2,613.2	3,400.0	5,878.3	5,860.7	334.461	CC, ES
Gurtler H25-27 - Original Drilling - Original Drilling - As D	7,050.0	6,778.8	6,466.2	6,424.2	153.908	SF
Gurtler Russell L1 (PA) - Original Drilling - Original Drilling	100.0	52.6	3,939.9	3,939.8	10,000.000	CC
Gurtler Russell L1 (PA) - Original Drilling - Original Drilling	500.0	447.5	3,941.5	3,939.1	1,663.213	ES
Gurtler Russell L1 (PA) - Original Drilling - Original Drilling	7,400.0	6,988.9	5,000.6	4,949.3	97.357	SF
HSR Brutschy 04-24 - Original Drilling - Original Drilling -	5,062.9	5,052.8	6,751.3	6,720.5	218.983	CC
HSR Brutschy 04-24 - Original Drilling - Original Drilling -	5,100.0	5,069.7	6,751.4	6,720.4	217.671	ES
HSR Brutschy 04-24 - Original Drilling - Original Drilling -	7,150.0	6,775.8	7,082.6	7,039.6	165.028	SF
HSR Epstein 05-24 - Original Drilling - Original Drilling - A	100.0	44.7	6,160.2	6,160.0	10,000.000	CC
HSR Epstein 05-24 - Original Drilling - Original Drilling - A	2,700.0	2,720.6	6,168.5	6,153.3	405.120	ES
HSR Epstein 05-24 - Original Drilling - Original Drilling - A	6,900.0	6,900.0	6,472.5	6,429.6	150.952	SF
HSR Hoffman 03-24 - Original Drilling - Original Drilling -	100.0	38.1	7,246.9	7,246.8	10,000.000	CC
HSR Hoffman 03-24 - Original Drilling - Original Drilling -	700.0	619.1	7,248.8	7,245.4	2,120.034	ES
HSR Hoffman 03-24 - Original Drilling - Original Drilling -	7,250.0	7,039.6	7,872.0	7,821.9	157.293	SF
HSR Sarchet 02-24 - Original Drilling - Original Drilling - A	2,057.1	2,037.3	7,923.6	7,912.2	693.482	CC
HSR Sarchet 02-24 - Original Drilling - Original Drilling - A	2,100.0	2,059.8	7,923.7	7,912.2	683.256	ES
HSR Sarchet 02-24 - Original Drilling - Original Drilling - A	7,050.0	6,700.0	8,565.3	8,523.2	203.833	SF
HSR Sarchet 06-24 - Original Drilling - Original Drilling - A	2,009.1	1,958.4	6,069.2	6,058.2	549.337	CC
HSR Sarchet 06-24 - Original Drilling - Original Drilling - A	2,100.0	2,047.0	6,069.5	6,058.0	525.373	ES
HSR Sarchet 06-24 - Original Drilling - Original Drilling - A	7,200.0	6,746.6	6,842.9	6,800.7	162.108	SF

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region Drilling - Sandbox	Local Co-ordinate Reference:	Well Hurley H35-746
Project:	Conceptual Wells	TVD Reference:	WELL @ 4884.0ft (Original Well Elev)
Reference Site:	DP 408	MD Reference:	WELL @ 4884.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	Grid
Reference Well:	Hurley H35-746	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Prelim - Rev 2	Offset TVD Reference:	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 Traurig 01-24 - Original Drilling - Original Drilling - A	1,813.2	1,746.3	8,684.6	8,674.8	880.689	CC
HSR Traurig 01-24 - Original Drilling - Original Drilling - A	2,000.0	1,879.0	8,685.3	8,674.5	808.533	ES
HSR Traurig 01-24 - Original Drilling - Original Drilling - A	7,150.0	6,839.8	9,414.8	9,372.4	221.980	SF
Nopens D19-31 - Original Drilling - Original Drilling - As D	2,081.8	2,112.2	8,390.6	8,378.9	715.337	CC
Nopens D19-31 - Original Drilling - Original Drilling - As D	2,100.0	2,125.4	8,390.7	8,378.9	710.175	ES
Nopens D19-31 - Original Drilling - Original Drilling - As D	7,150.0	6,619.2	9,379.6	9,338.3	227.022	SF
Nopens H24-08 - Original Drilling - Original Drilling - As D	2,038.9	2,020.7	7,613.9	7,602.5	672.158	CC, ES
Nopens H24-08 - Original Drilling - Original Drilling - As D	7,100.0	6,531.6	8,592.4	8,551.5	209.815	SF
Sarchet H24-22 - Original Drilling - Original Drilling - As D	1,984.3	1,906.4	6,806.9	6,796.1	630.322	CC
Sarchet H24-22 - Original Drilling - Original Drilling - As D	2,000.0	1,915.2	6,806.9	6,796.0	626.492	ES
Sarchet H24-22 - Original Drilling - Original Drilling - As D	6,950.0	6,542.5	7,641.6	7,600.6	186.448	SF
Weld County Lumber 01 - Original Drilling - Original Drilling	100.0	20.9	7,309.7	7,309.6	10,000.000	CC
Weld County Lumber 01 - Original Drilling - Original Drilling	2,000.0	1,894.6	7,313.0	7,302.2	676.912	ES
Weld County Lumber 01 - Original Drilling - Original Drilling	7,100.0	7,100.0	8,093.6	8,050.3	186.939	SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region Drilling - Sandbox	Local Co-ordinate Reference:	Well Hurley H35-746
Project:	Conceptual Wells	TVD Reference:	WELL @ 4884.0ft (Original Well Elev)
Reference Site:	DP 408	MD Reference:	WELL @ 4884.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	Grid
Reference Well:	Hurley H35-746	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Prelim - Rev 2	Offset TVD Reference:	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						
Dechant 21-25 - Original Drilling - Original Drilling - As D	608.0	554.0	2,881.9	2,878.9	966.243	CC
Dechant 21-25 - Original Drilling - Original Drilling - As D	1,400.0	1,337.9	2,882.7	2,875.2	384.476	ES
Dechant 21-25 - Original Drilling - Original Drilling - As D	7,200.0	7,159.1	5,057.6	5,012.5	112.217	SF
Dechant D30-33D - Original Drilling - Original Drilling - As	100.0	18.4	5,642.3	5,642.2	10,000.000	CC, ES
Dechant D30-33D - Original Drilling - Original Drilling - As	13,300.0	13,300.0	8,558.3	8,462.6	89.387	SF
Dechant D31-30D - Original Drilling - Original Drilling - As	100.0	19.2	5,649.4	5,649.3	10,000.000	CC, ES
Dechant D31-30D - Original Drilling - Original Drilling - As	13,900.0	7,105.4	8,283.4	8,196.3	95.112	SF
Dechant H25-64-1HN - Original Drilling - Original Drilling	892.1	859.1	1,855.3	1,853.2	862.321	CC
Dechant H25-64-1HN - Original Drilling - Original Drilling	1,900.0	1,879.8	1,860.8	1,852.5	222.837	ES
Dechant H25-64-1HN - Original Drilling - Original Drilling	9,300.0	6,471.8	2,548.3	2,504.7	58.496	SF
Dechant H25-65HN - Original Drilling - Original Drilling	2,819.0	3,287.4	1,740.5	1,725.5	116.126	CC
Dechant H25-65HN - Original Drilling - Original Drilling	2,837.5	3,300.7	1,740.6	1,725.5	115.348	ES
Dechant H25-65HN - Original Drilling - Original Drilling	8,500.0	6,512.0	2,561.1	2,521.4	64.611	SF
HSR Cohn 03-25 - Original Drilling - Original Drilling - As	2,016.7	1,978.9	3,148.9	3,137.7	282.736	CC, ES
HSR Cohn 03-25 - Original Drilling - Original Drilling - As	7,000.0	6,693.3	4,226.6	4,186.1	104.218	SF
HSR Crowe 06-25 - Original Drilling - Original Drilling - A	2,017.3	1,979.7	2,878.9	2,867.8	258.771	CC, ES
HSR Crowe 06-25 - Original Drilling - Original Drilling - A	8,500.0	7,037.3	4,397.8	4,353.9	100.172	SF
HSR Dechant 04-25 - Original Drilling - Original Drilling -	2,158.0	2,266.9	2,008.9	1,993.2	128.259	CC, ES
HSR Dechant 04-25 - Original Drilling - Original Drilling -	6,500.0	6,755.6	3,069.6	3,007.0	49.012	SF
HSR Dechant 05-25 - Original Drilling - Original Drilling -	2,005.4	1,966.8	1,870.0	1,858.9	169.132	CC, ES
HSR Dechant 05-25 - Original Drilling - Original Drilling -	7,600.0	7,074.2	3,215.8	3,173.5	76.108	SF
KY Blue D30-32 - Original Drilling - Original Drilling - As D	2,026.3	1,990.6	6,037.7	6,026.5	540.002	CC, ES
KY Blue D30-32 - Original Drilling - Original Drilling - As D	12,800.0	6,913.7	8,873.0	8,806.1	132.501	SF
KY Blue H25-04J - Original Drilling - Original Drilling - As	2,000.0	1,916.0	5,663.7	5,656.0	735.970	CC, ES
KY Blue H25-04J - Original Drilling - Original Drilling - A	13,200.0	6,970.0	7,603.3	7,542.8	125.720	SF
KY Blue H25-09 - Original Drilling - Original Drilling - As D	2,006.1	1,931.1	5,676.1	5,665.2	519.350	CC, ES
KY Blue H25-09 - Original Drilling - Original Drilling - As D	12,600.0	6,925.1	8,052.7	7,985.9	120.513	SF
KY Blue H25-10 - Original Drilling - Original Drilling - As D	100.0	17.7	4,183.7	4,183.6	10,000.000	CC
KY Blue H25-10 - Original Drilling - Original Drilling - As D	2,000.0	1,905.3	4,190.2	4,179.4	386.459	ES
KY Blue H25-10 - Original Drilling - Original Drilling - As D	11,000.0	7,032.4	6,083.7	6,026.3	106.030	SF
KY Blue H25-11 - Original Drilling - Original Drilling - As D	792.1	725.1	3,210.3	3,206.3	803.738	CC
KY Blue H25-11 - Original Drilling - Original Drilling - As D	1,000.0	912.1	3,210.8	3,205.7	627.324	ES
KY Blue H25-11 - Original Drilling - Original Drilling - As D	9,500.0	7,034.1	4,388.6	4,307.7	54.252	SF
KY Blue H25-12 - Original Drilling - Original Drilling - As D	2,123.3	2,158.3	1,893.9	1,881.4	151.699	CC, ES
KY Blue H25-12 - Original Drilling - Original Drilling - As D	9,000.0	6,947.8	2,866.0	2,819.3	61.348	SF
KY Blue H25-14 - Original Drilling - Original Drilling - As D	100.0	23.7	4,038.5	4,038.4	10,000.000	CC
KY Blue H25-14 - Original Drilling - Original Drilling - As D	2,000.0	1,906.3	4,040.4	4,029.6	373.053	ES
KY Blue H25-14 - Original Drilling - Original Drilling - As D	12,100.0	12,100.0	4,865.7	4,782.1	58.238	SF
KY Blue H25-15 - Original Drilling - Original Drilling - As D	340.0	261.0	4,789.5	4,788.2	3,530.885	CC
KY Blue H25-15 - Original Drilling - Original Drilling - As D	900.0	800.1	4,791.2	4,786.7	1,065.163	ES
KY Blue H25-15 - Original Drilling - Original Drilling - As D	12,000.0	6,920.0	5,868.7	5,802.4	88.489	SF
KY H25-24 - Original Drilling - Original Drilling - As Drilled	229.7	152.7	4,123.9	4,123.2	5,652.408	CC
KY H25-24 - Original Drilling - Original Drilling - As Drilled	600.0	506.1	4,124.5	4,121.7	1,475.001	ES
KY H25-24 - Original Drilling - Original Drilling - As Drilled	11,300.0	7,043.1	5,464.1	5,402.7	88.906	SF
Moore UPRC H25-01 - Original Drilling - Original Drilling	2,013.6	1,935.8	5,822.2	5,811.2	529.762	CC, ES
Moore UPRC H25-01 - Original Drilling - Original Drilling	11,600.0	6,924.4	9,133.1	9,077.9	165.537	SF
Moore UPRC H25-02 - Original Drilling - Original Drilling	1,348.6	1,274.6	4,444.8	4,437.6	620.113	CC
Moore UPRC H25-02 - Original Drilling - Original Drilling	2,000.0	1,921.0	4,446.2	4,435.3	408.583	ES
Moore UPRC H25-02 - Original Drilling - Original Drilling	7,150.0	6,809.1	5,715.1	5,674.1	139.486	SF
Moser 25-32 - Original Drilling - Original Drilling - As Drill	100.0	20.5	3,968.9	3,968.8	10,000.000	CC
Moser 25-32 - Original Drilling - Original Drilling - As Drill	2,018.6	1,968.2	3,970.5	3,959.4	358.007	ES
Moser 25-32 - Original Drilling - Original Drilling - As Drill	10,200.0	7,026.8	6,065.8	6,014.7	118.718	SF
Moser 25-42 - Original Drilling - Original Drilling - As Drill	808.7	716.7	5,614.0	5,610.0	1,403.253	CC

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region Drilling - Sandbox	Local Co-ordinate Reference:	Well Hurley H35-746
Project:	Conceptual Wells	TVD Reference:	WELL @ 4884.0ft (Original Well Elev)
Reference Site:	DP 408	MD Reference:	WELL @ 4884.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	Grid
Reference Well:	Hurley H35-746	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Prelim - Rev 2	Offset TVD Reference:	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						
Moser 25-42 - Original Drilling - Original Drilling - As Drill	2,000.0	1,885.6	5,616.1	5,605.3	521.968	ES
Moser 25-42 - Original Drilling - Original Drilling - As Drill	12,100.0	6,951.2	8,636.3	8,575.5	142.041	SF
UPRR 53 Pan Am T#2 - Original Drilling - Original Drilling	2,063.6	2,070.6	2,674.0	2,662.5	231.729	CC, ES
UPRR 53 Pan Am T#2 - Original Drilling - Original Drilling	6,900.0	6,600.0	3,823.5	3,783.6	96.013	SF
UPRR 53 Pan Am UT T#1 - Original Drilling - Original Dr	2,000.0	1,909.0	5,009.6	4,967.1	117.793	CC
UPRR 53 Pan Am UT T#1 - Original Drilling - Original Dr	2,100.0	2,009.0	5,011.2	4,966.5	111.998	ES
UPRR 53 Pan Am UT T#1 - Original Drilling - Original Dr	7,500.0	6,950.0	6,345.2	6,188.7	40.544	SF
Von Feldt 1-25B - Original Drilling - Original Drilling - As D	501.2	442.2	3,047.2	3,044.9	1,295.959	CC
Von Feldt 1-25B - Original Drilling - Original Drilling - As D	2,000.0	1,933.1	3,049.3	3,038.4	279.077	ES
Von Feldt 1-25B - Original Drilling - Original Drilling - As D	10,400.0	7,061.5	3,504.1	3,447.2	61.552	SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region Drilling - Sandbox	Local Co-ordinate Reference:	Well Hurley H35-746
Project:	Conceptual Wells	TVD Reference:	WELL @ 4884.0ft (Original Well Elev)
Reference Site:	DP 408	MD Reference:	WELL @ 4884.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	Grid
Reference Well:	Hurley H35-746	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Prelim - Rev 2	Offset TVD Reference:	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	6,538.3	6,283.9	1,271.3	1,231.0	31.548	CC, ES
Bullard 31-26 - Original Drilling - Original Drilling - As Dril	6,650.0	6,388.0	1,280.9	1,239.9	31.261	SF
Bullard 32-26 - Original Drilling - Original Drilling - As Dril	5,471.4	5,333.6	293.8	260.6	8.837	CC
Bullard 32-26 - Original Drilling - Original Drilling - As Dril	5,500.0	5,359.6	294.0	260.6	8.792	ES
Bullard 32-26 - Original Drilling - Original Drilling - As Dril	5,600.0	5,447.6	297.8	263.8	8.743	SF
Bullard 41-26 - Original Drilling - Original Drilling - As Dril	3,827.6	3,759.2	1,038.7	1,016.5	46.854	CC
Bullard 41-26 - Original Drilling - Original Drilling - As Dril	3,900.0	3,830.0	1,038.8	1,016.2	45.874	ES
Bullard 41-26 - Original Drilling - Original Drilling - As Dril	6,550.0	6,337.2	1,308.4	1,269.0	33.207	SF
Dechant H25-29D - Original Drilling - Original Drilling - As	0.0	0.0	1,443.4			
Dechant H25-29D - Original Drilling - Original Drilling - As	100.0	77.7	1,443.6	1,443.4	7,344.336	ES
Dechant H25-29D - Original Drilling - Original Drilling - As	6,850.0	7,056.7	4,193.9	4,148.8	92.970	SF
Dechant H25-33D - Original Drilling - Original Drilling - As	2,693.8	3,042.5	895.7	871.2	36.613	CC
Dechant H25-33D - Original Drilling - Original Drilling - As	2,700.0	3,046.6	895.7	871.2	36.509	ES
Dechant H25-33D - Original Drilling - Original Drilling - As	9,400.0	7,786.0	2,473.9	2,388.8	29.071	SF
Harsh H26-09D - Original Drilling - Original Drilling - As D	2,210.5	2,238.5	1,289.1	1,276.6	103.491	CC, ES
Harsh H26-09D - Original Drilling - Original Drilling - As D	8,600.0	7,017.7	1,840.1	1,794.5	40.408	SF
Harsh H26-10 - Original Drilling - Original Drilling - As Dr	8,300.0	7,030.1	543.9	499.1	12.154	SF
Harsh H26-10 - Original Drilling - Original Drilling - As Dr	8,323.3	7,030.1	543.4	498.7	12.169	CC, ES
Harsh H26-15 - Original Drilling - Original Drilling - As Dr	9,767.6	7,020.6	501.9	447.8	9.286	CC, ES, SF
Harsh H26-16 - Original Drilling - Original Drilling - As Dr	9,826.3	7,006.9	1,565.7	1,511.1	28.674	CC, ES
Harsh H26-16 - Original Drilling - Original Drilling - As Dr	9,900.0	7,007.9	1,567.4	1,512.6	28.614	SF
Harsh H26-23D - Original Drilling - Original Drilling - As D	9,138.9	7,150.5	1,181.0	1,128.6	22.560	CC, ES
Harsh H26-23D - Original Drilling - Original Drilling - As D	9,200.0	7,150.0	1,182.6	1,130.0	22.479	SF
HSR Moser 04-26 - Original Drilling - Original Drilling - As	6,839.0	6,489.6	2,838.0	2,798.3	71.434	CC
HSR Moser 04-26 - Original Drilling - Original Drilling - As	6,850.0	6,497.8	2,838.1	2,798.3	71.333	ES
HSR Moser 04-26 - Original Drilling - Original Drilling - As	7,200.0	6,690.0	2,899.5	2,858.1	69.961	SF
HSR Moser 06-26 - Original Drilling - Original Drilling - As	7,375.7	6,959.8	711.4	669.8	17.075	CC, ES
HSR Moser 06-26 - Original Drilling - Original Drilling - As	7,450.0	6,982.5	716.1	674.1	17.032	SF
HSR Regalia 05-26 - Original Drilling - Original Drilling - A	7,175.9	6,892.5	1,885.5	1,844.3	45.792	CC, ES
HSR Regalia 05-26 - Original Drilling - Original Drilling - A	7,400.0	6,979.5	1,909.5	1,867.4	45.310	SF
HSR-Moser 03-26A - Original Drilling - Original Drilling - A	6,682.1	6,415.5	1,492.9	1,452.9	37.312	CC, ES
HSR-Moser 03-26A - Original Drilling - Original Drilling - A	6,850.0	6,536.9	1,513.3	1,472.3	36.924	SF
John 03-26 - Original Drilling - Original Drilling - As Drille	6,733.1	6,476.9	1,388.5	1,348.5	34.762	CC, ES
John 03-26 - Original Drilling - Original Drilling - As Drille	6,900.0	6,603.2	1,406.7	1,365.7	34.363	SF
Lamp H25-31 - Original Drilling - Original Drilling - As Dri	416.0	391.0	1,167.2	1,165.2	589.215	CC
Lamp H25-31 - Original Drilling - Original Drilling - As Dri	500.0	470.0	1,167.3	1,164.9	477.286	ES
Lamp H25-31 - Original Drilling - Original Drilling - As Dri	6,850.0	6,673.1	2,182.8	2,142.6	54.250	SF
Lamp H26-01 - Original Drilling - Original Drilling - As Dri	1,581.6	1,556.8	1,171.5	1,162.8	134.920	CC
Lamp H26-01 - Original Drilling - Original Drilling - As Dri	1,600.0	1,573.0	1,171.5	1,162.7	133.414	ES
Lamp H26-01 - Original Drilling - Original Drilling - As Dri	6,550.0	6,410.8	2,036.4	1,992.7	46.579	SF
Lamp H26-08 - Original Drilling - Original Drilling - As Dri	2,067.0	2,043.3	418.0	406.5	36.430	CC
Lamp H26-08 - Original Drilling - Original Drilling - As Dri	2,100.0	2,075.3	418.2	406.5	35.873	ES
Lamp H26-08 - Original Drilling - Original Drilling - As Dri	2,700.0	2,677.2	470.4	455.3	31.254	SF
Lamp H26-22 - Original Drilling - Original Drilling - As Dri	2,656.5	2,708.0	344.5	329.1	22.335	CC, ES
Lamp H26-22 - Original Drilling - Original Drilling - As Dri	3,300.0	3,320.7	421.4	399.4	19.209	SF
Moser 05-26 - Original Drilling - Original Drilling - As Drill	7,524.6	7,011.0	2,326.8	2,284.7	55.351	CC, ES
Moser 05-26 - Original Drilling - Original Drilling - As Drill	8,300.0	7,011.3	2,484.0	2,438.0	53.947	SF
Moser 41-27 - Original Drilling - Original Drilling - As Drill	7,209.0	6,980.1	3,091.0	3,046.6	69.723	CC, ES
Moser 41-27 - Original Drilling - Original Drilling - As Drill	7,400.0	7,061.7	3,104.5	3,059.8	69.411	SF
Moser H26-11 - Original Drilling - Original Drilling - As Dr	8,351.9	7,013.1	1,091.4	1,046.8	24.457	CC, ES
Moser H26-11 - Original Drilling - Original Drilling - As Dr	8,600.0	7,005.5	1,119.2	1,072.1	23.729	SF
Moser H26-12 - Wellbore #1 - Wellbore #1 - As Drilled	8,594.2	7,013.5	2,228.3	2,182.4	48.485	CC
Moser H26-12 - Wellbore #1 - Wellbore #1 - As Drilled	8,600.0	7,013.7	2,228.3	2,182.3	48.435	ES

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region Drilling - Sandbox	Local Co-ordinate Reference:	Well Hurley H35-746
Project:	Conceptual Wells	TVD Reference:	WELL @ 4884.0ft (Original Well Elev)
Reference Site:	DP 408	MD Reference:	WELL @ 4884.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	Grid
Reference Well:	Hurley H35-746	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Prelim - Rev 2	Offset TVD Reference:	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						
Moser H26-12 - Wellbore #1 - Wellbore #1 - As Drilled	9,400.0	7,035.8	2,369.4	2,316.3	44.597	SF
Moser H26-13 - Wellbore #1 - Wellbore #1 - As Drilled	9,904.7	7,010.6	2,251.1	2,195.8	40.706	CC, ES
Moser H26-13 - Wellbore #1 - Wellbore #1 - As Drilled	10,600.0	7,039.1	2,355.9	2,293.4	37.661	SF
Moser H26-14 - Original Drilling - Original Drilling - As Dr	10,075.7	6,984.5	713.8	656.9	12.556	CC
Moser H26-14 - Original Drilling - Original Drilling - As Dr	10,100.0	6,984.3	714.2	656.9	12.457	ES
Moser H26-14 - Original Drilling - Original Drilling - As Dr	10,200.0	6,983.9	724.5	665.5	12.273	SF
Moser H26-18D - Original Drilling - Original Drilling - As D	6,720.6	6,943.7	504.5	444.1	8.352	CC, ES
Moser H26-18D - Original Drilling - Original Drilling - As D	6,800.0	7,014.7	509.3	447.8	8.280	SF
Moser H26-24 - Original Drilling - Original Drilling - As Dr	9,056.7	7,032.0	417.2	368.3	8.534	CC, ES
Moser H26-24 - Original Drilling - Original Drilling - As Dr	9,100.0	7,032.6	419.5	369.6	8.411	SF
Moser H26-25 - Original Drilling - Original Drilling - As Dr	9,272.8	7,027.3	1,214.4	1,163.9	24.079	CC
Moser H26-25 - Original Drilling - Original Drilling - As Dr	9,300.0	7,027.3	1,214.7	1,163.9	23.912	ES
Moser H26-25 - Original Drilling - Original Drilling - As Dr	9,600.0	7,026.3	1,257.7	1,203.3	23.112	SF
Moser H26-27D - Original Drilling - Original Drilling - As D	0.0	0.0	1,403.7			
Moser H26-27D - Original Drilling - Original Drilling - As D	800.0	777.2	1,406.7	1,402.5	334.445	ES
Moser H26-27D - Original Drilling - Original Drilling - As D	6,650.0	6,602.2	1,896.8	1,849.6	40.265	SF
Moser H26-28D - Original Drilling - Original Drilling - As D	100.0	84.6	1,383.9	1,383.7	6,519.297	CC
Moser H26-28D - Original Drilling - Original Drilling - As D	400.0	379.2	1,385.0	1,383.1	729.838	ES
Moser H26-28D - Original Drilling - Original Drilling - As D	6,800.0	7,141.7	1,943.1	1,878.9	30.275	SF
Moser H26-29D - Original Drilling - Original Drilling - As D	0.0	0.0	1,364.2			
Moser H26-29D - Original Drilling - Original Drilling - As D	900.0	886.7	1,364.9	1,359.8	269.543	ES
Moser H26-29D - Original Drilling - Original Drilling - As D	6,465.8	6,465.8	2,307.5	2,244.3	36.548	SF
Moser, Wesley E. G. U. B1 (PA) - Original Drilling - Origin	9,577.4	7,002.0	1,857.4	1,688.9	11.026	CC
Moser, Wesley E. G. U. B1 (PA) - Original Drilling - Origin	9,600.0	7,002.0	1,857.5	1,688.8	11.009	ES
Moser, Wesley E. G. U. B1 (PA) - Original Drilling - Origin	9,800.0	7,002.0	1,870.7	1,699.6	10.936	SF
H Section 27						
HSR Moser 1-27 - Original Drilling - Original Drilling - As	6,975.8	6,640.3	3,782.0	3,741.8	94.044	CC, ES
HSR Moser 1-27 - Original Drilling - Original Drilling - As	7,500.0	6,938.7	3,886.5	3,843.8	91.004	SF
HSR Moser 16-27 - Original Drilling - Original Drilling - As	10,083.2	7,011.4	3,344.9	3,288.2	58.979	CC
HSR Moser 16-27 - Original Drilling - Original Drilling - As	10,100.0	7,011.5	3,345.0	3,288.1	58.792	ES
HSR Moser 16-27 - Original Drilling - Original Drilling - As	11,400.0	7,016.0	3,594.8	3,525.7	52.058	SF
Moser 09-27X (PA) - Original Drilling - Original Drilling - A	8,669.8	7,006.8	3,416.2	3,367.3	69.921	CC
Moser 09-27X (PA) - Original Drilling - Original Drilling - A	8,700.0	7,006.3	3,416.3	3,367.2	69.608	ES
Moser 09-27X (PA) - Original Drilling - Original Drilling - A	10,200.0	6,980.1	3,743.2	3,682.2	61.412	SF
Moser 24-27 - Original Drilling - Original Drilling - As Drill	8,017.2	7,020.7	4,156.1	4,110.9	91.827	CC, ES
Moser 24-27 - Original Drilling - Original Drilling - As Drill	10,500.0	7,060.6	4,841.1	4,779.4	78.471	SF
H Section 34						
Moser H34-09 - Wellbore #1 - Wellbore #1 - As Drilled	13,904.0	7,034.9	3,349.9	3,258.7	36.727	CC, ES
Moser H34-09 - Wellbore #1 - Wellbore #1 - As Drilled	14,800.0	7,037.9	3,467.7	3,367.7	34.698	SF
Moser H34-16 - Wellbore #1 - Wellbore #1 - As Drilled	15,152.2	7,020.8	3,334.3	3,231.2	32.340	CC
Moser H34-16 - Wellbore #1 - Wellbore #1 - As Drilled	15,200.0	7,019.5	3,334.6	3,230.9	32.161	ES
Moser H34-16 - Wellbore #1 - Wellbore #1 - As Drilled	15,804.2	7,003.0	3,397.5	3,287.8	30.972	SF
Moser H34-31 - Wellbore #1 - Wellbore #1 - As Drilled	11,976.3	7,123.7	8,037.4	7,963.8	109.196	CC
Moser H34-31 - Wellbore #1 - Wellbore #1 - As Drilled	12,100.0	7,126.6	8,038.3	7,963.5	107.343	ES
Moser H34-31 - Wellbore #1 - Wellbore #1 - As Drilled	15,804.2	7,200.0	8,902.0	8,795.6	83.664	SF

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

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region Drilling - Sandbox	Local Co-ordinate Reference:	Well Hurley H35-746
Project:	Conceptual Wells	TVD Reference:	WELL @ 4884.0ft (Original Well Elev)
Reference Site:	DP 408	MD Reference:	WELL @ 4884.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	Grid
Reference Well:	Hurley H35-746	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Prelim - Rev 2	Offset TVD Reference:	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	14,728.4	7,017.3	1,317.8	1,218.7	13.300	CC, ES, SF
Cannon H35-03D - Original Drilling - Original Drilling - As	14,257.6	6,987.2	1,118.3	1,023.7	11.818	CC, ES
Cannon H35-03D - Original Drilling - Original Drilling - As	14,400.0	6,992.9	1,127.4	1,030.6	11.656	SF
Cannon H35-09 - Original Drilling - Original Drilling - As D	13,791.7	7,024.9	1,679.8	1,584.5	17.632	CC
Cannon H35-09 - Original Drilling - Original Drilling - As D	13,800.0	7,024.7	1,679.8	1,584.5	17.628	ES, SF
Cannon H35-10 - Original Drilling - Original Drilling - As D	13,900.0	7,007.8	442.1	350.6	4.832	SF
Cannon H35-10 - Original Drilling - Original Drilling - As D	13,924.6	7,007.8	441.4	350.1	4.836	CC, ES
Cannon H35-11 - Original Drilling - Original Drilling - As D	13,828.0	7,004.6	629.8	539.1	6.947	CC, ES
Cannon H35-11 - Original Drilling - Original Drilling - As D	13,900.0	7,005.9	633.9	541.8	6.884	SF
Cannon H35-12 - Original Drilling - Original Drilling - As D	13,958.8	7,025.3	2,093.0	2,001.3	22.825	CC
Cannon H35-12 - Original Drilling - Original Drilling - As D	14,000.0	7,025.6	2,093.4	2,001.2	22.688	ES
Cannon H35-12 - Original Drilling - Original Drilling - As D	14,400.0	7,029.3	2,139.0	2,042.5	22.158	SF
Cannon H35-13 - Wellbore #1 - Wellbore #1 - As Drilled	15,150.8	7,031.7	2,132.4	2,029.4	20.701	CC
Cannon H35-13 - Wellbore #1 - Wellbore #1 - As Drilled	15,200.0	7,030.4	2,132.9	2,029.2	20.570	ES
Cannon H35-13 - Wellbore #1 - Wellbore #1 - As Drilled	15,500.0	7,022.4	2,160.7	2,053.8	20.198	SF
Cannon H35-14 - Original Drilling - Original Drilling - As D	15,158.5	7,022.5	738.7	628.6	6.711	CC, ES
Cannon H35-14 - Original Drilling - Original Drilling - As D	15,200.0	7,022.2	739.8	628.9	6.670	SF
Cannon H35-15 (PA) - Original Drilling - Original Drilling -	15,171.8	7,014.0	478.2	259.0	2.182	CC, ES, SF
Cannon H35-20 - Original Drilling - Original Drilling - As D	13,345.8	6,951.0	1,503.7	1,417.6	17.471	CC, ES
Cannon H35-20 - Original Drilling - Original Drilling - As D	13,600.0	6,954.7	1,525.0	1,435.7	17.075	SF
Cannon H35-21 - Original Drilling - Original Drilling - As D	13,402.0	7,022.9	82.8	-3.6	0.958	Level 1, CC, ES, SF
Cannon H35-22 - Original Drilling - Original Drilling - As D	13,300.0	6,895.7	844.4	759.4	9.940	ES, SF
Cannon H35-22 - Original Drilling - Original Drilling - As D	13,302.5	6,895.7	844.4	759.4	9.940	CC
Cannon H35-24 - Original Drilling - Original Drilling - As D	14,592.8	7,009.3	264.5	166.6	2.701	CC
Cannon H35-24 - Original Drilling - Original Drilling - As D	14,600.0	7,009.5	264.6	166.3	2.693	ES, SF
Cannon X02-27 - Original Drilling - Original Drilling - As D	15,647.3	7,008.7	908.2	800.5	8.434	CC, ES, SF
Cannon X02-28 - Original Drilling - Original Drilling - As D	15,438.0	7,016.9	280.1	174.2	2.645	CC, ES, SF
Cannon X02-29 - Original Drilling - Original Drilling - As D	15,550.2	7,089.2	1,603.0	1,495.9	14.964	CC, ES
Cannon X02-29 - Original Drilling - Original Drilling - As D	15,804.2	7,102.0	1,623.1	1,513.0	14.751	SF
Foster 18-35 - Original Drilling - Original Drilling - As Drill	11,685.4	6,967.6	1,662.2	1,591.5	23.502	CC
Foster 18-35 - Original Drilling - Original Drilling - As Drill	11,700.0	6,967.7	1,662.3	1,591.4	23.432	ES
Foster 18-35 - Original Drilling - Original Drilling - As Drill	12,000.0	6,969.9	1,691.7	1,617.1	22.662	SF
Foster UPRR 31-35 #1 (PA) - Original Drilling - Original D	11,068.2	7,026.0	455.5	274.4	2.515	CC, ES, SF
Foster UPRR 32-35 - Original Drilling - Original Drilling -	12,400.0	7,022.6	348.5	271.1	4.506	ES, SF
Foster UPRR 32-35 - Original Drilling - Original Drilling -	12,404.1	7,022.6	348.5	271.2	4.510	CC
Foster UPRR 41-35 - Original Drilling - Original Drilling -	11,264.6	7,009.6	1,787.3	1,710.8	23.356	CC, ES
Foster UPRR 41-35 - Original Drilling - Original Drilling -	11,400.0	7,010.3	1,792.4	1,715.5	23.299	SF
Foster UPRR 42-35 #2 - Original Drilling - Original Drilling	12,357.1	6,948.1	1,760.9	1,684.6	23.083	CC, ES
Foster UPRR 42-35 #2 - Original Drilling - Original Drilling	12,500.0	6,951.7	1,766.7	1,690.0	23.038	SF
HSR Foster 03-35 - Original Drilling - Original Drilling - A	11,306.0	7,025.4	781.1	713.9	11.618	CC, ES
HSR Foster 03-35 - Original Drilling - Original Drilling - A	11,400.0	7,022.7	786.8	717.8	11.407	SF
HSR Foster 04-35 - Wellbore #1 - Wellbore #1 - As Drille	11,035.4	6,844.8	2,455.2	2,390.5	37.934	CC, ES
HSR Foster 04-35 - Wellbore #1 - Wellbore #1 - As Drille	11,800.0	6,847.0	2,571.5	2,498.9	35.419	SF
HSR Foster 05-35 - Wellbore #1 - Wellbore #1 - As Drille	12,621.0	6,867.4	2,218.7	2,139.5	28.033	CC, ES
HSR Foster 05-35 - Wellbore #1 - Wellbore #1 - As Drille	13,100.0	6,872.8	2,269.8	2,185.3	26.864	SF
HSR Foster 06-35 - Original Drilling - Original Drilling - A	12,488.8	7,013.9	849.9	771.9	10.888	CC
HSR Foster 06-35 - Original Drilling - Original Drilling - A	12,500.0	7,014.0	850.0	771.7	10.857	ES
HSR Foster 06-35 - Original Drilling - Original Drilling - A	12,600.0	7,015.1	857.2	777.2	10.720	SF
UPRR 53 Pan Am Unit P1 - Original Drilling - Original Dri	11,860.5	7,019.9	1,242.4	1,170.1	17.181	CC, ES, SF
UPRR 53 Pan Am UT P2 - Original Drilling - Original Drill	11,534.5	6,963.5	1,244.1	1,174.6	17.923	CC, ES
UPRR 53 Pan Am UT P2 - Original Drilling - Original Drill	11,800.0	6,962.7	1,272.1	1,199.1	17.441	SF

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region Drilling - Sandbox	Local Co-ordinate Reference:	Well Hurley H35-746
Project:	Conceptual Wells	TVD Reference:	WELL @ 4884.0ft (Original Well Elev)
Reference Site:	DP 408	MD Reference:	WELL @ 4884.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	Grid
Reference Well:	Hurley H35-746	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Prelim - Rev 2	Offset TVD Reference:	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	12,686.1	6,879.9	5,445.8	5,366.6	68.748	CC
Dechant 07-36 - Original Drilling - Original Drilling - As D	12,700.0	6,879.9	5,445.8	5,366.5	68.659	ES
Dechant 07-36 - Original Drilling - Original Drilling - As D	14,300.0	6,885.7	5,679.9	5,591.0	63.932	SF
Dechant 13N-1HZ - Original Drilling - Original Drilling - A	15,804.2	7,065.2	2,931.6	2,820.7	26.442	CC, ES, SF
Dechant 14C-1HZ - Original Drilling - Original Drilling - A	15,580.7	6,552.3	4,394.7	4,289.5	41.757	CC
Dechant 14C-1HZ - Original Drilling - Original Drilling - A	15,600.0	6,555.5	4,394.8	4,289.4	41.694	ES
Dechant 14C-1HZ - Original Drilling - Original Drilling - A	15,804.2	6,599.5	4,400.1	4,293.0	41.088	SF
Dechant 15-36 - Original Drilling - Original Drilling - As D	15,139.5	6,965.0	5,481.3	5,361.2	45.637	CC
Dechant 15-36 - Original Drilling - Original Drilling - As D	15,200.0	6,965.3	5,481.6	5,361.1	45.464	ES
Dechant 15-36 - Original Drilling - Original Drilling - As D	15,804.2	6,967.8	5,521.4	5,396.7	44.276	SF
Dechant 15C-1HZ - Original Drilling - Original Drilling - A	906.1	830.1	5,231.4	5,226.7	1,116.107	CC
Dechant 15C-1HZ - Original Drilling - Original Drilling - A	1,000.0	900.0	5,231.5	5,226.3	1,016.097	ES
Dechant 15C-1HZ - Original Drilling - Original Drilling - A	15,804.2	11,930.4	5,638.6	5,459.8	31.529	SF
Dechant 24-36 - Original Drilling - Original Drilling - As D	13,008.7	7,120.6	6,141.4	6,056.1	71.983	CC
Dechant 24-36 - Original Drilling - Original Drilling - As D	13,100.0	7,120.6	6,142.1	6,056.0	71.303	ES
Dechant 24-36 - Original Drilling - Original Drilling - As D	15,200.0	7,121.6	6,520.7	6,419.1	64.226	SF
Dechant 35N-E1HZ - Original Drilling - Original Drilling -	15,804.2	6,798.3	4,093.7	3,985.2	37.722	CC, ES, SF
Dechant 35N-W1HZ - Original Drilling - Original Drilling -	15,804.2	6,950.0	3,490.3	3,380.8	31.868	CC, ES, SF
Dechant 36N-W1HZ - Original Drilling - Original Drilling -	15,562.9	6,383.2	4,641.3	4,536.9	44.478	CC
Dechant 36N-W1HZ - Original Drilling - Original Drilling -	15,600.0	6,386.9	4,641.4	4,536.8	44.354	ES
Dechant 36N-W1HZ - Original Drilling - Original Drilling -	15,804.2	6,414.2	4,647.3	4,541.1	43.743	SF
Dechant 37N-E1HZ - Original Drilling - Original Drilling -	15,517.8	5,438.6	6,457.4	6,357.7	64.741	CC
Dechant 37N-E1HZ - Original Drilling - Original Drilling -	15,600.0	5,438.6	6,458.0	6,357.6	64.327	ES
Dechant 37N-E1HZ - Original Drilling - Original Drilling -	15,804.2	5,438.7	6,463.7	6,361.7	63.389	SF
Dechant 37N-W1HZ - Original Drilling - Original Drilling -	15,526.5	6,136.5	5,952.6	5,849.6	57.817	CC
Dechant 37N-W1HZ - Original Drilling - Original Drilling -	15,600.0	6,136.4	5,953.1	5,849.5	57.503	ES
Dechant 37N-W1HZ - Original Drilling - Original Drilling -	15,804.2	6,136.0	5,959.0	5,853.9	56.723	SF
Dechant State 16C-1HZ - Original Drilling - Original Drilling	2,378.7	3,156.7	6,475.9	6,459.4	392.276	CC, ES
Dechant State 16C-1HZ - Original Drilling - Original Drilling	15,200.0	15,200.0	6,887.5	6,661.9	30.535	SF
Dechant State 36N-E1HZ - Original Drilling - Original Drilling	2,008.8	1,947.6	5,218.6	5,207.6	471.262	CC
Dechant State 36N-E1HZ - Original Drilling - Original Drilling	15,804.2	11,757.1	5,360.2	5,182.0	30.071	ES, SF
Dechant State 37N-E36HZ - Original Drilling - Original Drilling	11,031.7	7,150.0	6,539.6	6,474.0	99.575	CC
Dechant State 37N-E36HZ - Original Drilling - Original Drilling	15,400.0	11,401.3	6,573.0	6,406.8	39.561	ES
Dechant State 37N-E36HZ - Original Drilling - Original Drilling	15,804.2	11,401.3	6,592.5	6,424.0	39.126	SF
Dechant State 37N-W36HZ - Original Drilling - Original Drilling	906.7	829.7	5,240.9	5,236.2	1,118.196	CC
Dechant State 37N-W36HZ - Original Drilling - Original Drilling	1,000.0	900.0	5,240.9	5,235.8	1,017.941	ES
Dechant State 37N-W36HZ - Original Drilling - Original Drilling	15,804.2	11,489.0	5,996.6	5,825.5	35.042	SF
Dechant State 38N-1HZ - Original Drilling - Original Drilling	908.3	828.3	6,758.7	6,754.0	1,442.420	CC
Dechant State 38N-1HZ - Original Drilling - Original Drilling	1,000.0	900.0	6,758.7	6,753.5	1,312.728	ES
Dechant State 38N-1HZ - Original Drilling - Original Drilling	15,804.2	11,674.1	7,285.8	7,109.1	41.250	SF
Dechant State H36-11D - Original Drilling - Original Drilling	13,897.5	6,934.9	4,301.6	4,210.8	47.383	CC
Dechant State H36-11D - Original Drilling - Original Drilling	13,900.0	6,934.9	4,301.6	4,210.8	47.373	ES
Dechant State H36-11D - Original Drilling - Original Drilling	14,700.0	6,923.5	4,375.8	4,280.5	45.923	SF
Dechant State H36-18D - Original Drilling - Original Drilling	100.0	43.8	4,812.6	4,812.4	10,000.000	CC
Dechant State H36-18D - Original Drilling - Original Drilling	11,900.0	7,118.7	4,832.1	4,758.6	65.743	ES
Dechant State H36-18D - Original Drilling - Original Drilling	13,500.0	7,209.7	5,110.0	5,025.5	60.427	SF
Dechant State H36-19 - Original Drilling - Original Drilling	11,518.3	7,182.5	3,421.2	3,351.1	48.780	CC, ES
Dechant State H36-19 - Original Drilling - Original Drilling	12,200.0	7,188.9	3,488.4	3,414.9	47.409	SF
Dechant State H36-20D - Original Drilling - Original Drilling	13,299.6	7,309.7	3,661.7	3,574.9	42.161	CC
Dechant State H36-20D - Original Drilling - Original Drilling	13,300.0	7,309.7	3,661.7	3,574.9	42.160	ES
Dechant State H36-20D - Original Drilling - Original Drilling	13,900.0	13,900.0	3,710.5	3,601.2	33.960	SF
Dechant State H36-21D - Original Drilling - Original Drilling	13,250.7	7,066.8	4,865.5	4,779.2	56.385	CC
Dechant State H36-21D - Original Drilling - Original Drilling	13,300.0	7,066.7	4,865.8	4,779.2	56.177	ES

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

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region Drilling - Sandbox	Local Co-ordinate Reference:	Well Hurley H35-746
Project:	Conceptual Wells	TVD Reference:	WELL @ 4884.0ft (Original Well Elev)
Reference Site:	DP 408	MD Reference:	WELL @ 4884.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	Grid
Reference Well:	Hurley H35-746	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Prelim - Rev 2	Offset TVD Reference:	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						
Offset Well - Wellbore - Design						
Dechant State H36-21D - Original Drilling - Original Drilling	14,300.0	7,065.5	4,977.4	4,885.5	54.154	SF
Dechant State H36-24 - Original Drilling - Original Drilling	14,457.9	7,195.2	4,955.6	4,857.4	50.473	CC
Dechant State H36-24 - Original Drilling - Original Drilling	14,500.0	7,194.7	4,955.7	4,857.2	50.313	ES
Dechant State H36-24 - Original Drilling - Original Drilling	15,600.0	7,181.8	5,085.5	4,980.2	48.304	SF
Dechant State H36-31D - Original Drilling - Original Drilling	11,884.0	7,122.3	2,422.9	2,350.1	33.253	CC
Dechant State H36-31D - Original Drilling - Original Drilling	11,900.0	7,122.5	2,423.0	2,350.1	33.228	ES
Dechant State H36-31D - Original Drilling - Original Drilling	12,100.0	7,123.9	2,432.5	2,359.0	33.089	SF
Dechant State H36-32D - Original Drilling - Original Drilling	13,136.6	7,074.6	2,428.2	2,343.1	28.563	CC, ES
Dechant State H36-32D - Original Drilling - Original Drilling	13,400.0	7,078.6	2,442.4	2,356.1	28.296	SF
Dechant State H36-33 - Original Drilling - Original Drilling	14,351.6	7,335.5	2,491.5	2,393.2	25.359	CC, ES
Dechant State H36-33 - Original Drilling - Original Drilling	14,600.0	7,335.9	2,503.8	2,404.4	25.192	SF
HSR Dechant State 02-36 - Original Drilling - Original Drilling	10,934.3	6,889.1	5,365.3	5,301.8	84.579	CC
HSR Dechant State 02-36 - Original Drilling - Original Drilling	11,000.0	6,890.9	5,365.7	5,301.8	83.966	ES
HSR Dechant State 02-36 - Original Drilling - Original Drilling	12,900.0	6,928.7	5,713.8	5,638.8	76.179	SF
HSR Dechant/State 07-36 (PA) - Original Drilling - Original Drilling	12,115.5	6,979.0	5,974.6	5,784.8	31.470	CC
HSR Dechant/State 07-36 (PA) - Original Drilling - Original Drilling	12,200.0	6,979.0	5,975.2	5,784.7	31.369	ES
HSR Dechant/State 07-36 (PA) - Original Drilling - Original Drilling	13,200.0	6,979.0	6,072.2	5,875.0	30.787	SF
Spike State GWS H36-03 - Original Drilling - Original Drilling	10,800.0	10,800.0	4,458.4	4,381.7	58.130	ES, SF
Spike State GWS H36-03 - Original Drilling - Original Drilling	11,101.8	7,027.2	4,448.3	4,382.6	67.790	CC
Spike State GWS H36-04 - Original Drilling - Original Drilling	10,966.1	7,051.1	2,943.3	2,870.0	40.142	CC, ES
Spike State GWS H36-04 - Original Drilling - Original Drilling	11,400.0	7,048.1	2,975.1	2,899.7	39.480	SF
Spike State GWS H36-13 - Original Drilling - Original Drilling	15,291.8	6,643.4	2,916.3	2,814.4	28.636	CC
Spike State GWS H36-13 - Original Drilling - Original Drilling	15,300.0	6,643.0	2,916.3	2,814.4	28.623	ES
Spike State GWS H36-13 - Original Drilling - Original Drilling	15,600.0	6,628.1	2,932.4	2,829.3	28.421	SF
Spike State GWS H36-14 - Original Drilling - Original Drilling	15,251.4	6,913.5	4,584.6	4,481.1	44.297	CC
Spike State GWS H36-14 - Original Drilling - Original Drilling	15,300.0	6,908.8	4,584.9	4,481.1	44.160	ES
Spike State GWS H36-14 - Original Drilling - Original Drilling	15,804.2	6,900.0	4,617.7	4,510.8	43.193	SF
Spike State H36-02J - Original Drilling - Original Drilling	12,172.2	6,943.3	3,914.6	3,807.3	36.498	CC
Spike State H36-02J - Original Drilling - Original Drilling	12,200.0	6,943.7	3,914.7	3,807.2	36.431	ES
Spike State H36-02J - Original Drilling - Original Drilling	12,900.0	6,955.7	3,981.6	3,869.9	35.637	SF
Spike State H36-05 - Original Drilling - Original Drilling - A	12,368.2	7,102.8	2,909.2	2,831.7	37.559	CC
Spike State H36-05 - Original Drilling - Original Drilling - A	12,400.0	7,102.8	2,909.4	2,831.7	37.473	ES
Spike State H36-05 - Original Drilling - Original Drilling - A	12,800.0	7,101.7	2,941.1	2,861.6	37.026	SF
Spike State H36-11J - Original Drilling - Original Drilling	14,512.5	6,973.6	3,722.7	3,625.9	38.473	CC, ES
Spike State H36-11J - Original Drilling - Original Drilling	15,100.0	6,963.1	3,768.7	3,668.9	37.761	SF
Spike State H36-12 - Original Drilling - Original Drilling - A	13,638.8	7,000.9	2,824.6	2,735.9	31.855	CC, ES
Spike State H36-12 - Original Drilling - Original Drilling - A	13,900.0	6,998.8	2,836.6	2,746.7	31.544	SF

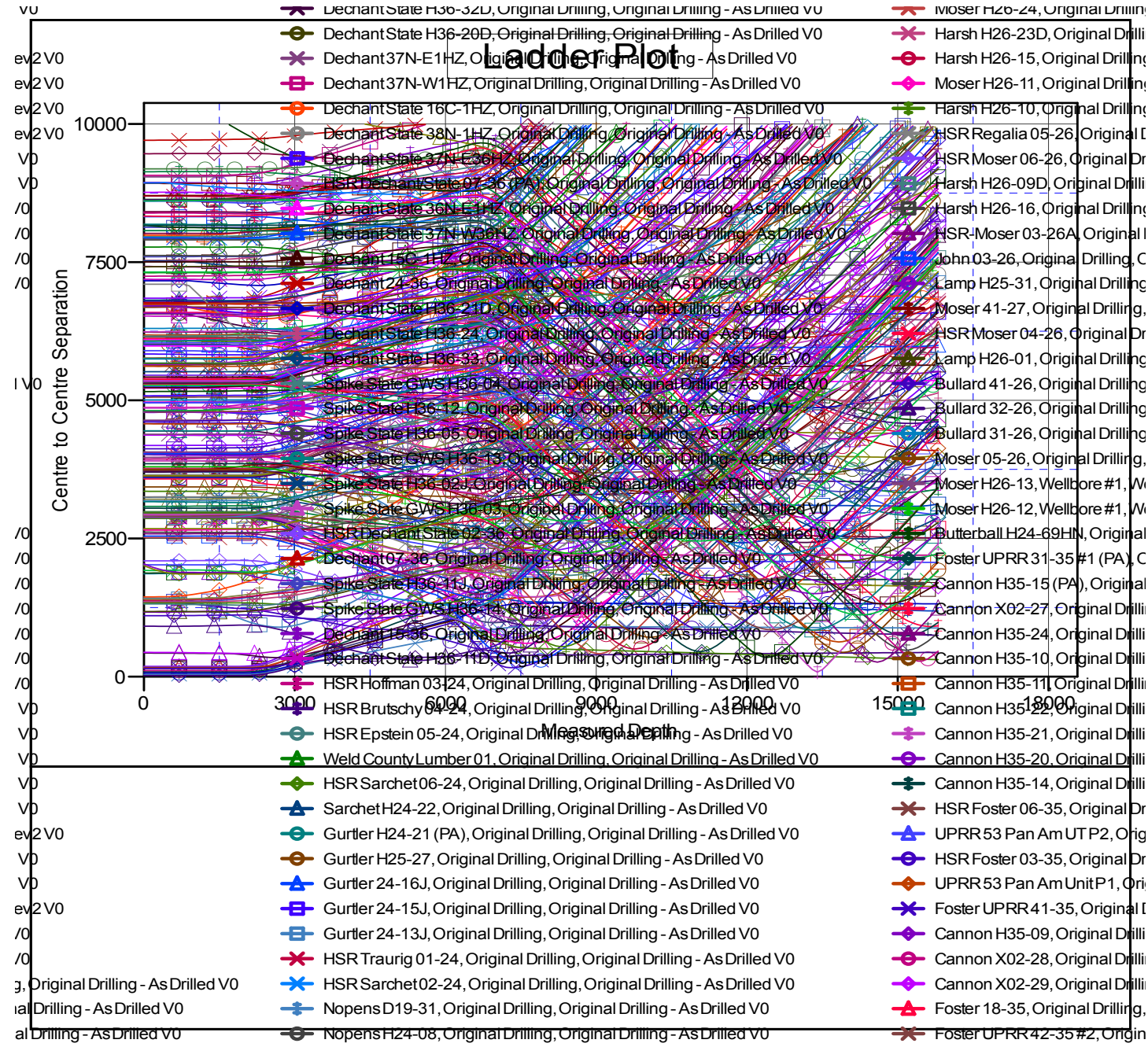
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region Drilling - Sandbox	Local Co-ordinate Reference:	Well Hurley H35-746
Project:	Conceptual Wells	TVD Reference:	WELL @ 4884.0ft (Original Well Elev)
Reference Site:	DP 408	MD Reference:	WELL @ 4884.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	Grid
Reference Well:	Hurley H35-746	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Prelim - Rev 2	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4884.0ft (Original Well Elev) Coordinates are relative to: Hurley H35-746
 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: 0.57°



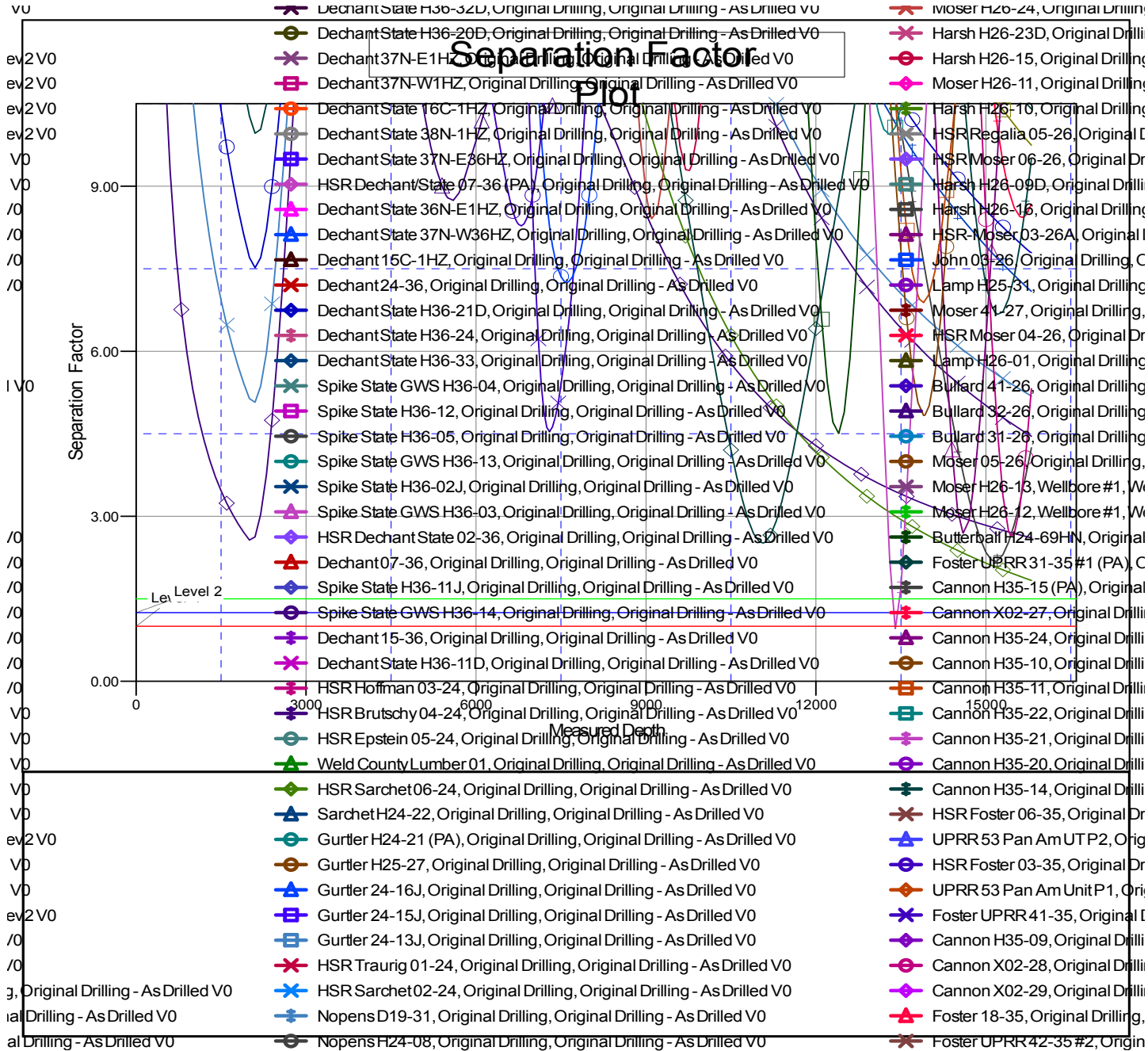
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Noble Energy, Inc.

Anticollision Summary Report

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