

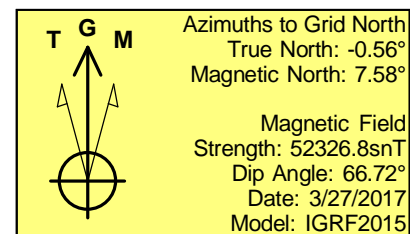
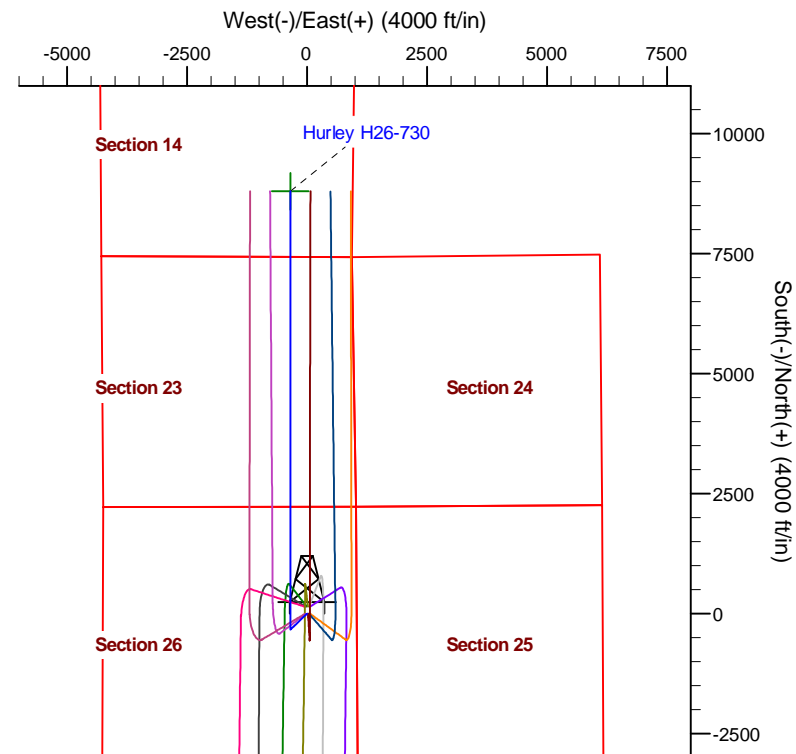
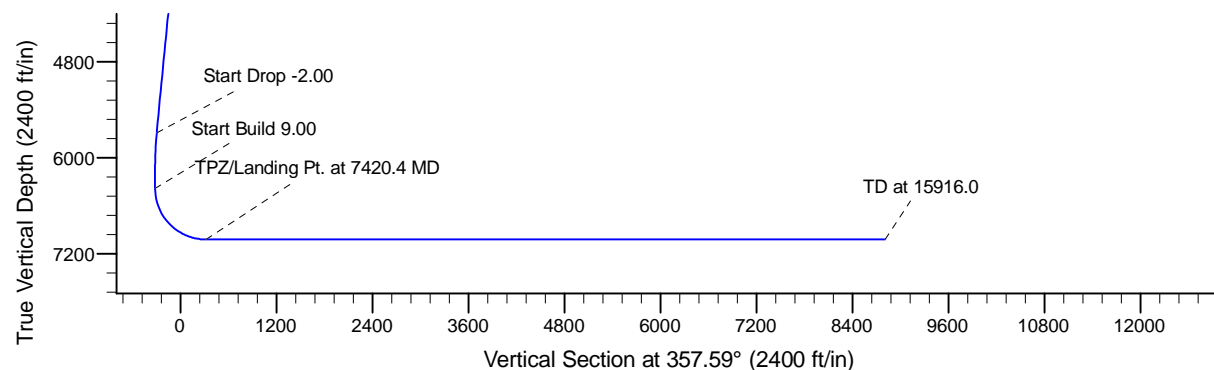
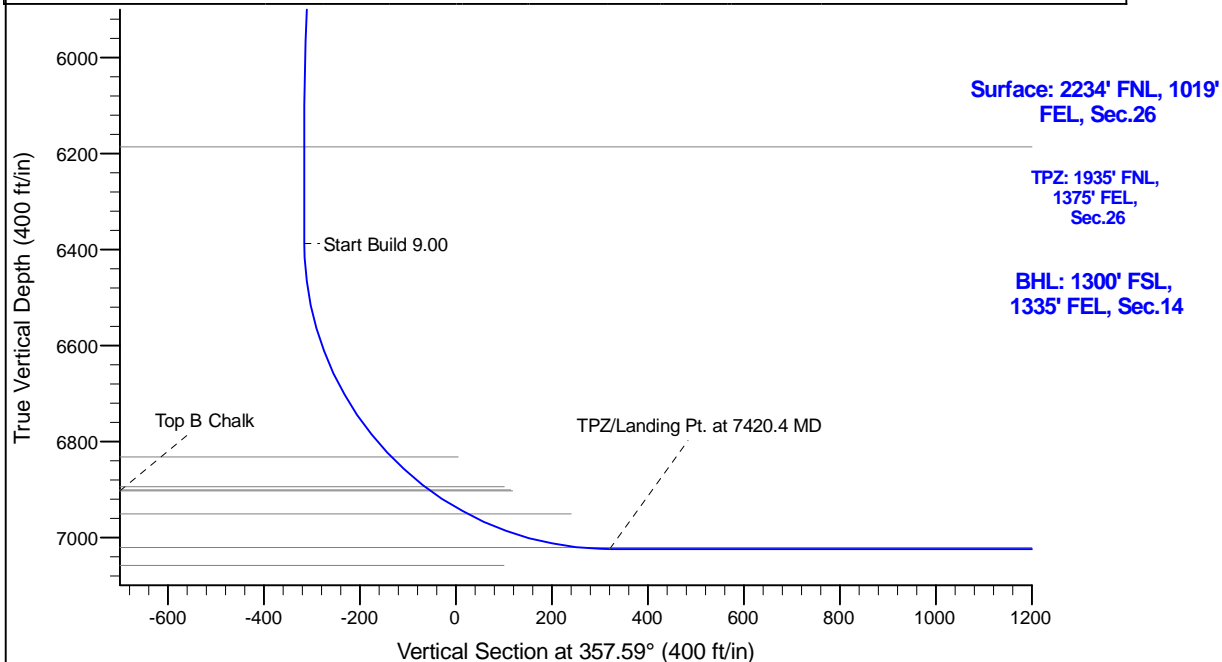
Project: Conceptual Wells
Site: DP 408
Well: Hurley H26-730
Wellbore: Wellbore #1
Design: Design #1

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	2400.0	0.00	0.00	2400.0	0.0	0.0	0.00	0.00	0.0	
3	2813.3	8.27	226.27	2811.9	-20.6	-21.5	2.00	226.27	-19.7	
4	5719.7	8.27	226.27	5688.1	-309.4	-323.5	0.00	0.00	-295.6	
5	6133.1	0.00	0.00	6100.0	-330.0	-345.0	2.00	180.00	-315.2	
6	6420.4	0.00	0.00	6387.4	-330.0	-345.0	0.00	0.00	-315.2	
7	7420.4	90.00	359.99	7024.0	306.6	-345.1	9.00	359.99	320.9	
8	15916.0	90.00	359.99	7024.0	8802.1	-346.6	0.00	0.00	8808.9	Hurley H26-730 BHL



WELL DETAILS: Hurley H26-730

	Northing	Easting	Latitude	Longitude
0.00.0	1315961.68	3244465.56	4854.0 40.197400	-104.624840

Plan: Design #1 (Hurley H26-730/Wellbore #1)

Created By: Chad Stich Date: 16:11, October 31 2017
Checked: _____ Date: _____
Reviewed: _____ Date: _____
Approved: _____ Date: _____

Northern Region Drilling - Sandbox

Conceptual Wells

DP 408

Hurley H26-730

Wellbore #1

Plan: Design #1

Standard Planning Report

31 October, 2017

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Hurley H26-730
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 H26-730	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

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 H26-730					
Well Position	+N/-S	-2,223.1 ft	Northing:	1,315,961.68 usft	Latitude:	40.197400
	+E/-W	4,240.6 ft	Easting:	3,244,465.56 usft	Longitude:	-104.624840
Position Uncertainty		0.0 ft	Wellhead Elevation:		Ground Level:	4,854.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	3/27/2017	8.14	66.72	52,326.84741827

Design	Design #1			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.0	0.0	0.0	357.59

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	
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,813.3	8.27	226.27	2,811.9	-20.6	-21.5	2.00	2.00	0.00	226.27	
5,719.7	8.27	226.27	5,688.1	-309.4	-323.5	0.00	0.00	0.00	0.00	
6,133.1	0.00	0.00	6,100.0	-330.0	-345.0	2.00	-2.00	0.00	180.00	
6,420.4	0.00	0.00	6,387.4	-330.0	-345.0	0.00	0.00	0.00	0.00	
7,420.4	90.00	359.99	7,024.0	306.6	-345.1	9.00	9.00	0.00	359.99	
15,916.0	90.00	359.99	7,024.0	8,802.1	-346.6	0.00	0.00	0.00	0.00	Hurley H26-730 BHL

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Hurley H26-730
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 H26-730	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	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	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	2.00	226.27	2,500.0	-1.2	-1.3	-1.2	2.00	2.00	0.00
2,600.0	4.00	226.27	2,599.8	-4.8	-5.0	-4.6	2.00	2.00	0.00
2,700.0	6.00	226.27	2,699.5	-10.8	-11.3	-10.4	2.00	2.00	0.00
2,800.0	8.00	226.27	2,798.7	-19.3	-20.1	-18.4	2.00	2.00	0.00
2,813.3	8.27	226.27	2,811.9	-20.6	-21.5	-19.7	2.00	2.00	0.00
2,900.0	8.27	226.27	2,897.7	-29.2	-30.5	-27.9	0.00	0.00	0.00
3,000.0	8.27	226.27	2,996.6	-39.1	-40.9	-37.4	0.00	0.00	0.00
3,100.0	8.27	226.27	3,095.6	-49.1	-51.3	-46.9	0.00	0.00	0.00
3,200.0	8.27	226.27	3,194.5	-59.0	-61.7	-56.4	0.00	0.00	0.00
3,300.0	8.27	226.27	3,293.5	-68.9	-72.1	-65.9	0.00	0.00	0.00
3,400.0	8.27	226.27	3,392.5	-78.9	-82.5	-75.3	0.00	0.00	0.00
3,500.0	8.27	226.27	3,491.4	-88.8	-92.9	-84.8	0.00	0.00	0.00
3,600.0	8.27	226.27	3,590.4	-98.8	-103.2	-94.3	0.00	0.00	0.00
3,700.0	8.27	226.27	3,689.4	-108.7	-113.6	-103.8	0.00	0.00	0.00
3,800.0	8.27	226.27	3,788.3	-118.6	-124.0	-113.3	0.00	0.00	0.00
3,900.0	8.27	226.27	3,887.3	-128.6	-134.4	-122.8	0.00	0.00	0.00
4,000.0	8.27	226.27	3,986.2	-138.5	-144.8	-132.3	0.00	0.00	0.00
4,100.0	8.27	226.27	4,085.2	-148.4	-155.2	-141.8	0.00	0.00	0.00
4,200.0	8.27	226.27	4,184.2	-158.4	-165.6	-151.3	0.00	0.00	0.00
4,300.0	8.27	226.27	4,283.1	-168.3	-176.0	-160.8	0.00	0.00	0.00
4,400.0	8.27	226.27	4,382.1	-178.3	-186.4	-170.3	0.00	0.00	0.00
4,500.0	8.27	226.27	4,481.0	-188.2	-196.8	-179.8	0.00	0.00	0.00
4,600.0	8.27	226.27	4,580.0	-198.1	-207.1	-189.3	0.00	0.00	0.00
4,700.0	8.27	226.27	4,679.0	-208.1	-217.5	-198.8	0.00	0.00	0.00
4,800.0	8.27	226.27	4,777.9	-218.0	-227.9	-208.2	0.00	0.00	0.00
4,900.0	8.27	226.27	4,876.9	-228.0	-238.3	-217.7	0.00	0.00	0.00
5,000.0	8.27	226.27	4,975.8	-237.9	-248.7	-227.2	0.00	0.00	0.00
5,100.0	8.27	226.27	5,074.8	-247.8	-259.1	-236.7	0.00	0.00	0.00
5,200.0	8.27	226.27	5,173.8	-257.8	-269.5	-246.2	0.00	0.00	0.00

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Hurley H26-730
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 H26-730	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	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	8.27	226.27	5,272.7	-267.7	-279.9	-255.7	0.00	0.00	0.00
5,400.0	8.27	226.27	5,371.7	-277.6	-290.3	-265.2	0.00	0.00	0.00
5,500.0	8.27	226.27	5,470.7	-287.6	-300.7	-274.7	0.00	0.00	0.00
5,600.0	8.27	226.27	5,569.6	-297.5	-311.0	-284.2	0.00	0.00	0.00
5,700.0	8.27	226.27	5,668.6	-307.5	-321.4	-293.7	0.00	0.00	0.00
5,719.7	8.27	226.27	5,688.1	-309.4	-323.5	-295.6	0.00	0.00	0.00
5,800.0	6.66	226.27	5,767.7	-316.6	-331.0	-302.4	2.00	-2.00	0.00
5,900.0	4.66	226.27	5,867.2	-323.5	-338.2	-309.0	2.00	-2.00	0.00
6,000.0	2.66	226.27	5,967.0	-327.9	-342.8	-313.2	2.00	-2.00	0.00
6,100.0	0.66	226.27	6,066.9	-329.9	-344.9	-315.1	2.00	-2.00	0.00
6,133.1	0.00	0.00	6,100.0	-330.0	-345.0	-315.2	2.00	-2.00	0.00
6,200.0	0.00	0.00	6,166.9	-330.0	-345.0	-315.2	0.00	0.00	0.00
6,300.0	0.00	0.00	6,266.9	-330.0	-345.0	-315.2	0.00	0.00	0.00
6,400.0	0.00	0.00	6,366.9	-330.0	-345.0	-315.2	0.00	0.00	0.00
6,420.4	0.00	0.00	6,387.4	-330.0	-345.0	-315.2	0.00	0.00	0.00
6,500.0	7.16	359.99	6,466.7	-325.0	-345.0	-310.3	9.00	9.00	0.00
6,600.0	16.16	359.99	6,564.6	-304.8	-345.0	-290.1	9.00	9.00	0.00
6,700.0	25.16	359.99	6,658.0	-269.6	-345.0	-254.9	9.00	9.00	0.00
6,800.0	34.16	359.99	6,744.8	-220.2	-345.0	-205.5	9.00	9.00	0.00
6,900.0	43.16	359.99	6,822.9	-157.8	-345.0	-143.1	9.00	9.00	0.00
7,000.0	52.16	359.99	6,890.1	-83.9	-345.0	-69.3	9.00	9.00	0.00
7,100.0	61.16	359.99	6,945.0	-0.5	-345.1	14.0	9.00	9.00	0.00
7,200.0	70.16	359.99	6,986.2	90.6	-345.1	105.0	9.00	9.00	0.00
7,300.0	79.16	359.99	7,012.6	186.9	-345.1	201.2	9.00	9.00	0.00
7,400.0	88.16	359.99	7,023.7	286.2	-345.1	300.4	9.00	9.00	0.00
7,420.4	90.00	359.99	7,024.0	306.6	-345.1	320.9	9.00	9.00	0.00
7,500.0	90.00	359.99	7,024.0	386.2	-345.1	400.3	0.00	0.00	0.00
7,600.0	90.00	359.99	7,024.0	486.2	-345.1	500.2	0.00	0.00	0.00
7,700.0	90.00	359.99	7,024.0	586.2	-345.2	600.2	0.00	0.00	0.00
7,800.0	90.00	359.99	7,024.0	686.2	-345.2	700.1	0.00	0.00	0.00
7,900.0	90.00	359.99	7,024.0	786.2	-345.2	800.0	0.00	0.00	0.00
8,000.0	90.00	359.99	7,024.0	886.2	-345.2	899.9	0.00	0.00	0.00
8,100.0	90.00	359.99	7,024.0	986.2	-345.2	999.8	0.00	0.00	0.00
8,200.0	90.00	359.99	7,024.0	1,086.2	-345.2	1,099.7	0.00	0.00	0.00
8,300.0	90.00	359.99	7,024.0	1,186.2	-345.3	1,199.6	0.00	0.00	0.00
8,400.0	90.00	359.99	7,024.0	1,286.2	-345.3	1,299.5	0.00	0.00	0.00
8,500.0	90.00	359.99	7,024.0	1,386.2	-345.3	1,399.5	0.00	0.00	0.00
8,600.0	90.00	359.99	7,024.0	1,486.2	-345.3	1,499.4	0.00	0.00	0.00
8,700.0	90.00	359.99	7,024.0	1,586.2	-345.3	1,599.3	0.00	0.00	0.00
8,800.0	90.00	359.99	7,024.0	1,686.2	-345.4	1,699.2	0.00	0.00	0.00
8,900.0	90.00	359.99	7,024.0	1,786.2	-345.4	1,799.1	0.00	0.00	0.00
9,000.0	90.00	359.99	7,024.0	1,886.2	-345.4	1,899.0	0.00	0.00	0.00
9,100.0	90.00	359.99	7,024.0	1,986.2	-345.4	1,998.9	0.00	0.00	0.00
9,200.0	90.00	359.99	7,024.0	2,086.2	-345.4	2,098.8	0.00	0.00	0.00
9,300.0	90.00	359.99	7,024.0	2,186.2	-345.4	2,198.8	0.00	0.00	0.00
9,400.0	90.00	359.99	7,024.0	2,286.2	-345.5	2,298.7	0.00	0.00	0.00
9,500.0	90.00	359.99	7,024.0	2,386.2	-345.5	2,398.6	0.00	0.00	0.00
9,600.0	90.00	359.99	7,024.0	2,486.2	-345.5	2,498.5	0.00	0.00	0.00
9,700.0	90.00	359.99	7,024.0	2,586.2	-345.5	2,598.4	0.00	0.00	0.00
9,800.0	90.00	359.99	7,024.0	2,686.2	-345.5	2,698.3	0.00	0.00	0.00
9,900.0	90.00	359.99	7,024.0	2,786.2	-345.5	2,798.2	0.00	0.00	0.00
10,000.0	90.00	359.99	7,024.0	2,886.2	-345.6	2,898.1	0.00	0.00	0.00
10,100.0	90.00	359.99	7,024.0	2,986.2	-345.6	2,998.1	0.00	0.00	0.00
10,200.0	90.00	359.99	7,024.0	3,086.2	-345.6	3,098.0	0.00	0.00	0.00

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Hurley H26-730
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 H26-730	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	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)
10,300.0	90.00	359.99	7,024.0	3,186.2	-345.6	3,197.9	0.00	0.00	0.00
10,400.0	90.00	359.99	7,024.0	3,286.2	-345.6	3,297.8	0.00	0.00	0.00
10,500.0	90.00	359.99	7,024.0	3,386.2	-345.6	3,397.7	0.00	0.00	0.00
10,600.0	90.00	359.99	7,024.0	3,486.2	-345.7	3,497.6	0.00	0.00	0.00
10,700.0	90.00	359.99	7,024.0	3,586.2	-345.7	3,597.5	0.00	0.00	0.00
10,800.0	90.00	359.99	7,024.0	3,686.2	-345.7	3,697.4	0.00	0.00	0.00
10,900.0	90.00	359.99	7,024.0	3,786.2	-345.7	3,797.4	0.00	0.00	0.00
11,000.0	90.00	359.99	7,024.0	3,886.2	-345.7	3,897.3	0.00	0.00	0.00
11,100.0	90.00	359.99	7,024.0	3,986.2	-345.8	3,997.2	0.00	0.00	0.00
11,200.0	90.00	359.99	7,024.0	4,086.2	-345.8	4,097.1	0.00	0.00	0.00
11,300.0	90.00	359.99	7,024.0	4,186.2	-345.8	4,197.0	0.00	0.00	0.00
11,400.0	90.00	359.99	7,024.0	4,286.2	-345.8	4,296.9	0.00	0.00	0.00
11,500.0	90.00	359.99	7,024.0	4,386.2	-345.8	4,396.8	0.00	0.00	0.00
11,600.0	90.00	359.99	7,024.0	4,486.2	-345.8	4,496.7	0.00	0.00	0.00
11,700.0	90.00	359.99	7,024.0	4,586.2	-345.9	4,596.7	0.00	0.00	0.00
11,800.0	90.00	359.99	7,024.0	4,686.2	-345.9	4,696.6	0.00	0.00	0.00
11,900.0	90.00	359.99	7,024.0	4,786.2	-345.9	4,796.5	0.00	0.00	0.00
12,000.0	90.00	359.99	7,024.0	4,886.2	-345.9	4,896.4	0.00	0.00	0.00
12,100.0	90.00	359.99	7,024.0	4,986.2	-345.9	4,996.3	0.00	0.00	0.00
12,200.0	90.00	359.99	7,024.0	5,086.2	-345.9	5,096.2	0.00	0.00	0.00
12,300.0	90.00	359.99	7,024.0	5,186.2	-346.0	5,196.1	0.00	0.00	0.00
12,400.0	90.00	359.99	7,024.0	5,286.2	-346.0	5,296.0	0.00	0.00	0.00
12,500.0	90.00	359.99	7,024.0	5,386.2	-346.0	5,396.0	0.00	0.00	0.00
12,600.0	90.00	359.99	7,024.0	5,486.2	-346.0	5,495.9	0.00	0.00	0.00
12,700.0	90.00	359.99	7,024.0	5,586.2	-346.0	5,595.8	0.00	0.00	0.00
12,800.0	90.00	359.99	7,024.0	5,686.2	-346.1	5,695.7	0.00	0.00	0.00
12,900.0	90.00	359.99	7,024.0	5,786.2	-346.1	5,795.6	0.00	0.00	0.00
13,000.0	90.00	359.99	7,024.0	5,886.2	-346.1	5,895.5	0.00	0.00	0.00
13,100.0	90.00	359.99	7,024.0	5,986.2	-346.1	5,995.4	0.00	0.00	0.00
13,200.0	90.00	359.99	7,024.0	6,086.2	-346.1	6,095.3	0.00	0.00	0.00
13,300.0	90.00	359.99	7,024.0	6,186.2	-346.1	6,195.3	0.00	0.00	0.00
13,400.0	90.00	359.99	7,024.0	6,286.2	-346.2	6,295.2	0.00	0.00	0.00
13,500.0	90.00	359.99	7,024.0	6,386.2	-346.2	6,395.1	0.00	0.00	0.00
13,600.0	90.00	359.99	7,024.0	6,486.2	-346.2	6,495.0	0.00	0.00	0.00
13,700.0	90.00	359.99	7,024.0	6,586.2	-346.2	6,594.9	0.00	0.00	0.00
13,800.0	90.00	359.99	7,024.0	6,686.2	-346.2	6,694.8	0.00	0.00	0.00
13,900.0	90.00	359.99	7,024.0	6,786.2	-346.2	6,794.7	0.00	0.00	0.00
14,000.0	90.00	359.99	7,024.0	6,886.2	-346.3	6,894.6	0.00	0.00	0.00
14,100.0	90.00	359.99	7,024.0	6,986.2	-346.3	6,994.6	0.00	0.00	0.00
14,200.0	90.00	359.99	7,024.0	7,086.2	-346.3	7,094.5	0.00	0.00	0.00
14,300.0	90.00	359.99	7,024.0	7,186.2	-346.3	7,194.4	0.00	0.00	0.00
14,400.0	90.00	359.99	7,024.0	7,286.2	-346.3	7,294.3	0.00	0.00	0.00
14,500.0	90.00	359.99	7,024.0	7,386.2	-346.3	7,394.2	0.00	0.00	0.00
14,600.0	90.00	359.99	7,024.0	7,486.2	-346.4	7,494.1	0.00	0.00	0.00
14,700.0	90.00	359.99	7,024.0	7,586.2	-346.4	7,594.0	0.00	0.00	0.00
14,800.0	90.00	359.99	7,024.0	7,686.2	-346.4	7,693.9	0.00	0.00	0.00
14,900.0	90.00	359.99	7,024.0	7,786.2	-346.4	7,793.9	0.00	0.00	0.00
15,000.0	90.00	359.99	7,024.0	7,886.2	-346.4	7,893.8	0.00	0.00	0.00
15,100.0	90.00	359.99	7,024.0	7,986.2	-346.5	7,993.7	0.00	0.00	0.00
15,200.0	90.00	359.99	7,024.0	8,086.2	-346.5	8,093.6	0.00	0.00	0.00
15,300.0	90.00	359.99	7,024.0	8,186.2	-346.5	8,193.5	0.00	0.00	0.00
15,400.0	90.00	359.99	7,024.0	8,286.2	-346.5	8,293.4	0.00	0.00	0.00
15,500.0	90.00	359.99	7,024.0	8,386.2	-346.5	8,393.3	0.00	0.00	0.00
15,600.0	90.00	359.99	7,024.0	8,486.2	-346.5	8,493.2	0.00	0.00	0.00

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Hurley H26-730
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 H26-730	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	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)
15,700.0	90.00	359.99	7,024.0	8,586.2	-346.6	8,593.2	0.00	0.00	0.00
15,800.0	90.00	359.99	7,024.0	8,686.2	-346.6	8,693.1	0.00	0.00	0.00
15,900.0	90.00	359.99	7,024.0	8,786.2	-346.6	8,793.0	0.00	0.00	0.00
15,916.0	90.00	359.99	7,024.0	8,802.1	-346.6	8,808.9	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 H26-730 BHL	0.00	0.00	7,024.0	8,802.1	-346.6	1,324,763.43	3,244,118.98	40.221570	-104.625770
- 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				
3,955.3	3,942.0	Parkman				
4,552.5	4,533.0	Sussex				
5,241.7	5,215.0	Shannon				
6,219.1	6,186.0	Teepee Buttes				
6,912.7	6,832.0	Sharon Springs				
7,006.3	6,894.0	Top A Chalk				
7,018.0	6,901.0	Top A Marl				
7,021.4	6,903.0	Top B Chalk				
7,112.6	6,951.0	Top B Marl				
7,358.6	7,021.0	Top C Chalk				

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
2,400.0	2,400.0	0.0	0.0	KOP - Start Build 2.00
5,719.7	5,688.1	-309.4	-323.5	Start Drop -2.00
6,420.4	6,387.3	-330.0	-345.0	Start Build 9.00
7,420.4	7,024.0	-330.0	-345.0	TPZ/Landing Pt. at 7420.4 MD
15,916.0	7,024.0	306.6	-345.1	TD at 15916.0

Northern Region Drilling - Sandbox

Conceptual Wells

DP 408

Hurley H26-730

Wellbore #1

Design #1

Anticollision Summary Report

31 October, 2017

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region Drilling - Sandbox	Local Co-ordinate Reference:	Well Hurley H26-730
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 H26-730	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:	Design #1	Offset TVD Reference:	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	10/31/2017		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.0	15,916.0	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
Offset Well - Wellbore - Design						
DP 408						
Emmy H25-711 - Wellbore #1 - Prelim - Rev 2	2,002.0	1,953.0	5,275.9	5,267.3	613.683	CC
Emmy H25-711 - Wellbore #1 - Prelim - Rev 2	2,100.0	2,000.0	5,276.2	5,267.3	591.300	ES
Emmy H25-711 - Wellbore #1 - Prelim - Rev 2	15,800.0	17,530.1	6,509.6	6,322.8	34.859	SF
Emmy State H25-718 - Wellbore #1 - Prelim - Rev 2	2,400.0	2,351.0	5,257.1	5,246.7	506.146	CC, ES
Emmy State H25-718 - Wellbore #1 - Prelim - Rev 2	15,600.0	17,376.1	6,042.1	5,857.3	32.694	SF
Emmy State H25-724 - Wellbore #1 - Prelim - Rev 2	2,400.0	2,351.0	5,238.2	5,227.8	504.330	CC, ES
Emmy State H25-724 - Wellbore #1 - Prelim - Rev 2	15,500.0	17,460.5	5,591.1	5,409.4	30.773	SF
Emmy State H25-731 - Wellbore #1 - Prelim - Rev 2	14,572.6	17,384.3	5,070.9	4,895.7	28.943	CC
Emmy State H25-731 - Wellbore #1 - Prelim - Rev 2	14,600.0	17,379.3	5,071.0	4,895.6	28.909	ES
Emmy State H25-731 - Wellbore #1 - Prelim - Rev 2	15,300.0	17,379.3	5,123.1	4,942.7	28.392	SF
Emmy State H25-738 - Wellbore #1 - Prelim - Rev 2	14,565.9	17,299.8	4,629.7	4,453.1	26.206	CC
Emmy State H25-738 - Wellbore #1 - Prelim - Rev 2	14,600.0	17,299.8	4,629.9	4,452.9	26.162	ES
Emmy State H25-738 - Wellbore #1 - Prelim - Rev 2	15,100.0	17,299.8	4,660.5	4,480.1	25.844	SF
Emmy State H25-744 - Wellbore #1 - Prelim - Rev 2	14,507.3	17,309.7	4,191.3	4,015.2	23.804	CC
Emmy State H25-744 - Wellbore #1 - Prelim - Rev 2	14,600.0	17,327.4	4,192.0	4,014.9	23.681	ES
Emmy State H25-744 - Wellbore #1 - Prelim - Rev 2	15,000.0	17,327.4	4,217.1	4,037.7	23.516	SF
Emmy State H25-751 - Wellbore #1 - Design #1	2,202.3	2,164.3	3,624.9	3,615.3	380.670	CC
Emmy State H25-751 - Wellbore #1 - Design #1	2,300.0	2,228.8	3,625.2	3,615.3	366.882	ES
Emmy State H25-751 - Wellbore #1 - Design #1	15,000.0	17,580.8	3,929.0	3,748.3	21.742	SF
Emmy State H25-757 - Wellbore #1 - Design #1	14,528.9	17,501.0	3,462.6	3,285.5	19.550	CC, ES
Emmy State H25-757 - Wellbore #1 - Design #1	14,900.0	17,501.0	3,482.4	3,302.4	19.347	SF
Emmy State H25-764 - Wellbore #1 - Design #1	14,528.2	17,466.3	3,024.3	2,949.6	40.471	CC, ES
Emmy State H25-764 - Wellbore #1 - Design #1	15,100.0	17,466.3	3,077.9	2,999.3	39.190	SF
Emmy State H25-771 - Wellbore #1 - Design #1	14,523.8	17,391.2	2,582.9	2,405.8	14.586	CC, ES
Emmy State H25-771 - Wellbore #1 - Design #1	14,700.0	17,391.2	2,588.9	2,410.7	14.527	SF
Emmy State H25-777 - Wellbore #1 - Design #1	14,519.6	17,434.0	2,144.7	1,967.5	12.107	CC, ES
Emmy State H25-777 - Wellbore #1 - Design #1	14,600.0	17,434.0	2,146.2	1,968.6	12.083	SF
Emmy State H25-785 - Wellbore #1 - Prelim - Rev 2	14,521.7	17,489.2	1,703.2	1,526.6	9.645	CC, ES, SF
Emmy State H36-753 - Wellbore #1 - Design #1	2,717.3	2,663.2	3,506.8	3,495.1	300.298	CC
Emmy State H36-753 - Wellbore #1 - Design #1	2,800.0	2,728.8	3,506.9	3,494.9	292.879	ES
Emmy State H36-753 - Wellbore #1 - Design #1	7,000.0	6,286.4	4,177.4	4,146.3	134.256	SF
Emmy State H36-760 - Wellbore #1 - Design #1	2,907.7	2,820.9	3,491.5	3,479.1	281.184	CC
Emmy State H36-760 - Wellbore #1 - Design #1	3,000.0	2,903.8	3,491.7	3,478.9	273.220	ES
Emmy State H36-760 - Wellbore #1 - Design #1	6,750.0	6,385.9	3,782.7	3,752.6	125.707	SF
Emmy State H36-766 - Wellbore #1 - Design #1	4,921.8	4,969.8	3,404.0	3,381.8	153.314	CC
Emmy State H36-766 - Wellbore #1 - Design #1	5,100.0	5,139.4	3,404.4	3,381.3	147.538	ES
Emmy State H36-766 - Wellbore #1 - Design #1	6,650.0	6,400.0	3,448.2	3,418.6	116.719	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 H26-730
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 H26-730	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:	Design #1	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						
DP 408						
Emmy State H36-773 - Wellbore #1 - Design #1	6,441.1	6,475.2	3,065.2	3,036.1	105.309	CC, ES
Emmy State H36-773 - Wellbore #1 - Design #1	6,650.0	6,526.8	3,089.7	3,060.2	104.735	SF
Emmy State H36-780 - Wellbore #1 - Design #1	6,444.6	6,500.0	2,788.1	2,758.9	95.534	CC, ES
Emmy State H36-780 - Wellbore #1 - Design #1	6,600.0	6,550.0	2,803.6	2,774.1	95.048	SF
Emmy State H36-787 - Wellbore #1 - Prelim - Rev 2	6,467.2	6,650.0	2,384.3	2,353.9	78.248	CC, ES
Emmy State H36-787 - Wellbore #1 - Prelim - Rev 2	6,600.0	6,673.9	2,397.0	2,366.3	78.122	SF
Hurley H26-712 - Wellbore #1 - Design #1	1,900.0	1,900.0	67.0	58.8	8.128	CC, ES
Hurley H26-712 - Wellbore #1 - Design #1	15,916.0	16,236.3	1,259.9	1,083.0	7.121	SF
Hurley H26-717 - Wellbore #1 - Design #1	2,000.0	2,000.0	44.7	36.0	5.138	CC, ES
Hurley H26-717 - Wellbore #1 - Design #1	15,916.0	16,166.7	837.8	663.3	4.800	SF
Hurley H26-724 - Wellbore #1 - Design #1	2,200.0	2,201.0	22.3	12.7	2.328	CC
Hurley H26-724 - Wellbore #1 - Design #1	2,300.0	2,300.9	22.5	12.5	2.248	ES, SF
Hurley H26-736 - Wellbore #1 - Design #1	2,718.3	2,718.6	15.6	3.8	1.326	Level 3, CC, ES, SF
Hurley H26-743 - Wellbore #1 - Prelim - Rev 2	2,833.1	2,831.4	30.6	18.3	2.490	CC, ES, SF
Hurley H26-750 - Wellbore #1 - Prelim - Rev 2	15,767.8	16,310.0	1,261.4	1,085.9	7.188	CC
Hurley H26-750 - Wellbore #1 - Prelim - Rev 2	15,800.0	16,325.6	1,261.5	1,085.6	7.173	ES, SF
Hurley H26-756 - Wellbore #1 - Prelim - Rev 2	7,161.9	7,557.1	1,636.4	1,604.5	51.321	CC
Hurley H26-756 - Wellbore #1 - Prelim - Rev 2	15,800.0	16,187.6	1,752.6	1,579.3	10.113	ES
Hurley H26-756 - Wellbore #1 - Prelim - Rev 2	15,900.0	16,197.3	1,756.3	1,582.5	10.106	SF
Hurley H26-762 - Wellbore #1 - Prelim - Rev 2	7,186.1	7,538.0	2,059.5	2,028.4	66.394	CC
Hurley H26-762 - Wellbore #1 - Prelim - Rev 2	15,800.0	16,146.3	2,174.4	2,001.0	12.538	ES
Hurley H26-762 - Wellbore #1 - Prelim - Rev 2	15,916.0	16,164.7	2,178.2	2,003.8	12.491	SF
Hurley H26-768 - Wellbore #1 - Prelim - Rev 2	7,128.5	7,473.2	2,481.3	2,450.9	81.527	CC
Hurley H26-768 - Wellbore #1 - Prelim - Rev 2	15,800.0	16,134.3	2,593.1	2,419.2	14.912	ES
Hurley H26-768 - Wellbore #1 - Prelim - Rev 2	15,916.0	16,156.8	2,596.3	2,421.2	14.827	SF
Hurley H26-776 - Wellbore #1 - Prelim - Rev 2	5,852.1	5,600.3	2,886.4	2,861.1	114.226	CC
Hurley H26-776 - Wellbore #1 - Prelim - Rev 2	15,800.0	16,158.9	3,012.4	2,836.2	17.095	ES
Hurley H26-776 - Wellbore #1 - Prelim - Rev 2	15,916.0	16,158.9	3,015.0	2,837.7	17.002	SF
Hurley H26-783 - Wellbore #1 - Prelim - Rev 2	2,000.0	1,967.0	3,021.8	3,013.2	350.385	CC
Hurley H26-783 - Wellbore #1 - Prelim - Rev 2	2,100.0	2,037.9	3,022.1	3,013.1	335.845	ES
Hurley H26-783 - Wellbore #1 - Prelim - Rev 2	15,916.0	16,138.4	3,436.2	3,259.3	19.433	SF
Hurley H35-720 - Wellbore #1 - Design #1	2,200.0	2,201.0	155.9	146.3	16.240	CC, ES
Hurley H35-720 - Wellbore #1 - Design #1	2,400.0	2,390.4	162.6	152.1	15.541	SF
Hurley H35-727 - Wellbore #1 - Design #1	2,400.0	2,401.0	151.0	140.5	14.385	CC, ES
Hurley H35-727 - Wellbore #1 - Design #1	7,245.4	7,299.8	304.4	274.2	10.105	SF
Hurley H35-733 - Wellbore #1 - Design #1	7,337.1	7,226.9	109.7	78.9	3.560	CC, ES, SF
Hurley H35-740 - Wellbore #1 - Design #1	2,400.0	2,401.0	151.0	140.5	14.384	CC, ES
Hurley H35-740 - Wellbore #1 - Design #1	2,700.0	2,700.5	160.5	148.7	13.670	SF
Hurley H35-746 - Wellbore #1 - Prelim - Rev 2	2,000.0	2,000.0	155.9	147.2	17.923	CC, ES
Hurley H35-746 - Wellbore #1 - Prelim - Rev 2	2,300.0	2,289.9	165.1	155.2	16.550	SF
Hurley H35-755 - Wellbore #1 - Prelim - Rev 2	7,066.2	7,430.2	1,551.2	1,519.7	49.289	CC, ES
Hurley H35-755 - Wellbore #1 - Prelim - Rev 2	7,100.0	7,413.1	1,551.5	1,520.0	49.286	SF
Hurley H35-761 - Wellbore #1 - Prelim - Rev 2	7,039.8	7,291.1	1,963.6	1,933.1	64.362	CC, ES
Hurley H35-761 - Wellbore #1 - Prelim - Rev 2	7,150.0	7,238.8	1,966.3	1,935.7	64.312	SF
Hurley H35-768 - Wellbore #1 - Prelim - Rev 2	7,094.9	7,240.7	2,393.3	2,363.3	79.693	CC
Hurley H35-768 - Wellbore #1 - Prelim - Rev 2	7,100.0	7,237.4	2,393.3	2,363.3	79.683	ES
Hurley H35-768 - Wellbore #1 - Prelim - Rev 2	8,500.0	6,700.0	2,643.6	2,608.3	74.896	SF
Hurley H35-774 - Wellbore #1 - Prelim - Rev 2	7,297.8	7,017.8	2,800.7	2,770.5	92.492	CC
Hurley H35-774 - Wellbore #1 - Prelim - Rev 2	7,300.0	7,016.1	2,800.7	2,770.5	92.480	ES
Hurley H35-774 - Wellbore #1 - Prelim - Rev 2	8,900.0	6,600.0	3,127.4	3,089.5	82.670	SF
Hurley H35-779 - Wellbore #1 - Prelim - Rev 2	2,200.0	2,167.0	2,995.0	2,985.5	314.491	CC
Hurley H35-779 - Wellbore #1 - Prelim - Rev 2	2,944.6	2,604.1	2,996.4	2,984.5	251.824	ES
Hurley H35-779 - Wellbore #1 - Prelim - Rev 2	9,200.0	6,522.1	3,532.9	3,493.0	88.528	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 H26-730
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 H26-730	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:	Design #1	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						
DP 408						
Hurley H35-787 - Wellbore #1 - Prelim - Rev 2	2,000.0	1,967.0	3,017.3	3,008.7	349.867	CC
Hurley H35-787 - Wellbore #1 - Prelim - Rev 2	2,100.0	2,034.7	3,017.7	3,008.7	335.367	ES
Hurley H35-787 - Wellbore #1 - Prelim - Rev 2	9,700.0	6,477.9	4,160.3	4,116.0	93.870	SF
Hurley State H35-713 - Wellbore #1 - Design #1	2,000.0	2,000.0	163.7	155.0	18.821	CC, ES
Hurley State H35-713 - Wellbore #1 - Design #1	2,300.0	2,285.5	176.3	166.3	17.679	SF
H Section 14						
Bohlender H14-09 - Original Drilling - Original Drilling - A	15,916.0	7,000.2	1,136.6	1,050.5	13.206	CC, ES, SF
Bohlender H14-15 - Original Drilling - Original Drilling - A	14,970.7	6,944.4	605.1	502.0	5.872	CC, ES
Bohlender H14-15 - Original Drilling - Original Drilling - A	15,000.0	6,944.9	605.8	502.5	5.862	SF
Bohlender H14-16 - Original Drilling - Original Drilling - A	15,598.8	6,967.3	256.3	147.2	2.349	CC, ES
Bohlender H14-16 - Original Drilling - Original Drilling - A	15,600.0	6,967.3	256.3	147.2	2.349	SF
Wilcox H14-03J - Original Drilling - Original Drilling - As D	15,813.0	7,282.5	1,834.7	1,703.3	13.957	CC
Wilcox H14-03J - Original Drilling - Original Drilling - As D	15,900.0	7,281.7	1,836.8	1,701.6	13.586	ES
Wilcox H14-03J - Original Drilling - Original Drilling - As D	15,916.0	7,281.6	1,837.6	1,701.7	13.526	SF
Wilcox H14-10 - Original Drilling - Original Drilling - As Dr	15,916.0	7,368.3	987.3	908.2	12.484	CC, ES, SF
Wilcox H14-11 - Original Drilling - Original Drilling - As Dr	15,916.0	7,508.3	1,831.6	1,706.3	14.618	CC, ES, SF
Wilcox H14-13 - Original Drilling - Original Drilling - As Dr	15,371.7	7,612.5	2,700.7	2,586.3	23.613	CC
Wilcox H14-13 - Original Drilling - Original Drilling - As Dr	15,500.0	7,608.3	2,703.7	2,583.6	22.501	ES
Wilcox H14-13 - Original Drilling - Original Drilling - As Dr	15,916.0	7,595.0	2,754.9	2,613.7	19.505	SF

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Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region Drilling - Sandbox	Local Co-ordinate Reference:	Well Hurley H26-730
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 H26-730	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:	Design #1	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	12,621.5	7,022.1	537.8	456.9	6.645	CC, ES, SF
Eachus 41-23 (PA) - Original Drilling - Original Drilling - A	13,844.5	6,979.0	644.3	436.5	3.101	CC, ES, SF
Eachus UPRR 31-23 - Original Drilling - Original Drilling -	13,952.3	6,967.2	605.3	454.1	4.001	CC, ES, SF
Eachus UPRR 42-23 (PA) - Original Drilling - Original Dri	12,526.0	6,989.0	682.2	486.7	3.490	CC, ES, SF
HSR Alberstein 16-23 - Original Drilling - Original Drilling	10,222.6	7,027.4	557.5	498.5	9.447	CC, ES, SF
HSR Ashley 15-23A - Original Drilling - Original Drilling -	10,284.3	6,946.5	771.8	712.5	13.019	CC
HSR Ashley 15-23A - Original Drilling - Original Drilling -	10,300.0	6,947.1	772.0	712.5	12.985	ES
HSR Ashley 15-23A - Original Drilling - Original Drilling -	10,400.0	6,950.9	780.4	720.2	12.954	SF
HSR Benirschke 10-23 - Original Drilling - Original Drillin	11,277.2	6,971.9	468.2	399.9	6.850	CC, ES
HSR Benirschke 10-23 - Original Drilling - Original Drillin	11,300.0	6,973.4	468.8	400.2	6.834	SF
HSR Eachus 03-23 - Original Drilling - Original Drilling - A	13,962.0	7,189.9	1,919.1	1,816.7	18.743	CC
HSR Eachus 03-23 - Original Drilling - Original Drilling - A	14,000.0	7,190.0	1,919.5	1,816.6	18.647	ES
HSR Eachus 03-23 - Original Drilling - Original Drilling - A	14,300.0	7,190.9	1,948.6	1,842.5	18.357	SF
HSR Eachus 04-23 - Original Drilling - Original Drilling - A	13,973.7	7,382.3	3,336.0	3,212.1	26.920	CC
HSR Eachus 04-23 - Original Drilling - Original Drilling - A	14,100.0	7,383.9	3,338.4	3,210.2	26.038	ES
HSR Eachus 04-23 - Original Drilling - Original Drilling - A	15,400.0	7,399.9	3,628.1	3,465.5	22.320	SF
HSR Eachus 05-23 - Original Drilling - Original Drilling - A	12,000.0	7,323.4	3,408.7	3,285.8	27.753	SF
HSR Eachus 05-23 - Original Drilling - Original Drilling - A	12,639.8	7,335.4	3,348.1	3,229.1	28.133	CC, ES
HSR Fruman 06-23 - Original Drilling - Original Drilling - A	13,021.5	7,011.8	2,291.9	2,207.0	26.997	CC, ES
HSR Fruman 06-23 - Original Drilling - Original Drilling - A	13,500.0	7,015.6	2,341.3	2,252.2	26.285	SF
HSR Grasshopper 09-23 - Original Drilling - Original Drill	11,033.8	6,978.2	441.9	375.9	6.698	CC, ES, SF
Ritchey 06-23 - Original Drilling - Original Drilling - As Dri	12,500.9	6,945.9	1,887.4	1,806.6	23.370	CC, ES
Ritchey 06-23 - Original Drilling - Original Drilling - As Dri	12,800.0	6,935.7	1,910.9	1,827.9	23.031	SF
Ritchey 21-23 - Original Drilling - Original Drilling - As Dri	13,356.6	7,000.2	1,146.0	1,058.2	13.054	CC, ES
Ritchey 21-23 - Original Drilling - Original Drilling - As Dri	13,500.0	6,998.6	1,155.0	1,066.0	12.990	SF
Ritchey 24-23 - Original Drilling - Original Drilling - As Dri	11,924.5	7,057.9	102.9	25.8	1.334	Level 3, CC, ES, SF
Ritchey 31-24 - Original Drilling - Original Drilling - As Dri	13,284.3	7,131.9	1,276.7	1,187.4	14.301	CC
Ritchey 31-24 - Original Drilling - Original Drilling - As Dri	13,300.0	7,132.1	1,276.8	1,187.2	14.263	ES
Ritchey 31-24 - Original Drilling - Original Drilling - As Dri	13,500.0	7,134.7	1,294.8	1,202.7	14.059	SF
UPRC 23-11J - Original Drilling - Original Drilling - As Dri	11,264.0	6,919.0	2,197.7	2,129.7	32.321	CC
UPRC 23-11J - Original Drilling - Original Drilling - As Dri	11,300.0	6,918.8	2,198.0	2,129.7	32.159	ES
UPRC 23-11J - Original Drilling - Original Drilling - As Dri	11,700.0	6,916.9	2,240.5	2,169.0	31.315	SF
UPRC 23-12J - Original Drilling - Original Drilling - As Dri	11,252.4	6,924.2	3,498.0	3,430.1	51.506	CC
UPRC 23-12J - Original Drilling - Original Drilling - As Dri	11,300.0	6,924.5	3,498.4	3,430.0	51.166	ES
UPRC 23-12J - Original Drilling - Original Drilling - As Dri	12,300.0	6,931.8	3,651.5	3,575.4	47.943	SF
UPRC H23-13 - Wellbore #1 - Wellbore #1 - As Drilled	10,101.4	6,948.6	3,485.5	3,427.8	60.404	CC, ES
UPRC H23-13 - Wellbore #1 - Wellbore #1 - As Drilled	11,300.0	6,993.7	3,685.6	3,618.6	54.940	SF
UPRC H23-14J - Original Drilling - Original Drilling - As D	9,977.5	6,983.8	1,775.7	1,719.0	31.321	CC
UPRC H23-14J - Original Drilling - Original Drilling - As D	10,000.0	6,985.2	1,775.8	1,718.9	31.205	ES
UPRC H23-14J - Original Drilling - Original Drilling - As D	10,300.0	7,005.4	1,804.6	1,745.2	30.387	SF
UPRC H23-24 - Original Drilling - Original Drilling - As Dr	10,888.1	6,932.3	1,544.6	1,479.9	23.893	CC
UPRC H23-24 - Original Drilling - Original Drilling - As Dr	10,900.0	6,932.7	1,544.6	1,479.9	23.849	ES
UPRC H23-24 - Original Drilling - Original Drilling - As Dr	11,100.0	6,938.7	1,559.0	1,492.5	23.448	SF
UPRR 53 Pan Am B#1 (PA) - Original Drilling - Original D	10,319.9	6,946.0	2,928.0	2,753.6	16.793	CC, ES
UPRR 53 Pan Am B#1 (PA) - Original Drilling - Original D	10,700.0	6,946.0	2,952.5	2,774.8	16.616	SF
UPRR 53 Pan Am UT V#1 - Original Drilling - Original Dr	13,045.6	6,993.9	162.3	77.5	1.914	CC, ES, SF

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Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region Drilling - Sandbox	Local Co-ordinate Reference:	Well Hurley H26-730
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 H26-730	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:	Design #1	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	11,354.8	6,800.0	5,865.2	5,796.8	85.801	CC
Gurtler 24-09J - Original Drilling - Original Drilling - As Dr	11,400.0	6,800.0	5,865.3	5,796.6	85.303	ES
Gurtler 24-09J - Original Drilling - Original Drilling - As Dr	13,800.0	6,800.0	6,354.5	6,268.7	74.065	SF
Gurtler 24-10J - Original Drilling - Original Drilling - As Dr	11,366.4	6,972.4	4,673.0	4,603.9	67.641	CC
Gurtler 24-10J - Original Drilling - Original Drilling - As Dr	11,400.0	6,972.6	4,673.1	4,603.8	67.354	ES
Gurtler 24-10J - Original Drilling - Original Drilling - As Dr	13,000.0	6,982.2	4,950.3	4,869.6	61.322	SF
Gurtler 24-11J - Original Drilling - Original Drilling - As Dr	11,289.2	6,800.0	3,210.1	3,142.5	47.459	CC
Gurtler 24-11J - Original Drilling - Original Drilling - As Dr	11,300.0	6,800.0	3,210.1	3,142.4	47.393	ES
Gurtler 24-11J - Original Drilling - Original Drilling - As Dr	12,100.0	6,800.0	3,310.9	3,237.6	45.139	SF
Gurtler 24-12J - Original Drilling - Original Drilling - As Dr	11,292.4	6,500.0	2,061.2	1,995.9	31.555	CC
Gurtler 24-12J - Original Drilling - Original Drilling - As Dr	11,300.0	6,500.0	2,061.3	1,995.9	31.524	ES
Gurtler 24-12J - Original Drilling - Original Drilling - As Dr	11,600.0	6,500.0	2,084.1	2,016.6	30.875	SF
Gurtler 24-12J - Original Drilling - ST01 - ST01 Original D	11,269.3	6,713.0	2,042.8	1,977.1	31.073	CC
Gurtler 24-12J - Original Drilling - ST01 - ST01 Original D	11,300.0	6,713.0	2,043.1	1,977.1	30.957	ES
Gurtler 24-12J - Original Drilling - ST01 - ST01 Original D	11,600.0	6,702.0	2,069.4	2,001.4	30.456	SF
Gurtler 24-13J - Original Drilling - Original Drilling - As Dr	9,804.5	6,952.4	2,081.1	2,025.2	37.238	CC
Gurtler 24-13J - Original Drilling - Original Drilling - As Dr	10,000.0	10,000.0	2,089.5	2,015.5	28.229	ES, SF
Gurtler 24-15J - Original Drilling - Original Drilling - As Dr	10,014.4	6,994.7	4,598.9	4,541.9	80.644	CC, ES
Gurtler 24-15J - Original Drilling - Original Drilling - As Dr	11,900.0	6,985.3	4,970.5	4,900.4	70.894	SF
Gurtler 24-16J - Original Drilling - Original Drilling - As Dr	10,046.6	6,931.0	5,585.1	5,528.1	97.865	CC
Gurtler 24-16J - Original Drilling - Original Drilling - As Dr	10,100.0	6,931.1	5,585.4	5,527.9	97.107	ES
Gurtler 24-16J - Original Drilling - Original Drilling - As Dr	12,600.0	6,934.3	6,141.1	6,066.0	81.786	SF
Gurtler H24-14 - Original Drilling - Original Drilling - As D	9,887.1	6,912.8	3,438.2	3,382.6	61.832	CC
Gurtler H24-14 - Original Drilling - Original Drilling - As D	9,900.0	6,913.0	3,438.2	3,382.5	61.716	ES
Gurtler H24-14 - Original Drilling - Original Drilling - As D	11,000.0	6,924.8	3,613.8	3,550.5	57.071	SF
Gurtler H24-21 (PA) - Original Drilling - Original Drilling -	11,839.7	7,020.6	3,961.6	3,887.9	53.774	CC
Gurtler H24-21 (PA) - Original Drilling - Original Drilling -	11,900.0	7,024.8	3,962.0	3,887.8	53.386	ES
Gurtler H24-21 (PA) - Original Drilling - Original Drilling -	13,000.0	7,100.5	4,127.2	4,045.1	50.248	SF
Gurtler H24-23 - Original Drilling - Original Drilling - As D	10,696.7	6,900.0	5,230.5	5,167.8	83.417	CC
Gurtler H24-23 - Original Drilling - Original Drilling - As D	10,700.0	6,900.0	5,230.5	5,167.8	83.379	ES
Gurtler H24-23 - Original Drilling - Original Drilling - As D	12,800.0	6,900.0	5,637.6	5,559.9	72.562	SF
Gurtler H24-24 - Original Drilling - Original Drilling - As D	10,687.7	6,600.0	4,121.1	4,059.8	67.144	CC
Gurtler H24-24 - Original Drilling - Original Drilling - As D	10,700.0	6,600.0	4,121.2	4,059.7	67.029	ES
Gurtler H24-24 - Original Drilling - Original Drilling - As D	12,100.0	6,576.4	4,356.3	4,285.0	61.115	SF
Gurtler H24-99HZ - Wellbore #1 - Original Drilling	10,627.6	11,118.0	1,750.5	1,684.8	26.660	CC
Gurtler H24-99HZ - Wellbore #1 - Original Drilling	10,700.0	11,118.0	1,752.0	1,682.9	25.354	ES
Gurtler H24-99HZ - Wellbore #1 - Original Drilling	11,800.0	11,118.0	2,106.8	1,985.0	17.297	SF
Gurtler H25-27 - Original Drilling - Original Drilling - As D	9,470.9	6,949.2	5,188.1	5,134.0	95.851	CC
Gurtler H25-27 - Original Drilling - Original Drilling - As D	9,500.0	6,949.1	5,188.2	5,133.9	95.417	ES
Gurtler H25-27 - Original Drilling - Original Drilling - As D	11,900.0	6,935.8	5,728.6	5,656.7	79.602	SF
Gurtler Russell L1 (PA) - Original Drilling - Original Drilling	10,406.2	7,010.5	2,810.3	2,740.5	40.256	CC, ES
Gurtler Russell L1 (PA) - Original Drilling - Original Drilling	11,000.0	7,014.4	2,872.3	2,798.2	38.743	SF
HSR Brutschy 04-24 - Original Drilling - Original Drilling -	13,799.5	7,079.8	2,068.6	1,976.2	22.396	CC
HSR Brutschy 04-24 - Original Drilling - Original Drilling -	13,800.0	7,079.8	2,068.6	1,976.2	22.395	ES
HSR Brutschy 04-24 - Original Drilling - Original Drilling -	14,000.0	7,087.9	2,078.3	1,984.5	22.154	SF
HSR Epstein 05-24 - Original Drilling - Original Drilling - A	12,985.5	6,988.7	2,601.4	2,517.1	30.865	CC
HSR Epstein 05-24 - Original Drilling - Original Drilling - A	13,000.0	6,989.1	2,601.4	2,517.0	30.819	ES
HSR Epstein 05-24 - Original Drilling - Original Drilling - A	13,400.0	6,999.7	2,634.2	2,546.9	30.199	SF
HSR Hoffman 03-24 - Original Drilling - Original Drilling -	13,864.7	6,994.6	3,379.1	3,280.2	34.184	CC
HSR Hoffman 03-24 - Original Drilling - Original Drilling -	13,900.0	6,994.0	3,379.3	3,280.1	34.080	ES
HSR Hoffman 03-24 - Original Drilling - Original Drilling -	14,500.0	6,983.7	3,438.3	3,335.0	33.298	SF
HSR Sarchet 02-24 - Original Drilling - Original Drilling - A	13,874.6	6,941.1	4,731.2	4,638.6	51.129	CC
HSR Sarchet 02-24 - Original Drilling - Original Drilling - A	13,900.0	6,941.2	4,731.2	4,638.5	51.003	ES

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Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region Drilling - Sandbox	Local Co-ordinate Reference:	Well Hurley H26-730
Project:	Conceptual Wells	TVD Reference:	WELL @ 4884.0ft (Original Well Elev)
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Reference Well:	Hurley H26-730	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:	Design #1	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						
HSR Sarchet 02-24 - Original Drilling - Original Drilling - A	15,100.0	6,945.9	4,887.3	4,785.9	48.203	SF
HSR Sarchet 06-24 - Original Drilling - Original Drilling - A	12,506.5	6,929.9	3,527.0	3,447.4	44.341	CC, ES
HSR Sarchet 06-24 - Original Drilling - Original Drilling - A	13,300.0	6,942.4	3,615.1	3,529.9	42.392	SF
HSR Traurig 01-24 - Original Drilling - Original Drilling - A	14,126.0	6,992.9	5,608.8	5,513.7	58.955	CC
HSR Traurig 01-24 - Original Drilling - Original Drilling - A	14,200.0	6,993.3	5,609.3	5,513.5	58.544	ES
HSR Traurig 01-24 - Original Drilling - Original Drilling - A	15,800.0	7,005.5	5,853.3	5,746.0	54.578	SF
Nopens D19-31 - Original Drilling - Original Drilling - As D	13,284.4	6,938.1	6,329.8	6,242.8	72.784	CC
Nopens D19-31 - Original Drilling - Original Drilling - As D	13,300.0	6,938.4	6,329.8	6,242.7	72.663	ES
Nopens D19-31 - Original Drilling - Original Drilling - As D	15,500.0	6,982.0	6,706.1	6,602.9	64.961	SF
Nopens H24-08 - Original Drilling - Original Drilling - As D	12,686.9	6,851.0	5,839.5	5,758.5	72.111	CC
Nopens H24-08 - Original Drilling - Original Drilling - As D	12,700.0	6,851.5	5,839.5	5,758.4	72.004	ES
Nopens H24-08 - Original Drilling - Original Drilling - As D	14,800.0	6,919.8	6,209.8	6,113.4	64.421	SF
Sarchet H24-22 - Original Drilling - Original Drilling - As D	12,353.7	6,959.6	5,005.3	4,927.0	63.946	CC
Sarchet H24-22 - Original Drilling - Original Drilling - As D	12,400.0	6,962.2	5,005.5	4,926.8	63.603	ES
Sarchet H24-22 - Original Drilling - Original Drilling - As D	14,000.0	7,082.4	5,267.6	5,177.0	58.173	SF
Weld County Lumber 01 - Original Drilling - Original Drilling	13,096.5	6,948.5	4,816.8	4,731.6	56.539	CC
Weld County Lumber 01 - Original Drilling - Original Drilling	13,100.0	6,948.5	4,816.8	4,731.6	56.518	ES
Weld County Lumber 01 - Original Drilling - Original Drilling	14,500.0	6,961.5	5,017.1	4,921.8	52.651	SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region Drilling - Sandbox	Local Co-ordinate Reference:	Well Hurley H26-730
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 H26-730	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:	Design #1	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	608.2	554.2	2,847.5	2,844.6	954.393	CC
Dechant 21-25 - Original Drilling - Original Drilling - As D	1,400.0	1,337.8	2,848.5	2,841.0	379.934	ES
Dechant 21-25 - Original Drilling - Original Drilling - As D	10,100.0	7,105.5	4,578.0	4,514.1	71.748	SF
Dechant D30-33D - Original Drilling - Original Drilling - As	100.0	18.4	5,545.7	5,545.6	10,000.000	CC, ES
Dechant D30-33D - Original Drilling - Original Drilling - As	11,200.0	6,900.3	8,668.0	8,607.7	143.889	SF
Dechant D31-30D - Original Drilling - Original Drilling - As	100.0	19.4	5,552.3	5,552.2	10,000.000	CC, ES
Dechant D31-30D - Original Drilling - Original Drilling - As	10,500.0	6,947.9	8,804.1	8,751.0	165.945	SF
Dechant H25-64-1HN - Original Drilling - Original Drilling	2,641.4	2,643.9	1,728.5	1,714.5	123.512	CC
Dechant H25-64-1HN - Original Drilling - Original Drilling	2,700.0	2,693.0	1,728.7	1,714.3	120.243	ES
Dechant H25-64-1HN - Original Drilling - Original Drilling	6,500.0	6,373.0	1,799.4	1,762.9	49.353	SF
Dechant H25-64-1HN - Original Drilling - Plan A - Rev 3	1,890.8	1,873.3	1,726.9	1,722.8	420.790	CC
Dechant H25-64-1HN - Original Drilling - Plan A - Rev 3	1,900.0	1,875.8	1,726.9	1,722.8	418.675	ES
Dechant H25-64-1HN - Original Drilling - Plan A - Rev 3	6,550.0	6,397.6	1,807.3	1,792.8	125.256	SF
Dechant H25-65HN - Original Drilling - Original Drilling	4,500.6	4,614.0	1,277.6	1,253.1	52.124	CC, ES
Dechant H25-65HN - Original Drilling - Original Drilling	6,450.0	6,358.2	1,402.4	1,367.9	40.597	SF
Dechant H25-65HN - Original Drilling - Plan A - Rev 3	4,460.8	4,573.4	1,291.2	1,281.6	134.170	CC, ES
Dechant H25-65HN - Original Drilling - Plan A - Rev 3	6,500.0	6,397.6	1,405.7	1,391.6	99.291	SF
HSR Cohn 03-25 - Original Drilling - Original Drilling - As	8,660.1	6,922.2	3,119.4	3,073.5	68.077	CC
HSR Cohn 03-25 - Original Drilling - Original Drilling - As	8,700.0	6,922.6	3,119.6	3,073.5	67.686	ES
HSR Cohn 03-25 - Original Drilling - Original Drilling - As	12,400.0	12,400.0	4,869.6	4,790.1	61.252	SF
HSR Crowe 06-25 - Original Drilling - Original Drilling - A	2,344.3	2,290.3	2,840.1	2,827.2	219.344	CC
HSR Crowe 06-25 - Original Drilling - Original Drilling - A	2,400.0	2,340.8	2,840.2	2,827.0	214.358	ES
HSR Crowe 06-25 - Original Drilling - Original Drilling - A	8,600.0	6,965.2	3,435.9	3,391.5	77.359	SF
HSR Dechant 04-25 - Original Drilling - Original Drilling -	2,254.6	2,259.0	1,970.8	1,954.9	124.482	CC
HSR Dechant 04-25 - Original Drilling - Original Drilling -	2,300.0	2,278.2	1,971.1	1,954.9	121.511	ES
HSR Dechant 04-25 - Original Drilling - Original Drilling -	8,900.0	7,426.2	2,056.9	1,987.1	29.475	SF
HSR Dechant 05-25 - Original Drilling - Original Drilling -	2,031.8	1,989.9	1,822.1	1,810.9	162.723	CC
HSR Dechant 05-25 - Original Drilling - Original Drilling -	2,400.3	2,358.5	1,822.9	1,809.6	136.943	ES
HSR Dechant 05-25 - Original Drilling - Original Drilling -	7,500.0	7,022.5	2,197.6	2,157.6	54.906	SF
KY Blue D30-32 - Original Drilling - Original Drilling - As D	2,417.8	2,352.2	5,973.0	5,959.6	448.347	CC, ES
KY Blue D30-32 - Original Drilling - Original Drilling - As D	11,500.0	6,930.7	8,011.6	7,950.6	131.467	SF
KY Blue H25-04J - Original Drilling - Original Drilling - As	2,400.0	2,316.0	5,565.7	5,556.4	598.911	CC, ES
KY Blue H25-04J - Original Drilling - Original Drilling - As	11,000.0	6,940.0	8,086.1	8,044.3	193.531	SF
KY Blue H25-09 - Original Drilling - Original Drilling - As D	2,239.2	2,152.2	5,600.2	5,588.0	458.046	CC
KY Blue H25-09 - Original Drilling - Original Drilling - As D	2,300.0	2,200.0	5,600.3	5,587.7	446.950	ES
KY Blue H25-09 - Original Drilling - Original Drilling - As D	10,700.0	6,915.7	7,431.4	7,376.3	134.965	SF
KY Blue H25-10 - Original Drilling - Original Drilling - As D	100.0	17.6	4,102.5	4,102.3	10,000.000	CC
KY Blue H25-10 - Original Drilling - Original Drilling - As D	2,400.0	2,313.1	4,110.4	4,097.2	312.113	ES
KY Blue H25-10 - Original Drilling - Original Drilling - As D	8,900.0	6,991.2	5,129.1	5,083.7	113.034	SF
KY Blue H25-11 - Original Drilling - Original Drilling - As D	762.9	695.9	3,112.4	3,108.5	813.450	CC
KY Blue H25-11 - Original Drilling - Original Drilling - As D	1,000.0	910.4	3,113.0	3,107.9	608.979	ES
KY Blue H25-11 - Original Drilling - Original Drilling - As D	7,200.0	6,984.5	3,415.8	3,346.2	49.103	SF
KY Blue H25-12 - Original Drilling - Original Drilling - As D	2,842.5	2,840.8	1,742.1	1,725.9	107.460	CC
KY Blue H25-12 - Original Drilling - Original Drilling - As D	3,000.0	2,991.0	1,742.7	1,725.7	102.362	ES
KY Blue H25-12 - Original Drilling - Original Drilling - As D	6,800.0	6,656.5	1,942.7	1,904.8	51.243	SF
KY Blue H25-14 - Original Drilling - Original Drilling - As D	100.0	23.7	3,906.2	3,906.0	10,000.000	CC
KY Blue H25-14 - Original Drilling - Original Drilling - As D	2,500.0	2,421.4	3,909.1	3,895.4	284.750	ES
KY Blue H25-14 - Original Drilling - Original Drilling - As D	6,800.0	6,649.8	4,023.5	3,985.7	106.350	SF
KY Blue H25-15 - Original Drilling - Original Drilling - As D	339.8	260.9	4,672.5	4,671.2	3,447.099	CC
KY Blue H25-15 - Original Drilling - Original Drilling - As D	2,410.1	2,335.6	4,680.5	4,667.2	353.104	ES
KY Blue H25-15 - Original Drilling - Original Drilling - As D	7,300.0	7,300.0	5,043.3	5,002.8	124.411	SF
KY H25-24 - Original Drilling - Original Drilling - As Drilled	227.4	150.4	4,015.5	4,014.8	5,604.436	CC
KY H25-24 - Original Drilling - Original Drilling - As Drilled	600.0	506.5	4,016.1	4,013.3	1,435.602	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 H26-730
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 H26-730	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:	Design #1	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						
KY H25-24 - Original Drilling - Original Drilling - As Drilled	7,000.0	6,822.8	4,273.8	4,235.3	110.802	SF
Moore UPRC H25-01 - Original Drilling - Original Drilling	2,412.0	2,332.8	5,816.2	5,802.9	438.210	CC, ES
Moore UPRC H25-01 - Original Drilling - Original Drilling	12,200.0	6,919.1	6,880.5	6,810.9	98.821	SF
Moore UPRC H25-02 - Original Drilling - Original Drilling	1,345.9	1,271.9	4,449.9	4,442.7	622.211	CC
Moore UPRC H25-02 - Original Drilling - Original Drilling	2,405.5	2,339.4	4,450.5	4,437.2	335.807	ES
Moore UPRC H25-02 - Original Drilling - Original Drilling	10,900.0	6,938.8	5,107.3	5,046.8	84.359	SF
Moser 25-32 - Original Drilling - Original Drilling - As Drill	2,467.5	2,460.6	3,920.0	3,906.2	284.041	CC
Moser 25-32 - Original Drilling - Original Drilling - As Drill	2,500.0	2,490.6	3,920.1	3,906.1	280.601	ES
Moser 25-32 - Original Drilling - Original Drilling - As Drill	12,000.0	12,000.0	6,422.8	6,346.1	83.791	SF
Moser 25-42 - Original Drilling - Original Drilling - As Drill	805.9	713.9	5,572.9	5,568.9	1,398.611	CC
Moser 25-42 - Original Drilling - Original Drilling - As Drill	2,200.0	2,078.3	5,576.0	5,564.1	469.254	ES
Moser 25-42 - Original Drilling - Original Drilling - As Drill	13,900.0	13,900.0	8,774.7	8,679.1	91.770	SF
UPRR 53 Pan Am T#2 - Original Drilling - Original Drilling	2,440.5	2,431.6	2,665.4	2,651.7	195.348	CC, ES
UPRR 53 Pan Am T#2 - Original Drilling - Original Drilling	9,000.0	6,879.1	3,067.0	3,020.1	65.417	SF
UPRR 53 Pan Am UT T#1 - Original Drilling - Original Dr	2,400.0	2,309.0	4,982.8	4,931.3	96.887	CC
UPRR 53 Pan Am UT T#1 - Original Drilling - Original Dr	2,500.0	2,409.0	4,984.2	4,930.5	92.940	ES
UPRR 53 Pan Am UT T#1 - Original Drilling - Original Dr	9,000.0	6,933.0	5,407.3	5,244.9	33.295	SF
Von Feldt 1-25B - Original Drilling - Original Drilling - As D	4,225.8	4,185.8	2,886.6	2,863.0	122.404	CC
Von Feldt 1-25B - Original Drilling - Original Drilling - As D	4,300.0	4,248.5	2,886.8	2,862.8	120.384	ES
Von Feldt 1-25B - Original Drilling - Original Drilling - As D	6,750.0	6,560.9	2,973.8	2,936.4	79.386	SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region Drilling - Sandbox	Local Co-ordinate Reference:	Well Hurley H26-730
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 H26-730	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:	Design #1	Offset TVD Reference:	Offset Datum

Summary

Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
H Section 26						
Bullard 31-26 - Original Drilling - Original Drilling - As Dril	8,924.7	6,968.9	741.4	693.4	15.436	CC, ES
Bullard 31-26 - Original Drilling - Original Drilling - As Dril	9,000.0	6,972.6	745.2	696.5	15.313	SF
Bullard 32-26 - Original Drilling - Original Drilling - As Dril	7,236.4	6,967.0	577.3	538.0	14.697	CC, ES
Bullard 32-26 - Original Drilling - Original Drilling - As Dril	7,250.0	6,970.8	577.4	538.1	14.689	SF
Bullard 41-26 - Original Drilling - Original Drilling - As Dril	8,411.2	7,001.7	219.0	174.5	4.916	CC, ES, SF
Dechant H25-29D - Original Drilling - Original Drilling - As	0.0	0.0	1,566.8			
Dechant H25-29D - Original Drilling - Original Drilling - As	10,700.0	7,440.5	3,123.4	3,048.7	41.801	SF
Dechant H25-33D - Original Drilling - Original Drilling - As	3,193.9	3,580.3	857.2	826.6	28.032	CC
Dechant H25-33D - Original Drilling - Original Drilling - As	3,200.0	3,585.1	857.2	826.5	27.968	ES
Dechant H25-33D - Original Drilling - Original Drilling - As	4,200.0	4,483.1	972.8	931.6	23.618	SF
Harsh H26-09D - Original Drilling - Original Drilling - As D	5,486.3	5,439.2	998.2	967.0	32.047	CC
Harsh H26-09D - Original Drilling - Original Drilling - As D	5,600.0	5,545.3	998.7	966.9	31.402	ES
Harsh H26-09D - Original Drilling - Original Drilling - As D	6,550.0	6,464.7	1,022.3	985.4	27.702	SF
Harsh H26-10 - Original Drilling - Original Drilling - As Dr	6,367.6	6,309.8	715.1	679.6	20.122	CC
Harsh H26-10 - Original Drilling - Original Drilling - As Dr	6,420.4	6,359.2	715.2	679.4	19.968	ES
Harsh H26-10 - Original Drilling - Original Drilling - As Dr	6,500.0	6,436.3	719.4	683.1	19.848	SF
Harsh H26-15 - Original Drilling - Original Drilling - As Dr	6,294.6	6,240.2	2,040.5	2,005.2	57.830	CC
Harsh H26-15 - Original Drilling - Original Drilling - As Dr	6,420.4	6,365.1	2,040.6	2,004.7	56.725	ES
Harsh H26-15 - Original Drilling - Original Drilling - As Dr	6,600.0	6,539.3	2,065.0	2,028.1	55.932	SF
Harsh H26-16 - Original Drilling - Original Drilling - As Dr	6,357.2	6,292.2	2,093.6	2,057.7	58.361	CC
Harsh H26-16 - Original Drilling - Original Drilling - As Dr	6,420.4	6,353.5	2,093.7	2,057.4	57.815	ES
Harsh H26-16 - Original Drilling - Original Drilling - As Dr	6,600.0	6,518.1	2,118.7	2,081.6	57.084	SF
Harsh H26-23D - Original Drilling - Original Drilling - As D	1,180.5	1,166.6	1,263.2	1,257.9	237.242	CC
Harsh H26-23D - Original Drilling - Original Drilling - As D	1,200.0	1,183.0	1,263.2	1,257.8	232.963	ES
Harsh H26-23D - Original Drilling - Original Drilling - As D	6,550.0	6,621.7	1,376.6	1,338.0	35.680	SF
HSR Moser 04-26 - Original Drilling - Original Drilling - As	9,000.3	6,767.4	3,388.3	3,340.3	70.637	CC, ES
HSR Moser 04-26 - Original Drilling - Original Drilling - As	10,700.0	10,700.0	3,789.8	3,716.2	51.444	SF
HSR Moser 06-26 - Original Drilling - Original Drilling - As	7,296.5	6,968.9	1,721.0	1,681.6	43.681	CC
HSR Moser 06-26 - Original Drilling - Original Drilling - As	7,300.0	6,969.7	1,721.0	1,681.6	43.671	ES
HSR Moser 06-26 - Original Drilling - Original Drilling - As	7,500.0	6,986.0	1,732.9	1,693.0	43.400	SF
HSR Regalia 05-26 - Original Drilling - Original Drilling - A	7,839.5	7,000.0	2,812.2	2,771.0	68.197	CC, ES
HSR Regalia 05-26 - Original Drilling - Original Drilling - A	8,900.0	6,991.6	3,005.5	2,958.1	63.423	SF
HSR-Moser 03-26A - Original Drilling - Original Drilling - A	8,890.4	6,868.7	1,705.1	1,657.7	35.945	CC
HSR-Moser 03-26A - Original Drilling - Original Drilling - A	8,900.0	6,869.1	1,705.2	1,657.6	35.884	ES
HSR-Moser 03-26A - Original Drilling - Original Drilling - A	9,300.0	6,885.2	1,753.5	1,703.0	34.689	SF
John 03-26 - Original Drilling - Original Drilling - As Drille	8,636.6	6,864.3	1,847.1	1,801.5	40.548	CC, ES
John 03-26 - Original Drilling - Original Drilling - As Drille	9,100.0	6,876.9	1,904.3	1,855.4	38.935	SF
Lamp H25-31 - Original Drilling - Original Drilling - As Dri	8,014.8	7,026.2	1,216.5	1,174.3	28.827	CC, ES
Lamp H25-31 - Original Drilling - Original Drilling - As Dri	8,200.0	7,025.1	1,230.5	1,187.5	28.600	SF
Lamp H26-01 - Original Drilling - Original Drilling - As Dri	8,805.4	7,092.1	842.9	792.3	16.667	CC, ES, SF
Lamp H26-08 - Original Drilling - Original Drilling - As Dri	2,225.7	2,194.9	465.3	452.9	37.609	CC
Lamp H26-08 - Original Drilling - Original Drilling - As Dri	2,424.2	2,397.5	465.4	451.9	34.422	ES
Lamp H26-08 - Original Drilling - Original Drilling - As Dri	7,500.0	6,974.0	755.2	715.5	18.993	SF
Lamp H26-22 - Original Drilling - Original Drilling - As Dri	4,588.5	4,643.9	66.8	32.4	1.942	CC
Lamp H26-22 - Original Drilling - Original Drilling - As Dri	4,600.0	4,655.2	66.8	32.2	1.933	ES, SF
Moser 05-26 - Original Drilling - Original Drilling - As Drill	7,215.0	6,971.1	3,350.7	3,311.5	85.319	CC, ES
Moser 05-26 - Original Drilling - Original Drilling - As Drill	8,900.0	7,022.3	3,754.8	3,707.7	79.650	SF
Moser 41-27 - Original Drilling - Original Drilling - As Drill	964.0	900.0	3,791.6	3,786.6	758.565	CC, ES
Moser 41-27 - Original Drilling - Original Drilling - As Drill	11,600.0	11,600.0	5,395.2	5,318.8	70.691	SF
Moser H26-11 - Original Drilling - Original Drilling - As Dr	6,439.7	6,369.6	2,199.7	2,163.7	61.138	CC
Moser H26-11 - Original Drilling - Original Drilling - As Dr	6,450.0	6,380.9	2,199.7	2,163.7	61.038	ES
Moser H26-11 - Original Drilling - Original Drilling - As Dr	6,950.0	6,824.7	2,257.4	2,219.2	59.005	SF
Moser H26-12 - Wellbore #1 - Wellbore #1 - As Drilled	6,537.8	6,585.0	3,370.8	3,334.0	91.394	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 H26-730
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 H26-730	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:	Design #1	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	6,550.0	6,600.0	3,370.9	3,333.9	91.218	ES
Moser H26-12 - Wellbore #1 - Wellbore #1 - As Drilled	7,050.0	6,883.7	3,434.0	3,395.4	88.945	SF
Moser H26-13 - Wellbore #1 - Wellbore #1 - As Drilled	6,422.8	6,344.4	3,894.4	3,858.6	108.823	CC, ES
Moser H26-13 - Wellbore #1 - Wellbore #1 - As Drilled	6,850.0	6,684.0	3,971.4	3,933.8	105.522	SF
Moser H26-14 - Original Drilling - Original Drilling - As Dr	6,432.3	6,398.4	2,871.8	2,835.9	79.846	CC, ES
Moser H26-14 - Original Drilling - Original Drilling - As Dr	6,700.0	6,632.5	2,916.8	2,879.5	78.288	SF
Moser H26-18D - Original Drilling - Original Drilling - As D	7,700.0	7,414.2	1,235.7	1,186.1	24.929	SF
Moser H26-18D - Original Drilling - Original Drilling - As D	8,013.9	7,417.9	1,195.1	1,147.8	25.275	CC, ES
Moser H26-24 - Original Drilling - Original Drilling - As Dr	6,422.3	6,363.4	1,918.3	1,882.4	53.485	CC, ES
Moser H26-24 - Original Drilling - Original Drilling - As Dr	6,650.0	6,558.7	1,946.0	1,909.1	52.664	SF
Moser H26-25 - Original Drilling - Original Drilling - As Dr	6,450.2	6,442.7	2,704.4	2,668.3	74.785	CC, ES
Moser H26-25 - Original Drilling - Original Drilling - As Dr	6,800.0	6,780.9	2,755.5	2,717.6	72.751	SF
Moser H26-27D - Original Drilling - Original Drilling - As D	9,262.8	7,136.4	89.9	35.8	1.661	CC, ES, SF
Moser H26-28D - Original Drilling - Original Drilling - As D	9,478.2	7,561.3	1,417.2	1,355.6	23.031	CC
Moser H26-28D - Original Drilling - Original Drilling - As D	9,500.0	7,561.9	1,417.3	1,355.3	22.840	ES
Moser H26-28D - Original Drilling - Original Drilling - As D	10,000.0	7,576.0	1,510.1	1,436.8	20.600	SF
Moser H26-29D - Original Drilling - Original Drilling - As D	0.0	0.0	1,490.3			
Moser H26-29D - Original Drilling - Original Drilling - As D	300.0	276.2	1,490.9	1,489.6	1,151.286	ES
Moser H26-29D - Original Drilling - Original Drilling - As D	10,800.0	10,800.0	2,941.3	2,832.6	27.055	SF
Moser, Wesley E. G. U. B1 (PA) - Original Drilling - Origin	6,420.4	6,335.4	3,395.0	3,254.5	24.164	CC
Moser, Wesley E. G. U. B1 (PA) - Original Drilling - Origin	6,450.0	6,364.9	3,395.4	3,254.2	24.055	ES
Moser, Wesley E. G. U. B1 (PA) - Original Drilling - Origin	6,900.0	6,770.9	3,486.7	3,336.8	23.255	SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region Drilling - Sandbox	Local Co-ordinate Reference:	Well Hurley H26-730
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 H26-730	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:	Design #1	Offset TVD Reference:	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Separation Factor	Warning
H Section 35						
Cannon Farms 01-35C - Original Drilling - Original Drilling	6,426.5	6,414.9	6,946.0	6,909.7	191.285	CC, ES
Cannon Farms 01-35C - Original Drilling - Original Drilling	7,050.0	7,053.1	7,225.5	7,185.9	182.642	SF
Cannon H35-03D - Original Drilling - Original Drilling - As	6,140.4	6,071.8	6,792.3	6,757.9	197.678	CC
Cannon H35-03D - Original Drilling - Original Drilling - As	6,300.0	6,191.8	6,792.7	6,757.6	193.510	ES
Cannon H35-03D - Original Drilling - Original Drilling - As	6,800.0	6,597.3	6,901.5	6,864.1	184.493	SF
Cannon H35-09 - Original Drilling - Original Drilling - As D	6,432.3	6,456.0	6,043.6	6,007.1	165.505	CC, ES
Cannon H35-09 - Original Drilling - Original Drilling - As D	7,200.0	7,077.5	6,449.0	6,403.7	142.221	SF
Cannon H35-10 - Original Drilling - Original Drilling - As D	6,083.1	5,928.5	6,141.2	6,107.4	181.373	CC
Cannon H35-10 - Original Drilling - Original Drilling - As D	6,100.0	5,948.2	6,141.3	6,107.3	180.834	ES
Cannon H35-10 - Original Drilling - Original Drilling - As D	6,800.0	6,607.5	6,261.1	6,223.6	166.826	SF
Cannon H35-11 - Original Drilling - Original Drilling - As D	6,427.4	6,429.2	6,253.8	6,217.6	172.509	CC, ES
Cannon H35-11 - Original Drilling - Original Drilling - As D	6,800.0	6,682.1	6,357.7	6,319.9	168.343	SF
Cannon H35-12 - Original Drilling - Original Drilling - As D	6,126.9	6,032.6	6,907.2	6,873.1	202.167	CC
Cannon H35-12 - Original Drilling - Original Drilling - As D	6,420.4	6,316.7	6,908.7	6,873.0	193.235	ES
Cannon H35-12 - Original Drilling - Original Drilling - As D	6,900.0	6,774.7	7,062.1	7,024.0	185.313	SF
Cannon H35-13 - Wellbore #1 - Wellbore #1 - As Drilled	6,427.4	6,432.0	8,014.5	7,978.4	221.640	CC, ES
Cannon H35-13 - Wellbore #1 - Wellbore #1 - As Drilled	6,950.0	7,075.0	8,199.6	8,160.4	209.222	SF
Cannon H35-14 - Original Drilling - Original Drilling - As D	6,426.4	6,429.8	7,576.5	7,540.2	209.170	CC, ES
Cannon H35-14 - Original Drilling - Original Drilling - As D	7,300.0	7,031.3	8,074.2	8,027.6	173.392	SF
Cannon H35-15 (PA) - Original Drilling - Original Drilling -	6,420.4	6,347.4	7,396.0	7,255.0	52.475	CC, ES
Cannon H35-15 (PA) - Original Drilling - Original Drilling -	6,950.0	6,817.9	7,603.1	7,451.9	50.299	SF
Cannon H35-20 - Original Drilling - Original Drilling - As D	6,104.4	5,977.0	6,088.4	6,054.5	179.587	CC, ES
Cannon H35-20 - Original Drilling - Original Drilling - As D	6,850.0	6,682.9	6,222.6	6,184.9	165.042	SF
Cannon H35-21 - Original Drilling - Original Drilling - As D	6,089.2	5,952.0	5,710.1	5,676.2	168.296	CC
Cannon H35-21 - Original Drilling - Original Drilling - As D	6,100.0	5,961.5	5,710.1	5,676.1	168.028	ES
Cannon H35-21 - Original Drilling - Original Drilling - As D	6,850.0	6,814.7	5,853.2	5,814.9	152.875	SF
Cannon H35-22 - Original Drilling - Original Drilling - As D	6,219.5	6,054.3	5,509.9	5,475.0	157.849	CC
Cannon H35-22 - Original Drilling - Original Drilling - As D	6,420.4	6,242.4	5,510.2	5,474.3	153.248	ES
Cannon H35-22 - Original Drilling - Original Drilling - As D	7,250.0	7,250.0	5,976.7	5,936.3	147.864	SF
Cannon H35-24 - Original Drilling - Original Drilling - As D	6,117.7	6,019.6	6,900.7	6,866.5	201.830	CC
Cannon H35-24 - Original Drilling - Original Drilling - As D	6,133.1	6,031.1	6,900.7	6,866.5	201.419	ES
Cannon H35-24 - Original Drilling - Original Drilling - As D	6,850.0	6,590.9	7,047.6	7,010.1	187.970	SF
Cannon X02-27 - Original Drilling - Original Drilling - As D	6,097.2	5,950.4	7,849.3	7,815.3	230.580	CC
Cannon X02-27 - Original Drilling - Original Drilling - As D	6,100.0	5,952.4	7,849.3	7,815.3	230.497	ES
Cannon X02-27 - Original Drilling - Original Drilling - As D	7,000.0	6,882.5	8,097.9	8,059.2	208.857	SF
Cannon X02-28 - Original Drilling - Original Drilling - As D	6,305.2	6,240.7	7,752.0	7,716.6	219.080	CC
Cannon X02-28 - Original Drilling - Original Drilling - As D	6,420.4	6,343.5	7,752.1	7,716.2	215.485	ES
Cannon X02-28 - Original Drilling - Original Drilling - As D	6,900.0	6,787.2	7,921.7	7,883.5	206.974	SF
Cannon X02-29 - Original Drilling - Original Drilling - As D	5,997.8	5,600.0	8,097.6	8,064.8	246.926	CC
Cannon X02-29 - Original Drilling - Original Drilling - As D	6,000.0	5,600.0	8,097.6	8,064.8	246.894	ES
Cannon X02-29 - Original Drilling - Original Drilling - As D	6,900.0	6,165.3	8,307.7	8,271.4	228.874	SF
Foster 18-35 - Original Drilling - Original Drilling - As Drill	6,119.0	6,016.3	4,723.5	4,689.5	138.758	CC
Foster 18-35 - Original Drilling - Original Drilling - As Drill	6,133.1	6,028.3	4,723.6	4,689.5	138.476	ES
Foster 18-35 - Original Drilling - Original Drilling - As Drill	6,800.0	6,715.4	4,818.5	4,780.8	127.761	SF
Foster UPRR 31-35 #1 (PA) - Original Drilling - Original D	6,420.4	6,359.4	3,322.2	3,181.2	23.574	CC, ES
Foster UPRR 31-35 #1 (PA) - Original Drilling - Original D	6,700.0	6,630.0	3,381.5	3,234.7	23.030	SF
Foster UPRR 32-35 - Original Drilling - Original Drilling -	6,426.6	6,407.2	4,660.6	4,624.4	128.756	CC, ES
Foster UPRR 32-35 - Original Drilling - Original Drilling -	6,800.0	6,774.6	4,768.3	4,730.2	125.161	SF
Foster UPRR 41-35 - Original Drilling - Original Drilling -	6,274.2	6,200.0	3,544.3	3,508.9	100.292	CC
Foster UPRR 41-35 - Original Drilling - Original Drilling -	6,400.0	6,302.4	3,544.7	3,508.7	98.608	ES
Foster UPRR 41-35 - Original Drilling - Original Drilling -	7,100.0	6,881.7	3,871.7	3,825.6	84.029	SF
Foster UPRR 42-35 #2 - Original Drilling - Original Drilling	6,441.1	6,517.7	4,621.6	4,584.9	125.733	CC, ES
Foster UPRR 42-35 #2 - Original Drilling - Original Drilling	6,700.0	6,678.3	4,675.3	4,637.5	123.747	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 H26-730
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 H26-730	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:	Design #1	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						
HSR Foster 03-35 - Original Drilling - Original Drilling - A	6,422.2	6,360.1	3,966.0	3,930.1	110.510	CC, ES
HSR Foster 03-35 - Original Drilling - Original Drilling - A	6,750.0	6,842.4	4,034.7	3,996.6	105.914	SF
HSR Foster 04-35 - Wellbore #1 - Wellbore #1 - As Drille	6,422.2	6,340.5	4,750.6	4,714.9	132.894	CC, ES
HSR Foster 04-35 - Wellbore #1 - Wellbore #1 - As Drille	6,800.0	6,633.4	4,826.0	4,788.6	129.066	SF
HSR Foster 05-35 - Wellbore #1 - Wellbore #1 - As Drille	6,081.9	5,900.0	5,775.4	5,741.9	172.007	CC, ES
HSR Foster 05-35 - Wellbore #1 - Wellbore #1 - As Drille	6,900.0	6,609.7	5,951.7	5,914.2	158.689	SF
HSR Foster 06-35 - Original Drilling - Original Drilling - A	6,425.0	6,391.4	5,056.9	5,020.8	140.344	CC, ES
HSR Foster 06-35 - Original Drilling - Original Drilling - A	6,800.0	6,733.0	5,156.3	5,118.5	136.217	SF
UPRR 53 Pan Am Unit P1 - Original Drilling - Original Dri	6,431.3	6,429.4	4,070.6	4,034.2	111.928	CC, ES
UPRR 53 Pan Am Unit P1 - Original Drilling - Original Dri	6,750.0	6,657.2	4,152.1	4,114.4	110.099	SF
UPRR 53 Pan Am UT P2 - Original Drilling - Original Drill	6,426.1	6,383.6	4,366.9	4,331.0	121.495	CC, ES
UPRR 53 Pan Am UT P2 - Original Drilling - Original Drill	6,700.0	6,546.1	4,419.3	4,382.3	119.436	SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region Drilling - Sandbox	Local Co-ordinate Reference:	Well Hurley H26-730
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 H26-730	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:	Design #1	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	4,361.0	4,200.0	6,545.3	6,521.4	272.927	CC
Dechant 07-36 - Original Drilling - Original Drilling - As D	4,900.0	4,700.0	6,546.9	6,519.9	242.164	ES
Dechant 07-36 - Original Drilling - Original Drilling - As D	6,950.0	6,706.6	6,740.9	6,702.7	176.410	SF
Dechant 13N-1HZ - Original Drilling - Original Drilling - A	6,337.7	6,300.0	8,039.3	7,999.8	203.347	CC, ES
Dechant 13N-1HZ - Original Drilling - Original Drilling - A	6,600.0	6,350.0	8,067.3	8,027.1	200.508	SF
Dechant 14C-1HZ - Original Drilling - Original Drilling - A	5,848.0	5,468.4	8,424.8	8,391.4	251.867	CC
Dechant 14C-1HZ - Original Drilling - Original Drilling - A	5,900.0	5,519.6	8,425.0	8,391.3	249.609	ES
Dechant 14C-1HZ - Original Drilling - Original Drilling - A	6,800.0	6,392.2	8,556.3	8,517.6	220.707	SF
Dechant 15-36 - Original Drilling - Original Drilling - As D	6,244.9	6,302.2	8,579.6	8,541.6	225.707	CC, ES
Dechant 15-36 - Original Drilling - Original Drilling - As D	7,300.0	6,896.4	9,033.9	8,979.0	164.543	SF
Dechant 15C-1HZ - Original Drilling - Original Drilling - A	906.1	830.1	5,100.7	5,096.0	1,088.224	CC
Dechant 15C-1HZ - Original Drilling - Original Drilling - A	1,000.0	900.0	5,100.8	5,095.6	990.713	ES
Dechant 15C-1HZ - Original Drilling - Original Drilling - A	6,800.0	6,493.5	5,417.9	5,380.1	143.354	SF
Dechant 24-36 - Original Drilling - Original Drilling - As D	970.9	900.0	6,618.8	6,613.8	1,319.622	CC
Dechant 24-36 - Original Drilling - Original Drilling - As D	1,000.0	900.0	6,618.9	6,613.8	1,302.671	ES
Dechant 24-36 - Original Drilling - Original Drilling - As D	7,000.0	7,000.2	7,478.4	7,437.7	183.846	SF
Dechant 35N-E1HZ - Original Drilling - Original Drilling -	6,011.7	5,790.0	8,328.5	8,294.4	244.176	CC, ES
Dechant 35N-E1HZ - Original Drilling - Original Drilling -	6,650.0	6,200.0	8,380.0	8,343.2	227.668	SF
Dechant 35N-W1HZ - Original Drilling - Original Drilling -	6,333.2	6,250.0	8,161.7	8,125.2	223.493	CC, ES
Dechant 35N-W1HZ - Original Drilling - Original Drilling -	6,650.0	6,300.0	8,206.2	8,168.9	220.166	SF
Dechant 36N-W1HZ - Original Drilling - Original Drilling -	907.1	854.1	8,479.2	8,474.4	1,775.636	CC
Dechant 36N-W1HZ - Original Drilling - Original Drilling -	5,719.7	5,219.0	8,497.2	8,464.0	255.811	ES
Dechant 36N-W1HZ - Original Drilling - Original Drilling -	6,850.0	6,302.5	8,674.5	8,634.8	218.082	SF
Dechant 37N-E1HZ - Original Drilling - Original Drilling -	901.5	844.5	8,888.8	8,884.1	1,879.896	CC
Dechant 37N-E1HZ - Original Drilling - Original Drilling -	1,000.0	900.0	8,888.9	8,883.8	1,726.481	ES
Dechant 37N-E1HZ - Original Drilling - Original Drilling -	7,100.0	5,603.1	9,714.0	9,673.0	236.884	SF
Dechant 37N-W1HZ - Original Drilling - Original Drilling -	1,201.5	1,144.5	8,915.9	8,909.5	1,376.327	CC
Dechant 37N-W1HZ - Original Drilling - Original Drilling -	1,300.0	1,200.0	8,916.0	8,909.1	1,292.506	ES
Dechant 37N-W1HZ - Original Drilling - Original Drilling -	7,050.0	6,178.8	9,403.0	9,363.7	239.165	SF
Dechant State 16C-1HZ - Original Drilling - Original Drilling	3,591.0	3,803.7	6,279.5	6,258.2	294.336	CC
Dechant State 16C-1HZ - Original Drilling - Original Drilling	3,700.0	3,879.0	6,279.8	6,258.0	287.485	ES
Dechant State 16C-1HZ - Original Drilling - Original Drilling	6,800.0	6,526.0	6,419.2	6,381.5	170.386	SF
Dechant State 36N-E1HZ - Original Drilling - Original Drilling	2,471.4	2,410.1	5,086.2	5,072.4	370.189	CC
Dechant State 36N-E1HZ - Original Drilling - Original Drilling	2,600.0	2,538.6	5,086.5	5,072.1	352.454	ES
Dechant State 36N-E1HZ - Original Drilling - Original Drilling	6,750.0	6,400.0	5,205.1	5,167.8	139.524	SF
Dechant State 37N-E36HZ - Original Drilling - Original Drilling	6,432.0	6,400.0	6,175.7	6,138.6	166.158	CC, ES
Dechant State 37N-E36HZ - Original Drilling - Original Drilling	6,700.0	6,450.0	6,205.9	6,168.2	164.585	SF
Dechant State 37N-W36HZ - Original Drilling - Original Drilling	906.7	829.7	5,110.7	5,106.0	1,090.415	CC
Dechant State 37N-W36HZ - Original Drilling - Original Drilling	1,000.0	900.0	5,110.7	5,105.6	992.651	ES
Dechant State 37N-W36HZ - Original Drilling - Original Drilling	6,900.0	6,362.9	5,667.0	5,628.9	148.763	SF
Dechant State 38N-1HZ - Original Drilling - Original Drilling	908.3	828.3	6,643.0	6,638.3	1,417.727	CC
Dechant State 38N-1HZ - Original Drilling - Original Drilling	1,000.0	900.0	6,643.0	6,637.8	1,290.256	ES
Dechant State 38N-1HZ - Original Drilling - Original Drilling	6,800.0	6,400.0	6,915.9	6,878.5	185.211	SF
Dechant State H36-11D - Original Drilling - Original Drilling	6,425.8	6,381.7	6,927.9	6,891.5	190.698	CC, ES
Dechant State H36-11D - Original Drilling - Original Drilling	6,900.0	6,896.6	7,076.2	7,037.4	182.325	SF
Dechant State H36-18D - Original Drilling - Original Drilling	100.0	43.9	4,658.7	4,658.5	10,000.000	CC
Dechant State H36-18D - Original Drilling - Original Drilling	900.0	824.7	4,660.6	4,657.2	1,366.757	ES
Dechant State H36-18D - Original Drilling - Original Drilling	6,850.0	6,813.1	5,638.8	5,596.3	132.809	SF
Dechant State H36-19 - Original Drilling - Original Drilling	6,444.6	6,487.6	4,434.9	4,398.1	120.608	CC
Dechant State H36-19 - Original Drilling - Original Drilling	6,450.0	6,500.0	4,434.9	4,398.1	120.436	ES
Dechant State H36-19 - Original Drilling - Original Drilling	6,850.0	6,792.2	4,545.5	4,507.1	118.213	SF
Dechant State H36-20D - Original Drilling - Original Drilling	6,425.3	6,494.6	6,098.1	6,057.0	148.587	CC, ES
Dechant State H36-20D - Original Drilling - Original Drilling	6,750.0	6,801.7	6,170.9	6,128.6	145.684	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 H26-730
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 H26-730	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:	Design #1	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 State H36-21D - Original Drilling - Original Drilling	5,912.2	5,822.3	6,662.6	6,625.8	181.405	CC
Dechant State H36-21D - Original Drilling - Original Drilling	6,420.4	6,405.3	6,664.8	6,625.4	169.084	ES
Dechant State H36-21D - Original Drilling - Original Drilling	6,900.0	6,833.6	6,808.6	6,767.3	164.978	SF
Dechant State H36-24 - Original Drilling - Original Drilling	376.2	329.2	7,375.2	7,373.5	4,317.227	CC
Dechant State H36-24 - Original Drilling - Original Drilling	900.0	836.0	7,376.8	7,372.1	1,562.296	ES
Dechant State H36-24 - Original Drilling - Original Drilling	6,950.0	7,055.3	7,913.4	7,868.2	174.984	SF
Dechant State H36-31D - Original Drilling - Original Drilling	6,422.3	6,495.0	4,311.9	4,268.5	99.374	CC, ES
Dechant State H36-31D - Original Drilling - Original Drilling	6,650.0	6,680.4	4,351.2	4,307.0	98.401	SF
Dechant State H36-32D - Original Drilling - Original Drilling	6,125.2	6,099.8	5,513.1	5,478.9	160.923	CC
Dechant State H36-32D - Original Drilling - Original Drilling	6,420.4	6,378.1	5,514.1	5,478.4	154.243	ES
Dechant State H36-32D - Original Drilling - Original Drilling	6,700.0	6,654.8	5,572.1	5,534.9	149.886	SF
Dechant State H36-33 - Original Drilling - Original Drilling	6,425.0	6,574.1	6,722.3	6,676.2	145.652	CC, ES
Dechant State H36-33 - Original Drilling - Original Drilling	6,800.0	6,971.7	6,827.2	6,779.4	142.782	SF
HSR Dechant State 02-36 - Original Drilling - Original Dri	3,305.0	3,300.0	5,269.8	5,251.4	286.445	CC, ES
HSR Dechant State 02-36 - Original Drilling - Original Dri	6,850.0	6,850.0	5,426.3	5,387.8	140.705	SF
HSR Dechant/State 07-36 (PA) - Original Drilling - Origin	2,400.0	2,325.0	6,543.2	6,491.5	126.443	CC
HSR Dechant/State 07-36 (PA) - Original Drilling - Origin	6,450.0	6,341.9	6,563.2	6,422.1	46.505	ES
HSR Dechant/State 07-36 (PA) - Original Drilling - Origin	7,000.0	6,815.1	6,729.4	6,578.1	44.478	SF
Spike State GWS H36-03 - Original Drilling - Original Dri	375.0	300.0	4,718.4	4,716.9	3,000.450	CC
Spike State GWS H36-03 - Original Drilling - Original Dri	6,300.0	6,185.7	4,728.2	4,692.8	133.502	ES
Spike State GWS H36-03 - Original Drilling - Original Dri	6,900.0	6,586.2	4,862.2	4,824.5	128.870	SF
Spike State GWS H36-04 - Original Drilling - Original Dri	6,432.7	6,397.8	3,711.6	3,671.4	92.322	CC
Spike State GWS H36-04 - Original Drilling - Original Dri	6,450.0	6,415.1	3,711.8	3,671.4	91.810	ES
Spike State GWS H36-04 - Original Drilling - Original Dri	7,000.0	6,889.9	3,917.6	3,871.2	84.378	SF
Spike State GWS H36-13 - Original Drilling - Original Dri	6,505.3	7,444.0	7,649.0	7,606.8	181.287	CC, ES
Spike State GWS H36-13 - Original Drilling - Original Dri	6,700.0	7,444.0	7,680.0	7,637.4	180.336	SF
Spike State GWS H36-14 - Original Drilling - Original Dri	6,448.0	6,687.7	8,274.0	8,236.6	221.109	CC
Spike State GWS H36-14 - Original Drilling - Original Dri	6,450.0	6,689.1	8,274.0	8,236.6	221.056	ES
Spike State GWS H36-14 - Original Drilling - Original Dri	7,000.0	7,182.3	8,477.3	8,437.4	212.487	SF
Spike State H36-02J - Original Drilling - Original Drilling -	5,923.1	5,863.6	5,216.6	5,181.0	146.676	CC
Spike State H36-02J - Original Drilling - Original Drilling -	6,420.4	6,213.5	5,225.2	5,177.6	109.740	ES
Spike State H36-02J - Original Drilling - Original Drilling -	7,200.0	6,804.9	5,595.9	5,528.7	83.243	SF
Spike State H36-05 - Original Drilling - Original Drilling - A	6,067.7	5,937.4	4,931.9	4,897.8	144.552	CC
Spike State H36-05 - Original Drilling - Original Drilling - A	6,133.1	6,008.3	4,932.1	4,897.6	143.005	ES
Spike State H36-05 - Original Drilling - Original Drilling - A	7,050.0	7,050.0	5,211.3	5,171.8	131.925	SF
Spike State H36-11J - Original Drilling - Original Drilling -	6,111.7	6,000.0	7,242.1	7,207.8	210.875	CC
Spike State H36-11J - Original Drilling - Original Drilling -	6,428.0	6,418.0	7,242.3	7,205.8	198.825	ES
Spike State H36-11J - Original Drilling - Original Drilling -	6,900.0	6,871.1	7,397.4	7,358.7	191.120	SF
Spike State H36-12 - Original Drilling - Original Drilling - A	6,186.7	6,100.0	6,114.6	6,079.8	175.640	CC
Spike State H36-12 - Original Drilling - Original Drilling - A	6,420.4	6,324.7	6,115.2	6,079.1	169.576	ES
Spike State H36-12 - Original Drilling - Original Drilling - A	6,900.0	6,878.2	6,278.7	6,240.0	162.210	SF

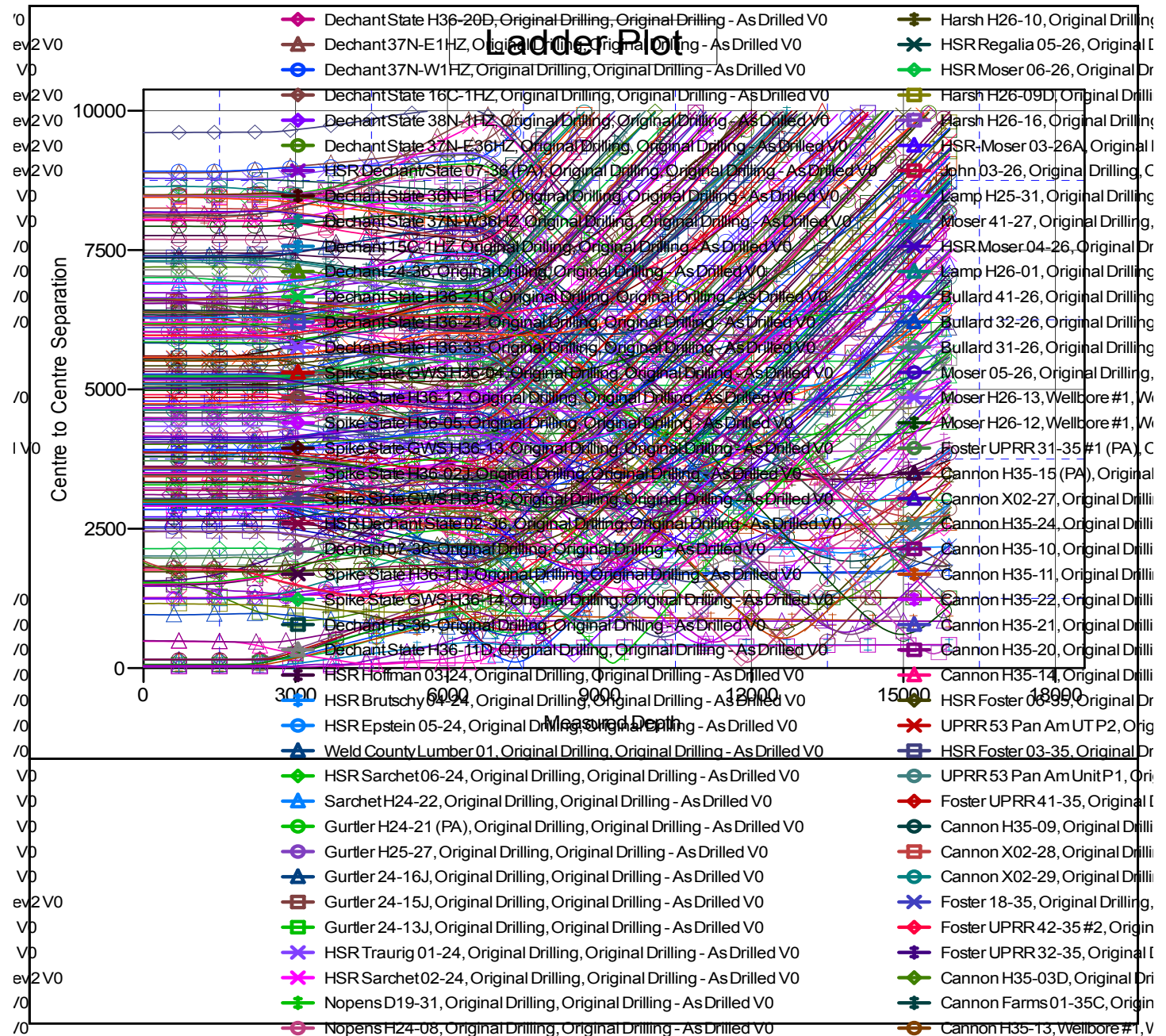
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region Drilling - Sandbox	Local Co-ordinate Reference:	Well Hurley H26-730
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 H26-730	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:	Design #1	Offset TVD Reference:	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 H26-730
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.57°



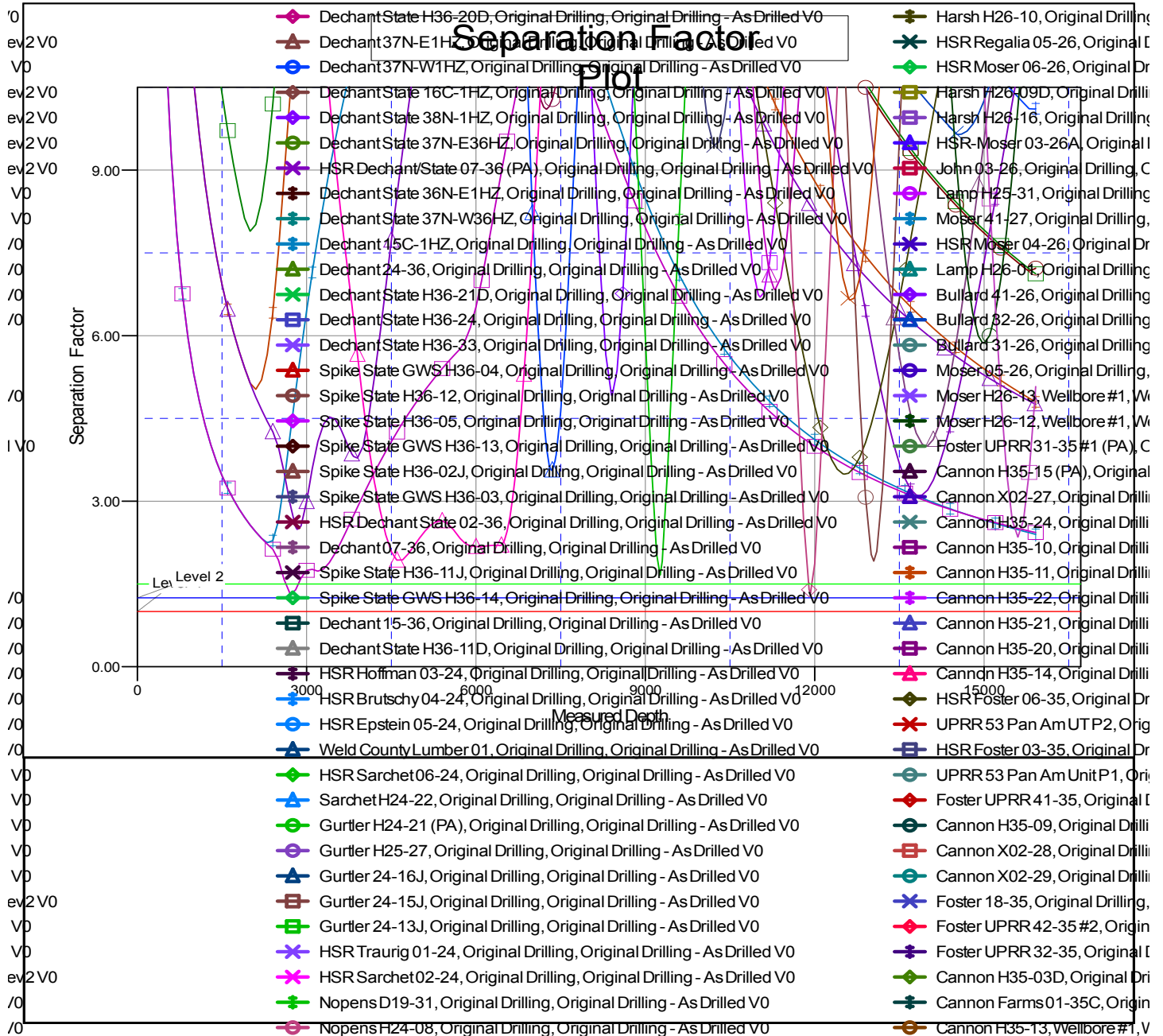
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Well Error:	0.0 ft	Output errors are at	2.00 sigma
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Offset Depths are relative to Offset Datum
Central Meridian is -105.500000

Coordinates are relative to: Hurley H26-730
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.57°



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