

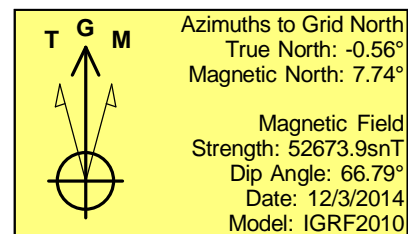
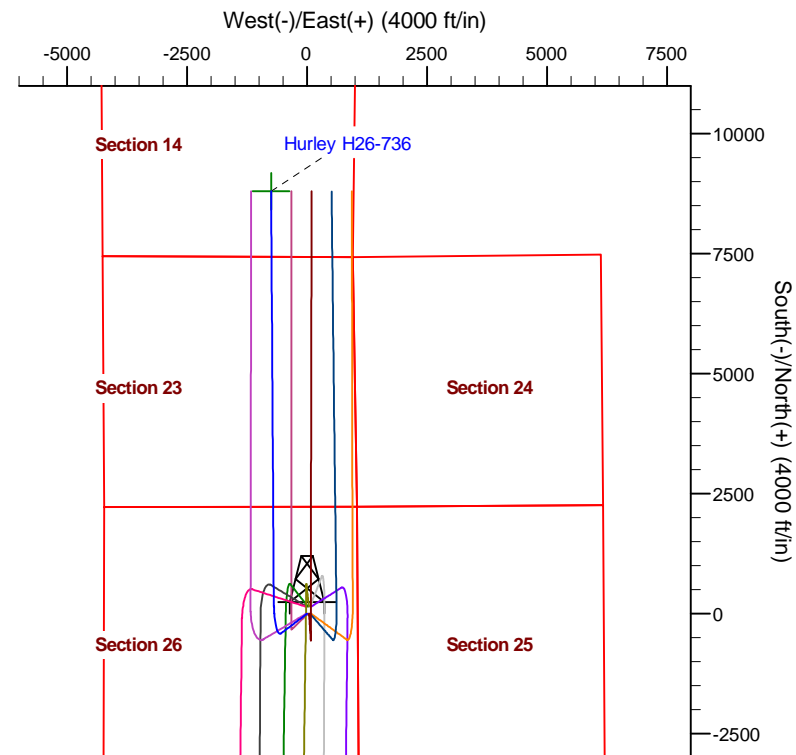
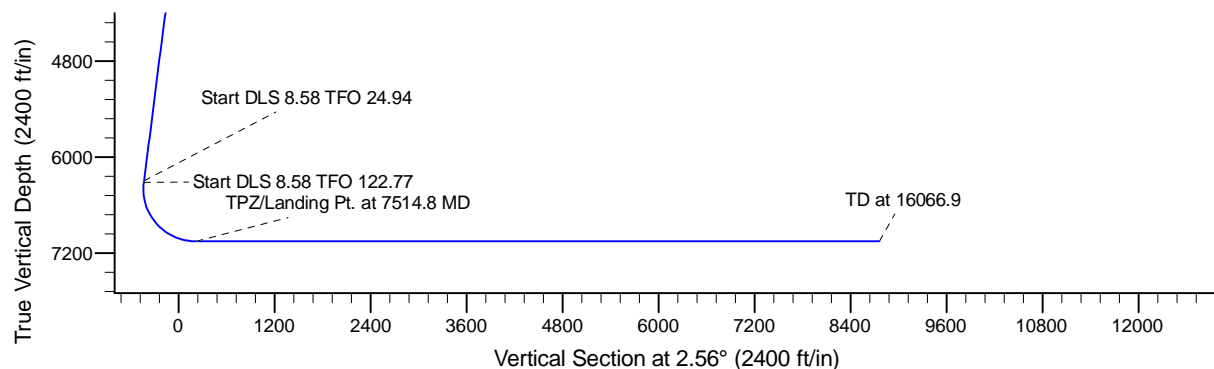
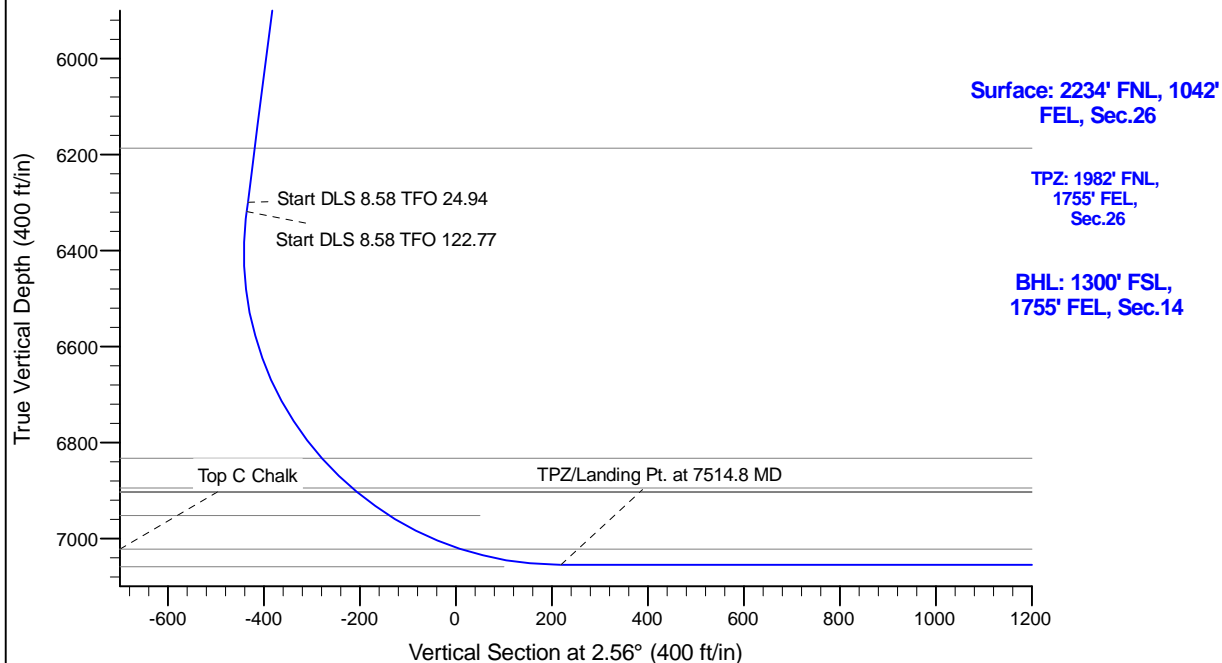
Project: Conceptual Wells
Site: DP 408
Well: Hurley H26-736
Wellbore: Wellbore #1
Design: Design #1

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	2600.0	0.00	0.00	2600.0	0.0	0.0	0.00	0.00	0.0	
3	3162.5	11.25	233.00	3158.9	-33.1	-44.0	2.00	233.00	-35.1	
4	6365.1	11.25	233.00	6300.0	-409.1	-543.0	0.00	0.00	-433.0	
5	6384.7	12.79	236.20	6319.1	-411.5	-546.3	8.58	24.94	-435.5	
6	7514.8	90.00	359.63	7055.0	250.0	-690.0	8.58	122.77	218.9	
7	16066.9	90.00	359.62	7055.0	8801.9	-745.9	0.00	-90.00	8759.7	Hurley H26-736 BHL



WELL DETAILS: Hurley H26-736

Ground Level: 4855.0			
Northing	Easting	Latitude	Longitude
0.00.0	1315961.46	3244443.21	40.197400
			-104.624920

Plan: Design #1 (Hurley H26-736/Wellbore #1)

Created By: Chad Stich Date: 9:53, November 01 2017

Checked: _____ Date: ____

Reviewed: _____ Date: ____

Approved: _____ Date: ____

Northern Region Drilling - Sandbox

Conceptual Wells

DP 408

Hurley H26-736

Wellbore #1

Plan: Design #1

Standard Planning Report

01 November, 2017

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Hurley H26-736
Company:	Northern Region Drilling - Sandbox	TVD Reference:	WELL @ 4885.0ft (Original Well Elev)
Project:	Conceptual Wells	MD Reference:	WELL @ 4885.0ft (Original Well Elev)
Site:	DP 408	North Reference:	Grid
Well:	Hurley H26-736	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 H26-736			
Well Position	+N/-S	-2,223.3 ft	Northing:	1,315,961.46 usft
	+E/-W	4,218.2 ft	Easting:	3,244,443.22 usft
Position Uncertainty		0.0 ft	Wellhead Elevation:	0.0 ft
			Ground Level:	4,855.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	12/3/2014	8.30	66.79	52,673.91262972

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	2.56

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	
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.00	0.00	0.00	0.00	
3,162.5	11.25	233.00	3,158.9	-33.1	-44.0	2.00	2.00	0.00	233.00	
6,365.1	11.25	233.00	6,300.0	-409.1	-543.0	0.00	0.00	0.00	0.00	
6,384.7	12.79	236.20	6,319.1	-411.5	-546.3	8.58	7.88	16.35	24.94	
7,514.8	90.00	359.63	7,055.0	250.0	-690.0	8.58	6.83	10.92	122.77	
16,066.9	90.00	359.62	7,055.0	8,801.9	-745.9	0.00	0.00	0.00	-90.00	Hurley H26-736 BHL

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Hurley H26-736
Company:	Northern Region Drilling - Sandbox	TVD Reference:	WELL @ 4885.0ft (Original Well Elev)
Project:	Conceptual Wells	MD Reference:	WELL @ 4885.0ft (Original Well Elev)
Site:	DP 408	North Reference:	Grid
Well:	Hurley H26-736	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	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,700.0	2.00	233.00	2,700.0	-1.1	-1.4	-1.1	2.00	2.00	0.00
2,800.0	4.00	233.00	2,799.8	-4.2	-5.6	-4.4	2.00	2.00	0.00
2,900.0	6.00	233.00	2,899.5	-9.4	-12.5	-10.0	2.00	2.00	0.00
3,000.0	8.00	233.00	2,998.7	-16.8	-22.3	-17.8	2.00	2.00	0.00
3,100.0	10.00	233.00	3,097.5	-26.2	-34.8	-27.7	2.00	2.00	0.00
3,162.5	11.25	233.00	3,158.9	-33.1	-44.0	-35.1	2.00	2.00	0.00
3,200.0	11.25	233.00	3,195.7	-37.5	-49.8	-39.7	0.00	0.00	0.00
3,300.0	11.25	233.00	3,293.8	-49.3	-65.4	-52.1	0.00	0.00	0.00
3,400.0	11.25	233.00	3,391.8	-61.0	-81.0	-64.6	0.00	0.00	0.00
3,500.0	11.25	233.00	3,489.9	-72.8	-96.5	-77.0	0.00	0.00	0.00
3,600.0	11.25	233.00	3,588.0	-84.5	-112.1	-89.4	0.00	0.00	0.00
3,700.0	11.25	233.00	3,686.1	-96.2	-127.7	-101.9	0.00	0.00	0.00
3,800.0	11.25	233.00	3,784.1	-108.0	-143.3	-114.3	0.00	0.00	0.00
3,900.0	11.25	233.00	3,882.2	-119.7	-158.9	-126.7	0.00	0.00	0.00
4,000.0	11.25	233.00	3,980.3	-131.5	-174.4	-139.1	0.00	0.00	0.00
4,100.0	11.25	233.00	4,078.4	-143.2	-190.0	-151.6	0.00	0.00	0.00
4,200.0	11.25	233.00	4,176.5	-154.9	-205.6	-164.0	0.00	0.00	0.00
4,300.0	11.25	233.00	4,274.5	-166.7	-221.2	-176.4	0.00	0.00	0.00
4,400.0	11.25	233.00	4,372.6	-178.4	-236.8	-188.8	0.00	0.00	0.00
4,500.0	11.25	233.00	4,470.7	-190.2	-252.4	-201.3	0.00	0.00	0.00
4,600.0	11.25	233.00	4,568.8	-201.9	-267.9	-213.7	0.00	0.00	0.00
4,700.0	11.25	233.00	4,666.8	-213.6	-283.5	-226.1	0.00	0.00	0.00
4,800.0	11.25	233.00	4,764.9	-225.4	-299.1	-238.5	0.00	0.00	0.00
4,900.0	11.25	233.00	4,863.0	-237.1	-314.7	-251.0	0.00	0.00	0.00
5,000.0	11.25	233.00	4,961.1	-248.9	-330.3	-263.4	0.00	0.00	0.00
5,100.0	11.25	233.00	5,059.2	-260.6	-345.8	-275.8	0.00	0.00	0.00
5,200.0	11.25	233.00	5,157.2	-272.3	-361.4	-288.2	0.00	0.00	0.00

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Hurley H26-736
Company:	Northern Region Drilling - Sandbox	TVD Reference:	WELL @ 4885.0ft (Original Well Elev)
Project:	Conceptual Wells	MD Reference:	WELL @ 4885.0ft (Original Well Elev)
Site:	DP 408	North Reference:	Grid
Well:	Hurley H26-736	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	11.25	233.00	5,255.3	-284.1	-377.0	-300.7	0.00	0.00	0.00
5,400.0	11.25	233.00	5,353.4	-295.8	-392.6	-313.1	0.00	0.00	0.00
5,500.0	11.25	233.00	5,451.5	-307.6	-408.2	-325.5	0.00	0.00	0.00
5,600.0	11.25	233.00	5,549.6	-319.3	-423.7	-337.9	0.00	0.00	0.00
5,700.0	11.25	233.00	5,647.6	-331.1	-439.3	-350.4	0.00	0.00	0.00
5,800.0	11.25	233.00	5,745.7	-342.8	-454.9	-362.8	0.00	0.00	0.00
5,900.0	11.25	233.00	5,843.8	-354.5	-470.5	-375.2	0.00	0.00	0.00
6,000.0	11.25	233.00	5,941.9	-366.3	-486.1	-387.7	0.00	0.00	0.00
6,100.0	11.25	233.00	6,039.9	-378.0	-501.6	-400.1	0.00	0.00	0.00
6,200.0	11.25	233.00	6,138.0	-389.8	-517.2	-412.5	0.00	0.00	0.00
6,300.0	11.25	233.00	6,236.1	-401.5	-532.8	-424.9	0.00	0.00	0.00
6,365.1	11.25	233.00	6,300.0	-409.1	-543.0	-433.0	0.00	0.00	0.00
6,384.7	12.79	236.20	6,319.1	-411.5	-546.3	-435.5	8.58	7.88	16.35
6,400.0	12.13	241.46	6,334.1	-413.2	-549.1	-437.4	8.58	-4.32	34.39
6,500.0	11.11	284.79	6,432.2	-415.8	-567.7	-440.8	8.58	-1.02	43.34
6,600.0	15.66	317.10	6,529.6	-403.4	-586.2	-429.2	8.58	4.55	32.30
6,700.0	22.64	332.61	6,624.1	-376.4	-604.3	-403.0	8.58	6.98	15.51
6,800.0	30.42	340.80	6,713.5	-335.3	-621.5	-362.8	8.58	7.78	8.20
6,900.0	38.52	345.86	6,795.9	-281.1	-637.5	-309.3	8.58	8.10	5.05
7,000.0	46.77	349.37	6,869.4	-215.0	-651.8	-243.9	8.58	8.25	3.51
7,100.0	55.11	352.04	6,932.3	-138.4	-664.2	-168.0	8.58	8.33	2.67
7,200.0	63.49	354.20	6,983.4	-53.1	-674.5	-83.2	8.58	8.38	2.17
7,300.0	71.89	356.08	7,021.3	39.0	-682.2	8.4	8.58	8.41	1.87
7,400.0	80.32	357.78	7,045.3	135.8	-687.4	104.9	8.58	8.42	1.70
7,500.0	88.75	359.39	7,054.8	235.3	-689.9	204.2	8.58	8.43	1.62
7,514.8	90.00	359.63	7,055.0	250.0	-690.0	218.9	8.58	8.43	1.60
7,600.0	90.00	359.63	7,055.0	335.2	-690.6	303.9	0.00	0.00	0.00
7,700.0	90.00	359.63	7,055.0	435.2	-691.2	403.8	0.00	0.00	0.00
7,800.0	90.00	359.63	7,055.0	535.2	-691.8	503.7	0.00	0.00	0.00
7,900.0	90.00	359.63	7,055.0	635.2	-692.5	603.5	0.00	0.00	0.00
8,000.0	90.00	359.63	7,055.0	735.2	-693.1	703.4	0.00	0.00	0.00
8,100.0	90.00	359.63	7,055.0	835.2	-693.8	803.3	0.00	0.00	0.00
8,200.0	90.00	359.63	7,055.0	935.2	-694.4	903.2	0.00	0.00	0.00
8,300.0	90.00	359.63	7,055.0	1,035.2	-695.1	1,003.0	0.00	0.00	0.00
8,400.0	90.00	359.63	7,055.0	1,135.1	-695.7	1,102.9	0.00	0.00	0.00
8,500.0	90.00	359.63	7,055.0	1,235.1	-696.4	1,202.8	0.00	0.00	0.00
8,600.0	90.00	359.63	7,055.0	1,335.1	-697.0	1,302.6	0.00	0.00	0.00
8,700.0	90.00	359.63	7,055.0	1,435.1	-697.7	1,402.5	0.00	0.00	0.00
8,800.0	90.00	359.63	7,055.0	1,535.1	-698.3	1,502.4	0.00	0.00	0.00
8,900.0	90.00	359.63	7,055.0	1,635.1	-699.0	1,602.2	0.00	0.00	0.00
9,000.0	90.00	359.63	7,055.0	1,735.1	-699.6	1,702.1	0.00	0.00	0.00
9,100.0	90.00	359.63	7,055.0	1,835.1	-700.3	1,802.0	0.00	0.00	0.00
9,200.0	90.00	359.63	7,055.0	1,935.1	-700.9	1,901.8	0.00	0.00	0.00
9,300.0	90.00	359.63	7,055.0	2,035.1	-701.6	2,001.7	0.00	0.00	0.00
9,400.0	90.00	359.63	7,055.0	2,135.1	-702.2	2,101.6	0.00	0.00	0.00
9,500.0	90.00	359.63	7,055.0	2,235.1	-702.9	2,201.4	0.00	0.00	0.00
9,600.0	90.00	359.63	7,055.0	2,335.1	-703.5	2,301.3	0.00	0.00	0.00
9,700.0	90.00	359.63	7,055.0	2,435.1	-704.2	2,401.2	0.00	0.00	0.00
9,800.0	90.00	359.63	7,055.0	2,535.1	-704.8	2,501.1	0.00	0.00	0.00
9,900.0	90.00	359.63	7,055.0	2,635.1	-705.5	2,600.9	0.00	0.00	0.00
10,000.0	90.00	359.63	7,055.0	2,735.1	-706.1	2,700.8	0.00	0.00	0.00
10,100.0	90.00	359.63	7,055.0	2,835.1	-706.8	2,800.7	0.00	0.00	0.00
10,200.0	90.00	359.63	7,055.0	2,935.1	-707.4	2,900.5	0.00	0.00	0.00
10,300.0	90.00	359.63	7,055.0	3,035.1	-708.1	3,000.4	0.00	0.00	0.00

Noble Energy, Inc.

Planning Report

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Company:	Northern Region Drilling - Sandbox	TVD Reference:	WELL @ 4885.0ft (Original Well Elev)
Project:	Conceptual Wells	MD Reference:	WELL @ 4885.0ft (Original Well Elev)
Site:	DP 408	North Reference:	Grid
Well:	Hurley H26-736	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)
10,400.0	90.00	359.63	7,055.0	3,135.1	-708.7	3,100.3	0.00	0.00	0.00
10,500.0	90.00	359.63	7,055.0	3,235.1	-709.4	3,200.1	0.00	0.00	0.00
10,600.0	90.00	359.63	7,055.0	3,335.1	-710.0	3,300.0	0.00	0.00	0.00
10,700.0	90.00	359.63	7,055.0	3,435.1	-710.7	3,399.9	0.00	0.00	0.00
10,800.0	90.00	359.63	7,055.0	3,535.1	-711.3	3,499.7	0.00	0.00	0.00
10,900.0	90.00	359.63	7,055.0	3,635.1	-712.0	3,599.6	0.00	0.00	0.00
11,000.0	90.00	359.63	7,055.0	3,735.1	-712.6	3,699.5	0.00	0.00	0.00
11,100.0	90.00	359.63	7,055.0	3,835.1	-713.3	3,799.3	0.00	0.00	0.00
11,200.0	90.00	359.63	7,055.0	3,935.1	-713.9	3,899.2	0.00	0.00	0.00
11,300.0	90.00	359.63	7,055.0	4,035.1	-714.6	3,999.1	0.00	0.00	0.00
11,400.0	90.00	359.63	7,055.0	4,135.1	-715.2	4,098.9	0.00	0.00	0.00
11,500.0	90.00	359.63	7,055.0	4,235.1	-715.9	4,198.8	0.00	0.00	0.00
11,600.0	90.00	359.63	7,055.0	4,335.1	-716.5	4,298.7	0.00	0.00	0.00
11,700.0	90.00	359.63	7,055.0	4,435.1	-717.2	4,398.6	0.00	0.00	0.00
11,800.0	90.00	359.63	7,055.0	4,535.1	-717.9	4,498.4	0.00	0.00	0.00
11,900.0	90.00	359.63	7,055.0	4,635.1	-718.5	4,598.3	0.00	0.00	0.00
12,000.0	90.00	359.62	7,055.0	4,735.1	-719.2	4,698.2	0.00	0.00	0.00
12,100.0	90.00	359.62	7,055.0	4,835.1	-719.8	4,798.0	0.00	0.00	0.00
12,200.0	90.00	359.62	7,055.0	4,935.1	-720.5	4,897.9	0.00	0.00	0.00
12,300.0	90.00	359.62	7,055.0	5,035.1	-721.1	4,997.8	0.00	0.00	0.00
12,400.0	90.00	359.62	7,055.0	5,135.1	-721.8	5,097.6	0.00	0.00	0.00
12,500.0	90.00	359.62	7,055.0	5,235.1	-722.4	5,197.5	0.00	0.00	0.00
12,600.0	90.00	359.62	7,055.0	5,335.1	-723.1	5,297.4	0.00	0.00	0.00
12,700.0	90.00	359.62	7,055.0	5,435.1	-723.7	5,397.2	0.00	0.00	0.00
12,800.0	90.00	359.62	7,055.0	5,535.1	-724.4	5,497.1	0.00	0.00	0.00
12,900.0	90.00	359.62	7,055.0	5,635.1	-725.1	5,597.0	0.00	0.00	0.00
13,000.0	90.00	359.62	7,055.0	5,735.1	-725.7	5,696.8	0.00	0.00	0.00
13,100.0	90.00	359.62	7,055.0	5,835.0	-726.4	5,796.7	0.00	0.00	0.00
13,200.0	90.00	359.62	7,055.0	5,935.0	-727.0	5,896.6	0.00	0.00	0.00
13,300.0	90.00	359.62	7,055.0	6,035.0	-727.7	5,996.4	0.00	0.00	0.00
13,400.0	90.00	359.62	7,055.0	6,135.0	-728.3	6,096.3	0.00	0.00	0.00
13,500.0	90.00	359.62	7,055.0	6,235.0	-729.0	6,196.2	0.00	0.00	0.00
13,600.0	90.00	359.62	7,055.0	6,335.0	-729.7	6,296.1	0.00	0.00	0.00
13,700.0	90.00	359.62	7,055.0	6,435.0	-730.3	6,395.9	0.00	0.00	0.00
13,800.0	90.00	359.62	7,055.0	6,535.0	-731.0	6,495.8	0.00	0.00	0.00
13,900.0	90.00	359.62	7,055.0	6,635.0	-731.6	6,595.7	0.00	0.00	0.00
14,000.0	90.00	359.62	7,055.0	6,735.0	-732.3	6,695.5	0.00	0.00	0.00
14,100.0	90.00	359.62	7,055.0	6,835.0	-732.9	6,795.4	0.00	0.00	0.00
14,200.0	90.00	359.62	7,055.0	6,935.0	-733.6	6,895.3	0.00	0.00	0.00
14,300.0	90.00	359.62	7,055.0	7,035.0	-734.3	6,995.1	0.00	0.00	0.00
14,400.0	90.00	359.62	7,055.0	7,135.0	-734.9	7,095.0	0.00	0.00	0.00
14,500.0	90.00	359.62	7,055.0	7,235.0	-735.6	7,194.9	0.00	0.00	0.00
14,600.0	90.00	359.62	7,055.0	7,335.0	-736.2	7,294.7	0.00	0.00	0.00
14,700.0	90.00	359.62	7,055.0	7,435.0	-736.9	7,394.6	0.00	0.00	0.00
14,800.0	90.00	359.62	7,055.0	7,535.0	-737.6	7,494.5	0.00	0.00	0.00
14,900.0	90.00	359.62	7,055.0	7,635.0	-738.2	7,594.3	0.00	0.00	0.00
15,000.0	90.00	359.62	7,055.0	7,735.0	-738.9	7,694.2	0.00	0.00	0.00
15,100.0	90.00	359.62	7,055.0	7,835.0	-739.5	7,794.1	0.00	0.00	0.00
15,200.0	90.00	359.62	7,055.0	7,935.0	-740.2	7,893.9	0.00	0.00	0.00
15,300.0	90.00	359.62	7,055.0	8,035.0	-740.9	7,993.8	0.00	0.00	0.00
15,400.0	90.00	359.62	7,055.0	8,135.0	-741.5	8,093.7	0.00	0.00	0.00
15,500.0	90.00	359.62	7,055.0	8,235.0	-742.2	8,193.5	0.00	0.00	0.00
15,600.0	90.00	359.62	7,055.0	8,335.0	-742.8	8,293.4	0.00	0.00	0.00
15,700.0	90.00	359.62	7,055.0	8,435.0	-743.5	8,393.3	0.00	0.00	0.00

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Hurley H26-736
Company:	Northern Region Drilling - Sandbox	TVD Reference:	WELL @ 4885.0ft (Original Well Elev)
Project:	Conceptual Wells	MD Reference:	WELL @ 4885.0ft (Original Well Elev)
Site:	DP 408	North Reference:	Grid
Well:	Hurley H26-736	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)
15,800.0	90.00	359.62	7,055.0	8,535.0	-744.2	8,493.2	0.00	0.00	0.00
15,900.0	90.00	359.62	7,055.0	8,635.0	-744.8	8,593.0	0.00	0.00	0.00
16,000.0	90.00	359.62	7,055.0	8,735.0	-745.5	8,692.9	0.00	0.00	0.00
16,066.9	90.00	359.62	7,055.0	8,801.9	-745.9	8,759.7	0.00	0.00	0.00

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
Hurley H26-736 BHL	0.00	0.01	7,055.0	8,801.9	-745.9	1,324,762.92	3,243,697.31	40.221580	-104.627280
- plan hits target center									
- Point									

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
636.0	636.0	Pierre				
788.0	788.0	Upper Pierre Aquifer Top				
1,676.0	1,676.0	Upper Pierre Aquifer Base				
3,962.0	3,943.0	Parkman				
4,564.5	4,534.0	Sussex				
5,259.9	5,216.0	Shannon				
6,249.9	6,187.0	Teepee Buttes				
6,948.9	6,833.0	Sharon Springs				
7,038.6	6,895.0	Top A Chalk				
7,049.6	6,902.0	Top A Marl				
7,052.8	6,904.0	Top B Chalk				
7,135.7	6,952.0	Top B Marl				
7,302.3	7,022.0	Top C Chalk				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
2,600.0	2,600.0	0.0	0.0	KOP - Start Build 2.00	
6,365.1	6,300.0	-33.1	-44.0	Start DLS 8.58 TFO 24.94	
6,384.7	6,319.1	-409.1	-543.0	Start DLS 8.58 TFO 122.77	
7,514.8	7,055.0	-411.5	-546.3	TPZ/Landing Pt. at 7514.8 MD	
16,066.9	7,055.0	250.0	-690.0	TD at 16066.9	

Northern Region Drilling - Sandbox

Conceptual Wells

DP 408

Hurley H26-736

Wellbore #1

Design #1

Anticollision Summary Report

01 November, 2017

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region Drilling - Sandbox	Local Co-ordinate Reference:	Well Hurley H26-736
Project:	Conceptual Wells	TVD Reference:	WELL @ 4885.0ft (Original Well Elev)
Reference Site:	DP 408	MD Reference:	WELL @ 4885.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	Grid
Reference Well:	Hurley H26-736	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	11/1/2017		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.0	16,066.9	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						
D Section 19						
Butterball 13-19 - Butterball 13-19 - Butterball 13-19 - As	11,515.9	6,815.8	7,585.9	7,518.8	113.110	CC
Butterball 13-19 - Butterball 13-19 - Butterball 13-19 - As	11,600.0	6,820.0	7,586.3	7,518.5	111.924	ES
Butterball 13-19 - Butterball 13-19 - Butterball 13-19 - As	13,800.0	13,800.0	7,922.0	7,813.9	73.278	SF
Butterball 14-19 - Butterball 14-19 - Butterball 14-19 - As	418.2	315.2	7,403.1	7,401.4	4,296.429	CC
Butterball 14-19 - Butterball 14-19 - Butterball 14-19 - As	800.0	650.9	7,404.6	7,400.8	1,974.391	ES
Butterball 14-19 - Butterball 14-19 - Butterball 14-19 - As	14,500.0	6,691.4	8,814.9	8,731.8	106.076	SF
Butterball 23-19 - Butterball 23-19 - Butterball 23-19 - As	11,466.2	6,865.2	8,738.8	8,672.0	130.786	CC
Butterball 23-19 - Butterball 23-19 - Butterball 23-19 - As	11,500.0	6,865.3	8,738.9	8,671.8	130.234	ES
Butterball 23-19 - Butterball 23-19 - Butterball 23-19 - As	16,066.9	6,891.6	9,876.0	9,777.9	100.710	SF
Butterball B04-19 - Butterball B04-19 - Butterball B04-19	10,827.1	6,916.1	7,128.5	7,067.2	116.264	CC
Butterball B04-19 - Butterball B04-19 - Butterball B04-19	10,900.0	6,915.8	7,128.9	7,067.0	115.178	ES
Butterball B04-19 - Butterball B04-19 - Butterball B04-19	14,300.0	6,893.2	7,929.6	7,845.3	94.121	SF
Butterball D18-75HN - Original Drilling - Design #2	16,066.9	8,283.9	9,402.8	9,316.4	108.853	CC, ES, SF
Butterball D18-75HN - Original Drilling - Original Drilling -	15,100.0	15,100.0	9,427.1	9,253.9	54.426	ES, SF
Butterball D18-75HN - Original Drilling - Original Drilling -	16,066.9	8,068.6	9,413.2	9,291.0	77.058	CC
Butterball D18-75HN - Original Drilling - Plan A - Rev 1	16,066.9	8,047.8	9,402.8	9,316.5	108.858	CC, ES, SF
Butterball D19-17D - Butterball D19-17D - Butterball D19						Out of range
Butterball D19-18D - Butterball D19-18D - Butterball D19	13,766.3	7,054.7	9,113.8	9,024.8	102.433	CC
Butterball D19-18D - Butterball D19-18D - Butterball D19	13,800.0	7,054.7	9,113.9	9,024.6	102.091	ES
Butterball D19-18D - Butterball D19-18D - Butterball D19	16,066.9	7,055.3	9,399.8	9,292.2	87.363	SF
Butterball D19-19D - Butterball D19-19D - Butterball D19	13,193.3	6,986.4	8,106.2	8,021.1	95.213	CC
Butterball D19-19D - Butterball D19-19D - Butterball D19	13,300.0	6,987.5	8,106.9	8,020.8	94.166	ES
Butterball D19-19D - Butterball D19-19D - Butterball D19	16,066.9	7,015.9	8,600.5	8,494.0	80.783	SF
Butterball D19-20D - Butterball D19-20D - Butterball D19	12,220.7	6,919.0	8,234.9	8,159.6	109.417	CC
Butterball D19-20D - Butterball D19-20D - Butterball D19	12,300.0	6,919.5	8,235.3	8,159.4	108.534	ES
Butterball D19-20D - Butterball D19-20D - Butterball D19	16,066.9	6,940.2	9,088.9	8,988.1	90.212	SF
Butterball D19-22D - Wellbore #1 - Wellbore #1 - As Drill						Out of range
Butterball D19-75HN - Original Drilling - Design #2	9,342.8	11,818.4	9,463.8	9,438.8	377.348	CC
Butterball D19-75HN - Original Drilling - Design #2	9,400.0	11,818.4	9,464.0	9,438.5	371.463	ES
Butterball D19-75HN - Original Drilling - Design #2	16,066.9	6,500.0	9,863.0	9,778.9	117.264	SF
Butterball D19-75HN - Original Drilling - Original Drilling -	9,300.0	11,773.2	9,452.8	9,336.8	81.435	ES
Butterball D19-75HN - Original Drilling - Original Drilling -	9,451.9	11,677.8	9,452.5	9,336.9	81.761	CC
Butterball D19-75HN - Original Drilling - Original Drilling -	12,700.0	12,700.0	9,611.3	9,455.2	61.581	SF
Butterball D19-75HN - Original Drilling - Plan A - Rev 1	9,342.6	11,815.8	9,447.2	9,422.1	376.715	CC
Butterball D19-75HN - Original Drilling - Plan A - Rev 1	9,400.0	11,815.8	9,447.4	9,421.9	370.829	ES
Butterball D19-75HN - Original Drilling - Plan A - Rev 1	16,066.9	6,500.0	9,846.6	9,762.5	117.079	SF
Butterball D24-19 - Butterball D24-19 - Butterball D24-19	2,706.1	2,920.2	8,576.5	8,560.5	534.346	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 H26-736
Project:	Conceptual Wells	TVD Reference:	WELL @ 4885.0ft (Original Well Elev)
Reference Site:	DP 408	MD Reference:	WELL @ 4885.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	Grid
Reference Well:	Hurley H26-736	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)	Distance Between Ellipses (ft)	Separation Factor	Warning
D Section 19						
Butterball D24-19 - Butterball D24-19 - Butterball D24-19	15,000.0	6,860.0	9,952.5	9,864.1	112.640	SF
Butterball H24-69HN - Original Drilling - Design #2	14,828.5	14,467.8	2,288.0	2,213.7	30.780	CC, ES
Butterball H24-69HN - Original Drilling - Design #2	15,100.0	14,467.8	2,304.1	2,228.3	30.429	SF
Butterball H24-69HN - Original Drilling - Original Drilling -	14,834.3	11,992.0	4,745.5	4,642.7	46.187	CC
Butterball H24-69HN - Original Drilling - Original Drilling -	14,900.0	11,992.0	4,745.9	4,642.7	45.978	ES
Butterball H24-69HN - Original Drilling - Original Drilling -	16,066.9	11,992.0	4,903.0	4,778.9	39.510	SF
Butterball H24-69HN - Original Drilling - Plan A - Rev 2	14,833.1	11,988.8	4,738.4	4,664.0	63.619	CC
Butterball H24-69HN - Original Drilling - Plan A - Rev 2	14,900.0	11,988.8	4,738.9	4,663.9	63.163	ES
Butterball H24-69HN - Original Drilling - Plan A - Rev 2	16,066.9	11,988.8	4,896.4	4,814.3	59.615	SF
Butterball H24-69HN - Original Drilling - Plan A - Rev 3	14,833.1	11,992.1	4,738.0	4,663.5	63.594	CC
Butterball H24-69HN - Original Drilling - Plan A - Rev 3	14,900.0	11,992.1	4,738.5	4,663.4	63.138	ES
Butterball H24-69HN - Original Drilling - Plan A - Rev 3	16,066.9	11,992.1	4,896.0	4,813.9	59.596	SF
Champlin 366 Amoco F 1 - Wellbore #1 - Wellbore #1 - A						Out of range
Dechant D19-32D - Dechant D19-32D - Dechant D19-32	12,088.7	7,375.8	6,776.6	6,659.2	57.725	CC
Dechant D19-32D - Dechant D19-32D - Dechant D19-32	12,200.0	7,376.5	6,777.5	6,658.2	56.815	ES
Dechant D19-32D - Dechant D19-32D - Dechant D19-32	15,100.0	7,400.0	7,415.6	7,258.8	47.308	SF
Graznak 01-19 - Graznak 01-19 - Graznak 01-19 - As Dr	10,782.7	6,953.0	7,877.3	7,779.6	80.683	CC
Graznak 01-19 - Graznak 01-19 - Graznak 01-19 - As Dr	10,800.0	6,953.0	7,877.3	7,779.5	80.569	ES
Graznak 01-19 - Graznak 01-19 - Graznak 01-19 - As Dr	14,100.0	6,953.0	8,547.3	8,426.3	70.610	SF
Higgins D19-720 - Original Drilling - Original Drilling - As						Out of range
Higgins D19-720 - Original Drilling - Pilot Hole APD - Rev						Out of range
Higgins D19-720 - Sidetrack Curve/Horizontal - Sidetrack						Out of range
Higgins D19-720 - Sidetrack Curve/Horizontal - Sidetrack						Out of range
Higgins D19-720 - Sidetrack Curve/Horizontal - Sidetrack						Out of range
Higgins D19-720 - Sidetrack Curve/Horizontal - Sidetrack						Out of range
Higgins D19-720 - Sidetrack Curve/Horizontal - Sidetrack						Out of range
Higgins D19-720 - Sidetrack Curve/Horizontal - Sidetrack						Out of range
Higgins D19-720 - Sidetrack Curve/Horizontal - ST01 - A						Out of range
Independence D18-712 - Independence D18-712 - Prelim						Out of range
Independence D18-717 - Independence D18-717 - Prelim						Out of range
Independence D18-725 - Independence D18-725 - Prelim						Out of range
Independence D18-732 - Independence D18-732 - Prelim						Out of range
Independence D18-739 - Independence D18-739 - Prelim						Out of range
Independence D18-744 - Independence D18-744 - Prelim	14,844.1	7,359.4	9,729.6	9,629.8	97.416	CC
Independence D18-744 - Independence D18-744 - Prelim	16,066.9	8,556.2	9,732.8	9,617.9	84.715	ES, SF
Independence D18-753 - Independence D18-753 - Prelim	14,218.4	5,332.5	9,242.4	9,155.9	106.865	CC
Independence D18-753 - Independence D18-753 - Prelim	14,300.0	5,330.1	9,242.8	9,155.6	106.005	ES
Independence D18-753 - Independence D18-753 - Prelim	16,066.9	8,528.3	9,403.8	9,288.9	81.818	SF
Independence D18-759 - Independence D18-759 - Prelim	14,211.1	5,902.4	9,005.8	8,917.0	101.445	CC
Independence D18-759 - Independence D18-759 - Prelim	14,300.0	5,900.0	9,006.2	8,916.6	100.577	ES
Independence D18-759 - Independence D18-759 - Prelim	16,066.9	8,585.7	9,054.8	8,939.7	78.659	SF
Independence D18-767 - Independence D18-767 - Prelim	16,066.9	8,532.0	8,491.8	8,377.0	73.978	CC, ES, SF
Independence D30-711 - Independence D30-711 - Prelim						Out of range
Independence D30-718 - Independence D30-718 - Prelim						Out of range
Independence D30-724 - Independence D30-724 - Prelim						Out of range
Independence D30-731 - Independence D30-731 - Prelim						Out of range
Independence D30-737 - Independence D30-737 - Prelim						Out of range
Independence D30-743 - Independence D30-743 - Prelim	5,468.9	15,218.9	9,636.4	9,553.1	115.697	CC
Independence D30-743 - Independence D30-743 - Prelim	5,500.0	15,222.5	9,636.4	9,553.0	115.573	ES
Independence D30-743 - Independence D30-743 - Prelim	16,066.9	7,100.0	9,939.3	9,829.4	90.408	SF
Independence D30-748 - Independence D30-748 - Prelim	15,095.6	5,535.1	9,176.2	9,080.2	95.634	CC
Independence D30-748 - Independence D30-748 - Prelim	15,200.0	5,557.0	9,176.8	9,079.8	94.623	ES
Independence D30-748 - Independence D30-748 - Prelim	16,066.9	5,738.6	9,225.2	9,120.0	87.698	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 H26-736
Project:	Conceptual Wells	TVD Reference:	WELL @ 4885.0ft (Original Well Elev)
Reference Site:	DP 408	MD Reference:	WELL @ 4885.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	Grid
Reference Well:	Hurley H26-736	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						
D Section 19						
Independence D30-758 - Independence D30-758 - Prelim	5,660.1	15,153.1	8,854.5	8,773.5	109.263	CC
Independence D30-758 - Independence D30-758 - Prelim	5,700.0	15,157.8	8,854.6	8,773.4	109.047	ES
Independence D30-758 - Independence D30-758 - Prelim	16,066.9	6,306.2	8,972.6	8,864.9	83.272	SF
Independence D30-765 - Independence D30-765 - Prelim	5,665.4	15,145.0	8,413.7	8,331.8	102.662	CC
Independence D30-765 - Independence D30-765 - Prelim	5,700.0	15,149.1	8,413.8	8,331.7	102.498	ES
Independence D30-765 - Independence D30-765 - Prelim	16,066.9	6,524.4	8,685.5	8,577.0	80.081	SF
Independence D30-777 - Independence D30-777 - Prelim	5,787.5	15,115.5	8,059.8	7,977.5	97.950	CC
Independence D30-770 - Independence D30-770 - Prelim	5,800.0	15,116.9	8,059.8	7,977.4	97.899	ES
Independence D30-770 - Independence D30-770 - Prelim	16,066.9	6,866.4	8,251.4	8,142.2	75.562	SF
Independence D30-777 - Independence D30-777 - Prelim	5,788.3	15,153.3	7,632.2	7,548.9	91.645	CC
Independence D30-777 - Independence D30-777 - Prelim	5,800.0	15,154.7	7,632.2	7,548.9	91.606	ES
Independence D30-777 - Independence D30-777 - Prelim	16,066.9	6,950.0	7,887.5	7,778.4	72.287	SF
Independence State D30-784 - Independence State D30	5,939.7	15,317.2	7,122.9	7,038.3	84.228	CC, ES
Independence State D30-784 - Independence State D30	16,066.9	7,200.0	7,324.7	7,214.6	66.553	SF
LDS White D19-10 - LDS White D19-10 - LDS White D19	11,568.0	6,909.9	9,792.4	9,724.5	144.185	CC
LDS White D19-10 - LDS White D19-10 - LDS White D19	11,700.0	6,910.0	9,793.3	9,724.3	141.858	ES
LDS White D19-10 - LDS White D19-10 - LDS White D19	13,500.0	6,912.4	9,981.2	9,897.6	119.343	SF
LDS White D19-15 - LDS White D19-15 - LDS White D19	2,646.3	2,686.1	9,664.3	9,649.3	644.075	CC, ES
LDS White D19-15 - LDS White D19-15 - LDS White D19	11,800.0	7,002.2	9,994.6	9,925.7	145.062	SF
LDS White D19-16 - Wellbore #1 - Wellbore #1 - As Drill						Out of range
Mile High 02-19 - Wellbore #1 - Wellbore #1 - As Drilled						Out of range
Sean D19-09 - Wellbore #1 - Wellbore #1 - As Drilled						Out of range
Turk Blue D19-02J - Turk Blue D19-02J - Turk Blue D19-	13,830.1	13,830.1	8,307.9	8,194.9	73.529	CC
Turk Blue D19-02J - Turk Blue D19-02J - Turk Blue D19-	13,900.0	13,900.0	8,308.2	8,194.4	72.984	ES
Turk Blue D19-02J - Turk Blue D19-02J - Turk Blue D19-	14,000.0	14,000.0	8,309.7	8,194.6	72.232	SF
Turk Blue D19-04 - Turk Blue D19-04 - Turk Blue D19-04	14,258.3	7,008.2	7,438.7	7,345.4	79.651	CC
Turk Blue D19-04 - Turk Blue D19-04 - Turk Blue D19-04	14,300.0	7,007.9	7,438.9	7,345.1	79.346	ES
Turk Blue D19-04 - Turk Blue D19-04 - Turk Blue D19-04	16,066.9	7,003.0	7,655.5	7,548.6	71.608	SF
Turk Blue D19-05 - Turk Blue D19-05 - Turk Blue D19-05	12,603.0	12,603.0	7,463.7	7,366.4	76.715	CC
Turk Blue D19-05 - Turk Blue D19-05 - Turk Blue D19-05	12,700.0	12,700.0	7,464.3	7,365.8	75.812	ES
Turk Blue D19-05 - Turk Blue D19-05 - Turk Blue D19-05	12,800.0	12,800.0	7,466.3	7,366.6	74.922	SF
Turk Blue D19-06 - Turk Blue D19-06 - Turk Blue D19-06	12,693.9	6,895.7	8,728.1	8,649.9	111.578	CC
Turk Blue D19-06 - Turk Blue D19-06 - Turk Blue D19-06	12,800.0	6,897.4	8,728.7	8,649.6	110.287	ES
Turk Blue D19-06 - Turk Blue D19-06 - Turk Blue D19-06	16,066.9	6,934.5	9,357.2	9,254.5	91.085	SF
Turk White D19-01 - Wellbore #1 - Wellbore #1 - As Drill						Out of range
Turk White D19-02 - Wellbore #1 - Wellbore #1 - As Drill	14,269.4	6,875.6	9,980.2	9,887.2	107.320	CC
Turk White D19-02 - Wellbore #1 - Wellbore #1 - As Drill	14,400.0	6,875.8	9,981.1	9,886.9	106.010	ES
Turk White D19-02 - Wellbore #1 - Wellbore #1 - As Drill	14,800.0	6,876.3	9,994.3	9,896.7	102.371	SF
Turk White D19-08 - Wellbore #1 - Wellbore #1 - As Drill						Out of range

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region Drilling - Sandbox	Local Co-ordinate Reference:	Well Hurley H26-736
Project:	Conceptual Wells	TVD Reference:	WELL @ 4885.0ft (Original Well Elev)
Reference Site:	DP 408	MD Reference:	WELL @ 4885.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	Grid
Reference Well:	Hurley H26-736	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						
D Section 29						
Guttersen D29-778 - Guttersen D29-778 - Prelim - Rev 0						Out of range
Guttersen D29-30D - Wellbore #1 - Design #1						Out of range
Guttersen D29-31D - Wellbore #1 - Guttersen D29-31D						Out of range
Guttersen D29-65HN - Original Drilling - Original Drilling						Out of range
Guttersen D29-65HN - Original Drilling - Plan A Rev 1						Out of range
Guttersen D29-67HN - Original Drilling - Original Drilling						Out of range
Guttersen D29-67HN - Original Drilling - Plan A Rev 2						Out of range
Guttersen D29-69HN - Original Drilling - Original Drilling						Out of range
Guttersen D29-69HN - Original Drilling - Plan A Rev 2						Out of range
Guttersen D29-714 - Guttersen D29-714 - Prelim - Rev 0						Out of range
Guttersen D29-722 - Guttersen D29-722 - Prelim - Rev 0						Out of range
Guttersen D29-730 - Guttersen D29-730 - Prelim Rev 0						Out of range
Guttersen D29-738 - Guttersen D29-738 - Prelim - Rev 0						Out of range
Guttersen D29-746 - Guttersen D29-746 - Prelim - Rev 0						Out of range
Guttersen D29-754 - Guttersen D29-754 - Prelim - Rev 0						Out of range
Guttersen D29-758 - Guttersen D29-758 - Prelim - Rev 0						Out of range
Guttersen D29-762 - Guttersen D29-762 - Prelim - Rev 0						Out of range
Guttersen D29-770 - Guttersen D29-770 - Prelim - Rev 0						Out of range
Guttersen D29-786 - Guttersen D29-786 - Prelim - Rev 0						Out of range
Guttersen D29-790 - Guttersen D29-790 - Prelim - Rev 0						Out of range
Guttersen D29-99HZ - Wellbore #1 - MWD Surveys						Out of range
Guttersen D30-68-1HN - Original Drilling - Original Drilling	8,484.9	11,278.0	7,412.1	7,364.9	156.804	CC
Guttersen D30-68-1HN - Original Drilling - Original Drilling	8,500.0	11,278.0	7,412.2	7,364.8	156.618	ES
Guttersen D30-68-1HN - Original Drilling - Original Drilling	15,100.0	11,278.0	9,935.1	9,798.9	72.944	SF
Guttersen D30-68-1HN - Original Drilling - Plan A Rev 3	8,479.0	11,260.0	7,411.1	7,391.7	381.226	CC
Guttersen D30-68-1HN - Original Drilling - Plan A Rev 3	8,500.0	11,260.0	7,411.2	7,391.6	379.260	ES
Guttersen D30-68-1HN - Original Drilling - Plan A Rev 3	14,600.0	11,260.0	9,612.3	9,559.1	180.387	SF
Guttersen D30-69-1HN - Original Drilling - Original Drilling	9,223.6	11,050.0	7,595.7	7,539.4	134.926	CC, ES
Guttersen D30-69-1HN - Original Drilling - Original Drilling	15,700.0	11,050.0	9,982.2	9,851.2	76.221	SF
Guttersen D30-69-1HN - Original Drilling - Plan A Rev 3	9,193.1	11,000.0	7,635.1	7,611.1	318.424	CC
Guttersen D30-69-1HN - Original Drilling - Plan A Rev 3	9,200.0	11,000.0	7,635.1	7,611.0	317.831	ES
Guttersen D30-69-1HN - Original Drilling - Plan A Rev 3	15,000.0	11,000.0	9,592.7	9,534.5	165.081	SF
Guttersen Y05-711 - Guttersen Y05-711 - Prelim - Rev 0						Out of range
Guttersen Y05-719 - Guttersen Y05-719 - Prelim - Rev 0						Out of range
Guttersen Y05-726 - Guttersen Y05-726 - Prelim - Rev 0						Out of range
Guttersen Y05-734 - Guttersen Y05-734 - Prelim - Rev 0						Out of range
Guttersen Y05-741 - Guttersen Y05-741 - Prelim - Rev 0						Out of range
Guttersen Y05-749 - Guttersen Y05-749 - Prelim - Rev 0						Out of range
Guttersen Y05-756 - Guttersen Y05-756 - Prelim Rev 0						Out of range
Guttersen Y05-764 - Guttersen Y05-764 - Prelim Rev 0						Out of range
Guttersen Y05-767 - Guttersen Y05-767 - Prelim - Rev 0						Out of range
Guttersen Y05-771 - Guttersen Y05-771 - Prelim - Rev 0						Out of range
Guttersen Y05-779 - Guttersen Y05-779 - Prelim - Rev 0						Out of range
Guttersen Y05-786 - Guttersen Y05-786 - Prelim - Rev 0						Out of range
Hettinger C Unit 1 (Exist.) - Wellbore #1 - Design #1						Out of range
Jessie D29-1J - Wellbore #1 - Gyro Surveys						Out of range
Jessie D29-4J - Wellbore #1 - Gyro Surveys						Out of range
Kate Red D29-03J - Kate Red D29-03J - Kate Red D29-0						Out of range
Kate Red D29-11 - Wellbore #1 - Gyro Surveys						Out of range
Kate Red D29-13 - Wellbore #1 - Gyro Surveys						Out of range
Kate Red D29-14 - Wellbore #1 - Gyro Surveys						Out of range
Kate Red D29-2J - Wellbore #1 - Kate Red D29-2J						Out of range
Kate Red D29-3 - Wellbore #1 - Kate Red D29-3						Out of range

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region Drilling - Sandbox	Local Co-ordinate Reference:	Well Hurley H26-736
Project:	Conceptual Wells	TVD Reference:	WELL @ 4885.0ft (Original Well Elev)
Reference Site:	DP 408	MD Reference:	WELL @ 4885.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	Grid
Reference Well:	Hurley H26-736	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						
D Section 29						
Kate Red D29-5 - Wellbore #1 - Gyro Surveys						Out of range
Kate Red D29-6 - Wellbore #1 - Gyro Surveys						Out of range
Kate White D29-1 - Wellbore #1 - Gyro Surveys						Out of range
Kate White D29-15 - Wellbore #1 - Gyro Surveys						Out of range
Kate White D29-16 - Wellbore #1 - Gyro Surveys						Out of range
Kate White D29-7 - Wellbore #1 - Gyro Surveys						Out of range
Kate White D29-8 - Wellbore #1 - Gyro Surveys						Out of range
Kate White D29-9 (SI) - Wellbore #1 - Gyro Surveys						Out of range

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region Drilling - Sandbox	Local Co-ordinate Reference:	Well Hurley H26-736
Project:	Conceptual Wells	TVD Reference:	WELL @ 4885.0ft (Original Well Elev)
Reference Site:	DP 408	MD Reference:	WELL @ 4885.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	Grid
Reference Well:	Hurley H26-736	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
D Section 30						
Adams D30-27D - Adams D30-27D - Adams D30-27D - A	624.5	534.5	9,470.0	9,467.1	3,234.544	CC
Adams D30-27D - Adams D30-27D - Adams D30-27D - A	700.0	561.9	9,470.2	9,467.0	2,965.406	ES
Adams D30-27D - Adams D30-27D - Adams D30-27D - A	4,000.0	2,245.5	9,992.2	9,975.2	587.658	SF
Adams D30-29D - Wellbore #1 - Wellbore #1 - As Drilled	3,183.8	4,633.0	8,043.0	8,018.9	334.061	CC
Adams D30-29D - Wellbore #1 - Wellbore #1 - As Drilled	3,300.0	4,684.3	8,043.4	8,018.8	327.991	ES
Adams D30-29D - Wellbore #1 - Wellbore #1 - As Drilled	14,600.0	7,066.8	9,657.7	9,573.1	114.178	SF
Adams D30-30D - Adams D30-30D - Adams D30-30D - A	9,577.0	7,458.0	6,805.5	6,750.1	122.773	CC
Adams D30-30D - Adams D30-30D - Adams D30-30D - A	9,600.0	7,458.0	6,805.6	6,750.0	122.561	ES
Adams D30-30D - Adams D30-30D - Adams D30-30D - A	15,400.0	7,453.4	8,957.0	8,829.0	70.023	SF
Adams D30-31D - Adams D30-31D - Adams D30-31D - A	4,703.1	6,247.1	6,953.5	6,905.4	144.546	CC, ES
Adams D30-31D - Adams D30-31D - Adams D30-31D - A	13,000.0	7,456.2	8,515.8	8,383.8	64.519	SF
Corbin D30-23D - Corbin D30-23D - Corbin D30-23D - As	444.5	360.4	8,694.0	8,692.0	4,430.204	CC
Corbin D30-23D - Corbin D30-23D - Corbin D30-23D - As	500.0	400.0	8,694.1	8,691.9	3,910.999	ES
Corbin D30-23D - Corbin D30-23D - Corbin D30-23D - As	5,600.0	2,500.0	9,983.1	9,952.5	326.150	SF
Corbin Red D30-04J - Corbin Red D30-04J - Corbin Red	1,714.7	1,620.5	9,730.9	9,721.7	1,056.666	CC
Corbin Red D30-04J - Corbin Red D30-04J - Corbin Red	1,800.0	1,662.7	9,731.1	9,721.6	1,019.126	ES
Corbin Red D30-04J - Corbin Red D30-04J - Corbin Red	4,800.0	4,700.0	9,989.8	9,963.0	373.342	SF
Corbin Red D30-09 - Corbin Red D30-09 - Corbin Red D						Out of range
Corbin Red D30-15 - Corbin Red D30-15 - Corbin Red D	2,639.8	2,638.6	9,601.3	9,586.5	647.856	CC, ES
Corbin Red D30-15 - Corbin Red D30-15 - Corbin Red D	5,900.0	6,057.2	9,993.4	9,959.0	290.404	SF
Corbin Red D30-16 - Corbin Red D30-16 - Corbin Red D						Out of range
Dechant D30-17D - Dechant D30-17D - Dechant D30-17	104.2	0.0	8,597.9	8,597.8	10,000.000	CC
Dechant D30-17D - Dechant D30-17D - Dechant D30-17	300.0	147.9	8,598.4	8,597.6	9,856.001	ES
Dechant D30-17D - Dechant D30-17D - Dechant D30-17	4,500.0	4,500.0	9,446.6	9,387.3	159.369	SF
Dechant D30-20D - Dechant D30-20D - Dechant D30-20	318.8	227.8	6,801.1	6,800.0	6,465.814	CC
Dechant D30-20D - Dechant D30-20D - Dechant D30-20	900.0	774.3	6,802.7	6,798.4	1,593.701	ES
Dechant D30-20D - Dechant D30-20D - Dechant D30-20	12,700.0	7,101.7	9,960.3	9,887.8	137.492	SF
Dechant D30-24D - Dechant D30-24D - Dechant D30-24	583.9	500.0	8,687.5	8,684.7	3,139.318	CC
Dechant D30-24D - Dechant D30-24D - Dechant D30-24	1,900.0	1,800.0	8,694.1	8,681.0	662.704	ES
Dechant D30-24D - Dechant D30-24D - Dechant D30-24	9,200.0	6,800.0	9,984.0	9,934.5	201.686	SF
Dechant D30-25D - Dechant D30-25D - Dechant D30-25	4,032.8	5,129.6	7,863.3	7,828.3	225.219	CC
Dechant D30-25D - Dechant D30-25D - Dechant D30-25	4,100.0	5,151.7	7,863.5	7,828.3	223.526	ES
Dechant D30-25D - Dechant D30-25D - Dechant D30-25	11,300.0	6,934.6	9,942.3	9,884.6	172.045	SF
Dechant D31-27D - Dechant D31-27D - Dechant D31-27	484.0	400.0	8,708.9	8,706.8	4,015.490	CC
Dechant D31-27D - Dechant D31-27D - Dechant D31-27	500.0	400.0	8,708.9	8,706.7	3,949.830	ES
Dechant D31-27D - Dechant D31-27D - Dechant D31-27	5,500.0	1,700.0	9,955.2	9,937.6	565.280	SF
Dechant D31-28D - Dechant D31-28D - Dechant D31-28	983.9	900.0	8,719.1	8,714.0	1,724.939	CC
Dechant D31-28D - Dechant D31-28D - Dechant D31-28	1,000.0	900.0	8,719.1	8,714.0	1,712.669	ES
Dechant D31-28D - Dechant D31-28D - Dechant D31-28	7,300.0	6,850.2	9,689.8	9,650.1	244.293	SF
Dechant D31-29D - Dechant D31-29D - Dechant D31-29	3,619.8	4,500.0	8,115.3	8,085.2	269.885	CC, ES
Dechant D31-29D - Dechant D31-29D - Dechant D31-29	10,100.0	6,930.7	9,951.7	9,895.9	178.237	SF
Dechant D31-77HN - Original Drilling - Original Drilling - A	3,176.3	4,059.4	8,668.2	8,649.2	455.842	CC
Dechant D31-77HN - Original Drilling - Original Drilling - A	3,200.0	4,067.0	8,668.2	8,649.1	453.857	ES
Dechant D31-77HN - Original Drilling - Original Drilling - A	9,100.0	6,255.0	9,998.4	9,959.1	254.264	SF
Dechant D31-77HN - Original Drilling - Plan A - Rev 2	3,031.7	3,696.6	8,669.6	8,663.1	1,334.726	CC, ES
Dechant D31-77HN - Original Drilling - Plan A - Rev 2	9,000.0	6,327.5	9,960.2	9,941.0	518.961	SF
Dechant D31-77HN - Original Drilling - Plan B - Rev 0	3,031.7	3,696.6	8,669.6	8,663.1	1,334.727	CC, ES
Dechant D31-77HN - Original Drilling - Plan B - Rev 0	9,000.0	6,348.4	9,959.5	9,940.3	518.807	SF
Dechant D32-69HN - Original Drilling - APD Rev 0						Out of range
Hanson D30-11 - Hanson D30-11 - Hanson D30-11 - As D	1,964.4	1,871.0	8,005.5	7,994.8	750.107	CC
Hanson D30-11 - Hanson D30-11 - Hanson D30-11 - As D	2,600.0	2,500.0	8,005.9	7,991.6	560.259	ES
Hanson D30-11 - Hanson D30-11 - Hanson D30-11 - As D	11,300.0	6,725.4	9,985.4	9,928.0	173.878	SF
Hanson D30-12 - Hanson D30-12 - Hanson D30-12 - As	2,619.3	2,558.3	6,800.3	6,785.8	468.922	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 H26-736
Project:	Conceptual Wells	TVD Reference:	WELL @ 4885.0ft (Original Well Elev)
Reference Site:	DP 408	MD Reference:	WELL @ 4885.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	Grid
Reference Well:	Hurley H26-736	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						
D Section 30						
Hanson D30-12 - Hanson D30-12 - Hanson D30-12 - As	12,800.0	7,010.7	9,839.5	9,775.3	153.150	SF
Hanson D30-13 - Hanson D30-13 - Hanson D30-13 - As	2,675.7	2,694.1	7,081.7	7,066.6	469.476	CC
Hanson D30-13 - Hanson D30-13 - Hanson D30-13 - As	2,700.0	2,729.9	7,081.7	7,066.5	464.139	ES
Hanson D30-13 - Hanson D30-13 - Hanson D30-13 - As	11,600.0	6,899.1	9,999.8	9,945.0	182.574	SF
Hanson D30-14 - Hanson D30-14 - Hanson D30-14 - As	1,782.8	1,711.5	8,525.3	8,515.6	876.511	CC
Hanson D30-14 - Hanson D30-14 - Hanson D30-14 - As	1,900.0	1,762.8	8,525.6	8,515.5	838.145	ES
Hanson D30-14 - Hanson D30-14 - Hanson D30-14 - As	9,600.0	6,452.0	9,987.5	9,942.4	221.439	SF
Hettinger C Unit 1 - Hettinger C Unit 1 - Hettinger C Unit						Out of range
Hettinger D30-02 - Hettinger D30-02 - Hettinger D30-02 -	2,600.0	2,494.0	9,457.5	9,430.1	344.384	CC, ES
Hettinger D30-02 - Hettinger D30-02 - Hettinger D30-02 -	9,600.0	6,949.0	9,999.8	9,912.4	114.424	SF
Hettinger D30-03 - Hettinger D30-03 - Hettinger D30-03 -	1,437.4	1,335.4	8,169.1	8,161.5	1,078.038	CC
Hettinger D30-03 - Hettinger D30-03 - Hettinger D30-03 -	2,626.6	2,593.7	8,169.7	8,155.0	558.341	ES
Hettinger D30-03 - Hettinger D30-03 - Hettinger D30-03 -	14,000.0	6,853.2	9,952.3	9,873.0	125.509	SF
Hettinger D30-04 - Hettinger D30-04 - Hettinger D30-04 -	474.0	373.0	6,979.8	6,977.8	3,407.821	CC
Hettinger D30-04 - Hettinger D30-04 - Hettinger D30-04 -	2,400.0	2,259.6	6,983.7	6,970.8	538.588	ES
Hettinger D30-04 - Hettinger D30-04 - Hettinger D30-04 -	13,700.0	6,751.8	8,778.2	8,702.9	116.570	SF
Hettinger D30-05 - Hettinger D30-05 - Hettinger D30-05 -	2,650.5	2,650.7	6,778.8	6,764.0	455.534	CC, ES
Hettinger D30-05 - Hettinger D30-05 - Hettinger D30-05 -	13,000.0	6,956.0	9,409.6	9,342.2	139.711	SF
Hettinger D30-06 - Hettinger D30-06 - Hettinger D30-06 -	2,606.7	2,527.0	7,959.8	7,945.4	553.524	CC, ES
Hettinger D30-06 - Hettinger D30-06 - Hettinger D30-06 -	12,300.0	6,875.3	9,992.7	9,926.9	151.907	SF
Hettinger D30-08 - Hettinger D30-08 - Hettinger D30-08 -						Out of range
Leslie E Hanson Gas Unit 1 - Leslie E Hanson Gas Unit	2,600.0	2,512.0	7,384.1	7,356.5	267.354	CC, ES
Leslie E Hanson Gas Unit 1 - Leslie E Hanson Gas Unit	7,400.0	6,957.3	8,084.2	8,007.4	105.308	SF
McWilliams D29-32 - McWilliams D29-32 - McWilliams D						Out of range
McWilliams D30-07 - McWilliams D30-07 - McWilliams D	2,600.0	2,502.0	9,304.9	9,277.4	337.966	CC, ES
McWilliams D30-07 - McWilliams D30-07 - McWilliams D	8,200.0	6,957.0	9,997.3	9,918.6	127.037	SF
McWilliams D30-18 - McWilliams D30-18 - McWilliams D	2,072.8	1,972.9	8,620.1	8,608.9	767.166	CC
McWilliams D30-18 - McWilliams D30-18 - McWilliams D	2,400.0	2,246.4	8,620.9	8,608.0	667.080	ES
McWilliams D30-18 - McWilliams D30-18 - McWilliams D	11,700.0	6,617.2	9,965.1	9,901.7	157.057	SF
McWilliams D30-19 - McWilliams D30-19 - McWilliams D	2,661.8	2,704.4	7,518.9	7,503.8	497.954	CC
McWilliams D30-19 - McWilliams D30-19 - McWilliams D	2,700.0	2,745.0	7,519.1	7,503.8	490.850	ES
McWilliams D30-19 - McWilliams D30-19 - McWilliams D	13,900.0	6,875.0	9,929.0	9,851.9	128.822	SF
McWilliams D30-21 - McWilliams D30-21 - McWilliams D	100.0	0.0	8,967.9			
McWilliams D30-21 - McWilliams D30-21 - McWilliams D	2,500.0	2,391.2	8,968.9	8,955.3	657.154	ES
McWilliams D30-21 - McWilliams D30-21 - McWilliams D	9,100.0	6,640.6	9,979.8	9,935.0	222.868	SF
McWilliams D30-22 - McWilliams D30-22 - McWilliams D	2,618.0	2,571.2	9,778.0	9,763.5	672.510	CC, ES
McWilliams D30-22 - McWilliams D30-22 - McWilliams D	4,200.0	4,000.0	9,985.9	9,963.1	437.874	SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region Drilling - Sandbox	Local Co-ordinate Reference:	Well Hurley H26-736
Project:	Conceptual Wells	TVD Reference:	WELL @ 4885.0ft (Original Well Elev)
Reference Site:	DP 408	MD Reference:	WELL @ 4885.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	Grid
Reference Well:	Hurley H26-736	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 H25-711 - Wellbore #1 - Prelim - Rev 2	2,003.3	1,953.3	5,294.9	5,286.3	615.606	CC
Emmy H25-711 - Wellbore #1 - Prelim - Rev 2	2,100.0	2,000.0	5,295.1	5,286.2	593.418	ES
Emmy H25-711 - Wellbore #1 - Prelim - Rev 2	16,000.0	17,530.1	6,932.0	6,747.2	37.506	SF
Emmy State H25-718 - Wellbore #1 - Prelim - Rev 2	2,403.3	2,353.3	5,275.9	5,265.5	507.342	CC
Emmy State H25-718 - Wellbore #1 - Prelim - Rev 2	2,500.0	2,400.0	5,276.2	5,265.5	492.131	ES
Emmy State H25-718 - Wellbore #1 - Prelim - Rev 2	14,584.5	24,127.2	6,363.6	6,124.9	26.660	SF
Emmy State H25-724 - Wellbore #1 - Prelim - Rev 2	2,403.3	2,353.3	5,257.1	5,246.7	505.526	CC
Emmy State H25-724 - Wellbore #1 - Prelim - Rev 2	2,500.0	2,400.0	5,257.3	5,246.6	490.369	ES
Emmy State H25-724 - Wellbore #1 - Prelim - Rev 2	15,600.0	17,460.5	5,996.1	5,816.8	33.438	SF
Emmy State H25-731 - Wellbore #1 - Prelim - Rev 2	2,404.6	2,353.6	5,238.2	5,227.8	503.537	CC
Emmy State H25-731 - Wellbore #1 - Prelim - Rev 2	2,500.0	2,400.0	5,238.4	5,227.7	488.609	ES
Emmy State H25-731 - Wellbore #1 - Prelim - Rev 2	15,500.0	17,379.3	5,543.9	5,365.3	31.039	SF
Emmy State H25-738 - Wellbore #1 - Prelim - Rev 2	6,340.2	9,466.7	4,948.7	4,906.2	116.507	CC
Emmy State H25-738 - Wellbore #1 - Prelim - Rev 2	14,700.0	17,308.9	5,042.6	4,867.6	28.823	ES
Emmy State H25-738 - Wellbore #1 - Prelim - Rev 2	15,300.0	17,299.8	5,079.9	4,901.4	28.447	SF
Emmy State H25-744 - Wellbore #1 - Prelim - Rev 2	6,367.7	9,507.1	4,490.9	4,447.5	103.491	CC
Emmy State H25-744 - Wellbore #1 - Prelim - Rev 2	14,700.0	17,311.4	4,604.4	4,429.7	26.356	ES
Emmy State H25-744 - Wellbore #1 - Prelim - Rev 2	15,100.0	17,327.4	4,625.5	4,448.3	26.107	SF
Emmy State H25-751 - Wellbore #1 - Design #1	2,204.5	2,165.5	3,639.0	3,629.5	381.837	CC
Emmy State H25-751 - Wellbore #1 - Design #1	2,300.0	2,228.2	3,639.3	3,629.4	368.352	ES
Emmy State H25-751 - Wellbore #1 - Design #1	15,200.0	17,580.8	4,347.8	4,168.8	24.290	SF
Emmy State H25-757 - Wellbore #1 - Design #1	2,404.5	2,365.5	3,624.9	3,614.4	347.567	CC
Emmy State H25-757 - Wellbore #1 - Design #1	2,500.0	2,427.7	3,625.2	3,614.4	336.367	ES
Emmy State H25-757 - Wellbore #1 - Design #1	15,100.0	17,501.0	3,900.8	3,722.5	21.879	SF
Emmy State H25-764 - Wellbore #1 - Design #1	6,495.0	9,654.1	3,370.9	3,356.1	228.072	CC
Emmy State H25-764 - Wellbore #1 - Design #1	6,500.0	9,654.4	3,370.9	3,356.1	227.884	ES
Emmy State H25-764 - Wellbore #1 - Design #1	15,300.0	17,466.3	3,496.4	3,419.7	45.626	SF
Emmy State H25-771 - Wellbore #1 - Design #1	6,546.7	9,587.6	2,938.6	2,894.9	67.115	CC
Emmy State H25-771 - Wellbore #1 - Design #1	14,659.0	17,400.3	2,995.7	2,820.4	17.083	ES
Emmy State H25-771 - Wellbore #1 - Design #1	14,900.0	17,391.2	3,005.6	2,829.1	17.025	SF
Emmy State H25-777 - Wellbore #1 - Design #1	6,656.3	9,667.8	2,556.1	2,511.3	57.051	CC
Emmy State H25-777 - Wellbore #1 - Design #1	14,654.5	17,434.0	2,557.1	2,381.8	14.583	ES
Emmy State H25-777 - Wellbore #1 - Design #1	14,800.0	17,434.0	2,561.3	2,385.3	14.553	SF
Emmy State H25-785 - Wellbore #1 - Prelim - Rev 2	6,718.6	9,712.5	2,049.1	2,003.7	45.096	CC
Emmy State H25-785 - Wellbore #1 - Prelim - Rev 2	14,700.0	17,481.1	2,116.5	1,941.7	12.110	ES, SF
Emmy State H36-753 - Wellbore #1 - Design #1	2,600.0	2,561.0	3,521.9	3,510.6	311.454	CC
Emmy State H36-753 - Wellbore #1 - Design #1	2,700.0	2,649.0	3,522.1	3,510.4	300.940	ES
Emmy State H36-753 - Wellbore #1 - Design #1	6,800.0	6,009.4	4,290.3	4,259.5	139.666	SF
Emmy State H36-760 - Wellbore #1 - Design #1	2,600.0	2,532.0	3,507.3	3,496.0	311.029	CC
Emmy State H36-760 - Wellbore #1 - Design #1	2,700.0	2,629.9	3,507.5	3,495.8	299.872	ES
Emmy State H36-760 - Wellbore #1 - Design #1	6,800.0	6,347.2	4,001.3	3,970.3	129.368	SF
Emmy State H36-766 - Wellbore #1 - Design #1	3,880.0	3,969.7	3,458.9	3,441.6	200.276	CC
Emmy State H36-766 - Wellbore #1 - Design #1	4,000.0	4,082.0	3,459.1	3,441.3	193.914	ES
Emmy State H36-766 - Wellbore #1 - Design #1	6,550.0	6,350.0	3,600.5	3,570.3	119.121	SF
Emmy State H36-773 - Wellbore #1 - Design #1	6,250.1	6,417.1	3,208.6	3,179.2	109.068	CC, ES
Emmy State H36-773 - Wellbore #1 - Design #1	6,550.0	6,500.0	3,234.7	3,204.4	106.749	SF
Emmy State H36-780 - Wellbore #1 - Design #1	6,347.9	6,473.7	2,917.7	2,887.8	97.734	CC
Emmy State H36-780 - Wellbore #1 - Design #1	6,365.1	6,478.3	2,917.7	2,887.8	97.556	ES
Emmy State H36-780 - Wellbore #1 - Design #1	6,550.0	6,527.2	2,938.3	2,907.9	96.699	SF
Emmy State H36-787 - Wellbore #1 - Prelim - Rev 2	6,396.2	6,626.7	2,506.4	2,475.2	80.286	CC
Emmy State H36-787 - Wellbore #1 - Prelim - Rev 2	6,400.0	6,627.7	2,506.4	2,475.2	80.257	ES
Emmy State H36-787 - Wellbore #1 - Prelim - Rev 2	6,550.0	6,669.1	2,520.8	2,489.2	79.797	SF
Hurley H26-712 - Wellbore #1 - Design #1	1,900.0	1,899.0	89.4	81.1	10.840	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 H26-736
Project:	Conceptual Wells	TVD Reference:	WELL @ 4885.0ft (Original Well Elev)
Reference Site:	DP 408	MD Reference:	WELL @ 4885.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	Grid
Reference Well:	Hurley H26-736	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)	Distance Between Ellipses (ft)	Separation Factor	Warning
DP 408						
Hurley H26-712 - Wellbore #1 - Design #1	16,066.9	16,235.1	1,681.2	1,505.9	9.591	SF
Hurley H26-717 - Wellbore #1 - Design #1	2,000.0	1,999.0	67.0	58.3	7.710	CC, ES
Hurley H26-717 - Wellbore #1 - Design #1	16,056.9	16,173.1	1,259.8	1,087.0	7.291	SF
Hurley H26-724 - Wellbore #1 - Design #1	2,200.0	2,200.0	44.7	35.1	4.657	CC
Hurley H26-724 - Wellbore #1 - Design #1	2,300.0	2,299.9	44.8	34.8	4.475	ES
Hurley H26-724 - Wellbore #1 - Design #1	2,400.0	2,399.5	45.6	35.2	4.383	SF
Hurley H26-730 - Wellbore #1 - Design #1	2,718.6	2,718.3	15.6	3.8	1.326	Level 3, CC, ES, SF
Hurley H26-743 - Wellbore #1 - Prelim - Rev 2	2,921.2	2,919.5	13.3	0.5	1.043	Level 2, CC, ES, SF
Hurley H26-750 - Wellbore #1 - Prelim - Rev 2	15,944.0	16,325.6	840.2	666.1	4.828	CC, ES, SF
Hurley H26-756 - Wellbore #1 - Prelim - Rev 2	7,484.9	7,727.0	1,271.3	1,238.1	38.355	CC
Hurley H26-756 - Wellbore #1 - Prelim - Rev 2	15,900.0	16,141.9	1,331.7	1,161.0	7.802	ES
Hurley H26-756 - Wellbore #1 - Prelim - Rev 2	16,000.0	16,197.3	1,333.1	1,161.1	7.751	SF
Hurley H26-762 - Wellbore #1 - Prelim - Rev 2	7,488.6	7,689.1	1,693.2	1,660.9	52.380	CC
Hurley H26-762 - Wellbore #1 - Prelim - Rev 2	16,000.0	16,164.7	1,754.0	1,581.6	10.174	ES
Hurley H26-762 - Wellbore #1 - Prelim - Rev 2	16,066.9	16,164.7	1,757.1	1,584.3	10.167	SF
Hurley H26-768 - Wellbore #1 - Prelim - Rev 2	7,488.5	7,676.9	2,116.3	2,084.3	66.130	CC
Hurley H26-768 - Wellbore #1 - Prelim - Rev 2	16,000.0	16,156.8	2,173.0	2,000.0	12.560	ES
Hurley H26-768 - Wellbore #1 - Prelim - Rev 2	16,066.9	16,156.8	2,175.4	2,001.8	12.529	SF
Hurley H26-776 - Wellbore #1 - Prelim - Rev 2	15,956.6	16,158.9	2,591.2	2,416.6	14.839	CC
Hurley H26-776 - Wellbore #1 - Prelim - Rev 2	16,000.0	16,158.9	2,591.5	2,416.4	14.797	ES
Hurley H26-776 - Wellbore #1 - Prelim - Rev 2	16,066.9	16,158.9	2,593.5	2,417.7	14.748	SF
Hurley H26-783 - Wellbore #1 - Prelim - Rev 2	6,787.1	6,338.5	2,913.0	2,883.1	97.454	CC
Hurley H26-783 - Wellbore #1 - Prelim - Rev 2	16,000.0	16,138.4	3,013.3	2,838.7	17.260	ES
Hurley H26-783 - Wellbore #1 - Prelim - Rev 2	16,066.9	16,138.4	3,014.9	2,839.6	17.191	SF
Hurley H35-720 - Wellbore #1 - Design #1	2,200.0	2,200.0	163.7	154.1	17.058	CC, ES
Hurley H35-720 - Wellbore #1 - Design #1	2,400.0	2,388.9	170.3	159.8	16.288	SF
Hurley H35-727 - Wellbore #1 - Design #1	2,400.0	2,400.0	155.9	145.4	14.853	CC, ES
Hurley H35-727 - Wellbore #1 - Design #1	2,600.0	2,590.2	162.1	150.7	14.264	SF
Hurley H35-733 - Wellbore #1 - Design #1	2,600.0	2,599.0	151.0	139.6	13.255	CC, ES
Hurley H35-733 - Wellbore #1 - Design #1	7,250.0	7,469.8	243.1	211.4	7.672	SF
Hurley H35-740 - Wellbore #1 - Design #1	2,600.0	2,600.0	149.4	138.0	13.106	CC, ES
Hurley H35-740 - Wellbore #1 - Design #1	7,502.8	7,279.6	271.8	238.8	8.249	SF
Hurley H35-746 - Wellbore #1 - Prelim - Rev 2	2,000.0	1,999.0	151.0	142.3	17.366	CC, ES
Hurley H35-746 - Wellbore #1 - Prelim - Rev 2	2,400.0	2,387.3	165.1	154.7	15.860	SF
Hurley H35-755 - Wellbore #1 - Prelim - Rev 2	7,300.2	7,382.6	1,193.0	1,160.7	36.900	CC, ES
Hurley H35-755 - Wellbore #1 - Prelim - Rev 2	7,400.0	7,326.7	1,196.5	1,164.0	36.882	SF
Hurley H35-761 - Wellbore #1 - Prelim - Rev 2	7,289.5	7,242.2	1,606.5	1,575.1	51.087	CC, ES
Hurley H35-761 - Wellbore #1 - Prelim - Rev 2	7,450.0	7,157.7	1,614.7	1,583.0	50.975	SF
Hurley H35-768 - Wellbore #1 - Prelim - Rev 2	7,377.7	7,161.6	2,032.5	2,001.4	65.343	CC, ES
Hurley H35-768 - Wellbore #1 - Prelim - Rev 2	8,400.0	6,750.0	2,211.7	2,176.8	63.460	SF
Hurley H35-774 - Wellbore #1 - Prelim - Rev 2	7,493.4	7,013.8	2,435.6	2,404.2	77.696	CC
Hurley H35-774 - Wellbore #1 - Prelim - Rev 2	7,500.0	7,008.8	2,435.6	2,404.2	77.658	ES
Hurley H35-774 - Wellbore #1 - Prelim - Rev 2	8,900.0	6,600.0	2,732.3	2,694.4	72.063	SF
Hurley H35-779 - Wellbore #1 - Prelim - Rev 2	7,626.4	6,782.7	2,752.3	2,720.5	86.535	CC, ES
Hurley H35-779 - Wellbore #1 - Prelim - Rev 2	9,200.0	6,550.0	3,138.4	3,098.3	78.326	SF
Hurley H35-787 - Wellbore #1 - Prelim - Rev 2	2,002.0	1,968.0	2,995.0	2,986.4	347.012	CC
Hurley H35-787 - Wellbore #1 - Prelim - Rev 2	2,100.0	2,034.3	2,995.4	2,986.4	332.914	ES
Hurley H35-787 - Wellbore #1 - Prelim - Rev 2	9,600.0	6,500.0	3,715.6	3,671.7	84.536	SF
Hurley State H35-713 - Wellbore #1 - Design #1	2,000.0	1,999.0	174.1	165.4	20.016	CC, ES
Hurley State H35-713 - Wellbore #1 - Design #1	2,300.0	2,282.8	187.3	177.3	18.799	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 H26-736
Project:	Conceptual Wells	TVD Reference:	WELL @ 4885.0ft (Original Well Elev)
Reference Site:	DP 408	MD Reference:	WELL @ 4885.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	Grid
Reference Well:	Hurley H26-736	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 13						
Karakakes H13-25 - Original Drilling - Original Drilling - A	16,066.9	7,125.1	3,181.2	3,068.9	28.329	CC, ES, SF
Karakakes H13-33 - Original Drilling - Original Drilling - A	16,066.9	7,026.4	1,864.9	1,753.9	16.799	CC, ES, SF
Karakakes H14-63HN - Original Drilling - Original Drilling	16,066.9	8,550.6	115.8	42.6	1.582	CC, ES, SF
Sarchet H13-75HN - Original Drilling - Original Drilling	16,066.9	8,447.4	4,412.1	4,288.2	35.601	CC, ES, SF
UPRC 13-13J - Original Drilling - Original Drilling - As Dri	15,560.5	7,086.3	2,542.6	2,436.4	23.941	CC, ES
UPRC 13-13J - Original Drilling - Original Drilling - As Dri	15,800.0	7,082.7	2,553.9	2,446.3	23.745	SF
UPRC 13-14J - Original Drilling - Original Drilling - As Dri	15,746.4	6,941.6	3,599.7	3,490.6	33.006	CC
UPRC 13-14J - Original Drilling - Original Drilling - As Dri	15,800.0	6,942.2	3,600.1	3,490.6	32.883	ES
UPRC 13-14J - Original Drilling - Original Drilling - As Dri	16,066.9	6,945.5	3,613.9	3,502.6	32.467	SF
UPRC 13-15J - Original Drilling - Original Drilling - As Dri	15,483.2	6,993.6	4,957.8	4,852.0	46.872	CC
UPRC 13-15J - Original Drilling - Original Drilling - As Dri	15,500.0	6,993.7	4,957.8	4,851.9	46.810	ES
UPRC 13-15J - Original Drilling - Original Drilling - As Dri	16,066.9	6,996.2	4,992.1	4,882.0	45.336	SF
UPRC 13-16J - Wellbore #1 - Wellbore #1 - As Drilled	15,537.9	6,977.0	5,966.7	5,861.2	56.565	CC
UPRC 13-16J - Wellbore #1 - Wellbore #1 - As Drilled	15,600.0	6,976.6	5,967.0	5,861.0	56.288	ES
UPRC 13-16J - Wellbore #1 - Wellbore #1 - As Drilled	16,066.9	6,973.3	5,990.1	5,880.4	54.612	SF
UPRR 39 Pan Am B1 (PA) - Original Drilling - Original Dr	15,327.4	7,017.0	2,233.7	2,014.1	10.171	CC, ES
UPRR 39 Pan Am B1 (PA) - Original Drilling - Original Dr	15,400.0	7,017.0	2,234.9	2,014.8	10.156	SF
H Section 14						
Bohlender H14-09 - Original Drilling - Original Drilling - A	16,066.9	7,043.3	1,450.0	1,350.8	14.603	CC, ES, SF
Bohlender H14-15 - Original Drilling - Original Drilling - A	15,124.0	6,988.5	190.5	88.9	1.875	CC, ES, SF
Bohlender H14-16 - Original Drilling - Original Drilling - A	15,746.3	6,997.1	676.0	568.4	6.286	CC, ES, SF
Wilcox H14-03J - Original Drilling - Original Drilling - As D	15,973.1	7,328.9	1,415.0	1,284.6	10.850	CC
Wilcox H14-03J - Original Drilling - Original Drilling - As D	16,066.9	7,328.4	1,418.1	1,282.5	10.459	ES, SF
Wilcox H14-10 - Original Drilling - Original Drilling - As Dr	16,066.9	7,394.9	844.1	797.6	18.137	CC, ES, SF
Wilcox H14-11 - Original Drilling - Original Drilling - As Dr	16,066.9	7,554.9	1,470.5	1,363.6	13.745	CC, ES, SF
Wilcox H14-13 - Original Drilling - Original Drilling - As Dr	15,536.7	7,643.5	2,282.6	2,169.1	20.112	CC
Wilcox H14-13 - Original Drilling - Original Drilling - As Dr	15,700.0	7,638.3	2,288.4	2,165.8	18.663	ES
Wilcox H14-13 - Original Drilling - Original Drilling - As Dr	16,066.9	7,626.5	2,343.3	2,198.4	16.177	SF
H Section 19						
Butterball 13-19 - Original Drilling - Original Drilling - As D	11,515.9	6,815.7	7,585.9	7,518.8	113.110	CC
Butterball 13-19 - Original Drilling - Original Drilling - As D	11,600.0	6,819.9	7,586.3	7,518.5	111.924	ES
Butterball 13-19 - Original Drilling - Original Drilling - As D	13,800.0	13,800.0	7,922.0	7,813.9	73.275	SF
H Section 21						
Moser 24-21 - Wellbore #1 - Wellbore #1 - As Drilled						Out of range
H Section 22						
HSR Demeules 09-22 - Original Drilling - Original Drilling	11,370.3	6,940.3	4,148.9	4,082.5	62.567	CC
HSR Demeules 09-22 - Original Drilling - Original Drilling	11,400.0	6,940.1	4,149.0	4,082.3	62.281	ES
HSR Demeules 09-22 - Original Drilling - Original Drilling	12,900.0	6,930.4	4,421.8	4,342.6	55.777	SF
HSR Duryea - Wellbore #1 - Wellbore #1 - As Drilled	10,509.4	6,981.0	4,680.9	4,622.1	79.604	CC
HSR Duryea - Wellbore #1 - Wellbore #1 - As Drilled	10,600.0	6,983.9	4,681.7	4,622.0	78.431	ES
HSR Duryea - Wellbore #1 - Wellbore #1 - As Drilled	12,600.0	7,041.3	5,126.1	5,050.0	67.367	SF
Sarchet 16-22 - Wellbore #1 - Wellbore #1 - As Drilled	9,952.9	7,000.0	4,277.2	4,223.0	78.923	CC
Sarchet 16-22 - Wellbore #1 - Wellbore #1 - As Drilled	10,000.0	7,000.0	4,277.4	4,222.8	78.293	ES
Sarchet 16-22 - Wellbore #1 - Wellbore #1 - As Drilled	11,900.0	7,000.0	4,699.5	4,629.5	67.149	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 H26-736
Project:	Conceptual Wells	TVD Reference:	WELL @ 4885.0ft (Original Well Elev)
Reference Site:	DP 408	MD Reference:	WELL @ 4885.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	Grid
Reference Well:	Hurley H26-736	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	12,773.3	7,006.7	137.2	57.8	1.729	CC, ES, SF
Eachus 41-23 (PA) - Original Drilling - Original Drilling - A	13,989.0	7,009.0	1,052.6	845.9	5.092	CC, ES
Eachus 41-23 (PA) - Original Drilling - Original Drilling - A	14,000.0	7,009.0	1,052.7	845.9	5.092	SF
Eachus UPRR 31-23 - Original Drilling - Original Drilling -	14,104.9	6,991.5	195.9	45.4	1.301	Level 3, CC, ES, SF
Eachus UPRR 42-23 (PA) - Original Drilling - Original Dri	12,670.4	7,019.0	1,082.1	887.6	5.564	CC, ES
Eachus UPRR 42-23 (PA) - Original Drilling - Original Dri	12,700.0	7,019.0	1,082.5	887.9	5.563	SF
HSR Alberstein 16-23 - Original Drilling - Original Drilling	10,370.6	7,077.8	940.6	882.5	16.186	CC, ES
HSR Alberstein 16-23 - Original Drilling - Original Drilling	10,400.0	7,079.4	941.1	882.9	16.173	SF
HSR Ashley 15-23A - Original Drilling - Original Drilling -	10,439.4	6,994.0	387.4	329.1	6.638	CC, ES
HSR Ashley 15-23A - Original Drilling - Original Drilling -	10,500.0	6,995.6	392.2	332.8	6.603	SF
HSR Benirschke 10-23 - Original Drilling - Original Drillin	11,431.5	7,010.6	77.0	9.8	1.145	Level 2, CC, ES, SF
HSR Eachus 03-23 - Original Drilling - Original Drilling - A	14,123.1	7,211.3	1,509.4	1,408.5	14.951	CC, ES
HSR Eachus 03-23 - Original Drilling - Original Drilling - A	14,400.0	7,212.0	1,534.6	1,429.7	14.635	SF
HSR Eachus 04-23 - Original Drilling - Original Drilling - A	14,144.2	7,422.8	2,927.6	2,804.2	23.716	CC
HSR Eachus 04-23 - Original Drilling - Original Drilling - A	14,300.0	7,424.7	2,931.8	2,802.3	22.654	ES
HSR Eachus 04-23 - Original Drilling - Original Drilling - A	15,400.0	7,438.5	3,185.5	3,023.5	19.655	SF
HSR Eachus 05-23 - Original Drilling - Original Drilling - A	12,300.0	7,368.1	2,992.3	2,870.7	24.605	SF
HSR Eachus 05-23 - Original Drilling - Original Drilling - A	12,800.0	7,377.7	2,948.5	2,830.0	24.897	ES
HSR Eachus 05-23 - Original Drilling - Original Drilling - A	12,810.7	7,377.9	2,948.4	2,830.1	24.908	CC
HSR Fruman 06-23 - Original Drilling - Original Drilling - A	13,185.1	7,041.2	1,889.1	1,805.5	22.596	CC
HSR Fruman 06-23 - Original Drilling - Original Drilling - A	13,200.0	7,041.3	1,889.2	1,805.4	22.544	ES
HSR Fruman 06-23 - Original Drilling - Original Drilling - A	13,600.0	7,044.0	1,934.1	1,846.1	21.971	SF
HSR Grasshopper 09-23 - Original Drilling - Original Drill	11,179.0	6,992.7	833.2	768.7	12.903	CC, ES
HSR Grasshopper 09-23 - Original Drilling - Original Drill	11,200.0	6,991.6	833.5	768.9	12.902	SF
Ritchey 21-23 - Original Drilling - Original Drilling - As Dri	13,512.4	7,015.7	740.0	653.7	8.578	CC, ES
Ritchey 21-23 - Original Drilling - Original Drilling - As Dri	13,600.0	7,014.8	745.2	657.8	8.526	SF
Ritchey 24-23 - Original Drilling - Original Drilling - As Dri	12,073.9	7,087.2	293.2	217.5	3.872	CC, ES, SF
Ritchey 31-24 - Original Drilling - Original Drilling - As Dri	13,425.2	7,165.5	1,681.4	1,593.7	19.180	CC, ES
Ritchey 31-24 - Original Drilling - Original Drilling - As Dri	13,700.0	7,168.7	1,703.7	1,613.3	18.857	SF
UPRC 23-11J - Original Drilling - Original Drilling - As Dri	11,426.6	6,954.4	1,806.2	1,739.3	27.007	CC, ES
UPRC 23-11J - Original Drilling - Original Drilling - As Dri	11,800.0	6,952.8	1,844.4	1,773.8	26.123	SF
UPRC 23-12J - Original Drilling - Original Drilling - As Dri	11,423.7	6,957.2	3,106.4	3,039.5	46.461	CC, ES
UPRC 23-12J - Original Drilling - Original Drilling - As Dri	12,400.0	6,965.3	3,256.2	3,180.7	43.146	SF
UPRC H23-13 - Wellbore #1 - Wellbore #1 - As Drilled	10,273.3	6,982.1	3,101.0	3,044.1	54.526	CC
UPRC H23-13 - Wellbore #1 - Wellbore #1 - As Drilled	10,300.0	6,983.0	3,101.1	3,044.0	54.269	ES
UPRC H23-13 - Wellbore #1 - Wellbore #1 - As Drilled	11,400.0	7,024.0	3,299.1	3,232.5	49.529	SF
UPRC H23-14J - Original Drilling - Original Drilling - As D	10,139.2	7,006.9	1,391.5	1,335.7	24.962	CC, ES
UPRC H23-14J - Original Drilling - Original Drilling - As D	10,400.0	7,025.2	1,415.6	1,357.1	24.204	SF
UPRC H23-24 - Original Drilling - Original Drilling - As Dr	11,047.8	6,965.3	1,155.6	1,092.1	18.178	CC, ES
UPRC H23-24 - Original Drilling - Original Drilling - As Dr	11,200.0	6,970.2	1,165.6	1,100.2	17.829	SF
UPRR 53 Pan Am B#1 (PA) - Original Drilling - Original D	10,487.3	6,976.0	2,542.0	2,368.1	14.617	CC
UPRR 53 Pan Am B#1 (PA) - Original Drilling - Original D	10,500.0	6,976.0	2,542.0	2,368.0	14.606	ES
UPRR 53 Pan Am B#1 (PA) - Original Drilling - Original D	10,800.0	6,976.0	2,561.2	2,384.1	14.464	SF
UPRR 53 Pan Am UT V#1 - Original Drilling - Original Dr	13,193.6	7,033.3	564.8	480.7	6.721	CC, ES, SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region Drilling - Sandbox	Local Co-ordinate Reference:	Well Hurley H26-736
Project:	Conceptual Wells	TVD Reference:	WELL @ 4885.0ft (Original Well Elev)
Reference Site:	DP 408	MD Reference:	WELL @ 4885.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	Grid
Reference Well:	Hurley H26-736	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	11,466.2	6,820.7	6,258.1	6,191.4	93.896	CC
Gurtler 24-09J - Original Drilling - Original Drilling - As Dr	11,500.0	6,820.6	6,258.2	6,191.3	93.513	ES
Gurtler 24-09J - Original Drilling - Original Drilling - As Dr	14,100.0	6,818.0	6,789.8	6,705.8	80.848	SF
Gurtler 24-10J - Original Drilling - Original Drilling - As Dr	11,485.6	6,998.7	5,065.4	4,997.9	75.033	CC
Gurtler 24-10J - Original Drilling - Original Drilling - As Dr	11,500.0	6,998.8	5,065.4	4,997.8	74.907	ES
Gurtler 24-10J - Original Drilling - Original Drilling - As Dr	13,200.0	7,013.4	5,347.6	5,268.9	67.943	SF
Gurtler 24-11J - Original Drilling - Original Drilling - As Dr	11,417.6	6,800.0	3,603.1	3,537.2	54.630	CC, ES
Gurtler 24-11J - Original Drilling - Original Drilling - As Dr	12,300.0	6,806.1	3,709.6	3,638.2	51.934	SF
Gurtler 24-12J - Original Drilling - Original Drilling - As Dr	11,428.4	6,500.0	2,450.0	2,386.3	38.418	CC, ES
Gurtler 24-12J - Original Drilling - Original Drilling - As Dr	11,800.0	6,500.0	2,478.1	2,412.2	37.602	SF
Gurtler 24-12J - Original Drilling - ST01 - ST01 Original D	11,405.2	6,713.0	2,435.3	2,371.2	37.992	CC, ES
Gurtler 24-12J - Original Drilling - ST01 - ST01 Original D	11,800.0	6,693.6	2,466.9	2,400.7	37.275	SF
Gurtler 24-13J - Original Drilling - Original Drilling - As Dr	9,936.3	6,961.6	2,464.6	2,409.9	45.082	CC, ES
Gurtler 24-13J - Original Drilling - Original Drilling - As Dr	10,100.0	6,931.3	2,469.6	2,414.2	44.596	SF
Gurtler 24-15J - Original Drilling - Original Drilling - As Dr	10,133.9	7,028.8	4,982.5	4,926.7	89.291	CC
Gurtler 24-15J - Original Drilling - Original Drilling - As Dr	10,200.0	7,028.4	4,982.9	4,926.6	88.537	ES
Gurtler 24-15J - Original Drilling - Original Drilling - As Dr	12,100.0	7,019.1	5,356.4	5,288.3	78.651	SF
Gurtler 24-16J - Original Drilling - Original Drilling - As Dr	10,160.0	6,960.9	5,969.2	5,913.4	107.075	CC
Gurtler 24-16J - Original Drilling - Original Drilling - As Dr	10,200.0	6,960.8	5,969.3	5,913.3	106.507	ES
Gurtler 24-16J - Original Drilling - Original Drilling - As Dr	12,900.0	6,960.2	6,568.0	6,494.7	89.539	SF
Gurtler H24-14 - Original Drilling - Original Drilling - As D	10,014.4	6,937.5	3,821.7	3,767.3	70.248	CC, ES
Gurtler H24-14 - Original Drilling - Original Drilling - As D	11,200.0	6,948.9	4,001.4	3,939.9	65.015	SF
Gurtler H24-21 (PA) - Original Drilling - Original Drilling -	11,965.5	7,054.4	4,356.6	4,284.5	60.389	CC
Gurtler H24-21 (PA) - Original Drilling - Original Drilling -	12,000.0	7,056.8	4,356.7	4,284.3	60.158	ES
Gurtler H24-21 (PA) - Original Drilling - Original Drilling -	13,200.0	7,139.5	4,527.3	4,447.0	56.357	SF
Gurtler H24-23 - Original Drilling - Original Drilling - As D	10,812.3	6,917.5	5,619.0	5,557.8	91.870	CC, ES
Gurtler H24-23 - Original Drilling - Original Drilling - As D	13,100.0	6,919.1	6,066.9	5,990.9	79.827	SF
Gurtler H24-24 - Original Drilling - Original Drilling - As D	10,810.4	6,600.0	4,510.4	4,450.7	75.531	CC, ES
Gurtler H24-24 - Original Drilling - Original Drilling - As D	12,400.0	6,570.3	4,782.2	4,712.6	68.742	SF
Gurtler H24-99HZ - Wellbore #1 - Original Drilling	10,765.3	11,118.0	2,139.2	2,075.5	33.538	CC
Gurtler H24-99HZ - Wellbore #1 - Original Drilling	10,900.0	11,118.0	2,143.5	2,074.5	31.056	ES
Gurtler H24-99HZ - Wellbore #1 - Original Drilling	12,200.0	11,118.0	2,575.8	2,456.1	21.508	SF
Gurtler H25-27 - Original Drilling - Original Drilling - As D	9,586.7	6,982.6	5,568.5	5,515.5	104.988	CC
Gurtler H25-27 - Original Drilling - Original Drilling - As D	9,600.0	6,982.5	5,568.5	5,515.4	104.794	ES
Gurtler H25-27 - Original Drilling - Original Drilling - As D	12,300.0	6,967.5	6,194.4	6,123.6	87.512	SF
Gurtler Russell L1 (PA) - Original Drilling - Original Drilling	10,537.4	7,043.7	3,196.4	3,127.1	46.111	CC, ES
Gurtler Russell L1 (PA) - Original Drilling - Original Drilling	11,300.0	7,048.8	3,286.1	3,212.2	44.457	SF
HSR Brutschy 04-24 - Original Drilling - Original Drilling -	13,936.9	7,126.9	2,475.0	2,384.1	27.231	CC, ES
HSR Brutschy 04-24 - Original Drilling - Original Drilling -	14,200.0	7,137.6	2,488.9	2,396.5	26.929	SF
HSR Epstein 05-24 - Original Drilling - Original Drilling - A	13,118.2	7,023.1	3,004.1	2,921.2	36.279	CC, ES
HSR Epstein 05-24 - Original Drilling - Original Drilling - A	13,600.0	7,032.6	3,042.4	2,956.7	35.479	SF
HSR Hoffman 03-24 - Original Drilling - Original Drilling -	13,991.2	7,027.5	3,787.3	3,690.0	38.898	CC
HSR Hoffman 03-24 - Original Drilling - Original Drilling -	14,000.0	7,027.4	3,787.3	3,689.9	38.871	ES
HSR Hoffman 03-24 - Original Drilling - Original Drilling -	14,700.0	7,015.5	3,853.1	3,751.4	37.889	SF
HSR Sarchet 02-24 - Original Drilling - Original Drilling - A	13,993.1	6,960.2	5,139.8	5,049.1	56.682	CC
HSR Sarchet 02-24 - Original Drilling - Original Drilling - A	14,000.0	6,960.2	5,139.8	5,049.1	56.646	ES
HSR Sarchet 02-24 - Original Drilling - Original Drilling - A	15,300.0	6,963.6	5,303.4	5,204.0	53.374	SF
HSR Sarchet 06-24 - Original Drilling - Original Drilling - A	12,633.1	6,955.1	3,927.1	3,849.2	50.429	CC, ES
HSR Sarchet 06-24 - Original Drilling - Original Drilling - A	13,600.0	6,974.3	4,044.3	3,960.4	48.180	SF
HSR Traurig 01-24 - Original Drilling - Original Drilling - A	14,238.9	7,027.4	6,018.7	5,925.4	64.512	CC
HSR Traurig 01-24 - Original Drilling - Original Drilling - A	14,300.0	7,027.7	6,019.0	5,925.2	64.160	ES
HSR Traurig 01-24 - Original Drilling - Original Drilling - A	16,000.0	7,036.0	6,271.1	6,165.9	59.622	SF
Nopens D19-31 - Original Drilling - Original Drilling - As D	13,393.2	6,958.5	6,734.5	6,649.4	79.167	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 H26-736
Project:	Conceptual Wells	TVD Reference:	WELL @ 4885.0ft (Original Well Elev)
Reference Site:	DP 408	MD Reference:	WELL @ 4885.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	Grid
Reference Well:	Hurley H26-736	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						
Nopens D19-31 - Original Drilling - Original Drilling - As D	13,500.0	6,960.6	6,735.3	6,649.4	78.336	ES
Nopens D19-31 - Original Drilling - Original Drilling - As D	15,800.0	7,006.0	7,151.5	7,050.0	70.443	SF
Nopens H24-08 - Original Drilling - Original Drilling - As D	12,799.0	6,880.4	6,240.8	6,161.6	78.827	CC
Nopens H24-08 - Original Drilling - Original Drilling - As D	12,900.0	6,883.9	6,241.6	6,161.6	77.994	ES
Nopens H24-08 - Original Drilling - Original Drilling - As D	15,100.0	6,949.1	6,651.2	6,556.5	70.236	SF
Sarchet H24-22 - Original Drilling - Original Drilling - As D	12,472.1	6,978.5	5,404.0	5,327.5	70.605	CC
Sarchet H24-22 - Original Drilling - Original Drilling - As D	12,500.0	6,980.1	5,404.1	5,327.3	70.390	ES
Sarchet H24-22 - Original Drilling - Original Drilling - As D	14,300.0	7,124.4	5,702.9	5,613.8	64.023	SF
Weld County Lumber 01 - Original Drilling - Original Drilling	13,214.7	6,967.6	5,220.3	5,136.9	62.601	CC
Weld County Lumber 01 - Original Drilling - Original Drilling	13,300.0	6,968.4	5,221.0	5,136.9	62.089	ES
Weld County Lumber 01 - Original Drilling - Original Drilling	14,700.0	6,981.8	5,427.5	5,334.3	58.207	SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region Drilling - Sandbox	Local Co-ordinate Reference:	Well Hurley H26-736
Project:	Conceptual Wells	TVD Reference:	WELL @ 4885.0ft (Original Well Elev)
Reference Site:	DP 408	MD Reference:	WELL @ 4885.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	Grid
Reference Well:	Hurley H26-736	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	609.2	554.2	2,869.8	2,866.8	961.130	CC
Dechant 21-25 - Original Drilling - Original Drilling - As D	1,400.0	1,336.8	2,870.7	2,863.2	383.074	ES
Dechant 21-25 - Original Drilling - Original Drilling - As D	10,400.0	7,136.4	4,988.2	4,925.8	79.951	SF
Dechant D30-33D - Original Drilling - Original Drilling - As	100.0	17.8	5,566.5	5,566.4	10,000.000	CC, ES
Dechant D30-33D - Original Drilling - Original Drilling - As	11,700.0	6,948.8	9,194.3	9,135.3	155.756	SF
Dechant D31-30D - Original Drilling - Original Drilling - As	100.0	18.7	5,573.1	5,573.0	10,000.000	CC, ES
Dechant D31-30D - Original Drilling - Original Drilling - As	7,000.0	6,842.7	7,109.6	7,067.5	169.123	SF
Dechant H25-64-1HN - Original Drilling - Original Drilling	2,646.5	2,648.9	1,744.0	1,729.8	123.577	CC
Dechant H25-64-1HN - Original Drilling - Original Drilling	2,700.0	2,693.0	1,744.2	1,729.7	120.565	ES
Dechant H25-64-1HN - Original Drilling - Original Drilling	6,384.7	6,328.0	1,920.4	1,883.3	51.805	SF
Dechant H25-65HN - Original Drilling - Original Drilling	4,321.4	4,490.5	1,348.3	1,324.6	56.881	CC, ES
Dechant H25-65HN - Original Drilling - Original Drilling	6,400.0	6,322.0	1,612.6	1,577.3	45.725	SF
HSR Cohn 03-25 - Original Drilling - Original Drilling - As	2,621.2	2,592.7	3,192.3	3,177.6	218.016	CC, ES
HSR Cohn 03-25 - Original Drilling - Original Drilling - As	11,600.0	11,600.0	4,484.7	4,411.5	61.248	SF
HSR Crowe 06-25 - Original Drilling - Original Drilling - A	2,345.2	2,290.3	2,862.4	2,849.5	221.032	CC
HSR Crowe 06-25 - Original Drilling - Original Drilling - A	2,600.0	2,541.0	2,862.8	2,848.4	198.817	ES
HSR Crowe 06-25 - Original Drilling - Original Drilling - A	8,500.0	7,016.9	3,706.7	3,663.9	86.764	SF
HSR Dechant 04-25 - Original Drilling - Original Drilling -	2,256.7	2,260.3	1,993.0	1,977.1	125.691	CC
HSR Dechant 04-25 - Original Drilling - Original Drilling -	2,300.0	2,278.5	1,993.3	1,977.0	122.837	ES
HSR Dechant 04-25 - Original Drilling - Original Drilling -	9,000.0	7,454.5	2,429.7	2,360.6	35.181	SF
HSR Dechant 05-25 - Original Drilling - Original Drilling -	2,635.2	2,620.2	1,844.4	1,829.7	125.069	CC, ES
HSR Dechant 05-25 - Original Drilling - Original Drilling -	7,600.0	7,067.2	2,556.8	2,515.9	62.499	SF
KY Blue D30-32 - Original Drilling - Original Drilling - As D	2,508.1	2,417.2	5,995.0	5,981.2	435.791	CC
KY Blue D30-32 - Original Drilling - Original Drilling - As D	2,600.0	2,477.2	5,995.2	5,981.0	423.025	ES
KY Blue D30-32 - Original Drilling - Original Drilling - As D	12,000.0	6,959.3	8,537.9	8,478.1	142.765	SF
KY Blue H25-04J - Original Drilling - Original Drilling - As	2,600.0	2,515.0	5,586.4	5,576.3	553.660	CC, ES
KY Blue H25-04J - Original Drilling - Original Drilling - As	11,600.0	6,970.0	8,682.3	8,641.5	213.001	SF
KY Blue H25-09 - Original Drilling - Original Drilling - As D	2,240.0	2,152.0	5,622.1	5,609.9	459.796	CC
KY Blue H25-09 - Original Drilling - Original Drilling - As D	2,300.0	2,200.0	5,622.2	5,609.6	448.697	ES
KY Blue H25-09 - Original Drilling - Original Drilling - As D	11,100.0	6,932.4	7,891.9	7,838.3	147.299	SF
KY Blue H25-10 - Original Drilling - Original Drilling - As D	100.0	16.7	4,124.2	4,124.1	10,000.000	CC
KY Blue H25-10 - Original Drilling - Original Drilling - As D	2,601.4	2,523.0	4,132.3	4,117.9	287.881	ES
KY Blue H25-10 - Original Drilling - Original Drilling - As D	7,400.0	7,017.6	4,863.2	4,822.8	120.340	SF
KY Blue H25-11 - Original Drilling - Original Drilling - As D	762.9	694.9	3,133.2	3,129.4	819.657	CC
KY Blue H25-11 - Original Drilling - Original Drilling - As D	1,000.0	909.3	3,133.9	3,128.8	613.517	ES
KY Blue H25-11 - Original Drilling - Original Drilling - As D	7,300.0	7,022.9	3,741.1	3,670.1	52.662	SF
KY Blue H25-12 - Original Drilling - Original Drilling - As D	2,843.6	2,842.6	1,757.2	1,740.9	107.798	CC
KY Blue H25-12 - Original Drilling - Original Drilling - As D	2,900.0	2,892.9	1,757.5	1,740.9	106.040	ES
KY Blue H25-12 - Original Drilling - Original Drilling - As D	6,600.0	6,432.4	2,117.7	2,080.0	56.214	SF
KY Blue H25-14 - Original Drilling - Original Drilling - As D	100.0	22.9	3,923.1	3,923.0	10,000.000	CC
KY Blue H25-14 - Original Drilling - Original Drilling - As D	2,700.0	2,633.5	3,926.7	3,911.8	263.180	ES
KY Blue H25-14 - Original Drilling - Original Drilling - As D	6,800.0	6,627.5	4,211.1	4,172.3	108.628	SF
KY Blue H25-15 - Original Drilling - Original Drilling - As D	340.9	260.9	4,691.7	4,690.3	3,454.465	CC
KY Blue H25-15 - Original Drilling - Original Drilling - As D	2,500.0	2,400.0	4,699.9	4,686.2	343.443	ES
KY Blue H25-15 - Original Drilling - Original Drilling - As D	6,900.0	6,689.3	5,110.3	5,071.3	131.132	SF
KY H25-24 - Original Drilling - Original Drilling - As Drilled	228.4	150.3	4,035.5	4,034.8	5,615.802	CC
KY H25-24 - Original Drilling - Original Drilling - As Drilled	2,800.0	2,835.7	4,048.3	4,032.5	256.016	ES
KY H25-24 - Original Drilling - Original Drilling - As Drilled	6,750.0	6,750.0	4,455.5	4,416.5	114.426	SF
Moore UPRC H25-01 - Original Drilling - Original Drilling	2,613.1	2,536.1	5,836.8	5,822.3	404.341	CC, ES
Moore UPRC H25-01 - Original Drilling - Original Drilling	12,500.0	6,947.8	7,301.0	7,233.2	107.736	SF
Moore UPRC H25-02 - Original Drilling - Original Drilling	1,347.0	1,272.1	4,470.9	4,463.8	624.895	CC
Moore UPRC H25-02 - Original Drilling - Original Drilling	2,608.7	2,546.8	4,471.0	4,456.6	309.764	ES
Moore UPRC H25-02 - Original Drilling - Original Drilling	11,200.0	6,967.4	5,523.8	5,464.8	93.611	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 H26-736
Project:	Conceptual Wells	TVD Reference:	WELL @ 4885.0ft (Original Well Elev)
Reference Site:	DP 408	MD Reference:	WELL @ 4885.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	Grid
Reference Well:	Hurley H26-736	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						
Moser 25-32 - Original Drilling - Original Drilling - As Drill	2,685.2	2,720.7	3,938.5	3,923.3	259.232	CC
Moser 25-32 - Original Drilling - Original Drilling - As Drill	2,700.0	2,722.5	3,938.6	3,923.3	258.604	ES
Moser 25-32 - Original Drilling - Original Drilling - As Drill	15,000.0	15,000.0	8,960.5	8,870.1	99.202	SF
Moser 25-42 - Original Drilling - Original Drilling - As Drill	806.9	713.9	5,595.2	5,591.2	1,403.393	CC
Moser 25-42 - Original Drilling - Original Drilling - As Drill	2,200.0	2,077.4	5,598.3	5,586.4	471.258	ES
Moser 25-42 - Original Drilling - Original Drilling - As Drill	11,900.0	6,942.8	7,670.6	7,609.7	125.908	SF
UPRR 53 Pan Am T#2 - Original Drilling - Original Drilling	2,639.7	2,631.1	2,683.8	2,669.1	181.461	CC, ES
UPRR 53 Pan Am T#2 - Original Drilling - Original Drilling	9,200.0	6,888.6	3,441.0	3,395.2	75.258	SF
UPRR 53 Pan Am UT T#1 - Original Drilling - Original Dr	2,600.0	2,508.0	5,004.9	4,949.0	89.601	CC
UPRR 53 Pan Am UT T#1 - Original Drilling - Original Dr	2,700.0	2,608.0	5,006.4	4,948.4	86.231	ES
UPRR 53 Pan Am UT T#1 - Original Drilling - Original Dr	9,000.0	6,963.0	5,746.5	5,585.5	35.701	SF
Von Feldt 1-25B - Original Drilling - Original Drilling - As D	2,883.8	2,860.6	2,917.3	2,901.2	181.760	CC
Von Feldt 1-25B - Original Drilling - Original Drilling - As D	3,100.0	3,085.2	2,917.9	2,900.7	169.157	ES
Von Feldt 1-25B - Original Drilling - Original Drilling - As D	6,700.0	6,481.8	3,125.1	3,086.9	81.964	SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region Drilling - Sandbox	Local Co-ordinate Reference:	Well Hurley H26-736
Project:	Conceptual Wells	TVD Reference:	WELL @ 4885.0ft (Original Well Elev)
Reference Site:	DP 408	MD Reference:	WELL @ 4885.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	Grid
Reference Well:	Hurley H26-736	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						
Bullard 31-26 - Original Drilling - Original Drilling - As Dril	9,080.1	7,006.8	365.0	317.4	7.667	CC, ES
Bullard 31-26 - Original Drilling - Original Drilling - As Dril	9,100.0	7,007.8	365.6	317.6	7.623	SF
Bullard 32-26 - Original Drilling - Original Drilling - As Dril	7,398.3	7,014.1	212.9	172.5	5.275	CC, ES
Bullard 32-26 - Original Drilling - Original Drilling - As Dril	7,400.0	7,014.4	212.9	172.5	5.275	SF
Bullard 41-26 - Original Drilling - Original Drilling - As Dril	8,558.7	7,039.0	592.0	547.6	13.316	CC, ES, SF
Dechant H25-29D - Original Drilling - Original Drilling - As	0.0	0.0	1,574.3			
Dechant H25-29D - Original Drilling - Original Drilling - As	11,000.0	7,468.0	3,539.8	3,466.6	48.379	SF
Dechant H25-33D - Original Drilling - Original Drilling - As	3,063.5	3,453.8	853.6	824.6	29.405	CC
Dechant H25-33D - Original Drilling - Original Drilling - As	3,100.0	3,488.0	854.0	824.5	28.949	ES
Dechant H25-33D - Original Drilling - Original Drilling - As	4,200.0	4,467.2	1,034.0	992.9	25.150	SF
Harsh H26-09D - Original Drilling - Original Drilling - As D	4,464.3	4,415.2	1,061.6	1,036.5	42.161	CC
Harsh H26-09D - Original Drilling - Original Drilling - As D	4,700.0	4,650.0	1,062.5	1,035.9	39.914	ES
Harsh H26-09D - Original Drilling - Original Drilling - As D	6,450.0	6,334.9	1,159.5	1,122.4	31.219	SF
Harsh H26-10 - Original Drilling - Original Drilling - As Dr	6,532.0	6,434.5	498.0	461.1	13.473	CC, ES
Harsh H26-10 - Original Drilling - Original Drilling - As Dr	6,600.0	6,500.7	501.3	463.9	13.416	SF
Harsh H26-15 - Original Drilling - Original Drilling - As Dr	6,488.8	6,401.6	1,902.9	1,865.9	51.332	CC, ES
Harsh H26-15 - Original Drilling - Original Drilling - As Dr	6,650.0	6,553.9	1,922.6	1,884.6	50.640	SF
Harsh H26-16 - Original Drilling - Original Drilling - As Dr	6,418.9	6,314.3	2,080.3	2,043.2	56.074	CC, ES
Harsh H26-16 - Original Drilling - Original Drilling - As Dr	6,600.0	6,480.2	2,103.7	2,065.6	55.235	SF
Harsh H26-23D - Original Drilling - Original Drilling - As D	1,089.1	1,074.1	1,248.4	1,243.6	259.559	CC
Harsh H26-23D - Original Drilling - Original Drilling - As D	1,200.0	1,181.9	1,248.5	1,243.1	230.395	ES
Harsh H26-23D - Original Drilling - Original Drilling - As D	6,550.0	6,583.6	1,333.2	1,294.5	34.453	SF
HSR Moser 04-26 - Original Drilling - Original Drilling - As	9,172.5	6,808.8	3,013.1	2,965.4	63.154	CC
HSR Moser 04-26 - Original Drilling - Original Drilling - As	9,200.0	6,810.1	3,013.3	2,965.3	62.842	ES
HSR Moser 04-26 - Original Drilling - Original Drilling - As	10,500.0	10,500.0	3,291.1	3,219.9	46.254	SF
HSR Moser 06-26 - Original Drilling - Original Drilling - As	7,473.1	7,012.3	1,354.4	1,313.9	33.435	CC, ES
HSR Moser 06-26 - Original Drilling - Original Drilling - As	7,600.0	7,014.9	1,361.5	1,320.7	33.370	SF
HSR Regalia 05-26 - Original Drilling - Original Drilling - A	8,006.0	7,017.5	2,441.6	2,399.9	58.547	CC, ES
HSR Regalia 05-26 - Original Drilling - Original Drilling - A	8,900.0	7,014.8	2,600.1	2,553.1	55.340	SF
A HSR-Moser 03-26A - Original Drilling - Original Drilling - A	9,052.0	6,913.3	1,330.5	1,283.3	28.203	CC, ES
HSR-Moser 03-26A - Original Drilling - Original Drilling - A	9,400.0	6,926.7	1,375.2	1,324.8	27.288	SF
John 03-26 - Original Drilling - Original Drilling - As Drille	8,798.5	6,906.6	1,474.2	1,428.7	32.431	CC
John 03-26 - Original Drilling - Original Drilling - As Drille	8,800.0	6,906.7	1,474.2	1,428.7	32.422	ES
John 03-26 - Original Drilling - Original Drilling - As Drille	9,200.0	6,921.9	1,527.8	1,478.9	31.252	SF
Lamp H25-31 - Original Drilling - Original Drilling - As Dri	387.9	361.9	1,253.8	1,252.0	690.554	CC
Lamp H25-31 - Original Drilling - Original Drilling - As Dri	500.0	467.6	1,254.0	1,251.6	514.473	ES
Lamp H25-31 - Original Drilling - Original Drilling - As Dri	8,300.0	7,063.3	1,593.7	1,550.8	37.195	SF
Lamp H26-01 - Original Drilling - Original Drilling - As Dri	8,949.1	7,120.7	1,219.2	1,168.8	24.187	CC, ES
Lamp H26-01 - Original Drilling - Original Drilling - As Dri	9,000.0	7,121.0	1,220.3	1,169.8	24.185	SF
Lamp H26-08 - Original Drilling - Original Drilling - As Dri	2,680.3	2,662.0	476.2	461.1	31.725	CC
Lamp H26-08 - Original Drilling - Original Drilling - As Dri	2,700.0	2,681.1	476.2	461.1	31.505	ES
Lamp H26-08 - Original Drilling - Original Drilling - As Dri	7,617.4	6,998.8	1,123.4	1,082.8	27.688	SF
Lamp H26-22 - Original Drilling - Original Drilling - As Dri	4,650.1	4,709.9	143.6	109.6	4.223	CC
Lamp H26-22 - Original Drilling - Original Drilling - As Dri	4,800.0	4,858.6	144.8	108.8	4.022	ES
Lamp H26-22 - Original Drilling - Original Drilling - As Dri	5,000.0	5,056.6	148.8	110.7	3.908	SF
Moser 05-26 - Original Drilling - Original Drilling - As Drill	7,440.7	7,026.5	2,985.2	2,944.6	73.548	CC, ES
Moser 05-26 - Original Drilling - Original Drilling - As Drill	8,800.0	7,044.8	3,306.5	3,259.9	70.977	SF
Moser 41-27 - Original Drilling - Original Drilling - As Drill	8,170.3	7,107.2	3,643.6	3,597.0	78.194	CC
Moser 41-27 - Original Drilling - Original Drilling - As Drill	8,200.0	7,107.5	3,643.8	3,597.0	77.887	ES
Moser 41-27 - Original Drilling - Original Drilling - As Drill	10,500.0	10,500.0	4,324.6	4,255.0	62.147	SF
Moser H26-11 - Original Drilling - Original Drilling - As Dr	6,842.7	6,696.8	1,907.8	1,869.5	49.781	CC
Moser H26-11 - Original Drilling - Original Drilling - As Dr	6,850.0	6,703.4	1,907.8	1,869.5	49.741	ES
Moser H26-11 - Original Drilling - Original Drilling - As Dr	7,100.0	6,898.1	1,931.1	1,891.8	49.100	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 H26-736
Project:	Conceptual Wells	TVD Reference:	WELL @ 4885.0ft (Original Well Elev)
Reference Site:	DP 408	MD Reference:	WELL @ 4885.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	Grid
Reference Well:	Hurley H26-736	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 26						
Moser H26-12 - Wellbore #1 - Wellbore #1 - As Drilled	6,906.1	6,796.4	3,066.4	3,027.6	79.125	CC, ES
Moser H26-12 - Wellbore #1 - Wellbore #1 - As Drilled	7,250.0	6,946.1	3,108.4	3,068.6	78.127	SF
Moser H26-13 - Wellbore #1 - Wellbore #1 - As Drilled	6,649.6	6,513.6	3,631.6	3,594.3	97.340	CC
Moser H26-13 - Wellbore #1 - Wellbore #1 - As Drilled	6,650.0	6,513.9	3,631.6	3,594.3	97.335	ES
Moser H26-13 - Wellbore #1 - Wellbore #1 - As Drilled	7,000.0	6,750.8	3,688.5	3,649.8	95.309	SF
Moser H26-14 - Original Drilling - Original Drilling - As Dr	6,563.4	6,485.3	2,653.9	2,616.8	71.511	CC, ES
Moser H26-14 - Original Drilling - Original Drilling - As Dr	6,800.0	6,684.3	2,690.3	2,652.0	70.285	SF
Moser H26-18D - Original Drilling - Original Drilling - As D	7,900.0	7,445.6	867.2	816.3	17.033	SF
Moser H26-18D - Original Drilling - Original Drilling - As D	8,170.6	7,449.1	823.9	776.4	17.346	CC, ES
Moser H26-24 - Original Drilling - Original Drilling - As Dr	6,590.6	6,480.4	1,673.3	1,636.2	45.073	CC, ES
Moser H26-24 - Original Drilling - Original Drilling - As Dr	6,800.0	6,665.7	1,698.9	1,660.8	44.521	SF
Moser H26-25 - Original Drilling - Original Drilling - As Dr	6,670.0	6,615.9	2,438.5	2,400.9	64.747	CC, ES
Moser H26-25 - Original Drilling - Original Drilling - As Dr	6,900.0	6,815.6	2,463.5	2,424.8	63.617	SF
Moser H26-27D - Original Drilling - Original Drilling - As D	9,400.0	7,169.5	469.0	415.4	8.752	ES, SF
Moser H26-27D - Original Drilling - Original Drilling - As D	9,411.0	7,169.5	468.9	415.4	8.771	CC
Moser H26-28D - Original Drilling - Original Drilling - As D	9,637.1	7,597.0	1,037.3	976.3	17.012	CC
Moser H26-28D - Original Drilling - Original Drilling - As D	9,700.0	7,598.9	1,039.2	976.1	16.483	ES
Moser H26-28D - Original Drilling - Original Drilling - As D	10,100.0	7,611.0	1,135.8	1,061.1	15.198	SF
Moser H26-29D - Original Drilling - Original Drilling - As D	0.0	0.0	1,497.2			
Moser H26-29D - Original Drilling - Original Drilling - As D	800.0	780.5	1,500.5	1,496.1	344.189	ES
Moser H26-29D - Original Drilling - Original Drilling - As D	11,100.0	11,100.0	2,682.4	2,574.2	24.798	SF
Moser, Wesley E. G. U. B1 (PA) - Original Drilling - Origin	6,658.1	6,532.0	3,130.5	2,985.1	21.533	CC
Moser, Wesley E. G. U. B1 (PA) - Original Drilling - Origin	6,700.0	6,571.1	3,131.3	2,985.0	21.413	ES
Moser, Wesley E. G. U. B1 (PA) - Original Drilling - Origin	7,000.0	6,816.4	3,183.0	3,031.4	20.996	SF
H Section 27						
HSR Moser 1-27 - Original Drilling - Original Drilling - As	9,070.6	6,950.9	4,092.8	4,045.4	86.472	CC
HSR Moser 1-27 - Original Drilling - Original Drilling - As	9,100.0	6,951.0	4,092.9	4,045.3	86.050	ES
HSR Moser 1-27 - Original Drilling - Original Drilling - As	11,100.0	6,956.3	4,568.2	4,505.2	72.540	SF
HSR Moser 16-27 - Original Drilling - Original Drilling - As	6,706.3	6,610.9	4,671.5	4,633.7	123.752	CC, ES
HSR Moser 16-27 - Original Drilling - Original Drilling - As	7,150.0	6,938.6	4,749.7	4,710.1	120.057	SF
Moser 09-27X (PA) - Original Drilling - Original Drilling - A	6,940.0	6,760.6	4,234.1	4,194.9	107.945	CC
Moser 09-27X (PA) - Original Drilling - Original Drilling - A	6,950.0	6,771.1	4,234.2	4,194.9	107.819	ES
Moser 09-27X (PA) - Original Drilling - Original Drilling - A	8,900.0	7,054.8	4,942.0	4,892.0	98.818	SF
Moser 24-27 - Original Drilling - Original Drilling - As Drill	865.0	800.0	4,856.7	4,852.3	1,099.729	CC
Moser 24-27 - Original Drilling - Original Drilling - As Drill	7,210.7	6,944.4	4,858.2	4,816.0	114.905	ES
Moser 24-27 - Original Drilling - Original Drilling - As Drill	14,700.0	14,700.0	9,250.7	9,152.2	93.927	SF
H Section 34						
Moser H34-09 - Wellbore #1 - Wellbore #1 - As Drilled	6,559.1	6,481.2	7,307.7	7,270.6	196.875	CC, ES
Moser H34-09 - Wellbore #1 - Wellbore #1 - As Drilled	7,100.0	6,948.4	7,479.9	7,440.2	188.403	SF
Moser H34-16 - Wellbore #1 - Wellbore #1 - As Drilled	6,541.7	6,448.8	8,349.1	8,312.1	225.413	CC
Moser H34-16 - Wellbore #1 - Wellbore #1 - As Drilled	6,550.0	6,458.2	8,349.2	8,312.1	225.106	ES
Moser H34-16 - Wellbore #1 - Wellbore #1 - As Drilled	7,050.0	6,750.5	8,513.5	8,474.5	218.232	SF
Moser H34-31 - Wellbore #1 - Wellbore #1 - As Drilled	6,710.8	6,443.7	9,710.3	9,673.1	260.788	CC, ES
Moser H34-31 - Wellbore #1 - Wellbore #1 - As Drilled	7,700.0	7,018.7	9,997.6	9,956.3	242.529	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 H26-736
Project:	Conceptual Wells	TVD Reference:	WELL @ 4885.0ft (Original Well Elev)
Reference Site:	DP 408	MD Reference:	WELL @ 4885.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	Grid
Reference Well:	Hurley H26-736	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						
Cannon Farms 01-35C - Original Drilling - Original Drilling	6,465.8	6,421.9	6,870.3	6,833.0	184.058	CC, ES
Cannon Farms 01-35C - Original Drilling - Original Drilling	7,100.0	7,063.9	7,147.7	7,106.9	175.238	SF
Cannon H35-03D - Original Drilling - Original Drilling - As	6,500.6	6,344.6	6,635.8	6,599.0	180.478	CC, ES
Cannon H35-03D - Original Drilling - Original Drilling - As	6,900.0	6,626.7	6,749.0	6,710.4	175.161	SF
Cannon H35-09 - Original Drilling - Original Drilling - As D	6,462.4	6,451.1	5,985.1	5,947.6	159.583	CC, ES
Cannon H35-09 - Original Drilling - Original Drilling - As D	7,300.0	7,115.9	6,438.9	6,391.6	136.249	SF
Cannon H35-10 - Original Drilling - Original Drilling - As D	6,464.8	6,254.3	6,037.6	6,001.0	164.957	CC, ES
Cannon H35-10 - Original Drilling - Original Drilling - As D	6,900.0	6,647.8	6,175.1	6,136.3	159.114	SF
Cannon H35-11 - Original Drilling - Original Drilling - As D	6,506.2	6,478.1	6,106.8	6,069.4	163.563	CC, ES
Cannon H35-11 - Original Drilling - Original Drilling - As D	6,950.0	6,755.7	6,249.6	6,210.5	159.635	SF
Cannon H35-12 - Original Drilling - Original Drilling - As D	6,525.6	6,387.2	6,721.0	6,684.1	182.363	CC, ES
Cannon H35-12 - Original Drilling - Original Drilling - As D	7,000.0	6,813.1	6,866.9	6,827.7	175.137	SF
Cannon H35-13 - Wellbore #1 - Wellbore #1 - As Drilled	6,524.3	6,472.9	7,837.7	7,800.5	210.855	CC, ES
Cannon H35-13 - Wellbore #1 - Wellbore #1 - As Drilled	7,000.0	7,070.1	7,987.8	7,947.7	199.193	SF
Cannon H35-14 - Original Drilling - Original Drilling - As D	6,500.4	6,461.3	7,435.7	7,398.5	199.621	CC, ES
Cannon H35-14 - Original Drilling - Original Drilling - As D	7,400.0	7,062.3	7,947.5	7,898.9	163.781	SF
Cannon H35-15 (PA) - Original Drilling - Original Drilling -	6,474.0	6,365.7	7,292.3	7,150.1	51.257	CC
Cannon H35-15 (PA) - Original Drilling - Original Drilling -	6,500.0	6,391.2	7,292.8	7,150.0	51.056	ES
Cannon H35-15 (PA) - Original Drilling - Original Drilling -	7,000.0	6,828.4	7,489.3	7,336.9	49.122	SF
Cannon H35-20 - Original Drilling - Original Drilling - As D	6,512.8	6,338.0	5,912.9	5,876.3	161.330	CC, ES
Cannon H35-20 - Original Drilling - Original Drilling - As D	6,950.0	6,726.4	6,040.8	6,002.0	155.567	SF
Cannon H35-21 - Original Drilling - Original Drilling - As D	6,474.3	6,255.5	5,585.3	5,548.8	152.779	CC, ES
Cannon H35-21 - Original Drilling - Original Drilling - As D	6,900.0	6,820.2	5,707.8	5,668.4	145.108	SF
Cannon H35-22 - Original Drilling - Original Drilling - As D	6,466.0	6,252.0	5,417.3	5,380.4	146.610	CC, ES
Cannon H35-22 - Original Drilling - Original Drilling - As D	6,900.0	6,690.7	5,552.8	5,513.5	141.367	SF
Cannon H35-24 - Original Drilling - Original Drilling - As D	6,478.0	6,272.8	6,775.0	6,738.4	185.142	CC, ES
Cannon H35-24 - Original Drilling - Original Drilling - As D	6,950.0	6,639.7	6,935.0	6,896.2	178.908	SF
Cannon X02-27 - Original Drilling - Original Drilling - As D	6,469.4	6,387.1	7,762.0	7,724.8	208.738	CC, ES
Cannon X02-27 - Original Drilling - Original Drilling - As D	7,050.0	6,905.8	8,001.6	7,961.6	200.129	SF
Cannon X02-28 - Original Drilling - Original Drilling - As D	6,485.2	6,373.2	7,626.6	7,589.6	206.059	CC, ES
Cannon X02-28 - Original Drilling - Original Drilling - As D	6,950.0	6,804.5	7,780.1	7,740.8	197.575	SF
Cannon X02-29 - Original Drilling - Original Drilling - As D	6,467.3	5,900.0	7,956.3	7,920.9	224.526	CC, ES
Cannon X02-29 - Original Drilling - Original Drilling - As D	7,050.0	6,230.5	8,189.1	8,151.5	217.720	SF
Foster 18-35 - Original Drilling - Original Drilling - As Drill	6,535.6	6,340.2	4,515.9	4,479.3	123.376	CC, ES
Foster 18-35 - Original Drilling - Original Drilling - As Drill	6,700.0	6,700.0	4,532.5	4,494.3	118.707	SF
Foster UPRR 31-35 #1 (PA) - Original Drilling - Original D	6,481.8	6,385.4	3,199.8	3,057.4	22.469	CC
Foster UPRR 31-35 #1 (PA) - Original Drilling - Original D	6,500.0	6,403.2	3,200.1	3,057.3	22.408	ES
Foster UPRR 31-35 #1 (PA) - Original Drilling - Original D	6,750.0	6,640.5	3,253.0	3,105.0	21.970	SF
Foster UPRR 32-35 - Original Drilling - Original Drilling -	6,485.4	6,417.7	4,542.0	4,504.8	122.135	CC, ES
Foster UPRR 32-35 - Original Drilling - Original Drilling -	6,850.0	6,786.8	4,640.8	4,601.6	118.425	SF
Foster UPRR 41-35 - Original Drilling - Original Drilling -	6,428.0	6,295.1	3,515.7	3,478.7	95.101	CC, ES
Foster UPRR 41-35 - Original Drilling - Original Drilling -	7,200.0	6,918.7	3,900.9	3,852.8	81.068	SF
Foster UPRR 42-35 #2 - Original Drilling - Original Drilling	6,466.2	6,509.2	4,576.6	4,538.9	121.235	CC, ES
Foster UPRR 42-35 #2 - Original Drilling - Original Drilling	6,750.0	6,681.1	4,638.7	4,599.8	119.103	SF
HSR Foster 03-35 - Original Drilling - Original Drilling - A	6,527.7	6,430.2	3,778.6	3,741.6	102.120	CC, ES
HSR Foster 03-35 - Original Drilling - Original Drilling - A	6,950.0	6,981.4	3,888.9	3,849.2	97.970	SF
HSR Foster 04-35 - Wellbore #1 - Wellbore #1 - As Drille	6,596.8	6,474.8	4,507.8	4,470.7	121.586	CC
HSR Foster 04-35 - Wellbore #1 - Wellbore #1 - As Drille	6,600.0	6,477.9	4,507.8	4,470.7	121.530	ES
HSR Foster 04-35 - Wellbore #1 - Wellbore #1 - As Drille	7,400.0	7,187.9	4,836.0	4,794.9	117.948	SF
HSR Foster 05-35 - Wellbore #1 - Wellbore #1 - As Drille	6,507.1	6,100.0	5,580.3	5,544.6	156.221	CC, ES
HSR Foster 05-35 - Wellbore #1 - Wellbore #1 - As Drille	7,000.0	6,665.8	5,728.2	5,689.6	148.323	SF
HSR Foster 06-35 - Original Drilling - Original Drilling - A	6,517.1	6,443.6	4,887.0	4,849.9	131.721	CC, ES
HSR Foster 06-35 - Original Drilling - Original Drilling - A	6,850.0	6,742.2	4,964.0	4,925.2	127.942	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 H26-736
Project:	Conceptual Wells	TVD Reference:	WELL @ 4885.0ft (Original Well Elev)
Reference Site:	DP 408	MD Reference:	WELL @ 4885.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	Grid
Reference Well:	Hurley H26-736	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						
UPRR 53 Pan Am Unit P1 - Original Drilling - Original Dri	6,466.2	6,430.3	4,000.7	3,963.3	107.033	CC, ES
UPRR 53 Pan Am Unit P1 - Original Drilling - Original Dri	6,800.0	6,668.0	4,086.1	4,047.2	105.075	SF
UPRR 53 Pan Am UT P2 - Original Drilling - Original Drill	6,538.5	6,431.1	4,166.2	4,129.2	112.734	CC, ES
UPRR 53 Pan Am UT P2 - Original Drilling - Original Drill	6,850.0	6,609.3	4,233.2	4,195.0	110.839	SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region Drilling - Sandbox	Local Co-ordinate Reference:	Well Hurley H26-736
Project:	Conceptual Wells	TVD Reference:	WELL @ 4885.0ft (Original Well Elev)
Reference Site:	DP 408	MD Reference:	WELL @ 4885.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	Grid
Reference Well:	Hurley H26-736	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	4,099.6	4,059.6	6,588.0	6,565.0	286.676	CC
Dechant 07-36 - Original Drilling - Original Drilling - As D	4,200.0	4,100.0	6,588.3	6,564.9	281.871	ES
Dechant 07-36 - Original Drilling - Original Drilling - As D	6,950.0	6,673.7	6,858.9	6,819.7	174.925	SF
Dechant 13N-1HZ - Original Drilling - Original Drilling - A	6,428.7	6,300.0	8,013.8	7,973.1	197.113	CC, ES
Dechant 13N-1HZ - Original Drilling - Original Drilling - A	6,650.0	6,350.0	8,050.9	8,009.6	194.765	SF
Dechant 14C-1HZ - Original Drilling - Original Drilling - A	6,381.5	5,942.3	8,450.6	8,413.3	226.670	CC
Dechant 14C-1HZ - Original Drilling - Original Drilling - A	6,384.7	5,945.4	8,450.6	8,413.3	226.541	ES
Dechant 14C-1HZ - Original Drilling - Original Drilling - A	6,900.0	6,410.7	8,626.2	8,586.1	215.364	SF
Dechant 15-36 - Original Drilling - Original Drilling - As D	6,300.0	6,279.8	8,627.3	8,588.9	224.360	ES
Dechant 15-36 - Original Drilling - Original Drilling - As D	6,385.0	6,203.5	8,626.5	8,589.9	235.121	CC
Dechant 15-36 - Original Drilling - Original Drilling - As D	7,350.0	6,916.3	9,128.5	9,072.0	161.579	SF
Dechant 15C-1HZ - Original Drilling - Original Drilling - A	906.7	829.7	5,117.9	5,113.2	1,091.951	CC
Dechant 15C-1HZ - Original Drilling - Original Drilling - A	1,000.0	900.0	5,117.9	5,112.8	994.050	ES
Dechant 15C-1HZ - Original Drilling - Original Drilling - A	6,850.0	6,501.7	5,628.7	5,589.9	144.790	SF
Dechant 24-36 - Original Drilling - Original Drilling - As D	971.9	900.0	6,632.2	6,627.2	1,321.693	CC
Dechant 24-36 - Original Drilling - Original Drilling - As D	1,000.0	900.0	6,632.3	6,627.2	1,305.299	ES
Dechant 24-36 - Original Drilling - Original Drilling - As D	7,000.0	6,981.2	7,611.0	7,569.6	183.809	SF
Dechant 35N-E1HZ - Original Drilling - Original Drilling -	6,403.8	6,135.9	8,338.3	8,301.2	224.603	CC, ES
Dechant 35N-E1HZ - Original Drilling - Original Drilling -	6,650.0	6,200.0	8,382.6	8,344.7	221.232	SF
Dechant 35N-W1HZ - Original Drilling - Original Drilling -	6,420.9	6,250.0	8,151.1	8,113.4	216.352	CC, ES
Dechant 35N-W1HZ - Original Drilling - Original Drilling -	6,650.0	6,300.0	8,190.8	8,152.4	213.591	SF
Dechant 36N-W1HZ - Original Drilling - Original Drilling -	908.3	854.3	8,485.3	8,480.5	1,775.723	CC
Dechant 36N-W1HZ - Original Drilling - Original Drilling -	1,000.0	925.1	8,485.3	8,480.1	1,620.374	ES
Dechant 36N-W1HZ - Original Drilling - Original Drilling -	6,900.0	6,268.5	8,723.3	8,682.5	214.041	SF
Dechant 37N-E1HZ - Original Drilling - Original Drilling -	902.5	844.5	8,897.8	8,893.1	1,880.893	CC
Dechant 37N-E1HZ - Original Drilling - Original Drilling -	1,000.0	900.0	8,897.9	8,892.8	1,728.234	ES
Dechant 37N-E1HZ - Original Drilling - Original Drilling -	7,050.0	5,473.0	9,743.6	9,702.4	236.780	SF
Dechant 37N-W1HZ - Original Drilling - Original Drilling -	1,202.5	1,144.5	8,925.0	8,918.5	1,377.237	CC
Dechant 37N-W1HZ - Original Drilling - Original Drilling -	1,300.0	1,200.0	8,925.1	8,918.2	1,293.818	ES
Dechant 37N-W1HZ - Original Drilling - Original Drilling -	7,050.0	6,109.4	9,462.3	9,422.2	236.229	SF
Dechant State 16C-1HZ - Original Drilling - Original Drilling	3,113.9	3,511.6	6,302.1	6,282.7	326.010	CC, ES
Dechant State 16C-1HZ - Original Drilling - Original Drilling	6,850.0	6,526.0	6,656.3	6,617.7	172.079	SF
Dechant State 36N-E1HZ - Original Drilling - Original Drilling	2,635.5	2,573.3	5,102.7	5,088.0	347.161	CC
Dechant State 36N-E1HZ - Original Drilling - Original Drilling	2,700.0	2,637.8	5,102.9	5,087.9	338.880	ES
Dechant State 36N-E1HZ - Original Drilling - Original Drilling	6,750.0	6,400.0	5,382.7	5,344.4	140.446	SF
Dechant State 37N-E36HZ - Original Drilling - Original Drilling	5,836.6	6,300.0	6,321.7	6,285.6	175.062	CC, ES
Dechant State 37N-E36HZ - Original Drilling - Original Drilling	6,650.0	6,450.0	6,394.5	6,355.9	165.707	SF
Dechant State 37N-W36HZ - Original Drilling - Original Drilling	907.3	829.3	5,128.0	5,123.3	1,094.180	CC
Dechant State 37N-W36HZ - Original Drilling - Original Drilling	1,000.0	900.0	5,128.0	5,122.9	996.004	ES
Dechant State 37N-W36HZ - Original Drilling - Original Drilling	6,950.0	6,350.6	5,898.9	5,859.9	151.248	SF
Dechant State 38N-1HZ - Original Drilling - Original Drilling	908.8	827.8	6,662.2	6,657.5	1,422.003	CC
Dechant State 38N-1HZ - Original Drilling - Original Drilling	1,000.0	900.0	6,662.2	6,657.0	1,293.986	ES
Dechant State 38N-1HZ - Original Drilling - Original Drilling	6,750.0	6,371.8	7,114.1	7,076.0	186.508	SF
Dechant State H36-11D - Original Drilling - Original Drilling	6,403.3	6,329.7	6,963.1	6,926.0	187.611	CC, ES
Dechant State H36-11D - Original Drilling - Original Drilling	6,900.0	6,869.9	7,116.6	7,076.7	178.444	SF
Dechant State H36-18D - Original Drilling - Original Drilling	100.0	42.9	4,668.5	4,668.4	10,000.000	CC
Dechant State H36-18D - Original Drilling - Original Drilling	900.0	823.6	4,670.5	4,667.1	1,371.240	ES
Dechant State H36-18D - Original Drilling - Original Drilling	6,750.0	6,728.7	5,714.0	5,671.3	133.881	SF
Dechant State H36-19 - Original Drilling - Original Drilling	6,409.6	6,448.3	4,494.6	4,457.0	119.613	CC, ES
Dechant State H36-19 - Original Drilling - Original Drilling	6,850.0	6,781.5	4,615.0	4,575.4	116.652	SF
Dechant State H36-20D - Original Drilling - Original Drilling	6,408.6	6,446.0	6,123.5	6,081.7	146.203	CC, ES
Dechant State H36-20D - Original Drilling - Original Drilling	6,750.0	6,782.0	6,199.1	6,155.7	142.732	SF
Dechant State H36-21D - Original Drilling - Original Drilling	5,806.8	5,738.0	6,725.0	6,688.2	182.772	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 H26-736
Project:	Conceptual Wells	TVD Reference:	WELL @ 4885.0ft (Original Well Elev)
Reference Site:	DP 408	MD Reference:	WELL @ 4885.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	Grid
Reference Well:	Hurley H26-736	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	6,384.7	6,341.1	6,727.8	6,687.7	167.395	ES
Dechant State H36-21D - Original Drilling - Original Drilling	6,800.0	6,721.6	6,834.3	6,792.3	162.559	SF
Dechant State H36-24 - Original Drilling - Original Drilling	376.0	328.0	7,382.1	7,380.4	4,332.622	CC
Dechant State H36-24 - Original Drilling - Original Drilling	900.0	900.0	7,383.8	7,378.9	1,490.230	ES
Dechant State H36-24 - Original Drilling - Original Drilling	6,950.0	7,012.7	7,966.1	7,920.1	173.141	SF
Dechant State H36-31D - Original Drilling - Original Drilling	6,421.3	6,461.4	4,309.1	4,264.8	97.356	CC, ES
Dechant State H36-31D - Original Drilling - Original Drilling	6,650.0	6,647.4	4,346.5	4,301.3	96.198	SF
Dechant State H36-32D - Original Drilling - Original Drilling	6,427.3	6,350.6	5,492.5	5,455.9	150.136	CC, ES
Dechant State H36-32D - Original Drilling - Original Drilling	7,150.0	7,150.0	5,834.3	5,794.0	144.805	SF
Dechant State H36-33 - Original Drilling - Original Drilling	6,440.6	6,553.3	6,691.1	6,644.2	142.449	CC, ES
Dechant State H36-33 - Original Drilling - Original Drilling	6,850.0	6,987.7	6,809.2	6,760.3	139.331	SF
HSR Dechant State 02-36 - Original Drilling - Original Drilling	3,057.4	3,155.0	5,290.2	5,272.8	303.540	CC
HSR Dechant State 02-36 - Original Drilling - Original Drilling	3,100.0	3,177.9	5,290.4	5,272.8	300.717	ES
HSR Dechant State 02-36 - Original Drilling - Original Drilling	6,900.0	6,619.0	5,626.0	5,587.1	144.801	SF
HSR Dechant/State 07-36 (PA) - Original Drilling - Original Drilling	2,600.0	2,524.0	6,558.6	6,502.4	116.747	CC
HSR Dechant/State 07-36 (PA) - Original Drilling - Original Drilling	3,100.0	3,021.5	6,564.1	6,497.0	97.855	ES
HSR Dechant/State 07-36 (PA) - Original Drilling - Original Drilling	7,050.0	6,826.3	6,915.0	6,762.4	45.309	SF
Spike State GWS H36-03 - Original Drilling - Original Drilling	376.0	300.0	4,732.7	4,731.1	3,005.239	CC
Spike State GWS H36-03 - Original Drilling - Original Drilling	2,100.0	1,991.8	4,736.9	4,725.5	417.133	ES
Spike State GWS H36-03 - Original Drilling - Original Drilling	6,900.0	6,571.5	5,001.2	4,962.4	129.009	SF
Spike State GWS H36-04 - Original Drilling - Original Drilling	6,397.2	6,332.5	3,763.3	3,722.9	93.101	CC
Spike State GWS H36-04 - Original Drilling - Original Drilling	6,400.0	6,335.2	3,763.3	3,722.8	93.015	ES
Spike State GWS H36-04 - Original Drilling - Original Drilling	7,000.0	6,873.9	3,975.8	3,928.4	83.865	SF
Spike State GWS H36-13 - Original Drilling - Original Drilling	6,520.2	7,444.0	7,633.1	7,589.8	176.206	CC, ES
Spike State GWS H36-13 - Original Drilling - Original Drilling	6,750.0	7,444.0	7,673.8	7,629.9	174.902	SF
Spike State GWS H36-14 - Original Drilling - Original Drilling	6,434.9	6,647.3	8,298.3	8,260.0	216.825	CC, ES
Spike State GWS H36-14 - Original Drilling - Original Drilling	7,000.0	7,148.4	8,500.3	8,459.4	207.603	SF
Spike State H36-02J - Original Drilling - Original Drilling	5,883.6	5,712.7	5,275.4	5,241.9	157.363	CC
Spike State H36-02J - Original Drilling - Original Drilling	6,384.7	6,143.2	5,280.8	5,234.5	114.018	ES
Spike State H36-02J - Original Drilling - Original Drilling	7,300.0	6,836.0	5,743.4	5,674.1	82.874	SF
Spike State H36-05 - Original Drilling - Original Drilling - A	6,395.7	6,169.4	4,947.7	4,911.1	135.320	CC
Spike State H36-05 - Original Drilling - Original Drilling - A	6,400.0	6,172.1	4,947.7	4,911.1	135.243	ES
Spike State H36-05 - Original Drilling - Original Drilling - A	7,050.0	6,902.8	5,215.4	5,175.2	129.873	SF
Spike State H36-11J - Original Drilling - Original Drilling	6,420.6	6,356.6	7,249.9	7,212.7	194.881	CC, ES
Spike State H36-11J - Original Drilling - Original Drilling	6,850.0	6,819.0	7,372.0	7,332.4	186.051	SF
Spike State H36-12 - Original Drilling - Original Drilling - A	6,425.4	6,305.3	6,103.2	6,066.2	164.967	CC, ES
Spike State H36-12 - Original Drilling - Original Drilling - A	6,900.0	6,846.8	6,255.8	6,216.0	157.379	SF

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

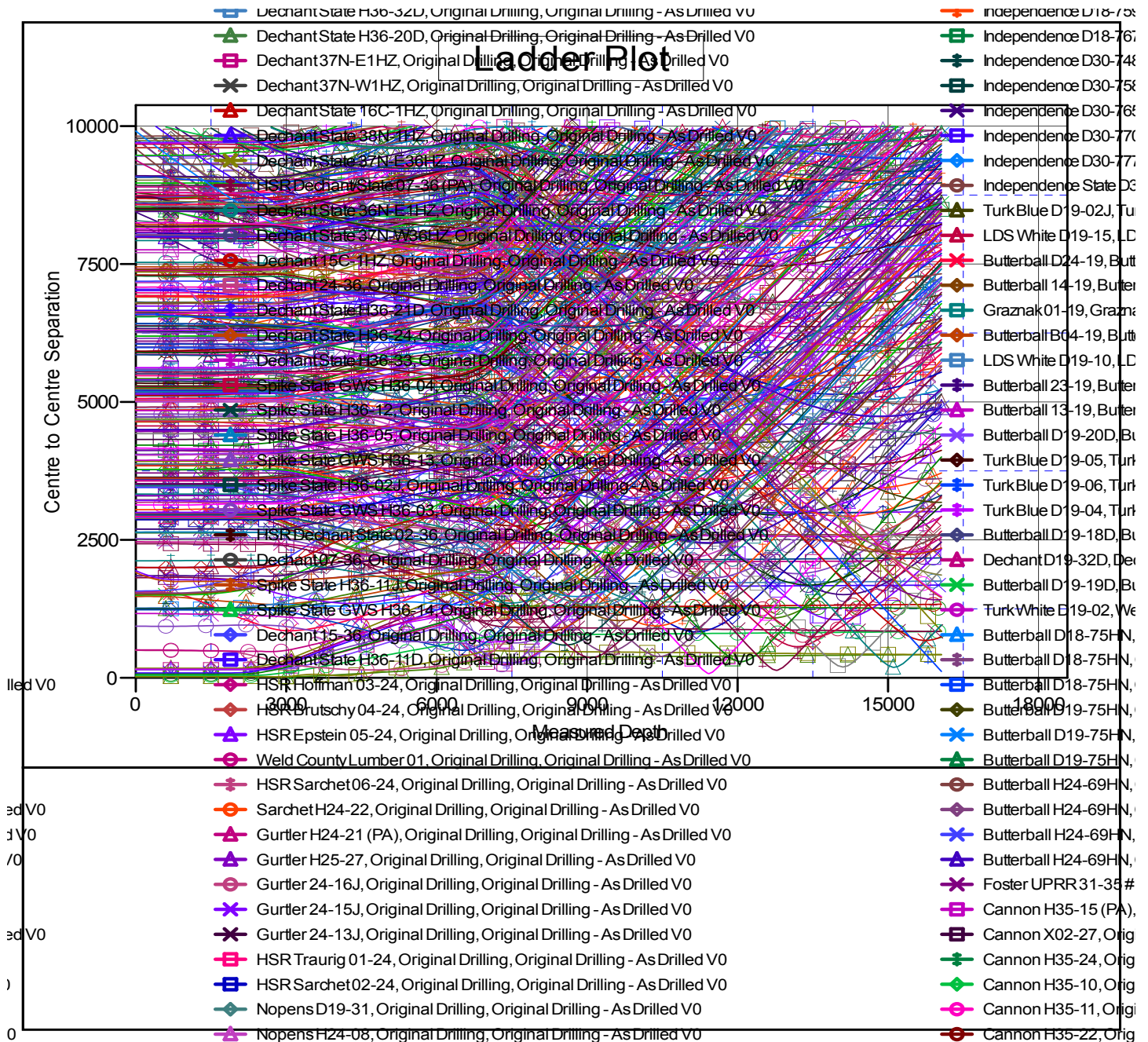
Anticollision Summary Report

Company:	Northern Region Drilling - Sandbox	Local Co-ordinate Reference:	Well Hurley H26-736
Project:	Conceptual Wells	TVD Reference:	WELL @ 4885.0ft (Original Well Elev)
Reference Site:	DP 408	MD Reference:	WELL @ 4885.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	Grid
Reference Well:	Hurley H26-736	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

Coordinates are relative to: Hurley H26-736

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.57°

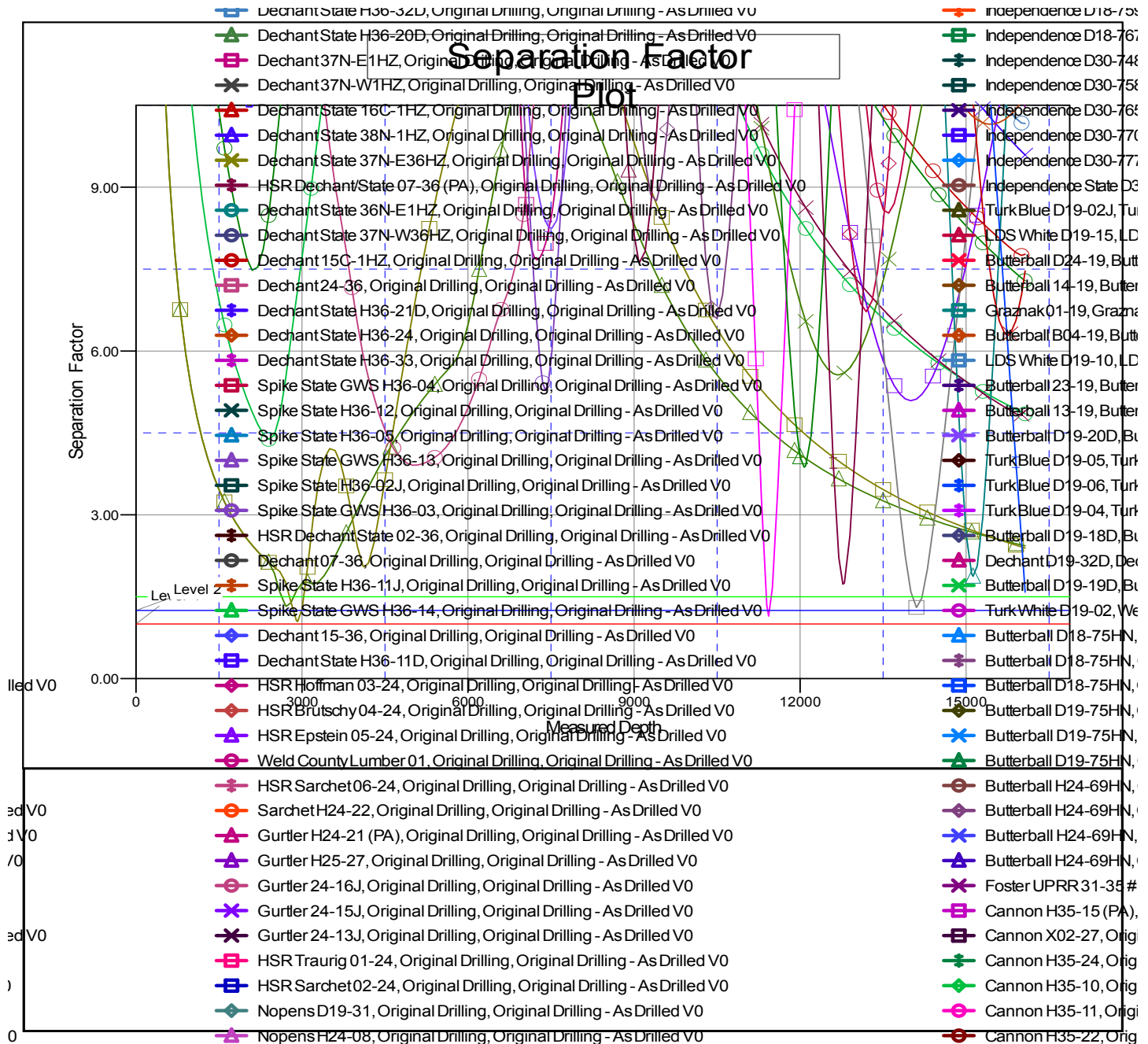


CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Summary Report

Company:	Northern Region Drilling - Sandbox	Local Co-ordinate Reference:	Well Hurley H26-736
Project:	Conceptual Wells	TVD Reference:	WELL @ 4885.0ft (Original Well Elev)
Reference Site:	DP 408	MD Reference:	WELL @ 4885.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	Grid
Reference Well:	Hurley H26-736	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

Grid Convergence at Surface is: 0.57°



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