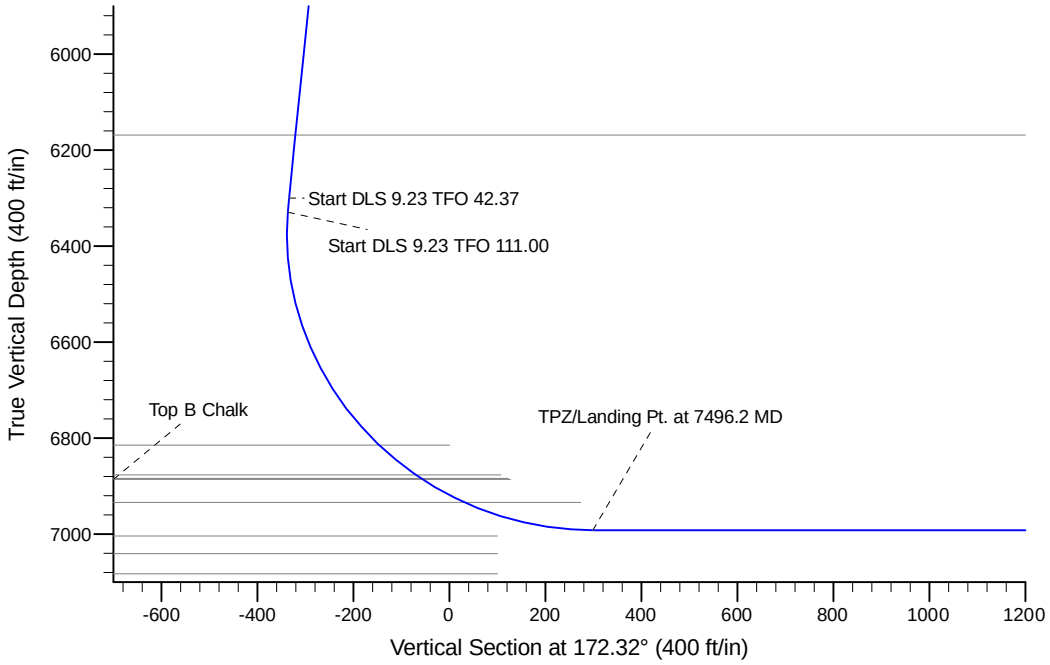
Project: Conceptual Wells
Site: DP 408
Well: Hurley H35-755
Wellbore: Wellbore #1
Design: Prelim - Rev 2

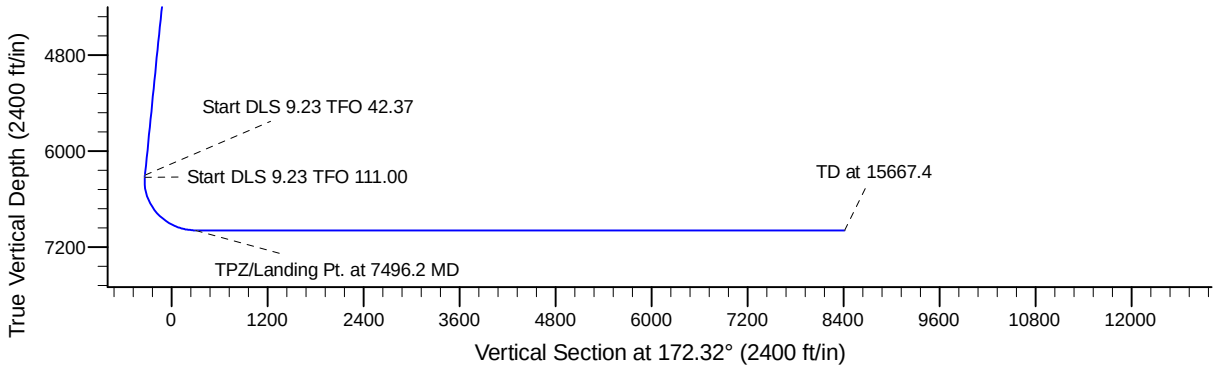
Northern Region Drilling - DJ Basin

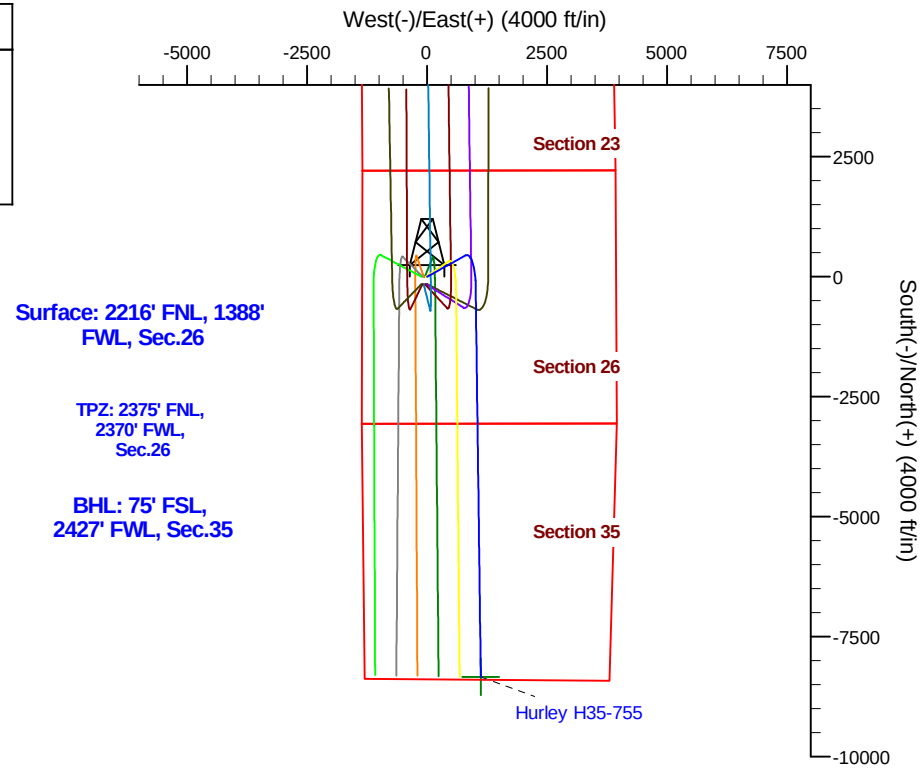
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Colorado Northern Zone
System Datum: Mean Sea Level

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	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	3375.0	15.50	61.00	3365.6	50.5	91.1	2.00	61.00	-37.9	
4	6420.2	15.50	61.00	6300.0	445.0	802.9	0.00	0.00	-333.8	
5	6450.9	17.69	67.29	6329.4	448.8	810.8	9.23	42.37	-336.5	
6	7496.2	90.00	179.24	6992.0	-165.0	1015.0	9.23	111.00	299.1	
7	15667.4	90.00	179.24	6992.0	-8335.5	1123.7	0.00	0.00	8410.9	Hurley H35-755



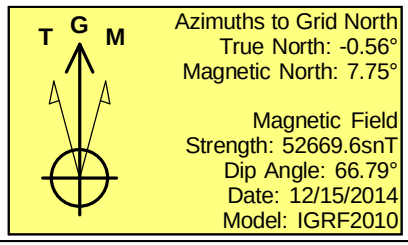




Surface: 2216' FNL, 1388' FWL, Sec.26

TPZ: 2375' FNL, 2370' FWL, Sec.26

BHL: 75' FSL, 2427' FWL, Sec.35



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

Magnetic Field
Strength: 52669.6snT
Dip Angle: 66.79°
Date: 12/15/2014
Model: IGRF2010

WELL DETAILS: Hurley H35-755

Ground Level: 4822.0

	Northing	Easting	Latitude	Longitude
0.00.0	1315973.25	3241560.15	40.197510	-104.635240

Plan: Prelim - Rev 2 (Hurley H35-755/Wellbore #1)

Created By: Chad Stich Date: 9:43, October 31 2017

Checked: _____ _____ Date: _____

Reviewed: _____ _____ Date: _____

Approved: _____ _____ Date: _____

Northern Region Drilling - Sandbox

Conceptual Wells
DP 408
Hurley H35-755

Wellbore #1

Plan: Prelim - Rev 2

Standard Planning Report

31 October, 2017

Database:	EDMP	**Local Co-ordinate Reference:**	Well Hurley H35-755
Company:	Northern Region Drilling - Sandbox	**TVD Reference:**	WELL @ 4852.0ft (Original Well Elev)
Project:	Conceptual Wells	**MD Reference:**	WELL @ 4852.0ft (Original Well Elev)
Site:	DP 408	**North Reference:**	Grid
Well:	Hurley H35-755	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Prelim - Rev 2		

Project Conceptual Wells

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

Site DP 408

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

Well Hurley H35-755

Well Position	**+N/-S**	-2,211.5 ft	**Northing:**	1,315,973.25 usft	**Latitude:**	40.197510
	+E/-W	1,335.0 ft	**Easting:**	3,241,560.15 usft	**Longitude:**	-104.635240
Position Uncertainty		0.0 ft	**Wellhead Elevation:**	0.0 ft	**Ground Level:**	4,822.0 ft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	12/15/2014	8.31	66.79	52,669.64029546

Design Prelim - Rev 2

Audit Notes:

Version:		**Phase:**	PROTOTYPE	**Tie On Depth:**	0.0

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	172.32

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	
3,375.0	15.50	61.00	3,365.6	50.5	91.1	2.00	2.00	0.00	61.00	
6,420.2	15.50	61.00	6,300.0	445.0	802.9	0.00	0.00	0.00	0.00	
6,450.9	17.69	67.29	6,329.4	448.8	810.8	9.23	7.15	20.51	42.37	
7,496.2	90.00	179.24	6,992.0	-165.0	1,015.0	9.23	6.92	10.71	111.00	
15,667.4	90.00	179.24	6,992.0	-8,335.5	1,123.7	0.00	0.00	0.00	0.00	Hurley H35-755

Database:	EDMP	**Local Co-ordinate Reference:**	Well Hurley H35-755
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Site:	DP 408	**North Reference:**	Grid
Well:	Hurley H35-755	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Prelim - Rev 2		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	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	61.00	2,700.0	0.8	1.5	-0.6	2.00	2.00	0.00
2,800.0	4.00	61.00	2,799.8	3.4	6.1	-2.5	2.00	2.00	0.00
2,900.0	6.00	61.00	2,899.5	7.6	13.7	-5.7	2.00	2.00	0.00
3,000.0	8.00	61.00	2,998.7	13.5	24.4	-10.1	2.00	2.00	0.00
3,100.0	10.00	61.00	3,097.5	21.1	38.1	-15.8	2.00	2.00	0.00
3,200.0	12.00	61.00	3,195.6	30.4	54.8	-22.8	2.00	2.00	0.00
3,300.0	14.00	61.00	3,293.1	41.3	74.4	-30.9	2.00	2.00	0.00
3,375.0	15.50	61.00	3,365.6	50.5	91.1	-37.9	2.00	2.00	0.00
3,400.0	15.50	61.00	3,389.7	53.8	97.0	-40.3	0.00	0.00	0.00
3,500.0	15.50	61.00	3,486.0	66.7	120.3	-50.0	0.00	0.00	0.00
3,600.0	15.50	61.00	3,582.4	79.7	143.7	-59.7	0.00	0.00	0.00
3,700.0	15.50	61.00	3,678.8	92.6	167.1	-69.5	0.00	0.00	0.00
3,800.0	15.50	61.00	3,775.1	105.6	190.5	-79.2	0.00	0.00	0.00
3,900.0	15.50	61.00	3,871.5	118.5	213.8	-88.9	0.00	0.00	0.00
4,000.0	15.50	61.00	3,967.9	131.5	237.2	-98.6	0.00	0.00	0.00
4,100.0	15.50	61.00	4,064.2	144.4	260.6	-108.3	0.00	0.00	0.00
4,200.0	15.50	61.00	4,160.6	157.4	284.0	-118.1	0.00	0.00	0.00
4,300.0	15.50	61.00	4,256.9	170.4	307.3	-127.8	0.00	0.00	0.00
4,400.0	15.50	61.00	4,353.3	183.3	330.7	-137.5	0.00	0.00	0.00
4,500.0	15.50	61.00	4,449.7	196.3	354.1	-147.2	0.00	0.00	0.00
4,600.0	15.50	61.00	4,546.0	209.2	377.4	-156.9	0.00	0.00	0.00
4,700.0	15.50	61.00	4,642.4	222.2	400.8	-166.6	0.00	0.00	0.00
4,800.0	15.50	61.00	4,738.8	235.1	424.2	-176.4	0.00	0.00	0.00
4,900.0	15.50	61.00	4,835.1	248.1	447.6	-186.1	0.00	0.00	0.00
5,000.0	15.50	61.00	4,931.5	261.0	470.9	-195.8	0.00	0.00	0.00
5,100.0	15.50	61.00	5,027.8	274.0	494.3	-205.5	0.00	0.00	0.00
5,200.0	15.50	61.00	5,124.2	287.0	517.7	-215.2	0.00	0.00	0.00

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Site:	DP 408	**North Reference:**	Grid
Well:	Hurley H35-755	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Prelim - Rev 2		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,300.0	15.50	61.00	5,220.6	299.9	541.1	-224.9	0.00	0.00	0.00
5,400.0	15.50	61.00	5,316.9	312.9	564.4	-234.7	0.00	0.00	0.00
5,500.0	15.50	61.00	5,413.3	325.8	587.8	-244.4	0.00	0.00	0.00
5,600.0	15.50	61.00	5,509.7	338.8	611.2	-254.1	0.00	0.00	0.00
5,700.0	15.50	61.00	5,606.0	351.7	634.6	-263.8	0.00	0.00	0.00
5,800.0	15.50	61.00	5,702.4	364.7	657.9	-273.5	0.00	0.00	0.00
5,900.0	15.50	61.00	5,798.7	377.7	681.3	-283.2	0.00	0.00	0.00
6,000.0	15.50	61.00	5,895.1	390.6	704.7	-293.0	0.00	0.00	0.00
6,100.0	15.50	61.00	5,991.5	403.6	728.0	-302.7	0.00	0.00	0.00
6,200.0	15.50	61.00	6,087.8	416.5	751.4	-312.4	0.00	0.00	0.00
6,300.0	15.50	61.00	6,184.2	429.5	774.8	-322.1	0.00	0.00	0.00
6,400.0	15.50	61.00	6,280.6	442.4	798.2	-331.8	0.00	0.00	0.00
6,420.2	15.50	61.00	6,300.0	445.0	802.9	-333.8	0.00	0.00	0.00
6,450.9	17.69	67.29	6,329.4	448.8	810.8	-336.5	9.23	7.15	20.51
6,500.0	16.60	82.28	6,376.4	452.7	824.6	-338.4	9.23	-2.23	30.49
6,600.0	17.97	113.38	6,472.1	448.5	853.0	-330.5	9.23	1.37	31.11
6,700.0	23.15	135.44	6,565.8	428.3	881.0	-306.7	9.23	5.18	22.05
6,800.0	30.24	148.74	6,655.2	392.7	907.9	-267.9	9.23	7.09	13.30
6,900.0	38.19	157.14	6,737.9	342.6	933.1	-214.8	9.23	7.95	8.41
7,000.0	46.56	162.96	6,811.7	279.2	955.7	-149.0	9.23	8.37	5.82
7,100.0	55.15	167.35	6,874.8	204.3	975.4	-72.2	9.23	8.59	4.38
7,200.0	63.86	170.89	6,925.5	119.8	991.5	13.8	9.23	8.72	3.54
7,300.0	72.65	173.94	6,962.5	27.8	1,003.7	106.5	9.23	8.79	3.05
7,400.0	81.49	176.70	6,984.9	-69.2	1,011.6	203.8	9.23	8.83	2.76
7,496.2	90.00	179.24	6,992.0	-165.0	1,015.0	299.1	9.23	8.85	2.64
7,500.0	90.00	179.24	6,992.0	-168.8	1,015.1	302.9	0.00	0.00	0.00
7,600.0	90.00	179.24	6,992.0	-268.8	1,016.4	402.2	0.00	0.00	0.00
7,700.0	90.00	179.24	6,992.0	-368.8	1,017.7	501.5	0.00	0.00	0.00
7,800.0	90.00	179.24	6,992.0	-468.8	1,019.0	600.7	0.00	0.00	0.00
7,900.0	90.00	179.24	6,992.0	-568.8	1,020.4	700.0	0.00	0.00	0.00
8,000.0	90.00	179.24	6,992.0	-668.8	1,021.7	799.3	0.00	0.00	0.00
8,100.0	90.00	179.24	6,992.0	-768.8	1,023.0	898.5	0.00	0.00	0.00
8,200.0	90.00	179.24	6,992.0	-868.8	1,024.3	997.8	0.00	0.00	0.00
8,300.0	90.00	179.24	6,992.0	-968.7	1,025.7	1,097.1	0.00	0.00	0.00
8,400.0	90.00	179.24	6,992.0	-1,068.7	1,027.0	1,196.4	0.00	0.00	0.00
8,500.0	90.00	179.24	6,992.0	-1,168.7	1,028.3	1,295.6	0.00	0.00	0.00
8,600.0	90.00	179.24	6,992.0	-1,268.7	1,029.6	1,394.9	0.00	0.00	0.00
8,700.0	90.00	179.24	6,992.0	-1,368.7	1,031.0	1,494.2	0.00	0.00	0.00
8,800.0	90.00	179.24	6,992.0	-1,468.7	1,032.3	1,593.4	0.00	0.00	0.00
8,900.0	90.00	179.24	6,992.0	-1,568.7	1,033.6	1,692.7	0.00	0.00	0.00
9,000.0	90.00	179.24	6,992.0	-1,668.7	1,034.9	1,792.0	0.00	0.00	0.00
9,100.0	90.00	179.24	6,992.0	-1,768.7	1,036.3	1,891.3	0.00	0.00	0.00
9,200.0	90.00	179.24	6,992.0	-1,868.7	1,037.6	1,990.5	0.00	0.00	0.00
9,300.0	90.00	179.24	6,992.0	-1,968.7	1,038.9	2,089.8	0.00	0.00	0.00
9,400.0	90.00	179.24	6,992.0	-2,068.6	1,040.3	2,189.1	0.00	0.00	0.00
9,500.0	90.00	179.24	6,992.0	-2,168.6	1,041.6	2,288.4	0.00	0.00	0.00
9,600.0	90.00	179.24	6,992.0	-2,268.6	1,042.9	2,387.6	0.00	0.00	0.00
9,700.0	90.00	179.24	6,992.0	-2,368.6	1,044.2	2,486.9	0.00	0.00	0.00
9,800.0	90.00	179.24	6,992.0	-2,468.6	1,045.6	2,586.2	0.00	0.00	0.00
9,900.0	90.00	179.24	6,992.0	-2,568.6	1,046.9	2,685.4	0.00	0.00	0.00
10,000.0	90.00	179.24	6,992.0	-2,668.6	1,048.2	2,784.7	0.00	0.00	0.00
10,100.0	90.00	179.24	6,992.0	-2,768.6	1,049.5	2,884.0	0.00	0.00	0.00
10,200.0	90.00	179.24	6,992.0	-2,868.6	1,050.9	2,983.3	0.00	0.00	0.00
10,300.0	90.00	179.24	6,992.0	-2,968.6	1,052.2	3,082.5	0.00	0.00	0.00

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Wellbore:	Wellbore #1		
Design:	Prelim - Rev 2		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,400.0	90.00	179.24	6,992.0	-3,068.6	1,053.5	3,181.8	0.00	0.00	0.00
10,500.0	90.00	179.24	6,992.0	-3,168.6	1,054.8	3,281.1	0.00	0.00	0.00
10,600.0	90.00	179.24	6,992.0	-3,268.5	1,056.2	3,380.3	0.00	0.00	0.00
10,700.0	90.00	179.24	6,992.0	-3,368.5	1,057.5	3,479.6	0.00	0.00	0.00
10,800.0	90.00	179.24	6,992.0	-3,468.5	1,058.8	3,578.9	0.00	0.00	0.00
10,900.0	90.00	179.24	6,992.0	-3,568.5	1,060.1	3,678.2	0.00	0.00	0.00
11,000.0	90.00	179.24	6,992.0	-3,668.5	1,061.5	3,777.4	0.00	0.00	0.00
11,100.0	90.00	179.24	6,992.0	-3,768.5	1,062.8	3,876.7	0.00	0.00	0.00
11,200.0	90.00	179.24	6,992.0	-3,868.5	1,064.1	3,976.0	0.00	0.00	0.00
11,300.0	90.00	179.24	6,992.0	-3,968.5	1,065.5	4,075.3	0.00	0.00	0.00
11,400.0	90.00	179.24	6,992.0	-4,068.5	1,066.8	4,174.5	0.00	0.00	0.00
11,500.0	90.00	179.24	6,992.0	-4,168.5	1,068.1	4,273.8	0.00	0.00	0.00
11,600.0	90.00	179.24	6,992.0	-4,268.5	1,069.4	4,373.1	0.00	0.00	0.00
11,700.0	90.00	179.24	6,992.0	-4,368.4	1,070.8	4,472.3	0.00	0.00	0.00
11,800.0	90.00	179.24	6,992.0	-4,468.4	1,072.1	4,571.6	0.00	0.00	0.00
11,900.0	90.00	179.24	6,992.0	-4,568.4	1,073.4	4,670.9	0.00	0.00	0.00
12,000.0	90.00	179.24	6,992.0	-4,668.4	1,074.7	4,770.2	0.00	0.00	0.00
12,100.0	90.00	179.24	6,992.0	-4,768.4	1,076.1	4,869.4	0.00	0.00	0.00
12,200.0	90.00	179.24	6,992.0	-4,868.4	1,077.4	4,968.7	0.00	0.00	0.00
12,300.0	90.00	179.24	6,992.0	-4,968.4	1,078.7	5,068.0	0.00	0.00	0.00
12,400.0	90.00	179.24	6,992.0	-5,068.4	1,080.0	5,167.2	0.00	0.00	0.00
12,500.0	90.00	179.24	6,992.0	-5,168.4	1,081.4	5,266.5	0.00	0.00	0.00
12,600.0	90.00	179.24	6,992.0	-5,268.4	1,082.7	5,365.8	0.00	0.00	0.00
12,700.0	90.00	179.24	6,992.0	-5,368.4	1,084.0	5,465.1	0.00	0.00	0.00
12,800.0	90.00	179.24	6,992.0	-5,468.4	1,085.4	5,564.3	0.00	0.00	0.00
12,900.0	90.00	179.24	6,992.0	-5,568.3	1,086.7	5,663.6	0.00	0.00	0.00
13,000.0	90.00	179.24	6,992.0	-5,668.3	1,088.0	5,762.9	0.00	0.00	0.00
13,100.0	90.00	179.24	6,992.0	-5,768.3	1,089.3	5,862.1	0.00	0.00	0.00
13,200.0	90.00	179.24	6,992.0	-5,868.3	1,090.7	5,961.4	0.00	0.00	0.00
13,300.0	90.00	179.24	6,992.0	-5,968.3	1,092.0	6,060.7	0.00	0.00	0.00
13,400.0	90.00	179.24	6,992.0	-6,068.3	1,093.3	6,160.0	0.00	0.00	0.00
13,500.0	90.00	179.24	6,992.0	-6,168.3	1,094.6	6,259.2	0.00	0.00	0.00
13,600.0	90.00	179.24	6,992.0	-6,268.3	1,096.0	6,358.5	0.00	0.00	0.00
13,700.0	90.00	179.24	6,992.0	-6,368.3	1,097.3	6,457.8	0.00	0.00	0.00
13,800.0	90.00	179.24	6,992.0	-6,468.3	1,098.6	6,557.1	0.00	0.00	0.00
13,900.0	90.00	179.24	6,992.0	-6,568.3	1,099.9	6,656.3	0.00	0.00	0.00
14,000.0	90.00	179.24	6,992.0	-6,668.2	1,101.3	6,755.6	0.00	0.00	0.00
14,100.0	90.00	179.24	6,992.0	-6,768.2	1,102.6	6,854.9	0.00	0.00	0.00
14,200.0	90.00	179.24	6,992.0	-6,868.2	1,103.9	6,954.1	0.00	0.00	0.00
14,300.0	90.00	179.24	6,992.0	-6,968.2	1,105.2	7,053.4	0.00	0.00	0.00
14,400.0	90.00	179.24	6,992.0	-7,068.2	1,106.6	7,152.7	0.00	0.00	0.00
14,500.0	90.00	179.24	6,992.0	-7,168.2	1,107.9	7,252.0	0.00	0.00	0.00
14,600.0	90.00	179.24	6,992.0	-7,268.2	1,109.2	7,351.2	0.00	0.00	0.00
14,700.0	90.00	179.24	6,992.0	-7,368.2	1,110.6	7,450.5	0.00	0.00	0.00
14,800.0	90.00	179.24	6,992.0	-7,468.2	1,111.9	7,549.8	0.00	0.00	0.00
14,900.0	90.00	179.24	6,992.0	-7,568.2	1,113.2	7,649.0	0.00	0.00	0.00
15,000.0	90.00	179.24	6,992.0	-7,668.2	1,114.5	7,748.3	0.00	0.00	0.00
15,100.0	90.00	179.24	6,992.0	-7,768.1	1,115.9	7,847.6	0.00	0.00	0.00
15,200.0	90.00	179.24	6,992.0	-7,868.1	1,117.2	7,946.9	0.00	0.00	0.00
15,300.0	90.00	179.24	6,992.0	-7,968.1	1,118.5	8,046.1	0.00	0.00	0.00
15,400.0	90.00	179.24	6,992.0	-8,068.1	1,119.8	8,145.4	0.00	0.00	0.00
15,500.0	90.00	179.24	6,992.0	-8,168.1	1,121.2	8,244.7	0.00	0.00	0.00
15,600.0	90.00	179.24	6,992.0	-8,268.1	1,122.5	8,343.9	0.00	0.00	0.00
15,667.4	90.00	179.24	6,992.0	-8,335.5	1,123.7	8,410.9	0.00	0.00	0.00

Database:	EDMP	**Local Co-ordinate Reference:**	Well Hurley H35-755
Company:	Northern Region Drilling - Sandbox	**TVD Reference:**	WELL @ 4852.0ft (Original Well Elev)
Project:	Conceptual Wells	**MD Reference:**	WELL @ 4852.0ft (Original Well Elev)
Site:	DP 408	**North Reference:**	Grid
Well:	Hurley H35-755	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Prelim - Rev 2		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Hurley H35-755 - plan hits target center - Point	0.00	0.00	6,992.0	-8,335.5	1,123.7	1,307,638.13	3,242,683.78	40.174600	-104.631510

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
618.0	618.0	Pierre			
770.0	770.0	Upper Pierre Aquifer Top			
1,658.0	1,658.0	Upper Pierre Aquifer Base			
3,955.5	3,925.0	Parkman			
4,568.8	4,516.0	Sussex			
5,276.6	5,198.0	Shannon			
6,284.2	6,169.0	Teepee Buttes			
7,004.8	6,815.0	Sharon Springs			
7,103.9	6,877.0	Top A Chalk			
7,116.4	6,884.0	Top A Marl			
7,120.1	6,886.0	Top B Chalk			
7,219.9	6,934.0	Top B Marl			

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
2,600.0	2,600.0	0.0	0.0	KOP - Start Build 2.00
6,420.2	6,300.0	50.5	91.1	Start DLS 9.23 TFO 42.37
6,450.9	6,329.4	445.0	802.9	Start DLS 9.23 TFO 111.00
7,496.2	6,992.0	448.8	810.8	TPZ/Landing Pt. at 7496.2 MD
15,667.4	6,992.0	-165.0	1,015.0	TD at 15667.4

Northern Region Drilling - Sandbox

Conceptual Wells
DP 408
Hurley H35-755

Wellbore #1
Prelim - Rev 2

Anticollision Summary Report

31 October, 2017

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region Drilling - Sandbox	**Local Co-ordinate Reference:**	Well Hurley H35-755
Project:	Conceptual Wells	**TVD Reference:**	WELL @ 4852.0ft (Original Well Elev)
Reference Site:	DP 408	**MD Reference:**	WELL @ 4852.0ft (Original Well Elev)
Site Error:	0.0 ft	**North Reference:**	Grid
Reference Well:	Hurley H35-755	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDMP
Reference Design:	Prelim - Rev 2	**Offset TVD Reference:**	Offset Datum

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

Survey Tool Program **Date** 10/31/2017

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	15,667.2	Prelim - Rev 2 (Wellbore #1)	MWD+IFR1+MS_WY	Fixed:v2:Rockies, crustal dec + 3-axis correction

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 H24-69HN - Original Drilling - Original Drilling -	6,700.8	11,992.0	9,356.1	9,235.6	77.644	CC, ES
Butterball H24-69HN - Original Drilling - Original Drilling -	7,200.0	11,992.0	9,517.5	9,393.4	76.691	SF
DP 408						
Emmy H25-711 - Wellbore #1 - Prelim - Rev 2	10,344.0	4,580.8	7,476.9	7,430.5	161.105	CC
Emmy H25-711 - Wellbore #1 - Prelim - Rev 2	10,400.0	4,584.7	7,477.1	7,430.1	159.235	ES
Emmy H25-711 - Wellbore #1 - Prelim - Rev 2	15,200.0	4,919.3	8,909.0	8,823.8	104.541	SF
Emmy State H25-718 - Wellbore #1 - Prelim - Rev 2	10,373.3	5,022.4	7,235.7	7,188.5	153.087	CC
Emmy State H25-718 - Wellbore #1 - Prelim - Rev 2	10,400.0	5,024.5	7,235.8	7,188.2	152.241	ES
Emmy State H25-718 - Wellbore #1 - Prelim - Rev 2	15,100.0	5,402.2	8,634.6	8,549.6	101.527	SF
Emmy State H25-724 - Wellbore #1 - Prelim - Rev 2	10,585.8	5,989.2	6,879.8	6,828.9	135.155	CC
Emmy State H25-724 - Wellbore #1 - Prelim - Rev 2	10,700.0	6,002.6	6,880.8	6,828.7	132.161	ES
Emmy State H25-724 - Wellbore #1 - Prelim - Rev 2	14,600.0	6,385.8	7,951.9	7,867.6	94.401	SF
Emmy State H25-731 - Wellbore #1 - Prelim - Rev 2	10,599.3	6,483.5	6,562.9	6,511.6	127.872	CC
Emmy State H25-731 - Wellbore #1 - Prelim - Rev 2	10,700.0	6,473.3	6,563.7	6,511.3	125.472	ES
Emmy State H25-731 - Wellbore #1 - Prelim - Rev 2	14,300.0	6,400.0	7,532.3	7,451.3	92.952	SF
Emmy State H25-738 - Wellbore #1 - Prelim - Rev 2	10,230.2	7,021.2	6,193.7	6,145.7	129.021	CC
Emmy State H25-738 - Wellbore #1 - Prelim - Rev 2	10,300.0	6,972.7	6,193.9	6,145.3	127.450	ES
Emmy State H25-738 - Wellbore #1 - Prelim - Rev 2	14,000.0	6,500.0	7,125.3	7,047.3	91.332	SF
Emmy State H25-744 - Wellbore #1 - Prelim - Rev 2	9,973.4	7,350.0	5,731.1	5,684.2	122.276	CC
Emmy State H25-744 - Wellbore #1 - Prelim - Rev 2	10,100.0	7,300.0	5,731.8	5,683.9	119.607	ES
Emmy State H25-744 - Wellbore #1 - Prelim - Rev 2	13,600.0	6,650.0	6,564.5	6,488.8	86.653	SF
Emmy State H25-751 - Wellbore #1 - Design #1	10,587.4	5,875.0	5,100.0	5,048.3	98.671	CC
Emmy State H25-751 - Wellbore #1 - Design #1	10,600.0	5,876.6	5,100.0	5,048.2	98.415	ES
Emmy State H25-751 - Wellbore #1 - Design #1	15,100.0	15,100.0	6,788.1	6,676.0	60.563	SF
Emmy State H25-757 - Wellbore #1 - Design #1	10,612.3	6,123.5	4,890.3	4,838.4	94.100	CC
Emmy State H25-757 - Wellbore #1 - Design #1	10,700.0	6,134.3	4,891.1	4,838.2	92.444	ES
Emmy State H25-757 - Wellbore #1 - Design #1	13,000.0	6,350.0	5,434.5	5,361.5	74.463	SF
Emmy State H25-764 - Wellbore #1 - Design #1	10,638.2	6,556.4	4,559.8	4,522.3	121.545	CC
Emmy State H25-764 - Wellbore #1 - Design #1	10,700.0	6,547.7	4,560.2	4,522.0	119.499	ES
Emmy State H25-764 - Wellbore #1 - Design #1	13,100.0	6,476.2	5,178.8	5,121.4	90.226	SF
Emmy State H25-771 - Wellbore #1 - Design #1	10,300.9	7,066.2	4,159.1	4,110.2	84.984	CC
Emmy State H25-771 - Wellbore #1 - Design #1	10,400.0	6,991.5	4,159.5	4,109.7	83.489	ES
Emmy State H25-771 - Wellbore #1 - Design #1	12,500.0	6,550.0	4,586.6	4,519.0	67.863	SF
Emmy State H25-777 - Wellbore #1 - Design #1	10,024.0	7,410.9	3,778.4	3,731.1	79.984	CC
Emmy State H25-777 - Wellbore #1 - Design #1	10,100.0	7,343.0	3,778.6	3,730.8	79.063	ES
Emmy State H25-777 - Wellbore #1 - Design #1	12,200.0	6,674.9	4,151.1	4,085.6	63.399	SF

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

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region Drilling - Sandbox	**Local Co-ordinate Reference:**	Well Hurley H35-755
Project:	Conceptual Wells	**TVD Reference:**	WELL @ 4852.0ft (Original Well Elev)
Reference Site:	DP 408	**MD Reference:**	WELL @ 4852.0ft (Original Well Elev)
Site Error:	0.0 ft	**North Reference:**	Grid
Reference Well:	Hurley H35-755	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDMP
Reference Design:	Prelim - Rev 2	**Offset TVD Reference:**	Offset Datum

Summary

Site Name 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						
Emmy State H25-785 - Wellbore #1 - Prelim - Rev 2	10,037.2	7,424.4	3,248.1	3,199.8	67.270	CC
Emmy State H25-785 - Wellbore #1 - Prelim - Rev 2	10,100.0	7,400.0	3,248.5	3,199.6	66.502	ES
Emmy State H25-785 - Wellbore #1 - Prelim - Rev 2	11,900.0	6,800.0	3,577.9	3,514.0	56.013	SF
Emmy State H36-753 - Wellbore #1 - Design #1	9,626.9	5,606.8	5,129.8	5,086.8	119.339	CC
Emmy State H36-753 - Wellbore #1 - Design #1	15,300.0	12,699.7	5,163.3	5,028.9	38.406	ES
Emmy State H36-753 - Wellbore #1 - Design #1	15,667.4	12,699.7	5,179.5	5,041.0	37.385	SF
Emmy State H36-760 - Wellbore #1 - Design #1	15,249.8	12,527.7	4,721.7	4,587.9	35.304	CC
Emmy State H36-760 - Wellbore #1 - Design #1	15,300.0	12,527.7	4,721.9	4,587.6	35.147	ES
Emmy State H36-760 - Wellbore #1 - Design #1	15,667.4	12,527.7	4,739.8	4,601.5	34.266	SF
Emmy State H36-766 - Wellbore #1 - Design #1	15,172.5	12,453.6	4,285.9	4,154.4	32.585	CC
Emmy State H36-766 - Wellbore #1 - Design #1	15,200.0	12,453.6	4,286.0	4,154.1	32.508	ES
Emmy State H36-766 - Wellbore #1 - Design #1	15,667.4	12,453.6	4,314.1	4,177.6	31.616	SF
Emmy State H36-773 - Wellbore #1 - Design #1	15,250.6	12,608.4	3,841.4	3,707.6	28.692	CC
Emmy State H36-773 - Wellbore #1 - Design #1	15,300.0	12,608.4	3,841.8	3,707.3	28.580	ES
Emmy State H36-773 - Wellbore #1 - Design #1	15,667.4	12,608.4	3,863.7	3,725.9	28.046	SF
Emmy State H36-780 - Wellbore #1 - Design #1	15,252.7	12,543.0	3,402.6	3,268.8	25.426	CC
Emmy State H36-780 - Wellbore #1 - Design #1	15,300.0	12,543.0	3,402.9	3,268.6	25.338	ES
Emmy State H36-780 - Wellbore #1 - Design #1	15,667.4	12,543.0	3,427.5	3,290.3	24.983	SF
Emmy State H36-787 - Wellbore #1 - Prelim - Rev 2	15,254.9	12,821.8	2,961.2	2,828.0	22.223	CC
Emmy State H36-787 - Wellbore #1 - Prelim - Rev 2	15,300.0	12,821.8	2,961.6	2,827.9	22.161	ES
Emmy State H36-787 - Wellbore #1 - Prelim - Rev 2	15,600.0	12,821.8	2,981.3	2,845.8	22.001	SF
Hurley H26-712 - Wellbore #1 - Design #1	7,914.1	6,641.6	2,770.0	2,735.6	80.642	CC, ES
Hurley H26-712 - Wellbore #1 - Design #1	9,300.0	6,567.4	3,094.5	3,050.0	69.509	SF
Hurley H26-717 - Wellbore #1 - Design #1	7,831.8	6,801.5	2,469.0	2,435.6	73.950	CC, ES
Hurley H26-717 - Wellbore #1 - Design #1	9,100.0	6,573.8	2,748.5	2,706.4	65.219	SF
Hurley H26-724 - Wellbore #1 - Design #1	7,603.1	7,122.3	1,951.7	1,919.7	60.946	CC, ES
Hurley H26-724 - Wellbore #1 - Design #1	8,700.0	6,700.0	2,145.0	2,106.5	55.750	SF
Hurley H26-730 - Wellbore #1 - Design #1	7,430.2	7,066.2	1,551.2	1,519.7	49.289	CC, ES
Hurley H26-730 - Wellbore #1 - Design #1	8,100.0	6,763.8	1,651.6	1,617.3	48.211	SF
Hurley H26-736 - Wellbore #1 - Design #1	7,382.7	7,300.0	1,193.0	1,160.7	36.900	CC, ES
Hurley H26-736 - Wellbore #1 - Design #1	7,450.0	7,256.2	1,194.9	1,162.5	36.881	SF
Hurley H26-743 - Wellbore #1 - Prelim - Rev 2	7,402.7	7,500.0	703.2	669.7	20.963	CC, ES, SF
Hurley H26-750 - Wellbore #1 - Prelim - Rev 2	2,400.0	2,400.0	149.4	138.9	14.232	CC, ES
Hurley H26-750 - Wellbore #1 - Prelim - Rev 2	7,800.0	7,185.2	234.0	197.8	6.479	SF
Hurley H26-756 - Wellbore #1 - Prelim - Rev 2	7,320.6	7,543.1	83.9	49.8	2.461	CC, ES, SF
Hurley H26-762 - Wellbore #1 - Prelim - Rev 2	2,600.0	2,599.0	156.7	145.3	13.756	CC, ES
Hurley H26-762 - Wellbore #1 - Prelim - Rev 2	2,700.0	2,696.3	158.8	147.0	13.453	SF
Hurley H26-768 - Wellbore #1 - Prelim - Rev 2	2,400.0	2,399.0	164.9	154.4	15.712	CC, ES
Hurley H26-768 - Wellbore #1 - Prelim - Rev 2	2,600.0	2,590.1	170.1	158.8	15.072	SF
Hurley H26-776 - Wellbore #1 - Prelim - Rev 2	2,200.0	2,199.0	175.5	165.9	18.293	CC, ES
Hurley H26-776 - Wellbore #1 - Prelim - Rev 2	2,400.0	2,387.3	182.0	171.6	17.531	SF
Hurley H26-783 - Wellbore #1 - Prelim - Rev 2	2,000.0	1,999.0	188.2	179.5	21.644	CC, ES
Hurley H26-783 - Wellbore #1 - Prelim - Rev 2	2,200.0	2,186.6	194.7	185.2	20.508	SF
Hurley H35-720 - Wellbore #1 - Design #1	15,667.4	15,976.1	2,068.3	1,900.3	12.306	CC, ES, SF
Hurley H35-727 - Wellbore #1 - Design #1	15,667.4	15,763.0	1,626.5	1,458.1	9.654	CC, ES, SF
Hurley H35-733 - Wellbore #1 - Design #1	15,667.4	15,790.0	1,188.2	1,019.8	7.056	CC, ES, SF
Hurley H35-740 - Wellbore #1 - Design #1	15,667.4	15,851.6	746.2	577.6	4.426	CC, ES, SF
Hurley H35-746 - Wellbore #1 - Prelim - Rev 2	15,667.4	15,807.0	308.9	140.4	1.833	CC, ES, SF
Hurley H35-761 - Wellbore #1 - Prelim - Rev 2	2,600.0	2,600.0	22.3	11.0	1.961	CC, ES, SF
Hurley H35-768 - Wellbore #1 - Prelim - Rev 2	2,600.0	2,600.0	44.7	33.3	3.922	CC, ES
Hurley H35-768 - Wellbore #1 - Prelim - Rev 2	2,700.0	2,700.0	46.2	34.4	3.906	SF
Hurley H35-774 - Wellbore #1 - Prelim - Rev 2	2,400.0	2,400.0	67.0	56.5	6.387	CC, ES
Hurley H35-774 - Wellbore #1 - Prelim - Rev 2	2,600.0	2,598.2	69.5	58.2	6.110	SF

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

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region Drilling - Sandbox	**Local Co-ordinate Reference:**	Well Hurley H35-755
Project:	Conceptual Wells	**TVD Reference:**	WELL @ 4852.0ft (Original Well Elev)
Reference Site:	DP 408	**MD Reference:**	WELL @ 4852.0ft (Original Well Elev)
Site Error:	0.0 ft	**North Reference:**	Grid
Reference Well:	Hurley H35-755	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDMP
Reference Design:	Prelim - Rev 2	**Offset TVD Reference:**	Offset Datum

Summary

Site Name 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 H35-779 - Wellbore #1 - Prelim - Rev 2	2,200.0	2,199.0	89.5	79.9	9.324	CC, ES
Hurley H35-779 - Wellbore #1 - Prelim - Rev 2	2,400.0	2,394.3	94.5	84.0	9.033	SF
Hurley H35-787 - Wellbore #1 - Prelim - Rev 2	2,000.0	1,999.0	111.8	103.1	12.856	CC, ES
Hurley H35-787 - Wellbore #1 - Prelim - Rev 2	2,200.0	2,192.0	117.8	108.3	12.337	SF
Hurley State H35-713 - Wellbore #1 - Design #1	15,667.4	15,707.5	2,506.9	2,338.3	14.873	CC, ES, SF
H Section 13						
Karakakes H13-25 - Original Drilling - Original Drilling - A	6,612.1	6,564.8	9,486.5	9,427.1	159.638	CC, ES
Karakakes H13-25 - Original Drilling - Original Drilling - A	7,000.0	6,866.5	9,591.3	9,530.3	157.123	SF
Karakakes H13-33 - Original Drilling - Original Drilling - A	6,618.4	6,910.6	9,104.2	9,063.8	225.312	CC, ES
Karakakes H13-33 - Original Drilling - Original Drilling - A	7,100.0	7,306.8	9,274.0	9,231.1	216.577	SF
Karakakes H14-63HN - Original Drilling - Original Drilling	6,300.0	9,791.0	8,575.9	8,482.3	91.620	SF
Karakakes H14-63HN - Original Drilling - Original Drilling	6,573.3	9,317.0	8,530.3	8,447.6	103.059	CC, ES
Sarchet H13-75HN - Original Drilling - Original Drilling	6,646.4	6,220.0	9,001.7	8,966.7	257.561	CC, ES
Sarchet H13-75HN - Original Drilling - Original Drilling	8,200.0	6,251.0	9,970.7	9,931.3	252.932	SF
UPRC 13-13J - Original Drilling - Original Drilling - As Dri	6,627.3	6,728.9	8,748.5	8,708.8	220.441	CC, ES
UPRC 13-13J - Original Drilling - Original Drilling - As Dri	7,200.0	7,147.1	8,976.1	8,933.7	211.710	SF
UPRC 13-14J - Original Drilling - Original Drilling - As Dri	6,621.5	6,371.4	9,400.2	9,361.9	245.009	CC, ES
UPRC 13-14J - Original Drilling - Original Drilling - As Dri	7,350.0	6,765.5	9,737.7	9,695.3	229.451	SF
UPRC 13-15J - Original Drilling - Original Drilling - As Dri	6,669.0	6,600.0	9,981.7	9,942.7	255.806	CC, ES
UPRC 13-15J - Original Drilling - Original Drilling - As Dri	6,800.0	6,656.1	9,993.1	9,953.6	252.904	SF
UPRC 13-16J - Wellbore #1 - Wellbore #1- As Drilled						Out of range
UPRR 39 Pan Am B1 (PA) - Original Drilling - Original Dr	6,605.2	6,472.0	8,392.1	8,246.3	57.565	CC, ES
UPRR 39 Pan Am B1 (PA) - Original Drilling - Original Dr	7,150.0	6,896.8	8,599.4	8,443.9	55.310	SF
H Section 14						
Bohlender H14-09 - Original Drilling - Original Drilling - A	6,573.0	6,445.3	9,525.6	9,486.7	245.131	CC, ES
Bohlender H14-09 - Original Drilling - Original Drilling - A	7,150.0	7,080.0	9,760.3	9,718.0	231.038	SF
Bohlender H14-15 - Original Drilling - Original Drilling - A	6,528.6	6,100.0	7,473.6	7,435.9	198.218	CC, ES
Bohlender H14-15 - Original Drilling - Original Drilling - A	6,950.0	6,800.0	7,599.7	7,558.6	185.055	SF
Bohlender H14-16 - Original Drilling - Original Drilling - A	6,568.5	6,435.0	8,256.5	8,217.7	212.651	CC, ES
Bohlender H14-16 - Original Drilling - Original Drilling - A	7,050.0	6,742.7	8,432.9	8,392.0	205.879	SF
Wilcox H14-03J - Original Drilling - Original Drilling - As D	4,800.0	4,800.0	8,397.8	8,285.9	75.011	SF
Wilcox H14-03J - Original Drilling - Original Drilling - As D	6,508.0	6,545.7	8,237.3	8,143.9	88.199	CC, ES
Wilcox H14-10 - Original Drilling - Original Drilling - As Dr	1,286.5	1,257.5	8,349.1	8,342.2	1,198.918	CC
Wilcox H14-10 - Original Drilling - Original Drilling - As Dr	1,300.0	1,262.9	8,349.2	8,342.1	1,190.531	ES
Wilcox H14-10 - Original Drilling - Original Drilling - As Dr	7,050.0	7,338.0	9,447.6	9,404.6	219.999	SF
Wilcox H14-11 - Original Drilling - Original Drilling - As Dr	330.8	302.0	8,315.4	8,313.9	5,625.051	CC
Wilcox H14-11 - Original Drilling - Original Drilling - As Dr	930.4	919.9	8,316.2	8,311.3	1,668.862	ES
Wilcox H14-11 - Original Drilling - Original Drilling - As Dr	6,650.0	7,253.0	9,196.0	9,120.7	122.209	SF
Wilcox H14-13 - Original Drilling - Original Drilling - As Dr	6,499.4	6,932.1	7,861.1	7,690.4	46.044	CC, ES
Wilcox H14-13 - Original Drilling - Original Drilling - As Dr	6,550.0	6,946.5	7,863.5	7,692.7	46.038	SF
H Section 19						
Butterball 13-19 - Original Drilling - Original Drilling - As D	6,836.4	6,189.8	9,645.5	9,608.0	257.389	CC, ES
Butterball 13-19 - Original Drilling - Original Drilling - As D	7,900.0	6,407.1	9,989.1	9,947.8	241.870	SF
H Section 21						
Moser 24-21 - Wellbore #1 - Wellbore #1 - As Drilled	100.0	55.4	8,504.3	8,504.1	10,000.000	CC
Moser 24-21 - Wellbore #1 - Wellbore #1 - As Drilled	500.0	424.6	8,505.2	8,503.5	4,888.229	ES
Moser 24-21 - Wellbore #1 - Wellbore #1 - As Drilled	6,800.0	6,636.0	9,964.8	9,925.8	255.534	SF

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

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region Drilling - Sandbox	**Local Co-ordinate Reference:**	Well Hurley H35-755
Project:	Conceptual Wells	**TVD Reference:**	WELL @ 4852.0ft (Original Well Elev)
Reference Site:	DP 408	**MD Reference:**	WELL @ 4852.0ft (Original Well Elev)
Site Error:	0.0 ft	**North Reference:**	Grid
Reference Well:	Hurley H35-755	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDMP
Reference Design:	Prelim - Rev 2	**Offset TVD Reference:**	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
H Section 22						
HSR Demeules 09-22 - Original Drilling - Original Drilling	1,799.0	1,755.1	4,432.9	4,423.0	449.222	CC
HSR Demeules 09-22 - Original Drilling - Original Drilling	1,900.0	1,842.7	4,433.0	4,422.6	426.257	ES
HSR Demeules 09-22 - Original Drilling - Original Drilling	6,800.0	6,532.2	4,671.3	4,631.4	117.176	SF
HSR Duryea - Wellbore #1 - Wellbore #1 - As Drilled	2,791.8	2,783.4	3,979.4	3,963.7	253.707	CC
HSR Duryea - Wellbore #1 - Wellbore #1 - As Drilled	2,800.0	2,789.1	3,979.4	3,963.7	253.103	ES
HSR Duryea - Wellbore #1 - Wellbore #1 - As Drilled	6,750.0	6,472.5	4,390.6	4,351.3	111.700	SF
Sarchet 16-22 - Wellbore #1 - Wellbore #1 - As Drilled	1,419.5	1,372.6	3,271.2	3,263.5	425.888	CC
Sarchet 16-22 - Wellbore #1 - Wellbore #1 - As Drilled	1,800.0	1,728.3	3,272.7	3,262.9	334.123	ES
Sarchet 16-22 - Wellbore #1 - Wellbore #1 - As Drilled	6,700.0	6,509.7	3,713.9	3,674.4	94.137	SF

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region Drilling - Sandbox	**Local Co-ordinate Reference:**	Well Hurley H35-755
Project:	Conceptual Wells	**TVD Reference:**	WELL @ 4852.0ft (Original Well Elev)
Reference Site:	DP 408	**MD Reference:**	WELL @ 4852.0ft (Original Well Elev)
Site Error:	0.0 ft	**North Reference:**	Grid
Reference Well:	Hurley H35-755	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDMP
Reference Design:	Prelim - Rev 2	**Offset TVD Reference:**	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
H Section 23						
Eachus 32-23 - Original Drilling - Original Drilling - As Dri	6,552.7	6,552.7	5,183.4	5,144.1	131.991	CC, ES
Eachus 32-23 - Original Drilling - Original Drilling - As Dri	6,950.0	6,797.0	5,295.8	5,254.8	129.207	SF
Eachus 41-23 (PA) - Original Drilling - Original Drilling - A	6,590.0	6,449.5	6,696.8	6,551.4	46.056	CC
Eachus 41-23 (PA) - Original Drilling - Original Drilling - A	6,600.0	6,459.1	6,696.9	6,551.2	45.988	ES
Eachus 41-23 (PA) - Original Drilling - Original Drilling - A	7,050.0	6,831.7	6,851.8	6,697.7	44.471	SF
Eachus UPRR 31-23 - Original Drilling - Original Drilling -	6,551.5	6,360.4	6,468.1	6,390.4	83.206	CC, ES
Eachus UPRR 31-23 - Original Drilling - Original Drilling -	7,250.0	6,881.7	6,819.2	6,722.1	70.213	SF
Eachus UPRR 42-23 (PA) - Original Drilling - Original Dri	6,608.6	6,477.3	5,498.3	5,352.4	37.692	CC, ES
Eachus UPRR 42-23 (PA) - Original Drilling - Original Dri	7,000.0	6,808.7	5,608.6	5,455.2	36.562	SF
HSR Alberstein 16-23 - Original Drilling - Original Drilling	6,671.9	6,536.2	3,481.1	3,442.4	89.784	CC, ES
HSR Alberstein 16-23 - Original Drilling - Original Drilling	6,950.0	6,781.1	3,529.9	3,489.6	87.650	SF
HSR Ashley 15-23A - Original Drilling - Original Drilling -	6,572.0	6,362.2	2,856.2	2,817.6	74.134	CC, ES
HSR Ashley 15-23A - Original Drilling - Original Drilling -	6,800.0	6,598.2	2,895.1	2,855.2	72.532	SF
HSR Benirschke 10-23 - Original Drilling - Original Drillin	6,562.3	6,288.7	3,873.6	3,835.4	101.397	CC, ES
HSR Benirschke 10-23 - Original Drilling - Original Drillin	7,200.0	7,200.0	4,170.9	4,128.1	97.477	SF
HSR Eachus 03-23 - Original Drilling - Original Drilling - A	787.0	750.0	6,086.2	6,082.1	1,493.697	CC
HSR Eachus 03-23 - Original Drilling - Original Drilling - A	2,100.0	2,030.8	6,087.9	6,076.4	529.478	ES
HSR Eachus 03-23 - Original Drilling - Original Drilling - A	6,850.0	6,879.4	6,472.8	6,429.1	148.115	SF
HSR Eachus 04-23 - Original Drilling - Original Drilling - A	100.0	55.6	6,058.6	6,058.4	10,000.000	CC
HSR Eachus 04-23 - Original Drilling - Original Drilling - A	985.2	930.4	6,061.0	6,055.8	1,174.116	ES
HSR Eachus 04-23 - Original Drilling - Original Drilling - A	5,000.0	5,000.0	6,510.5	6,402.5	60.284	SF
HSR Eachus 05-23 - Original Drilling - Original Drilling - A	6,452.6	6,632.2	5,293.9	5,162.6	40.326	CC, ES
HSR Eachus 05-23 - Original Drilling - Original Drilling - A	6,750.0	6,908.9	5,361.8	5,227.0	39.769	SF
HSR Fruman 06-23 - Original Drilling - Original Drilling - A	6,508.8	6,454.1	5,467.7	5,421.3	117.874	CC, ES
HSR Fruman 06-23 - Original Drilling - Original Drilling - A	6,750.0	6,628.8	5,515.2	5,467.8	116.273	SF
HSR Grasshopper 09-23 - Original Drilling - Original Drill	6,629.4	6,496.1	4,078.7	4,039.9	105.089	CC, ES
HSR Grasshopper 09-23 - Original Drilling - Original Drill	6,950.0	6,859.8	4,145.4	4,104.6	101.654	SF
Ritchey 21-23 - Original Drilling - Original Drilling - As Dri	6,544.3	6,421.9	5,810.9	5,772.0	149.327	CC
Ritchey 21-23 - Original Drilling - Original Drilling - As Dri	6,550.0	6,427.6	5,811.0	5,772.0	149.195	ES
Ritchey 21-23 - Original Drilling - Original Drilling - As Dri	6,950.0	6,794.5	5,938.7	5,897.6	144.473	SF
Ritchey 24-23 - Original Drilling - Original Drilling - As Dri	1,041.9	1,027.9	4,622.7	4,617.1	822.805	CC
Ritchey 24-23 - Original Drilling - Original Drilling - As Dri	6,579.9	6,452.3	4,631.8	4,592.6	118.274	ES
Ritchey 24-23 - Original Drilling - Original Drilling - As Dri	6,950.0	6,806.1	4,733.4	4,692.2	114.795	SF
Ritchey 31-24 - Original Drilling - Original Drilling - As Dri	6,615.7	6,628.7	6,440.2	6,390.8	130.248	CC, ES
Ritchey 31-24 - Original Drilling - Original Drilling - As Dri	7,000.0	6,917.9	6,545.3	6,493.9	127.384	SF
UPRC 23-11J - Original Drilling - Original Drilling - As Dri	6,502.8	6,339.8	3,716.1	3,677.4	96.041	CC, ES
UPRC 23-11J - Original Drilling - Original Drilling - As Dri	6,800.0	6,627.1	3,786.2	3,745.8	93.735	SF
UPRC 23-12J - Original Drilling - Original Drilling - As Dri	6,440.1	6,290.7	4,073.8	4,035.4	106.159	CC
UPRC 23-12J - Original Drilling - Original Drilling - As Dri	6,450.9	6,303.2	4,073.8	4,035.4	105.946	ES
UPRC 23-12J - Original Drilling - Original Drilling - As Dri	6,750.0	6,620.1	4,141.2	4,101.0	102.859	SF
UPRC H23-13 - Wellbore #1 - Wellbore #1 - As Drilled	271.6	231.6	2,916.0	2,914.9	2,652.074	CC
UPRC H23-13 - Wellbore #1 - Wellbore #1 - As Drilled	500.0	440.7	2,916.9	2,914.5	1,245.418	ES
UPRC H23-13 - Wellbore #1 - Wellbore #1 - As Drilled	6,650.0	6,440.2	3,094.5	3,055.1	78.441	SF
UPRC H23-14J - Original Drilling - Original Drilling - As D	6,506.8	6,290.7	2,371.2	2,332.7	61.562	CC, ES
UPRC H23-14J - Original Drilling - Original Drilling - As D	6,700.0	6,462.8	2,402.2	2,362.6	60.634	SF
UPRC H23-24 - Original Drilling - Original Drilling - As Dr	6,504.2	6,178.6	3,290.1	3,252.1	86.503	CC, ES
UPRC H23-24 - Original Drilling - Original Drilling - As Dr	6,800.0	6,492.0	3,358.2	3,318.4	84.246	SF
UPRR 53 Pan Am B#1 (PA) - Original Drilling - Original D	6,448.0	6,280.7	2,987.6	2,845.4	21.011	CC
UPRR 53 Pan Am B#1 (PA) - Original Drilling - Original D	6,450.9	6,283.4	2,987.6	2,845.3	21.001	ES
UPRR 53 Pan Am B#1 (PA) - Original Drilling - Original D	6,750.0	6,565.2	3,054.8	2,906.2	20.556	SF
UPRR 53 Pan Am UT V#1 - Original Drilling - Original Dr	6,593.8	6,550.0	5,783.1	5,743.9	147.753	CC, ES
UPRR 53 Pan Am UT V#1 - Original Drilling - Original Dr	7,000.0	6,796.5	5,910.2	5,869.3	144.340	SF

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

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region Drilling - Sandbox	**Local Co-ordinate Reference:**	Well Hurley H35-755
Project:	Conceptual Wells	**TVD Reference:**	WELL @ 4852.0ft (Original Well Elev)
Reference Site:	DP 408	**MD Reference:**	WELL @ 4852.0ft (Original Well Elev)
Site Error:	0.0 ft	**North Reference:**	Grid
Reference Well:	Hurley H35-755	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDMP
Reference Design:	Prelim - Rev 2	**Offset TVD Reference:**	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
H Section 24						
Gurtler 24-09J - Original Drilling - Original Drilling - As Dr	6,833.0	6,538.0	8,435.4	8,396.7	217.921	CC, ES
Gurtler 24-09J - Original Drilling - Original Drilling - As Dr	9,800.0	6,800.0	9,966.3	9,913.4	188.406	SF
Gurtler 24-10J - Original Drilling - Original Drilling - As Dr	6,781.2	6,781.2	7,402.0	7,362.5	187.294	CC, ES
Gurtler 24-10J - Original Drilling - Original Drilling - As Dr	10,600.0	6,924.8	9,723.9	9,667.7	173.201	SF
Gurtler 24-11J - Original Drilling - Original Drilling - As Dr	6,752.1	6,638.5	6,146.1	6,107.1	157.575	CC, ES
Gurtler 24-11J - Original Drilling - Original Drilling - As Dr	7,400.0	6,800.0	6,367.6	6,326.5	154.776	SF
Gurtler 24-12J - Original Drilling - Original Drilling - As Dr	6,687.5	6,500.0	5,247.4	5,208.8	136.024	CC, ES
Gurtler 24-12J - Original Drilling - Original Drilling - As Dr	6,900.0	6,500.0	5,277.8	5,238.7	135.077	SF
Gurtler 24-12J - Original Drilling - ST01 - ST01 Original D	6,716.2	6,713.0	5,247.6	5,209.3	136.847	CC, ES
Gurtler 24-12J - Original Drilling - ST01 - ST01 Original D	7,250.0	7,328.5	5,400.8	5,357.8	125.788	SF
Gurtler 24-13J - Original Drilling - Original Drilling - As Dr	6,919.3	7,380.0	4,348.7	4,303.8	96.836	CC, ES
Gurtler 24-13J - Original Drilling - Original Drilling - As Dr	7,100.0	7,380.0	4,368.3	4,323.0	96.366	SF
Gurtler 24-15J - Original Drilling - Original Drilling - As Dr	6,923.2	6,815.4	6,729.5	6,689.8	169.597	CC, ES
Gurtler 24-15J - Original Drilling - Original Drilling - As Dr	10,900.0	7,042.0	8,882.7	8,823.3	149.669	SF
Gurtler 24-16J - Original Drilling - Original Drilling - As Dr	6,949.0	6,729.3	7,658.0	7,618.6	194.264	CC
Gurtler 24-16J - Original Drilling - Original Drilling - As Dr	6,950.0	6,729.6	7,658.0	7,618.6	194.251	ES
Gurtler 24-16J - Original Drilling - Original Drilling - As Dr	11,400.0	11,400.0	9,948.4	9,870.0	126.838	SF
Gurtler H24-14 - Original Drilling - Original Drilling - As D	6,853.3	6,604.5	5,608.5	5,569.6	144.055	CC, ES
Gurtler H24-14 - Original Drilling - Original Drilling - As D	9,300.0	6,852.4	6,853.5	6,803.5	137.225	SF
Gurtler H24-21 (PA) - Original Drilling - Original Drilling -	6,731.2	6,416.0	7,074.9	7,036.7	185.036	CC, ES
Gurtler H24-21 (PA) - Original Drilling - Original Drilling -	9,100.0	6,792.5	8,486.8	8,438.7	176.610	SF
Gurtler H24-23 - Original Drilling - Original Drilling - As D	6,879.5	6,879.5	7,579.6	7,539.7	189.983	CC, ES
Gurtler H24-23 - Original Drilling - Original Drilling - As D	11,100.0	6,900.0	9,957.2	9,897.3	166.233	SF
Gurtler H24-24 - Original Drilling - Original Drilling - As D	6,771.4	6,267.3	6,561.6	6,523.9	173.939	CC, ES
Gurtler H24-24 - Original Drilling - Original Drilling - As D	10,200.0	6,602.9	8,544.9	8,491.3	159.604	SF
Gurtler H24-99HZ - Wellbore #1 - Original Drilling	6,764.8	11,118.0	4,615.0	4,527.4	52.625	CC, ES
Gurtler H24-99HZ - Wellbore #1 - Original Drilling	7,500.0	11,118.0	4,932.8	4,833.9	49.878	SF
Gurtler H25-27 - Original Drilling - Original Drilling - As D	7,007.2	6,804.4	7,100.7	7,059.9	174.089	CC, ES
Gurtler H25-27 - Original Drilling - Original Drilling - As D	11,700.0	6,990.1	9,469.7	9,404.7	145.668	SF
Gurtler Russell L1 (PA) - Original Drilling - Original Drillin	6,788.8	6,659.1	5,316.8	5,276.4	131.694	CC
Gurtler Russell L1 (PA) - Original Drilling - Original Drillin	6,800.0	6,668.8	5,316.8	5,276.2	130.806	ES
Gurtler Russell L1 (PA) - Original Drilling - Original Drillin	7,450.0	6,999.6	5,526.1	5,475.3	108.649	SF
HSR Brutschy 04-24 - Original Drilling - Original Drilling -	6,613.1	6,292.6	7,266.2	7,228.1	191.026	CC, ES
HSR Brutschy 04-24 - Original Drilling - Original Drilling -	7,150.0	6,841.8	7,458.2	7,417.1	181.285	SF
HSR Epstein 05-24 - Original Drilling - Original Drilling - A	6,640.0	6,286.9	6,906.7	6,868.8	182.260	CC, ES
HSR Epstein 05-24 - Original Drilling - Original Drilling - A	7,250.0	6,867.5	7,126.9	7,085.6	172.623	SF
HSR Hoffman 03-24 - Original Drilling - Original Drilling -	6,676.6	6,665.0	8,094.0	8,050.8	187.276	CC, ES
HSR Hoffman 03-24 - Original Drilling - Original Drilling -	7,400.0	7,113.3	8,403.8	8,354.4	170.060	SF
HSR Sarchet 02-24 - Original Drilling - Original Drilling - A	6,699.3	6,531.7	9,000.1	8,961.4	232.582	CC
HSR Sarchet 02-24 - Original Drilling - Original Drilling - A	6,700.0	6,532.2	9,000.1	8,961.4	232.563	ES
HSR Sarchet 02-24 - Original Drilling - Original Drilling - A	8,300.0	6,883.6	9,941.0	9,896.4	222.623	SF
HSR Sarchet 06-24 - Original Drilling - Original Drilling - A	6,675.4	6,246.4	7,168.2	7,130.5	190.297	CC, ES
HSR Sarchet 06-24 - Original Drilling - Original Drilling - A	7,350.0	6,839.9	7,413.5	7,372.2	179.613	SF
HSR Traurig 01-24 - Original Drilling - Original Drilling - A	6,719.3	6,600.0	9,814.0	9,775.1	252.276	CC, ES
HSR Traurig 01-24 - Original Drilling - Original Drilling - A	7,050.0	7,050.0	9,876.9	9,835.7	239.948	SF
Nopens D19-31 - Original Drilling - Original Drilling - As D	6,727.1	6,172.8	9,835.0	9,797.6	263.155	CC, ES
Nopens D19-31 - Original Drilling - Original Drilling - As D	7,300.0	6,739.4	9,987.6	9,947.1	246.276	SF
Nopens H24-08 - Original Drilling - Original Drilling - As D	6,745.0	6,299.5	9,089.0	9,051.2	240.205	CC
Nopens H24-08 - Original Drilling - Original Drilling - As D	6,750.0	6,304.9	9,089.0	9,051.2	240.023	ES
Nopens H24-08 - Original Drilling - Original Drilling - As D	8,500.0	6,664.3	9,980.0	9,934.8	221.058	SF
Sarchet H24-22 - Original Drilling - Original Drilling - As D	6,752.0	6,484.3	8,215.0	8,176.6	213.454	CC, ES
Sarchet H24-22 - Original Drilling - Original Drilling - As D	9,600.0	6,622.1	9,927.7	9,877.5	197.781	SF
Weld County Lumber 01 - Original Drilling - Original Drilli	6,725.3	6,547.1	8,538.7	8,499.9	220.375	CC, ES

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

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region Drilling - Sandbox	**Local Co-ordinate Reference:**	Well Hurley H35-755
Project:	Conceptual Wells	**TVD Reference:**	WELL @ 4852.0ft (Original Well Elev)
Reference Site:	DP 408	**MD Reference:**	WELL @ 4852.0ft (Original Well Elev)
Site Error:	0.0 ft	**North Reference:**	Grid
Reference Well:	Hurley H35-755	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDMP
Reference Design:	Prelim - Rev 2	**Offset TVD Reference:**	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
H Section 24						
Weld County Lumber 01 - Original Drilling - Original Drilli	9,000.0	6,900.0	9,929.0	9,881.2	207.600	SF

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region Drilling - Sandbox	**Local Co-ordinate Reference:**	Well Hurley H35-755
Project:	Conceptual Wells	**TVD Reference:**	WELL @ 4852.0ft (Original Well Elev)
Reference Site:	DP 408	**MD Reference:**	WELL @ 4852.0ft (Original Well Elev)
Site Error:	0.0 ft	**North Reference:**	Grid
Reference Well:	Hurley H35-755	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDMP
Reference Design:	Prelim - Rev 2	**Offset TVD Reference:**	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
H Section 25						
Dechant 21-25 - Original Drilling - Original Drilling - As D	7,255.3	7,102.5	5,645.5	5,601.9	129.538	CC, ES
Dechant 21-25 - Original Drilling - Original Drilling - As D	11,200.0	7,188.4	7,245.2	7,180.5	112.050	SF
Dechant D30-33D - Original Drilling - Original Drilling - As	9,183.6	6,813.3	7,944.6	7,894.8	159.319	CC
Dechant D30-33D - Original Drilling - Original Drilling - As	9,200.0	6,813.4	7,944.6	7,894.6	158.903	ES
Dechant D30-33D - Original Drilling - Original Drilling - As	14,100.0	14,100.0	9,342.9	9,229.4	82.359	SF
Dechant D31-30D - Original Drilling - Original Drilling - As	10,192.4	6,994.8	7,827.6	7,765.5	126.057	CC
Dechant D31-30D - Original Drilling - Original Drilling - As	10,300.0	6,996.3	7,828.4	7,765.2	123.876	ES
Dechant D31-30D - Original Drilling - Original Drilling - As	14,900.0	7,086.5	9,133.9	9,031.8	89.484	SF
Dechant H25-64-1HN - Original Drilling - Original Drilling	8,855.1	6,423.0	2,982.7	2,938.3	67.133	CC
Dechant H25-64-1HN - Original Drilling - Original Drilling	8,900.0	6,423.0	2,983.0	2,938.3	66.606	ES
Dechant H25-64-1HN - Original Drilling - Original Drilling	10,100.0	6,423.0	3,232.1	3,178.0	59.828	SF
Dechant H25-65HN - Original Drilling - Original Drilling	7,927.9	6,470.2	2,996.6	2,957.4	76.495	CC, ES
Dechant H25-65HN - Original Drilling - Original Drilling	9,500.0	6,472.8	3,384.0	3,332.6	65.951	SF
HSR Cohn 03-25 - Original Drilling - Original Drilling - As	7,026.4	6,747.4	4,884.6	4,845.0	123.437	CC, ES
HSR Cohn 03-25 - Original Drilling - Original Drilling - As	9,600.0	6,875.2	5,997.0	5,944.8	114.742	SF
HSR Crowe 06-25 - Original Drilling - Original Drilling - A	7,406.3	7,020.4	4,740.4	4,699.5	116.048	CC, ES
HSR Crowe 06-25 - Original Drilling - Original Drilling - A	10,500.0	7,058.3	5,765.6	5,706.3	97.145	SF
HSR Dechant 04-25 - Original Drilling - Original Drilling -	6,946.5	7,198.9	3,883.7	3,820.7	61.672	CC
HSR Dechant 04-25 - Original Drilling - Original Drilling -	6,950.0	7,201.7	3,883.7	3,820.7	61.665	ES
HSR Dechant 04-25 - Original Drilling - Original Drilling -	7,050.0	7,253.0	3,888.1	3,825.0	61.588	SF
HSR Dechant 05-25 - Original Drilling - Original Drilling -	7,424.4	7,045.1	3,730.3	3,689.4	91.194	CC, ES
HSR Dechant 05-25 - Original Drilling - Original Drilling -	9,500.0	7,021.1	4,330.6	4,278.0	82.262	SF
KY Blue D30-32 - Original Drilling - Original Drilling - As D	7,942.1	6,906.7	7,892.7	7,851.0	189.049	CC
KY Blue D30-32 - Original Drilling - Original Drilling - As D	8,000.0	6,906.4	7,892.9	7,850.9	187.966	ES
KY Blue D30-32 - Original Drilling - Original Drilling - As D	13,900.0	6,873.5	9,888.9	9,805.5	118.608	SF
KY Blue H25-04J - Original Drilling - Original Drilling - As	9,443.1	6,940.0	7,056.7	7,017.6	180.381	CC
KY Blue H25-04J - Original Drilling - Original Drilling - As	9,500.0	6,940.0	7,056.9	7,017.3	178.135	ES
KY Blue H25-04J - Original Drilling - Original Drilling - As	14,200.0	6,940.0	8,510.3	8,434.8	112.699	SF
KY Blue H25-09 - Original Drilling - Original Drilling - As D	8,454.5	6,896.5	7,369.3	7,325.1	166.905	CC
KY Blue H25-09 - Original Drilling - Original Drilling - As D	8,500.0	6,896.5	7,369.4	7,325.0	165.822	ES
KY Blue H25-09 - Original Drilling - Original Drilling - As D	13,600.0	6,890.7	8,987.9	8,905.7	109.334	SF
KY Blue H25-10 - Original Drilling - Original Drilling - As D	8,275.7	7,009.1	5,932.6	5,889.0	136.321	CC
KY Blue H25-10 - Original Drilling - Original Drilling - As D	8,300.0	7,009.1	5,932.6	5,888.9	135.888	ES
KY Blue H25-10 - Original Drilling - Original Drilling - As D	12,200.0	7,011.0	7,113.0	7,040.7	98.417	SF
KY Blue H25-11 - Original Drilling - Original Drilling - As D	8,442.3	7,025.5	4,756.9	4,681.7	63.265	CC
KY Blue H25-11 - Original Drilling - Original Drilling - As D	8,500.0	7,024.6	4,757.3	4,681.7	62.956	ES
KY Blue H25-11 - Original Drilling - Original Drilling - As D	10,500.0	6,992.7	5,182.8	5,091.8	56.965	SF
KY Blue H25-12 - Original Drilling - Original Drilling - As D	8,410.6	6,918.5	3,307.9	3,263.8	75.028	CC, ES
KY Blue H25-12 - Original Drilling - Original Drilling - As D	10,000.0	6,887.6	3,669.8	3,613.5	65.155	SF
KY Blue H25-14 - Original Drilling - Original Drilling - As D	9,928.3	6,882.2	4,818.2	4,763.3	87.846	CC
KY Blue H25-14 - Original Drilling - Original Drilling - As D	10,000.0	6,882.4	4,818.7	4,763.2	86.751	ES
KY Blue H25-14 - Original Drilling - Original Drilling - As D	14,100.0	14,100.0	6,373.1	6,265.3	59.107	SF
KY Blue H25-15 - Original Drilling - Original Drilling - As D	9,761.0	6,902.7	5,880.6	5,827.1	109.887	CC
KY Blue H25-15 - Original Drilling - Original Drilling - As D	9,800.0	6,902.3	5,880.7	5,826.8	109.153	ES
KY Blue H25-15 - Original Drilling - Original Drilling - As D	13,000.0	6,882.2	6,713.6	6,633.8	84.166	SF
KY H25-24 - Original Drilling - Original Drilling - As Drilled	9,110.3	6,972.4	5,483.4	5,434.8	112.786	CC
KY H25-24 - Original Drilling - Original Drilling - As Drilled	9,200.0	6,974.1	5,484.1	5,434.8	111.065	ES
KY H25-24 - Original Drilling - Original Drilling - As Drilled	12,400.0	7,037.7	6,394.2	6,319.0	85.070	SF
Moore UPRC H25-01 - Original Drilling - Original Drilling	7,138.0	6,819.3	7,701.2	7,661.3	192.889	CC, ES
Moore UPRC H25-01 - Original Drilling - Original Drilling	12,300.0	6,890.0	9,982.9	9,913.0	142.812	SF
Moore UPRC H25-02 - Original Drilling - Original Drilling	7,107.2	6,820.9	6,320.8	6,280.9	158.464	CC, ES
Moore UPRC H25-02 - Original Drilling - Original Drilling	11,100.0	6,930.7	8,081.1	8,019.1	130.320	SF
Moser 25-32 - Original Drilling - Original Drilling - As Drill	7,444.5	6,967.7	5,851.0	5,810.3	143.767	CC

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

Company:	Northern Region Drilling - Sandbox	**Local Co-ordinate Reference:**	Well Hurley H35-755
Project:	Conceptual Wells	**TVD Reference:**	WELL @ 4852.0ft (Original Well Elev)
Reference Site:	DP 408	**MD Reference:**	WELL @ 4852.0ft (Original Well Elev)
Site Error:	0.0 ft	**North Reference:**	Grid
Reference Well:	Hurley H35-755	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDMP
Reference Design:	Prelim - Rev 2	**Offset TVD Reference:**	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
H Section 25						
Moser 25-32 - Original Drilling - Original Drilling - As Drill	7,450.0	6,968.2	5,851.0	5,810.3	143.732	ES
Moser 25-32 - Original Drilling - Original Drilling - As Drill	11,600.0	7,014.3	7,256.4	7,189.6	108.529	SF
Moser 25-42 - Original Drilling - Original Drilling - As Drill	7,403.4	6,910.7	7,532.2	7,491.6	185.943	CC, ES
Moser 25-42 - Original Drilling - Original Drilling - As Drill	13,200.0	6,921.5	9,695.5	9,618.3	125.467	SF
UPRR 53 Pan Am T#2 - Original Drilling - Original Drilling	7,172.0	6,725.4	4,508.7	4,469.1	113.657	CC, ES
UPRR 53 Pan Am T#2 - Original Drilling - Original Drilling	9,700.0	6,712.9	5,444.6	5,391.7	102.989	SF
UPRR 53 Pan Am UT T#1 - Original Drilling - Original Dr	7,312.9	6,907.2	6,866.6	6,712.0	44.422	CC, ES
UPRR 53 Pan Am UT T#1 - Original Drilling - Original Dr	9,000.0	6,933.0	7,202.3	7,038.7	44.014	SF
Von Feldt 1-25B - Original Drilling - Original Drilling - As D	9,488.9	7,009.7	3,861.0	3,809.4	74.815	CC
Von Feldt 1-25B - Original Drilling - Original Drilling - As D	9,500.0	7,010.2	3,861.0	3,809.3	74.661	ES
Von Feldt 1-25B - Original Drilling - Original Drilling - As D	11,300.0	7,073.2	4,264.2	4,196.9	63.377	SF

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region Drilling - Sandbox	**Local Co-ordinate Reference:**	Well Hurley H35-755
Project:	Conceptual Wells	**TVD Reference:**	WELL @ 4852.0ft (Original Well Elev)
Reference Site:	DP 408	**MD Reference:**	WELL @ 4852.0ft (Original Well Elev)
Site Error:	0.0 ft	**North Reference:**	Grid
Reference Well:	Hurley H35-755	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDMP
Reference Design:	Prelim - Rev 2	**Offset TVD Reference:**	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
H Section 26						
Bullard 31-26 - Original Drilling - Original Drilling - As Dril	6,634.7	6,461.3	1,646.1	1,607.6	42.672	CC, ES
Bullard 31-26 - Original Drilling - Original Drilling - As Dril	6,800.0	6,601.5	1,665.6	1,626.1	42.164	SF
Bullard 32-26 - Original Drilling - Original Drilling - As Dril	7,312.6	6,969.6	983.1	942.5	24.213	CC, ES
Bullard 32-26 - Original Drilling - Original Drilling - As Dril	7,350.0	6,978.8	984.1	943.4	24.171	SF
Bullard 41-26 - Original Drilling - Original Drilling - As Dril	6,858.1	6,713.7	2,075.1	2,035.8	52.737	CC, ES
Bullard 41-26 - Original Drilling - Original Drilling - As Dril	7,100.0	6,898.5	2,104.9	2,064.5	52.025	SF
Dechant H25-29D - Original Drilling - Original Drilling - As	111.1	130.4	3,711.7	3,711.3	9,117.736	CC
Dechant H25-29D - Original Drilling - Original Drilling - As	200.0	197.2	3,711.9	3,711.1	4,405.139	ES
Dechant H25-29D - Original Drilling - Original Drilling - As	13,500.0	13,500.0	9,467.0	9,337.3	72.980	SF
Dechant H25-33D - Original Drilling - Original Drilling - As	8,870.7	7,664.5	2,913.9	2,832.6	35.850	CC
Dechant H25-33D - Original Drilling - Original Drilling - As	8,900.0	7,676.3	2,914.0	2,832.4	35.695	ES
Dechant H25-33D - Original Drilling - Original Drilling - As	10,300.0	10,300.0	3,231.3	3,125.1	30.411	SF
Harsh H26-09D - Original Drilling - Original Drilling - As D	8,359.3	6,980.5	2,326.4	2,282.4	52.906	CC, ES
Harsh H26-09D - Original Drilling - Original Drilling - As D	9,300.0	6,997.9	2,509.3	2,457.8	48.722	SF
Harsh H26-10 - Original Drilling - Original Drilling - As Dr	8,207.3	7,001.6	1,040.1	997.0	24.084	CC, ES
Harsh H26-10 - Original Drilling - Original Drilling - As Dr	8,400.0	7,001.3	1,057.8	1,012.9	23.538	SF
Harsh H26-15 - Original Drilling - Original Drilling - As Dr	9,649.6	6,982.7	961.3	908.3	18.147	CC, ES
Harsh H26-15 - Original Drilling - Original Drilling - As Dr	9,800.0	6,984.5	973.0	918.0	17.690	SF
Harsh H26-16 - Original Drilling - Original Drilling - As Dr	9,735.2	6,974.2	2,023.7	1,970.2	37.778	CC, ES
Harsh H26-16 - Original Drilling - Original Drilling - As Dr	10,300.0	6,980.8	2,101.0	2,041.8	35.442	SF
Harsh H26-23D - Original Drilling - Original Drilling - As D	9,039.1	7,113.5	1,656.7	1,605.5	32.343	CC, ES
Harsh H26-23D - Original Drilling - Original Drilling - As D	9,600.0	7,103.2	1,749.0	1,691.1	30.212	SF
HSR Moser 04-26 - Original Drilling - Original Drilling - As	1,940.3	1,903.8	1,892.1	1,881.4	177.007	CC
HSR Moser 04-26 - Original Drilling - Original Drilling - As	2,000.0	1,951.2	1,892.3	1,881.3	172.205	ES
HSR Moser 04-26 - Original Drilling - Original Drilling - As	6,600.0	6,380.8	2,183.5	2,144.6	56.188	SF
HSR Moser 06-26 - Original Drilling - Original Drilling - As	7,106.9	6,864.9	140.3	100.3	3.504	CC, ES, SF
HSR Regalia 05-26 - Original Drilling - Original Drilling - A	2,425.5	2,391.7	739.4	725.9	54.750	CC
HSR Regalia 05-26 - Original Drilling - Original Drilling - A	2,500.0	2,463.4	739.6	725.6	53.123	ES
HSR Regalia 05-26 - Original Drilling - Original Drilling - A	6,000.0	5,875.9	1,018.8	983.9	29.248	SF
HSR-Moser 03-26A - Original Drilling - Original Drilling - A	6,515.9	6,332.5	1,286.6	1,248.0	33.311	CC, ES
HSR-Moser 03-26A - Original Drilling - Original Drilling - A	6,600.0	6,401.2	1,292.8	1,253.7	33.067	SF
John 03-26 - Original Drilling - Original Drilling - As Drille	6,507.0	6,356.0	1,051.3	1,012.6	27.144	CC, ES
John 03-26 - Original Drilling - Original Drilling - As Drille	6,600.0	6,435.9	1,058.9	1,019.6	26.963	SF
Lamp H25-31 - Original Drilling - Original Drilling - As Dri	7,098.4	6,955.1	2,886.3	2,846.0	71.628	CC
Lamp H25-31 - Original Drilling - Original Drilling - As Dri	7,100.0	6,955.8	2,886.3	2,846.0	71.620	ES
Lamp H25-31 - Original Drilling - Original Drilling - As Dri	7,350.0	7,048.0	2,914.3	2,873.2	70.914	SF
Lamp H26-01 - Original Drilling - Original Drilling - As Dri	6,815.2	6,702.5	2,804.7	2,761.4	64.809	CC, ES
Lamp H26-01 - Original Drilling - Original Drilling - As Dri	7,100.0	6,961.1	2,840.4	2,795.9	63.766	SF
Lamp H26-08 - Original Drilling - Original Drilling - As Dri	7,243.1	6,842.2	2,330.7	2,290.5	58.033	CC
Lamp H26-08 - Original Drilling - Original Drilling - As Dri	7,250.0	6,846.4	2,330.7	2,290.5	57.995	ES
Lamp H26-08 - Original Drilling - Original Drilling - As Dri	7,450.0	6,922.1	2,347.7	2,306.9	57.496	SF
Lamp H26-22 - Original Drilling - Original Drilling - As Dri	7,788.7	7,158.2	1,565.8	1,518.4	33.018	CC, ES, SF
Moser 05-26 - Original Drilling - Original Drilling - As Drill	2,675.4	2,662.9	886.2	871.2	59.155	CC
Moser 05-26 - Original Drilling - Original Drilling - As Drill	2,700.0	2,687.4	886.3	871.2	58.617	ES
Moser 05-26 - Original Drilling - Original Drilling - As Drill	7,100.0	6,868.4	1,771.4	1,731.3	44.177	SF
Moser 41-27 - Original Drilling - Original Drilling - As Drill	936.3	908.5	889.3	884.3	179.061	CC, ES
Moser 41-27 - Original Drilling - Original Drilling - As Drill	6,500.0	6,535.6	2,321.7	2,280.2	55.984	SF
Moser H26-11 - Original Drilling - Original Drilling - As Dr	8,195.5	6,976.1	595.2	552.2	13.821	CC, ES, SF
Moser H26-12 - Wellbore #1 - Wellbore #1 - As Drilled	2,115.8	2,086.8	1,319.6	1,307.8	112.544	CC
Moser H26-12 - Wellbore #1 - Wellbore #1 - As Drilled	2,200.0	2,164.0	1,319.8	1,307.6	108.329	ES
Moser H26-12 - Wellbore #1 - Wellbore #1 - As Drilled	8,600.0	6,986.4	1,748.5	1,703.8	39.074	SF
Moser H26-13 - Wellbore #1 - Wellbore #1 - As Drilled	9,715.5	6,967.1	1,793.6	1,740.2	33.623	CC, ES
Moser H26-13 - Wellbore #1 - Wellbore #1 - As Drilled	9,900.0	6,977.2	1,803.0	1,748.9	33.328	SF

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region Drilling - Sandbox	**Local Co-ordinate Reference:**	Well Hurley H35-755
Project:	Conceptual Wells	**TVD Reference:**	WELL @ 4852.0ft (Original Well Elev)
Reference Site:	DP 408	**MD Reference:**	WELL @ 4852.0ft (Original Well Elev)
Site Error:	0.0 ft	**North Reference:**	Grid
Reference Well:	Hurley H35-755	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDMP
Reference Design:	Prelim - Rev 2	**Offset TVD Reference:**	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
H Section 26						
Moser H26-14 - Original Drilling - Original Drilling - As Dr	9,900.0	6,971.8	261.7	206.4	4.737	SF
Moser H26-14 - Original Drilling - Original Drilling - As Dr	9,927.4	6,971.6	260.2	205.4	4.744	CC, ES
Moser H26-18D - Original Drilling - Original Drilling - As D	6,709.9	7,009.5	667.6	619.9	13.988	CC, ES
Moser H26-18D - Original Drilling - Original Drilling - As D	6,900.0	7,168.8	695.1	644.0	13.584	SF
Moser H26-24 - Original Drilling - Original Drilling - As Dr	8,915.6	6,993.6	60.6	13.2	1.277	Level 3, CC, ES, SF
Moser H26-25 - Original Drilling - Original Drilling - As Dr	9,100.0	7,008.7	741.6	692.7	15.163	SF
Moser H26-25 - Original Drilling - Original Drilling - As Dr	9,112.1	7,008.7	741.5	692.6	15.164	CC, ES
Moser H26-27D - Original Drilling - Original Drilling - As D	6,709.0	6,737.7	2,463.7	2,418.6	54.573	CC, ES
Moser H26-27D - Original Drilling - Original Drilling - As D	6,900.0	6,900.7	2,486.5	2,440.5	54.023	SF
Moser H26-28D - Original Drilling - Original Drilling - As D	6,544.6	6,989.2	1,914.3	1,846.1	28.068	CC, ES
Moser H26-28D - Original Drilling - Original Drilling - As D	6,600.0	7,048.9	1,916.7	1,848.3	28.030	SF
Moser H26-29D - Original Drilling - Original Drilling - As D	5,508.2	6,031.2	1,878.3	1,804.4	25.407	CC, ES
Moser H26-29D - Original Drilling - Original Drilling - As D	5,800.0	6,211.1	1,890.9	1,815.9	25.210	SF
Moser, Wesley E. G. U. B1 (PA) - Original Drilling - Origin	9,400.2	6,972.0	1,391.6	1,225.5	8.377	CC, ES, SF
H Section 27						
HSR Moser 1-27 - Original Drilling - Original Drilling - As	100.0	55.5	2,482.8	2,482.6	10,000.000	CC
HSR Moser 1-27 - Original Drilling - Original Drilling - As	1,000.0	942.8	2,485.7	2,480.5	475.513	ES
HSR Moser 1-27 - Original Drilling - Original Drilling - As	6,650.0	6,431.2	3,069.7	3,031.0	79.326	SF
HSR Moser 16-27 - Original Drilling - Original Drilling - As	9,868.1	6,984.5	2,891.7	2,837.0	52.885	CC
HSR Moser 16-27 - Original Drilling - Original Drilling - As	9,900.0	6,984.6	2,891.9	2,837.0	52.710	ES
HSR Moser 16-27 - Original Drilling - Original Drilling - As	10,500.0	6,987.1	2,959.9	2,902.1	51.155	SF
Moser 09-27X (PA) - Original Drilling - Original Drilling - A	370.5	339.5	2,118.8	2,117.1	1,238.264	CC
Moser 09-27X (PA) - Original Drilling - Original Drilling - A	1,800.0	1,756.2	2,121.6	2,111.7	215.041	ES
Moser 09-27X (PA) - Original Drilling - Original Drilling - A	9,100.0	6,967.8	2,997.4	2,948.8	61.677	SF
Moser 24-27 - Original Drilling - Original Drilling - As Drill	850.2	818.2	2,104.4	2,100.0	473.229	CC
Moser 24-27 - Original Drilling - Original Drilling - As Drill	900.0	857.7	2,104.5	2,099.8	448.017	ES
Moser 24-27 - Original Drilling - Original Drilling - As Drill	8,700.0	7,015.2	3,763.5	3,718.0	82.804	SF
H Section 34						
Moser H34-09 - Wellbore #1 - Wellbore #1 - As Drilled	13,687.6	7,008.9	2,993.5	2,904.1	33.476	CC
Moser H34-09 - Wellbore #1 - Wellbore #1 - As Drilled	13,700.0	7,008.9	2,993.5	2,904.0	33.445	ES
Moser H34-09 - Wellbore #1 - Wellbore #1 - As Drilled	14,100.0	7,009.5	3,021.8	2,930.1	32.972	SF
Moser H34-16 - Wellbore #1 - Wellbore #1 - As Drilled	14,935.4	6,960.1	3,009.0	2,907.9	29.782	CC, ES
Moser H34-16 - Wellbore #1 - Wellbore #1 - As Drilled	15,300.0	6,967.4	3,031.0	2,927.9	29.414	SF
Moser H34-31 - Wellbore #1 - Wellbore #1 - As Drilled	11,640.9	7,090.8	7,630.9	7,560.2	107.994	CC
Moser H34-31 - Wellbore #1 - Wellbore #1 - As Drilled	11,700.0	7,092.6	7,631.1	7,560.0	107.259	ES
Moser H34-31 - Wellbore #1 - Wellbore #1 - As Drilled	15,100.0	7,169.4	8,377.7	8,284.0	89.436	SF

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region Drilling - Sandbox	**Local Co-ordinate Reference:**	Well Hurley H35-755
Project:	Conceptual Wells	**TVD Reference:**	WELL @ 4852.0ft (Original Well Elev)
Reference Site:	DP 408	**MD Reference:**	WELL @ 4852.0ft (Original Well Elev)
Site Error:	0.0 ft	**North Reference:**	Grid
Reference Well:	Hurley H35-755	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDMP
Reference Design:	Prelim - Rev 2	**Offset TVD Reference:**	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
H Section 35						
Cannon Farms 01-35C - Original Drilling - Original Drillin	14,630.8	6,979.7	1,652.2	1,554.0	16.816	CC, ES
Cannon Farms 01-35C - Original Drilling - Original Drillin	14,900.0	6,971.9	1,674.0	1,572.8	16.544	SF
Cannon H35-03D - Original Drilling - Original Drilling - As	14,096.9	6,965.3	770.5	677.6	8.295	CC, ES, SF
Cannon H35-09 - Original Drilling - Original Drilling - As D	13,703.3	6,999.4	2,038.2	1,944.2	21.692	CC, ES
Cannon H35-09 - Original Drilling - Original Drilling - As D	14,000.0	6,993.0	2,059.7	1,962.5	21.198	SF
Cannon H35-10 - Original Drilling - Original Drilling - As D	13,804.1	7,027.5	795.9	705.3	8.784	CC, ES
Cannon H35-10 - Original Drilling - Original Drilling - As D	13,900.0	7,027.1	801.7	709.6	8.711	SF
Cannon H35-11 - Original Drilling - Original Drilling - As D	13,680.2	6,984.9	271.3	182.2	3.047	CC, ES, SF
Cannon H35-12 - Original Drilling - Original Drilling - As D	13,773.9	6,993.4	1,738.4	1,648.2	19.278	CC, ES
Cannon H35-12 - Original Drilling - Original Drilling - As D	13,900.0	6,994.8	1,742.9	1,652.3	19.229	SF
Cannon H35-13 - Wellbore #1 - Wellbore #1 - As Drilled	14,965.8	6,998.1	1,807.9	1,706.3	17.803	CC, ES
Cannon H35-13 - Wellbore #1 - Wellbore #1 - As Drilled	15,100.0	6,994.4	1,812.8	1,710.8	17.772	SF
Cannon H35-14 - Original Drilling - Original Drilling - As D	15,000.0	6,992.4	414.6	306.4	3.830	SF
Cannon H35-14 - Original Drilling - Original Drilling - As D	15,008.0	6,992.3	414.5	306.3	3.832	CC, ES
Cannon H35-15 (PA) - Original Drilling - Original Drilling -	15,052.0	6,984.0	801.6	583.9	3.682	CC, ES
Cannon H35-15 (PA) - Original Drilling - Original Drilling -	15,100.0	6,984.0	803.1	584.5	3.675	SF
Cannon H35-20 - Original Drilling - Original Drilling - As D	13,176.2	6,939.7	1,132.5	1,048.4	13.474	CC, ES
Cannon H35-20 - Original Drilling - Original Drilling - As D	13,200.0	6,940.0	1,132.7	1,048.6	13.469	SF
Cannon H35-21 - Original Drilling - Original Drilling - As D	13,268.3	6,990.1	285.3	200.0	3.342	CC, ES
Cannon H35-21 - Original Drilling - Original Drilling - As D	13,300.0	6,990.2	287.1	200.9	3.331	SF
Cannon H35-22 - Original Drilling - Original Drilling - As D	13,192.7	6,860.2	1,214.0	1,129.6	14.392	CC
Cannon H35-22 - Original Drilling - Original Drilling - As D	13,200.0	6,860.2	1,214.0	1,129.5	14.372	ES
Cannon H35-22 - Original Drilling - Original Drilling - As D	13,400.0	6,859.8	1,231.6	1,144.7	14.174	SF
Cannon H35-24 - Original Drilling - Original Drilling - As D	14,454.2	6,992.7	74.7	-21.6	0.776	Level 1, CC, ES, SF
Cannon X02-27 - Original Drilling - Original Drilling - As D	15,538.1	6,977.4	1,219.4	1,112.5	11.409	CC, ES
Cannon X02-27 - Original Drilling - Original Drilling - As D	15,667.4	6,977.4	1,225.9	1,117.4	11.295	SF
Cannon X02-28 - Original Drilling - Original Drilling - As D	15,298.9	6,993.5	37.4	-67.1	0.358	Level 1, CC
Cannon X02-28 - Original Drilling - Original Drilling - As D	15,300.0	6,993.5	37.4	-67.3	0.357	Level 1, ES, SF
Cannon X02-29 - Original Drilling - Original Drilling - As D	15,375.1	7,050.9	1,289.6	1,183.5	12.158	CC, ES
Cannon X02-29 - Original Drilling - Original Drilling - As D	15,400.0	7,052.5	1,289.8	1,183.7	12.153	SF
Foster 18-35 - Original Drilling - Original Drilling - As Drill	11,512.4	6,950.4	1,249.3	1,180.5	18.158	CC, ES
Foster 18-35 - Original Drilling - Original Drilling - As Drill	11,600.0	6,951.1	1,252.4	1,183.4	18.157	SF
Foster UPRR 31-35 #1 (PA) - Original Drilling - Original D	10,949.1	6,996.0	882.8	703.4	4.921	CC, ES
Foster UPRR 31-35 #1 (PA) - Original Drilling - Original D	11,000.0	6,996.0	884.3	704.0	4.906	SF
Foster UPRR 32-35 - Original Drilling - Original Drilling -	12,281.8	6,991.4	741.9	665.7	9.745	CC
Foster UPRR 32-35 - Original Drilling - Original Drilling -	12,300.0	6,991.4	742.1	665.6	9.703	ES
Foster UPRR 32-35 - Original Drilling - Original Drilling -	12,400.0	6,991.7	751.2	673.4	9.647	SF
Foster UPRR 41-35 - Original Drilling - Original Drilling -	11,179.0	6,979.1	2,209.1	2,134.1	29.438	CC
Foster UPRR 41-35 - Original Drilling - Original Drilling -	11,200.0	6,979.2	2,209.2	2,133.9	29.337	ES
Foster UPRR 41-35 - Original Drilling - Original Drilling -	11,700.0	6,981.9	2,269.7	2,189.2	28.184	SF
Foster UPRR 42-35 #2 - Original Drilling - Original Drillin	12,269.5	6,892.9	2,153.6	2,077.7	28.381	CC
Foster UPRR 42-35 #2 - Original Drilling - Original Drillin	12,300.0	6,893.4	2,153.8	2,077.5	28.238	ES
Foster UPRR 42-35 #2 - Original Drilling - Original Drillin	12,700.0	6,900.9	2,196.2	2,115.7	27.286	SF
HSR Foster 03-35 - Original Drilling - Original Drilling - A	11,156.6	6,990.4	359.9	294.0	5.462	CC, ES, SF
HSR Foster 04-35 - Wellbore #1 - Wellbore #1 - As Drille	10,842.8	6,842.9	2,025.1	1,963.0	32.601	CC, ES
HSR Foster 04-35 - Wellbore #1 - Wellbore #1 - As Drille	11,100.0	6,843.4	2,041.4	1,978.2	32.293	SF
HSR Foster 05-35 - Wellbore #1 - Wellbore #1 - As Drille	12,433.8	6,862.3	1,828.7	1,752.0	23.852	CC, ES
HSR Foster 05-35 - Wellbore #1 - Wellbore #1 - As Drille	12,600.0	6,863.9	1,836.2	1,758.9	23.746	SF
HSR Foster 06-35 - Original Drilling - Original Drilling - A	12,335.9	7,013.4	458.0	381.3	5.976	CC, ES, SF
UPRR 53 Pan Am Unit P1 - Original Drilling - Original Dri	11,761.2	6,989.6	1,649.5	1,578.2	23.138	CC
UPRR 53 Pan Am Unit P1 - Original Drilling - Original Dri	11,800.0	6,989.5	1,649.9	1,578.1	22.975	ES
UPRR 53 Pan Am Unit P1 - Original Drilling - Original Dri	12,100.0	6,988.6	1,683.9	1,608.8	22.429	SF
UPRR 53 Pan Am UT P2 - Original Drilling - Original Drill	11,372.3	6,950.4	827.2	759.8	12.277	CC, ES, SF

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

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region Drilling - Sandbox	**Local Co-ordinate Reference:**	Well Hurley H35-755
Project:	Conceptual Wells	**TVD Reference:**	WELL @ 4852.0ft (Original Well Elev)
Reference Site:	DP 408	**MD Reference:**	WELL @ 4852.0ft (Original Well Elev)
Site Error:	0.0 ft	**North Reference:**	Grid
Reference Well:	Hurley H35-755	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDMP
Reference Design:	Prelim - Rev 2	**Offset TVD Reference:**	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region Drilling - Sandbox	**Local Co-ordinate Reference:**	Well Hurley H35-755
Project:	Conceptual Wells	**TVD Reference:**	WELL @ 4852.0ft (Original Well Elev)
Reference Site:	DP 408	**MD Reference:**	WELL @ 4852.0ft (Original Well Elev)
Site Error:	0.0 ft	**North Reference:**	Grid
Reference Well:	Hurley H35-755	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDMP
Reference Design:	Prelim - Rev 2	**Offset TVD Reference:**	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
H Section 36						
Dechant 07-36 - Original Drilling - Original Drilling - As D	12,692.6	6,846.0	5,829.9	5,750.4	73.311	CC
Dechant 07-36 - Original Drilling - Original Drilling - As D	12,800.0	6,846.5	5,830.9	5,750.2	72.285	ES
Dechant 07-36 - Original Drilling - Original Drilling - As D	15,100.0	6,856.1	6,307.4	6,207.5	63.145	SF
Dechant 13N-1HZ - Original Drilling - Original Drilling - A	15,667.4	7,064.2	3,237.0	3,127.9	29.661	CC, ES, SF
Dechant 14C-1HZ - Original Drilling - Original Drilling - A	15,552.7	6,516.9	4,701.8	4,595.2	44.122	CC
Dechant 14C-1HZ - Original Drilling - Original Drilling - A	15,600.0	6,523.9	4,702.0	4,594.9	43.896	ES
Dechant 14C-1HZ - Original Drilling - Original Drilling - A	15,667.4	6,535.7	4,702.8	4,594.9	43.585	SF
Dechant 15-36 - Original Drilling - Original Drilling - As D	15,146.2	6,933.8	5,803.8	5,684.1	48.477	CC
Dechant 15-36 - Original Drilling - Original Drilling - As D	15,200.0	6,934.1	5,804.0	5,683.7	48.240	ES
Dechant 15-36 - Original Drilling - Original Drilling - As D	15,667.4	6,936.1	5,826.8	5,701.7	46.548	SF
Dechant 15C-1HZ - Original Drilling - Original Drilling - A	15,667.4	11,930.6	5,946.5	5,768.9	33.482	CC, ES, SF
Dechant 24-36 - Original Drilling - Original Drilling - As D	13,032.8	7,092.3	6,517.9	6,432.1	75.999	CC
Dechant 24-36 - Original Drilling - Original Drilling - As D	13,100.0	7,092.3	6,518.2	6,431.7	75.300	ES
Dechant 24-36 - Original Drilling - Original Drilling - As D	15,667.4	7,093.2	7,029.9	6,918.2	62.906	SF
Dechant 35N-E1HZ - Original Drilling - Original Drilling -	15,667.4	6,770.9	4,398.4	4,290.4	40.706	CC, ES, SF
Dechant 35N-W1HZ - Original Drilling - Original Drilling -	15,667.4	6,934.0	3,796.1	3,687.7	35.031	CC, ES, SF
Dechant 36N-W1HZ - Original Drilling - Original Drilling -	15,542.4	6,330.6	4,946.2	4,840.0	46.603	CC
Dechant 36N-W1HZ - Original Drilling - Original Drilling -	15,600.0	6,333.5	4,946.5	4,839.7	46.320	ES
Dechant 36N-W1HZ - Original Drilling - Original Drilling -	15,667.4	6,337.6	4,947.4	4,839.9	46.003	SF
Dechant 37N-E1HZ - Original Drilling - Original Drilling -	15,542.6	5,327.8	6,751.3	6,648.2	65.431	CC
Dechant 37N-E1HZ - Original Drilling - Original Drilling -	15,667.4	5,328.8	6,752.2	6,647.7	64.599	ES, SF
Dechant 37N-W1HZ - Original Drilling - Original Drilling -	15,543.2	6,058.8	6,257.0	6,151.9	59.521	CC
Dechant 37N-W1HZ - Original Drilling - Original Drilling -	15,667.4	6,059.0	6,257.9	6,151.5	58.779	ES, SF
Dechant State 16C-1HZ - Original Drilling - Original Drillin	15,667.4	12,574.0	7,141.8	6,956.8	38.615	CC, ES, SF
Dechant State 36N-E1HZ - Original Drilling - Original Dril	15,667.4	11,757.2	5,667.3	5,490.0	31.952	CC, ES, SF
Dechant State 37N-E36HZ - Original Drilling - Original Dr	15,317.2	11,401.3	6,890.0	6,724.0	41.492	CC
Dechant State 37N-E36HZ - Original Drilling - Original Dr	15,400.0	11,401.3	6,890.5	6,723.7	41.303	ES
Dechant State 37N-E36HZ - Original Drilling - Original Dr	15,667.4	11,401.3	6,898.6	6,729.4	40.777	SF
Dechant State 37N-W36HZ - Original Drilling - Original D	15,329.1	11,489.0	6,294.2	6,126.2	37.480	CC
Dechant State 37N-W36HZ - Original Drilling - Original D	15,400.0	11,489.0	6,294.6	6,125.8	37.298	ES
Dechant State 37N-W36HZ - Original Drilling - Original D	15,667.4	11,489.0	6,303.0	6,131.3	36.709	SF
Dechant State 38N-1HZ - Original Drilling - Original Drillin	15,667.4	11,674.4	7,593.0	7,417.3	43.217	CC, ES, SF
Dechant State H36-11D - Original Drilling - Original Drillin	13,875.6	6,900.0	4,655.7	4,564.8	51.250	CC
Dechant State H36-11D - Original Drilling - Original Drillin	13,900.0	6,900.0	4,655.7	4,564.6	51.097	ES
Dechant State H36-11D - Original Drilling - Original Drillin	15,300.0	6,900.0	4,868.7	4,765.2	47.048	SF
Dechant State H36-18D - Original Drilling - Original Drillin	11,824.7	7,088.3	5,237.6	5,164.5	71.622	CC
Dechant State H36-18D - Original Drilling - Original Drillin	11,900.0	7,091.1	5,238.2	5,164.2	70.788	ES
Dechant State H36-18D - Original Drilling - Original Drillin	14,200.0	7,198.6	5,750.1	5,654.0	59.781	SF
Dechant State H36-19 - Original Drilling - Original Drilling	11,473.9	7,178.6	3,837.2	3,768.2	55.643	CC
Dechant State H36-19 - Original Drilling - Original Drilling	11,500.0	7,178.8	3,837.3	3,768.0	55.413	ES
Dechant State H36-19 - Original Drilling - Original Drilling	12,800.0	7,189.2	4,059.8	3,978.8	50.127	SF
Dechant State H36-20D - Original Drilling - Original Drillin	13,260.3	7,292.2	4,032.6	3,946.8	46.982	CC
Dechant State H36-20D - Original Drilling - Original Drillin	13,300.0	7,295.3	4,032.8	3,946.5	46.758	ES
Dechant State H36-20D - Original Drilling - Original Drillin	14,100.0	14,100.0	4,118.9	4,005.0	36.174	SF
Dechant State H36-21D - Original Drilling - Original Drillin	13,242.5	7,042.5	5,236.1	5,149.9	60.713	CC
Dechant State H36-21D - Original Drilling - Original Drillin	13,300.0	7,042.5	5,236.4	5,149.6	60.304	ES
Dechant State H36-21D - Original Drilling - Original Drillin	15,000.0	7,041.6	5,523.2	5,422.4	54.802	SF
Dechant State H36-24 - Original Drilling - Original Drilling	14,451.9	7,162.2	5,295.8	5,197.6	53.921	CC
Dechant State H36-24 - Original Drilling - Original Drilling	14,500.0	7,161.6	5,296.1	5,197.3	53.629	ES
Dechant State H36-24 - Original Drilling - Original Drilling	15,667.4	7,149.1	5,433.2	5,323.0	49.274	SF
Dechant State H36-31D - Original Drilling - Original Drillin	11,814.1	7,087.7	2,828.6	2,756.4	39.182	CC, ES
Dechant State H36-31D - Original Drilling - Original Drillin	12,600.0	7,094.2	2,935.7	2,856.4	37.007	SF
Dechant State H36-32D - Original Drilling - Original Drillin	13,066.4	7,058.3	2,802.6	2,718.1	33.182	CC

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

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region Drilling - Sandbox	**Local Co-ordinate Reference:**	Well Hurley H35-755
Project:	Conceptual Wells	**TVD Reference:**	WELL @ 4852.0ft (Original Well Elev)
Reference Site:	DP 408	**MD Reference:**	WELL @ 4852.0ft (Original Well Elev)
Site Error:	0.0 ft	**North Reference:**	Grid
Reference Well:	Hurley H35-755	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDMP
Reference Design:	Prelim - Rev 2	**Offset TVD Reference:**	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
H Section 36						
Dechant State H36-32D - Original Drilling - Original Drillin	13,100.0	7,059.1	2,802.8	2,717.9	33.015	ES
Dechant State H36-32D - Original Drilling - Original Drillin	13,700.0	7,065.4	2,873.3	2,782.2	31.526	SF
Dechant State H36-33 - Original Drilling - Original Drilling	14,282.9	7,323.6	2,836.2	2,739.1	29.219	CC
Dechant State H36-33 - Original Drilling - Original Drilling	14,300.0	7,323.5	2,836.2	2,739.0	29.155	ES
Dechant State H36-33 - Original Drilling - Original Drilling	14,900.0	7,323.2	2,902.6	2,798.9	28.016	SF
HSR Dechant State 02-36 - Original Drilling - Original Dri	10,938.5	6,852.4	5,793.8	5,730.3	91.273	CC
HSR Dechant State 02-36 - Original Drilling - Original Dri	11,000.0	6,854.1	5,794.1	5,730.0	90.380	ES
HSR Dechant State 02-36 - Original Drilling - Original Dri	13,800.0	6,920.3	6,461.5	6,374.0	73.901	SF
HSR Dechant/State 07-36 (PA) - Original Drilling - Origin	12,135.7	6,949.0	6,373.6	6,184.1	33.634	CC
HSR Dechant/State 07-36 (PA) - Original Drilling - Origin	12,200.0	6,949.0	6,373.9	6,183.8	33.517	ES
HSR Dechant/State 07-36 (PA) - Original Drilling - Origin	13,800.0	6,949.0	6,587.3	6,382.2	32.110	SF
Spike State GWS H36-03 - Original Drilling - Original Dri	11,081.1	11,081.1	4,873.7	4,794.2	61.309	CC
Spike State GWS H36-03 - Original Drilling - Original Dri	11,100.0	11,100.0	4,873.7	4,793.9	61.107	ES
Spike State GWS H36-03 - Original Drilling - Original Dri	11,200.0	11,200.0	4,875.1	4,794.0	60.079	SF
Spike State GWS H36-04 - Original Drilling - Original Dri	10,910.1	7,029.3	3,372.9	3,300.7	46.699	CC, ES
Spike State GWS H36-04 - Original Drilling - Original Dri	12,000.0	7,021.2	3,544.6	3,462.2	43.043	SF
Spike State GWS H36-13 - Original Drilling - Original Dri	15,237.5	6,600.0	3,230.3	3,127.2	31.352	CC
Spike State GWS H36-13 - Original Drilling - Original Dri	15,300.0	6,600.0	3,230.9	3,127.1	31.134	ES
Spike State GWS H36-13 - Original Drilling - Original Dri	15,667.4	6,600.0	3,258.5	3,150.9	30.300	SF
Spike State GWS H36-14 - Original Drilling - Original Dri	15,237.3	6,879.5	4,904.1	4,800.3	47.245	CC
Spike State GWS H36-14 - Original Drilling - Original Dri	15,300.0	6,877.6	4,904.5	4,800.0	46.936	ES
Spike State GWS H36-14 - Original Drilling - Original Dri	15,667.4	6,866.0	4,922.6	4,814.3	45.455	SF
Spike State H36-02J - Original Drilling - Original Drilling -	12,139.7	6,910.8	4,312.5	4,206.3	40.634	CC
Spike State H36-02J - Original Drilling - Original Drilling -	12,200.0	6,911.8	4,312.9	4,206.1	40.374	ES
Spike State H36-02J - Original Drilling - Original Drilling -	13,400.0	6,932.6	4,492.8	4,374.3	37.902	SF
Spike State H36-05 - Original Drilling - Original Drilling - A	12,310.8	7,086.7	3,303.6	3,227.1	43.193	CC, ES
Spike State H36-05 - Original Drilling - Original Drilling - A	13,300.0	7,083.2	3,448.5	3,362.9	40.263	SF
Spike State H36-11J - Original Drilling - Original Drilling -	14,475.6	6,934.6	4,061.5	3,964.9	42.034	CC
Spike State H36-11J - Original Drilling - Original Drilling -	14,500.0	6,934.2	4,061.6	3,964.7	41.914	ES
Spike State H36-11J - Original Drilling - Original Drilling -	15,500.0	6,914.4	4,188.7	4,082.7	39.516	SF
Spike State H36-12 - Original Drilling - Original Drilling - A	13,579.1	6,971.6	3,186.0	3,097.8	36.124	CC
Spike State H36-12 - Original Drilling - Original Drilling - A	13,600.0	6,971.3	3,186.1	3,097.7	36.024	ES
Spike State H36-12 - Original Drilling - Original Drilling - A	14,400.0	6,962.1	3,290.1	3,194.2	34.320	SF

Noble Energy, Inc.

Anticollision Summary Report

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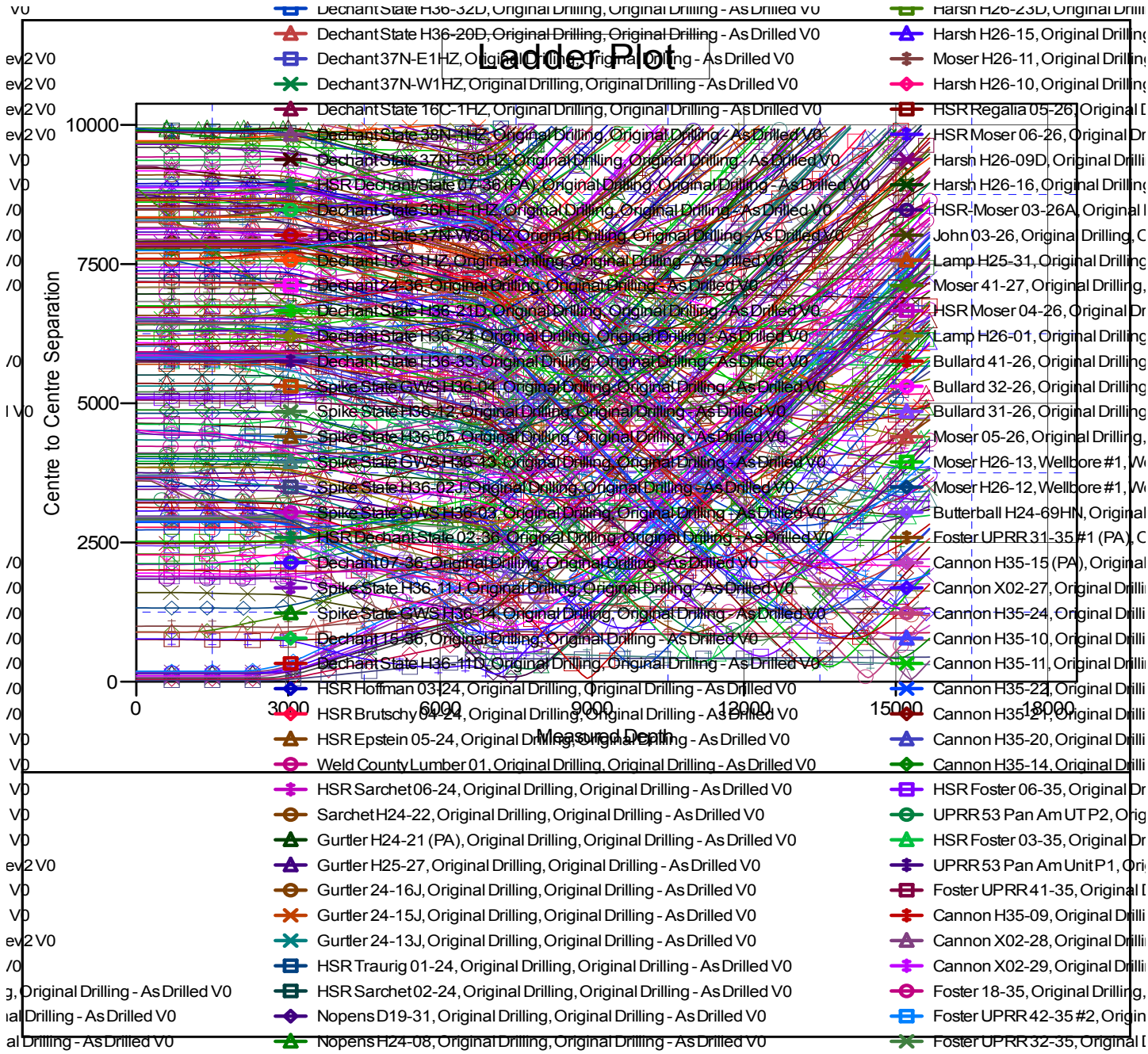
Project:	Conceptual Wells	**TVD Reference:**	WELL @ 4852.0ft (Original Well Elev)
Reference Site:	DP 408	**MD Reference:**	WELL @ 4852.0ft (Original Well Elev)
Site Error:	0.0 ft	**North Reference:**	Grid
Reference Well:	Hurley H35-755	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDMP
Reference Design:	Prelim - Rev 2	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to WELL @ 4852.0ft (Original Well Elev)
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000

Coordinates are relative to: Hurley H35-755
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.56°



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

Noble Energy, Inc.

Anticollision Summary Report

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