

Project: Mustang
Site: D Section 25
Well: Gutteresen D25-753
Wellbore: Wellbore #1
Design: Plan #3

Northern Region - DJ Basin

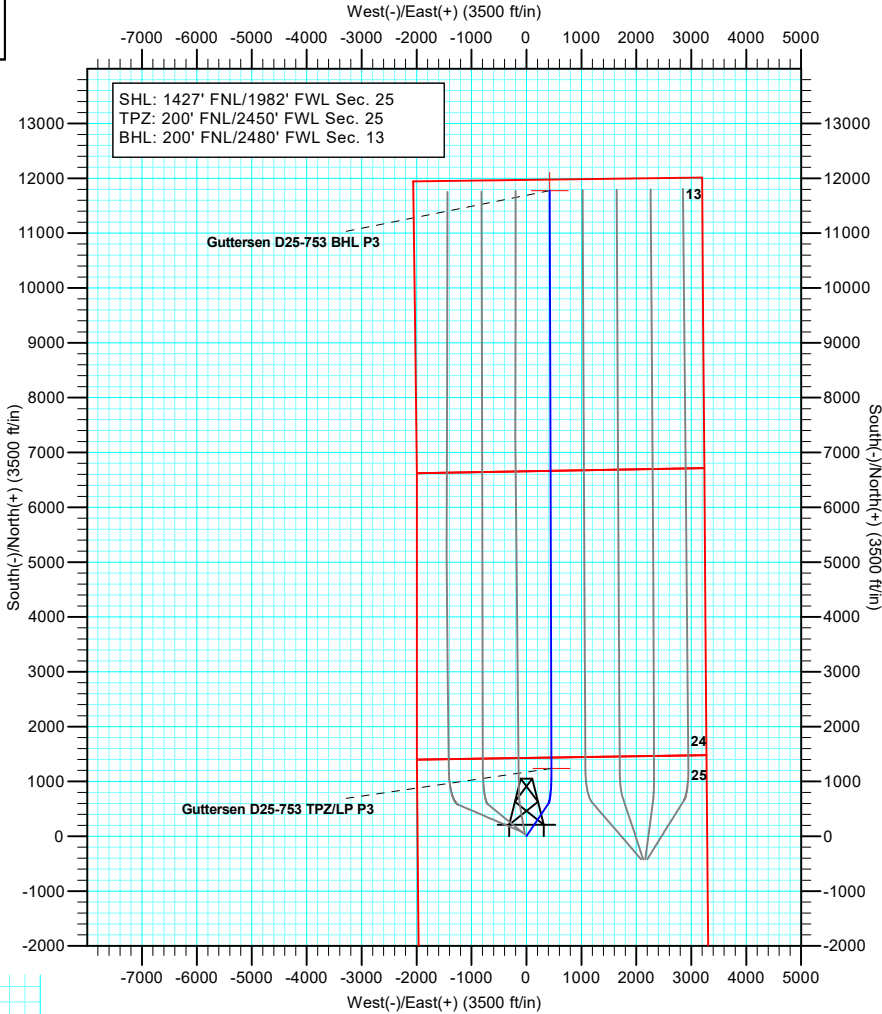
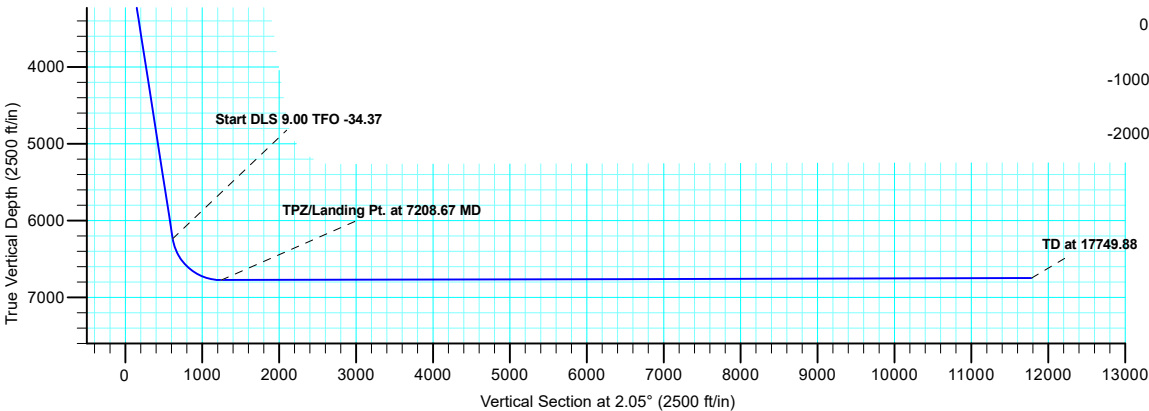
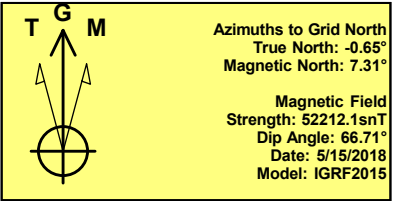
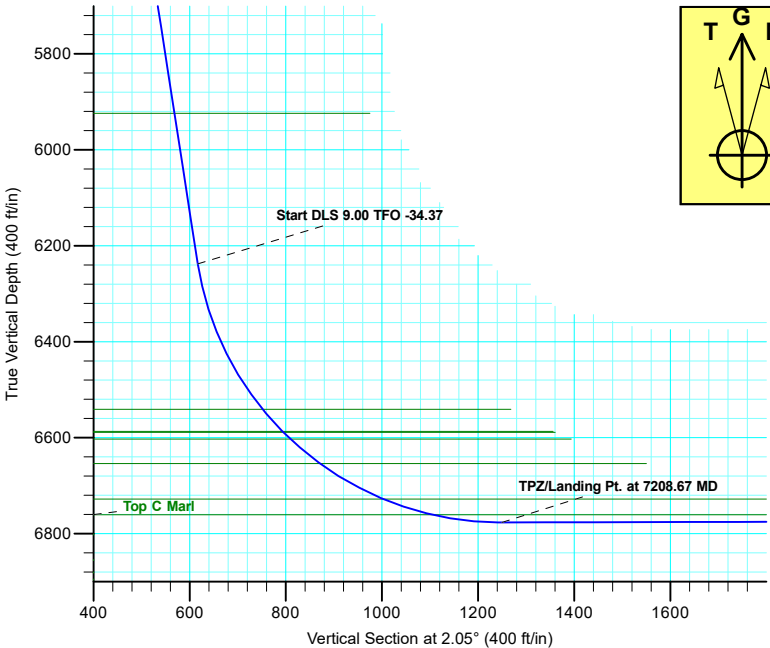
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Colorado Northern Zone
System Datum: Mean Sea Level

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	2000.00	0.00	0.00	2000.00	0.00	0.00	0.00	0.00	0.00
3	2516.62	10.33	33.77	2513.83	38.62	25.82	2.00	33.77	39.52
4	6302.08	10.33	33.77	6237.90	603.04	403.19	0.00	0.00	617.10
5	7208.67	90.15	359.81	6777.00	1234.41	456.19	9.00	-34.37	1249.96
6	17749.88	90.15	359.81	6749.42	11775.53	422.06	0.00	0.00	11783.09

WELL DETAILS: Gutteresen D25-753

+N/-S	+E/-W	Northing	Ground Level: Easting	4787.00 Latitude	Longitude	Slot
0.00	0.00	1317158.61	3278740.60	40.1996918	-104.5021006	



Plan: Plan #3 (Gutteresen D25-753/Wellbore #1)

Created By: Shelly C. Peterkin Date: 11:40, June 24 2019

Northern Region - DJ Basin

Mustang

D Section 25

Guttersen D25-753

Wellbore #1

Plan: Plan #3

Standard Planning Report

24 June, 2019

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Guttersen D25-753
Company:	Northern Region - DJ Basin	TVD Reference:	KB @ 4817.00ft
Project:	Mustang	MD Reference:	KB @ 4817.00ft
Site:	D Section 25	North Reference:	Grid
Well:	Guttersen D25-753	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #3		

Project	Mustang, Weld County Colorado		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site		D Section 25			
Site Position:		Northing:	1,316,029.45 usft	Latitude:	40.1965730
From:	Lat/Long	Easting:	3,279,365.57 usft	Longitude:	-104.4999090
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.65 °

Well	Guttersen D25-753					
Well Position	+N/-S	1,129.17 ft	Northing:	1,317,158.61 usft	Latitude:	40.1996918
	+E/-W	-624.96 ft	Easting:	3,278,740.60 usft	Longitude:	-104.5021006
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	4,787.00 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	5/15/2018	7.96	66.71	52,212.08512006

Design	Plan #3			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	2.05

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,516.62	10.33	33.77	2,513.83	38.62	25.82	2.00	2.00	0.00	33.77	
6,302.08	10.33	33.77	6,237.90	603.04	403.20	0.00	0.00	0.00	0.00	
7,208.67	90.15	359.81	6,777.00	1,234.41	456.19	9.00	8.80	-3.75	-34.37	Guttersen D25-753 TI
17,749.89	90.15	359.81	6,749.42	11,775.53	422.06	0.00	0.00	0.00	0.00	Guttersen D25-753 BI

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Guttersten D25-753
Company:	Northern Region - DJ Basin	TVD Reference:	KB @ 4817.00ft
Project:	Mustang	MD Reference:	KB @ 4817.00ft
Site:	D Section 25	North Reference:	Grid
Well:	Guttersten D25-753	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #3		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
680.00	0.00	0.00	680.00	0.00	0.00	0.00	0.00	0.00	0.00
Upper Pierre Aquifer Top									
698.00	0.00	0.00	698.00	0.00	0.00	0.00	0.00	0.00	0.00
Pierre									
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,617.00	0.00	0.00	1,617.00	0.00	0.00	0.00	0.00	0.00	0.00
Upper Pierre Aquifer Base									
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
2,100.00	2.00	33.77	2,099.98	1.45	0.97	1.48	2.00	2.00	0.00
2,200.00	4.00	33.77	2,199.84	5.80	3.88	5.94	2.00	2.00	0.00
2,300.00	6.00	33.77	2,299.45	13.05	8.72	13.35	2.00	2.00	0.00
2,400.00	8.00	33.77	2,398.70	23.18	15.50	23.72	2.00	2.00	0.00
2,500.00	10.00	33.77	2,497.47	36.18	24.19	37.02	2.00	2.00	0.00
2,516.62	10.33	33.77	2,513.83	38.62	25.82	39.52	2.00	2.00	0.00
Start 3785.46 hold at 2516.62 MD									
2,600.00	10.33	33.77	2,595.85	51.05	34.13	52.24	0.00	0.00	0.00
2,700.00	10.33	33.77	2,694.23	65.96	44.10	67.50	0.00	0.00	0.00
2,800.00	10.33	33.77	2,792.61	80.87	54.07	82.76	0.00	0.00	0.00
2,900.00	10.33	33.77	2,890.99	95.78	64.04	98.01	0.00	0.00	0.00
3,000.00	10.33	33.77	2,989.37	110.69	74.01	113.27	0.00	0.00	0.00
3,100.00	10.33	33.77	3,087.74	125.60	83.98	128.53	0.00	0.00	0.00
3,200.00	10.33	33.77	3,186.12	140.51	93.95	143.79	0.00	0.00	0.00
3,300.00	10.33	33.77	3,284.50	155.42	103.92	159.05	0.00	0.00	0.00
3,400.00	10.33	33.77	3,382.88	170.33	113.89	174.30	0.00	0.00	0.00
3,500.00	10.33	33.77	3,481.26	185.24	123.85	189.56	0.00	0.00	0.00
3,600.00	10.33	33.77	3,579.64	200.15	133.82	204.82	0.00	0.00	0.00
3,670.51	10.33	33.77	3,649.00	210.67	140.85	215.58	0.00	0.00	0.00
Parkman									
3,700.00	10.33	33.77	3,678.01	215.06	143.79	220.08	0.00	0.00	0.00
3,800.00	10.33	33.77	3,776.39	229.98	153.76	235.34	0.00	0.00	0.00
3,900.00	10.33	33.77	3,874.77	244.89	163.73	250.59	0.00	0.00	0.00
4,000.00	10.33	33.77	3,973.15	259.80	173.70	265.85	0.00	0.00	0.00
4,099.46	10.33	33.77	4,071.00	274.63	183.62	281.03	0.00	0.00	0.00

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Guttersen D25-753
Company:	Northern Region - DJ Basin	TVD Reference:	KB @ 4817.00ft
Project:	Mustang	MD Reference:	KB @ 4817.00ft
Site:	D Section 25	North Reference:	Grid
Well:	Guttersen D25-753	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #3		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
Sussex									
4,100.00	10.33	33.77	4,071.53	274.71	183.67	281.11	0.00	0.00	0.00
4,200.00	10.33	33.77	4,169.91	289.62	193.64	296.37	0.00	0.00	0.00
4,287.51	10.33	33.77	4,256.00	302.66	202.36	309.72	0.00	0.00	0.00
Shannon									
4,300.00	10.33	33.77	4,268.28	304.53	203.61	311.62	0.00	0.00	0.00
4,400.00	10.33	33.77	4,366.66	319.44	213.58	326.88	0.00	0.00	0.00
4,500.00	10.33	33.77	4,465.04	334.35	223.54	342.14	0.00	0.00	0.00
4,600.00	10.33	33.77	4,563.42	349.26	233.51	357.40	0.00	0.00	0.00
4,700.00	10.33	33.77	4,661.80	364.17	243.48	372.66	0.00	0.00	0.00
4,800.00	10.33	33.77	4,760.18	379.08	253.45	387.91	0.00	0.00	0.00
4,900.00	10.33	33.77	4,858.55	393.99	263.42	403.17	0.00	0.00	0.00
5,000.00	10.33	33.77	4,956.93	408.90	273.39	418.43	0.00	0.00	0.00
5,100.00	10.33	33.77	5,055.31	423.81	283.36	433.69	0.00	0.00	0.00
5,200.00	10.33	33.77	5,153.69	438.72	293.33	448.94	0.00	0.00	0.00
5,300.00	10.33	33.77	5,252.07	453.63	303.30	464.20	0.00	0.00	0.00
5,400.00	10.33	33.77	5,350.45	468.54	313.27	479.46	0.00	0.00	0.00
5,500.00	10.33	33.77	5,448.82	483.45	323.24	494.72	0.00	0.00	0.00
5,600.00	10.33	33.77	5,547.20	498.36	333.20	509.98	0.00	0.00	0.00
5,700.00	10.33	33.77	5,645.58	513.27	343.17	525.23	0.00	0.00	0.00
5,800.00	10.33	33.77	5,743.96	528.18	353.14	540.49	0.00	0.00	0.00
5,900.00	10.33	33.77	5,842.34	543.09	363.11	555.75	0.00	0.00	0.00
5,983.01	10.33	33.77	5,924.00	555.47	371.39	568.41	0.00	0.00	0.00
Teepee Buttes									
6,000.00	10.33	33.77	5,940.72	558.00	373.08	571.01	0.00	0.00	0.00
6,100.00	10.33	33.77	6,039.09	572.91	383.05	586.26	0.00	0.00	0.00
6,200.00	10.33	33.77	6,137.47	587.82	393.02	601.52	0.00	0.00	0.00
6,302.08	10.33	33.77	6,237.90	603.04	403.20	617.10	0.00	0.00	0.00
Start DLS 9.00 TFO -34.37									
6,350.00	14.10	23.73	6,284.73	611.96	407.93	626.18	9.00	7.87	-20.94
6,400.00	18.29	17.77	6,332.74	625.02	412.78	639.40	9.00	8.37	-11.93
6,450.00	22.59	13.99	6,379.58	641.82	417.50	656.36	9.00	8.61	-7.56
6,500.00	26.96	11.37	6,424.97	662.26	422.06	676.95	9.00	8.73	-5.23
6,550.00	31.36	9.44	6,468.62	686.21	426.43	701.05	9.00	8.80	-3.86
6,600.00	35.78	7.95	6,510.27	713.54	430.59	728.50	9.00	8.85	-2.99
6,638.74	39.22	6.99	6,541.00	736.92	433.65	751.98	9.00	8.87	-2.46
Sharon Springs									
6,650.00	40.22	6.74	6,549.66	744.06	434.51	759.15	9.00	8.89	-2.23
6,700.00	44.67	5.74	6,586.55	777.60	438.16	792.80	9.00	8.90	-2.01
6,700.63	44.73	5.73	6,587.00	778.04	438.21	793.24	9.00	8.91	-1.84
Top A Chalk									
6,703.45	44.98	5.68	6,589.00	780.02	438.41	795.23	9.00	8.91	-1.83
Top A Marl									
6,723.56	46.77	5.32	6,603.00	794.39	439.79	809.63	9.00	8.91	-1.77
Top B Chalk									
6,750.00	49.13	4.88	6,620.71	813.94	441.53	829.24	9.00	8.92	-1.65
6,800.00	53.59	4.14	6,651.92	852.87	444.59	868.24	9.00	8.92	-1.50
6,803.52	53.90	4.09	6,654.00	855.69	444.80	871.08	9.00	8.93	-1.40
Top B Marl									
6,850.00	58.06	3.47	6,680.00	894.13	447.33	909.58	9.00	8.93	-1.33
6,900.00	62.52	2.86	6,704.78	937.48	449.72	952.99	9.00	8.94	-1.21
6,950.00	67.00	2.31	6,726.09	982.65	451.76	998.20	9.00	8.94	-1.11
6,954.93	67.44	2.25	6,728.00	987.19	451.94	1,002.74	9.00	8.95	-1.07

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Guttersen D25-753
Company:	Northern Region - DJ Basin	TVD Reference:	KB @ 4817.00ft
Project:	Mustang	MD Reference:	KB @ 4817.00ft
Site:	D Section 25	North Reference:	Grid
Well:	Guttersen D25-753	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #3		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
Top C Chalk									
7,000.00	71.47	1.78	6,743.82	1,029.36	453.42	1,044.94	9.00	8.95	-1.04
7,050.00	75.94	1.29	6,757.84	1,077.32	454.71	1,092.92	9.00	8.95	-0.99
7,063.59	77.16	1.16	6,761.00	1,090.53	454.99	1,106.13	9.00	8.95	-0.96
Top C Marl									
7,100.00	80.42	0.81	6,768.08	1,126.24	455.60	1,141.84	9.00	8.95	-0.95
7,150.00	84.90	0.35	6,774.47	1,175.81	456.11	1,191.40	9.00	8.95	-0.93
7,200.00	89.37	359.89	6,776.96	1,225.74	456.21	1,241.29	9.00	8.95	-0.91
7,208.67	90.15	359.81	6,777.00	1,234.41	456.19	1,249.96	9.00	8.95	-0.91
TPZ/Landing Pt. at 7208.67 MD									
7,300.00	90.15	359.81	6,776.76	1,325.74	455.90	1,341.22	0.00	0.00	0.00
7,400.00	90.15	359.81	6,776.50	1,425.74	455.57	1,441.14	0.00	0.00	0.00
7,500.00	90.15	359.81	6,776.24	1,525.74	455.25	1,541.06	0.00	0.00	0.00
7,600.00	90.15	359.81	6,775.98	1,625.74	454.92	1,640.99	0.00	0.00	0.00
7,700.00	90.15	359.81	6,775.71	1,725.73	454.60	1,740.91	0.00	0.00	0.00
7,800.00	90.15	359.81	6,775.45	1,825.73	454.28	1,840.83	0.00	0.00	0.00
7,900.00	90.15	359.81	6,775.19	1,925.73	453.95	1,940.76	0.00	0.00	0.00
8,000.00	90.15	359.81	6,774.93	2,025.73	453.63	2,040.68	0.00	0.00	0.00
8,100.00	90.15	359.81	6,774.67	2,125.73	453.31	2,140.60	0.00	0.00	0.00
8,200.00	90.15	359.81	6,774.41	2,225.73	452.98	2,240.53	0.00	0.00	0.00
8,300.00	90.15	359.81	6,774.14	2,325.73	452.66	2,340.45	0.00	0.00	0.00
8,400.00	90.15	359.81	6,773.88	2,425.73	452.33	2,440.37	0.00	0.00	0.00
8,500.00	90.15	359.81	6,773.62	2,525.73	452.01	2,540.30	0.00	0.00	0.00
8,600.00	90.15	359.81	6,773.36	2,625.73	451.69	2,640.22	0.00	0.00	0.00
8,700.00	90.15	359.81	6,773.10	2,725.73	451.36	2,740.14	0.00	0.00	0.00
8,800.00	90.15	359.81	6,772.84	2,825.72	451.04	2,840.07	0.00	0.00	0.00
8,900.00	90.15	359.81	6,772.57	2,925.72	450.71	2,939.99	0.00	0.00	0.00
9,000.00	90.15	359.81	6,772.31	3,025.72	450.39	3,039.91	0.00	0.00	0.00
9,100.00	90.15	359.81	6,772.05	3,125.72	450.07	3,139.84	0.00	0.00	0.00
9,200.00	90.15	359.81	6,771.79	3,225.72	449.74	3,239.76	0.00	0.00	0.00
9,300.00	90.15	359.81	6,771.53	3,325.72	449.42	3,339.68	0.00	0.00	0.00
9,400.00	90.15	359.81	6,771.27	3,425.72	449.10	3,439.61	0.00	0.00	0.00
9,500.00	90.15	359.81	6,771.01	3,525.72	448.77	3,539.53	0.00	0.00	0.00
9,600.00	90.15	359.81	6,770.74	3,625.72	448.45	3,639.45	0.00	0.00	0.00
9,700.00	90.15	359.81	6,770.48	3,725.72	448.12	3,739.38	0.00	0.00	0.00
9,800.00	90.15	359.81	6,770.22	3,825.72	447.80	3,839.30	0.00	0.00	0.00
9,900.00	90.15	359.81	6,769.96	3,925.72	447.48	3,939.22	0.00	0.00	0.00
10,000.00	90.15	359.81	6,769.70	4,025.71	447.15	4,039.15	0.00	0.00	0.00
10,100.00	90.15	359.81	6,769.44	4,125.71	446.83	4,139.07	0.00	0.00	0.00
10,200.00	90.15	359.81	6,769.17	4,225.71	446.51	4,238.99	0.00	0.00	0.00
10,300.00	90.15	359.81	6,768.91	4,325.71	446.18	4,338.92	0.00	0.00	0.00
10,400.00	90.15	359.81	6,768.65	4,425.71	445.86	4,438.84	0.00	0.00	0.00
10,500.00	90.15	359.81	6,768.39	4,525.71	445.53	4,538.76	0.00	0.00	0.00
10,600.00	90.15	359.81	6,768.13	4,625.71	445.21	4,638.69	0.00	0.00	0.00
10,700.00	90.15	359.81	6,767.87	4,725.71	444.89	4,738.61	0.00	0.00	0.00
10,800.00	90.15	359.81	6,767.60	4,825.71	444.56	4,838.53	0.00	0.00	0.00
10,900.00	90.15	359.81	6,767.34	4,925.71	444.24	4,938.46	0.00	0.00	0.00
11,000.00	90.15	359.81	6,767.08	5,025.71	443.92	5,038.38	0.00	0.00	0.00
11,100.00	90.15	359.81	6,766.82	5,125.70	443.59	5,138.30	0.00	0.00	0.00
11,200.00	90.15	359.81	6,766.56	5,225.70	443.27	5,238.23	0.00	0.00	0.00
11,300.00	90.15	359.81	6,766.30	5,325.70	442.94	5,338.15	0.00	0.00	0.00
11,400.00	90.15	359.81	6,766.03	5,425.70	442.62	5,438.07	0.00	0.00	0.00
11,500.00	90.15	359.81	6,765.77	5,525.70	442.30	5,538.00	0.00	0.00	0.00

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Guttersen D25-753
Company:	Northern Region - DJ Basin	TVD Reference:	KB @ 4817.00ft
Project:	Mustang	MD Reference:	KB @ 4817.00ft
Site:	D Section 25	North Reference:	Grid
Well:	Guttersen D25-753	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #3		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
11,600.00	90.15	359.81	6,765.51	5,625.70	441.97	5,637.92	0.00	0.00	0.00
11,700.00	90.15	359.81	6,765.25	5,725.70	441.65	5,737.84	0.00	0.00	0.00
11,800.00	90.15	359.81	6,764.99	5,825.70	441.33	5,837.77	0.00	0.00	0.00
11,900.00	90.15	359.81	6,764.73	5,925.70	441.00	5,937.69	0.00	0.00	0.00
12,000.00	90.15	359.81	6,764.46	6,025.70	440.68	6,037.62	0.00	0.00	0.00
12,100.00	90.15	359.81	6,764.20	6,125.70	440.35	6,137.54	0.00	0.00	0.00
12,200.00	90.15	359.81	6,763.94	6,225.70	440.03	6,237.46	0.00	0.00	0.00
12,300.00	90.15	359.81	6,763.68	6,325.69	439.71	6,337.39	0.00	0.00	0.00
12,400.00	90.15	359.81	6,763.42	6,425.69	439.38	6,437.31	0.00	0.00	0.00
12,500.00	90.15	359.81	6,763.16	6,525.69	439.06	6,537.23	0.00	0.00	0.00
12,600.00	90.15	359.81	6,762.89	6,625.69	438.74	6,637.16	0.00	0.00	0.00
12,700.00	90.15	359.81	6,762.63	6,725.69	438.41	6,737.08	0.00	0.00	0.00
12,800.00	90.15	359.81	6,762.37	6,825.69	438.09	6,837.00	0.00	0.00	0.00
12,900.00	90.15	359.81	6,762.11	6,925.69	437.76	6,936.93	0.00	0.00	0.00
13,000.00	90.15	359.81	6,761.85	7,025.69	437.44	7,036.85	0.00	0.00	0.00
13,100.00	90.15	359.81	6,761.59	7,125.69	437.12	7,136.77	0.00	0.00	0.00
13,200.00	90.15	359.81	6,761.32	7,225.69	436.79	7,236.70	0.00	0.00	0.00
13,300.00	90.15	359.81	6,761.06	7,325.69	436.47	7,336.62	0.00	0.00	0.00
13,400.00	90.15	359.81	6,760.80	7,425.68	436.15	7,436.54	0.00	0.00	0.00
13,500.00	90.15	359.81	6,760.54	7,525.68	435.82	7,536.47	0.00	0.00	0.00
13,600.00	90.15	359.81	6,760.28	7,625.68	435.50	7,636.39	0.00	0.00	0.00
13,700.00	90.15	359.81	6,760.02	7,725.68	435.17	7,736.31	0.00	0.00	0.00
13,800.00	90.15	359.81	6,759.75	7,825.68	434.85	7,836.24	0.00	0.00	0.00
13,900.00	90.15	359.81	6,759.49	7,925.68	434.53	7,936.16	0.00	0.00	0.00
14,000.00	90.15	359.81	6,759.23	8,025.68	434.20	8,036.08	0.00	0.00	0.00
14,100.00	90.15	359.81	6,758.97	8,125.68	433.88	8,136.01	0.00	0.00	0.00
14,200.00	90.15	359.81	6,758.71	8,225.68	433.56	8,235.93	0.00	0.00	0.00
14,300.00	90.15	359.81	6,758.45	8,325.68	433.23	8,335.85	0.00	0.00	0.00
14,400.00	90.15	359.81	6,758.18	8,425.68	432.91	8,435.78	0.00	0.00	0.00
14,500.00	90.15	359.81	6,757.92	8,525.68	432.58	8,535.70	0.00	0.00	0.00
14,600.00	90.15	359.81	6,757.66	8,625.67	432.26	8,635.62	0.00	0.00	0.00
14,700.00	90.15	359.81	6,757.40	8,725.67	431.94	8,735.55	0.00	0.00	0.00
14,800.00	90.15	359.81	6,757.14	8,825.67	431.61	8,835.47	0.00	0.00	0.00
14,900.00	90.15	359.81	6,756.88	8,925.67	431.29	8,935.39	0.00	0.00	0.00
15,000.00	90.15	359.81	6,756.61	9,025.67	430.97	9,035.32	0.00	0.00	0.00
15,100.00	90.15	359.81	6,756.35	9,125.67	430.64	9,135.24	0.00	0.00	0.00
15,200.00	90.15	359.81	6,756.09	9,225.67	430.32	9,235.16	0.00	0.00	0.00
15,300.00	90.15	359.81	6,755.83	9,325.67	429.99	9,335.09	0.00	0.00	0.00
15,400.00	90.15	359.81	6,755.57	9,425.67	429.67	9,435.01	0.00	0.00	0.00
15,500.00	90.15	359.81	6,755.31	9,525.67	429.35	9,534.93	0.00	0.00	0.00
15,600.00	90.15	359.81	6,755.05	9,625.67	429.02	9,634.86	0.00	0.00	0.00
15,700.00	90.15	359.81	6,754.78	9,725.67	428.70	9,734.78	0.00	0.00	0.00
15,800.00	90.15	359.81	6,754.52	9,825.66	428.38	9,834.70	0.00	0.00	0.00
15,900.00	90.15	359.81	6,754.26	9,925.66	428.05	9,934.63	0.00	0.00	0.00
16,000.00	90.15	359.81	6,754.00	10,025.66	427.73	10,034.55	0.00	0.00	0.00
16,100.00	90.15	359.81	6,753.74	10,125.66	427.40	10,134.47	0.00	0.00	0.00
16,200.00	90.15	359.81	6,753.48	10,225.66	427.08	10,234.40	0.00	0.00	0.00
16,300.00	90.15	359.81	6,753.21	10,325.66	426.76	10,334.32	0.00	0.00	0.00
16,400.00	90.15	359.81	6,752.95	10,425.66	426.43	10,434.24	0.00	0.00	0.00
16,500.00	90.15	359.81	6,752.69	10,525.66	426.11	10,534.17	0.00	0.00	0.00
16,600.00	90.15	359.81	6,752.43	10,625.66	425.79	10,634.09	0.00	0.00	0.00
16,700.00	90.15	359.81	6,752.17	10,725.66	425.46	10,734.01	0.00	0.00	0.00
16,800.00	90.15	359.81	6,751.91	10,825.66	425.14	10,833.94	0.00	0.00	0.00
16,900.00	90.15	359.81	6,751.64	10,925.65	424.81	10,933.86	0.00	0.00	0.00

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Guttersten D25-753
Company:	Northern Region - DJ Basin	TVD Reference:	KB @ 4817.00ft
Project:	Mustang	MD Reference:	KB @ 4817.00ft
Site:	D Section 25	North Reference:	Grid
Well:	Guttersten D25-753	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #3		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
17,000.00	90.15	359.81	6,751.38	11,025.65	424.49	11,033.78	0.00	0.00	0.00
17,100.00	90.15	359.81	6,751.12	11,125.65	424.17	11,133.71	0.00	0.00	0.00
17,200.00	90.15	359.81	6,750.86	11,225.65	423.84	11,233.63	0.00	0.00	0.00
17,300.00	90.15	359.81	6,750.60	11,325.65	423.52	11,333.55	0.00	0.00	0.00
17,400.00	90.15	359.81	6,750.34	11,425.65	423.20	11,433.48	0.00	0.00	0.00
17,500.00	90.15	359.81	6,750.07	11,525.65	422.87	11,533.40	0.00	0.00	0.00
17,600.00	90.15	359.81	6,749.81	11,625.65	422.55	11,633.32	0.00	0.00	0.00
17,700.00	90.15	359.81	6,749.55	11,725.65	422.22	11,733.25	0.00	0.00	0.00
17,749.89	90.15	359.81	6,749.42	11,775.53	422.06	11,783.09	0.00	0.00	0.00
TD at 17749.88									

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									
Guttersten D25-753 BHL	0.00	0.00	6,749.42	11,775.53	422.06	1,328,934.12	3,279,162.67	40.2320018	-104.5001144
- plan hits target center									
- Point									
Guttersten D25-753 TPZ	0.00	0.00	6,777.00	1,234.41	456.19	1,318,393.02	3,279,196.79	40.2030661	-104.5004177
- plan hits target center									
- Point									

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
680.00	680.00	Upper Pierre Aquifer Top				
698.00	698.00	Pierre				
1,617.00	1,617.00	Upper Pierre Aquifer Base				
3,670.51	3,649.00	Parkman				
4,099.46	4,071.00	Sussex				
4,287.51	4,256.00	Shannon				
5,983.01	5,924.00	Teepee Buttes				
6,638.74	6,541.00	Sharon Springs				
6,700.63	6,587.00	Top A Chalk				
6,703.45	6,589.00	Top A Marl				
6,723.56	6,603.00	Top B Chalk				
6,803.52	6,654.00	Top B Marl				
6,954.93	6,728.00	Top C Chalk				
7,063.59	6,761.00	Top C Marl				

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Guttersen D25-753
Company:	Northern Region - DJ Basin	TVD Reference:	KB @ 4817.00ft
Project:	Mustang	MD Reference:	KB @ 4817.00ft
Site:	D Section 25	North Reference:	Grid
Well:	Guttersen D25-753	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #3		

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
2,000.00	2,000.00	0.00	0.00	Start Build 2.00
2,516.62	2,513.83	38.62	25.82	Start 3785.46 hold at 2516.62 MD
6,302.08	6,237.90	603.04	403.20	Start DLS 9.00 TFO -34.37
7,208.67	6,777.00	1,234.41	456.19	TPZ/Landing Pt. at 7208.67 MD
17,749.89	6,749.42	11,775.53	422.06	TD at 17749.88

Northern Region - DJ Basin

Mustang

D Section 25

Guttersen D25-753

Wellbore #1

Plan #3

Anticollision Summary Report

24 June, 2019

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersten D25-753
Project:	Mustang	TVD Reference:	KB @ 4817.00ft
Reference Site:	D Section 25	MD Reference:	KB @ 4817.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersten D25-753	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Reference	Plan #3		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD + Stations Interval 100.00ft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 10,000.00 ft	Error Surface:	Pedal Curve
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program	Date	6/24/2019		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	17,749.89	Plan #3 (Wellbore #1)	2_MWD+IFR1+MS	A008Mb: IFR dec & multi-station analysis

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 01						
Guttersten D12-715 - Wellbore #1 - Plan #1	17,749.89	17,394.65	2,463.56	2,248.72	11.467	CC, ES, SF
Guttersten D12-725 - Wellbore #1 - Plan #1	17,749.89	17,354.05	1,824.90	1,612.68	8.599	CC, ES, SF
Guttersten D12-735 - Wellbore #1 - Plan #1	17,749.89	17,566.38	1,196.92	992.11	5.844	CC, ES, SF
Guttersten D12-745 - Wellbore #1 - Plan #1	17,749.89	17,749.15	622.34	453.17	3.679	CC, ES, SF
Guttersten D12-750 - Wellbore #1 - Plan #1	17,749.89	17,957.30	445.33	342.11	4.314	CC, ES, SF
Guttersten D12-755 - Wellbore #1 - Plan #1	17,749.89	17,362.69	441.07	332.68	4.069	CC, ES, SF
Guttersten D12-765 - Wellbore #1 - Plan #1	17,749.89	17,427.57	918.69	718.63	4.592	CC, ES, SF
Guttersten D12-770 - Wellbore #1 - Plan #1	17,749.89	17,530.79	1,227.21	1,018.93	5.892	CC, ES, SF
Guttersten D12-775 - Wellbore #1 - Plan #1	17,749.89	17,387.70	1,531.26	1,318.71	7.204	CC, ES, SF
Guttersten D12-785 - Wellbore #1 - Plan #1	17,749.89	17,570.64	2,166.29	1,950.77	10.052	CC, ES, SF
D Section 02						
Booth D11-715 - Booth D11-715 - Plan #1	17,749.89	17,531.72	2,857.78	2,673.03	15.468	CC, ES, SF
Booth D11-725 - Booth D11-725 - Plan #1	17,749.89	17,473.90	3,504.76	3,318.81	18.847	CC, ES, SF
Booth D11-730 - Booth D11-730 - Plan #1	17,749.89	17,544.11	3,832.26	3,645.78	20.551	CC, ES, SF
Booth D11-735 - Booth D11-735 - Plan #1	17,749.89	17,341.28	4,152.60	3,966.30	22.290	CC, ES, SF
Booth D11-745 - Booth D11-745 - Plan #1	17,749.89	17,438.95	4,802.23	4,615.49	25.715	CC, ES, SF
Booth D11-755 - Booth D11-755 - Plan #1	17,749.89	17,399.56	5,451.84	5,265.26	29.220	CC, ES, SF
Booth D11-765 - Booth D11-765 - Plan #1	17,749.89	17,474.67	6,101.92	5,915.13	32.666	CC, ES, SF
Booth D11-770 - Booth D11-770 - Plan #1	17,749.89	17,651.37	6,429.59	6,242.68	34.398	CC, ES, SF
Booth D11-775 - Booth D11-775 - Plan #1	17,749.89	17,638.00	6,752.33	6,565.26	36.095	CC, ES, SF
Booth D11-785 - Booth D11-785 - Plan #1	17,749.89	17,818.48	7,402.18	7,214.73	39.488	CC, ES, SF

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D25-753
Project:	Mustang	TVD Reference:	KB @ 4817.00ft
Reference Site:	D Section 25	MD Reference:	KB @ 4817.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D25-753	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #3	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 12						
GUTTERERSEN STATE D #12-7JI(SI) - Wellbore #1 - No	17,749.89	6,688.42	3,716.37	3,624.59	40.490	CC, ES, SF
GUTTERSEN #12D(PR) - Wellbore #1 - No Surveys	17,749.89	6,682.42	2,122.37	1,994.62	16.613	CC, ES, SF
Guttersen #33-12(PR) - Wellbore #1 - No Surveys	17,749.89	6,672.42	2,326.80	2,226.47	23.191	CC, ES, SF
GUTTERSEN #34-12(PR) - Wellbore #1 - No Surveys	17,749.89	6,672.42	1,202.71	1,075.45	9.451	CC, ES, SF
Guttersen #43-12(PR) - Wellbore #1 - Gyro	17,749.89	6,628.28	3,118.84	3,027.50	34.145	CC, ES, SF
GUTTERSEN #44-12(PR) - Wellbore #1 - Gyro	17,749.89	6,556.44	2,301.87	2,189.30	20.448	CC, ES, SF
GUTTERSEN D #12-20(PR) - Wellbore #1 - No Surveys	17,749.89	6,672.42	3,145.73	3,036.82	28.883	CC, ES, SF
GUTTERSEN D #12-25(PR) - Wellbore #1 - No Surveys	17,749.89	6,679.42	1,966.11	1,845.14	16.253	CC, ES, SF
GUTTERSEN STATE D #12-19(PR) - Wellbore #1 - No S	17,749.89	6,679.42	4,385.35	4,286.25	44.252	CC, ES, SF
GUTTERSEN STATE D #12-2JI(SI) - Wellbore #1 - No Su	17,749.89	6,712.42	4,926.24	4,834.59	53.745	CC, ES, SF
Guttersen State D12-01JI - Wellbore #1 - Wellbore #1 - A	17,749.89	7,153.54	5,220.31	5,148.72	72.918	CC, ES, SF
Guttersen State D12-08JI - Wellbore #1 - Wellbore #1 - A	17,749.89	6,756.50	3,993.97	3,912.72	49.156	CC, ES, SF
KARCH BLUE D #12-11(PR) - Wellbore #1 - No Surveys	17,749.89	6,663.42	2,282.99	2,188.43	24.141	CC, ES, SF
KARCH BLUE D #12-12(PR) - Wellbore #1 - No Surveys	17,749.89	6,660.42	2,824.12	2,699.00	22.571	CC, ES, SF
KARCH BLUE D #12-14(PR) - Wellbore #1 - No Surveys	17,749.89	6,666.42	1,000.76	884.20	8.585	CC, ES, SF
L F RANCH #2-12(SI) - Wellbore #1 - No Surveys	17,749.89	6,657.42	1,909.60	1,771.18	13.796	CC, ES, SF
SPIKE STATE #D 12-3(PR) - Wellbore #1 - No Surveys	17,749.89	6,671.42	4,872.42	4,781.09	53.347	CC, ES, SF
SPIKE STATE #D 12-4(PR) - Wellbore #1 - No Surveys	17,749.89	6,662.42	5,117.37	5,010.54	47.902	CC, ES, SF
SPIKE STATE #D 12-5(PR) - Wellbore #1 - No Surveys	17,749.89	6,659.42	3,964.10	3,851.30	35.144	CC, ES, SF
SPIKE STATE #D 12-6(PA) - Wellbore #1 - Gyro	17,749.89	6,717.75	3,522.26	3,464.33	60.797	CC, ES, SF
STATE #10(TA) - Wellbore #1 - No Surveys	17,749.89	6,726.42	4,554.36	4,454.17	45.454	CC, ES, SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersten D25-753
Project:	Mustang	TVD Reference:	KB @ 4817.00ft
Reference Site:	D Section 25	MD Reference:	KB @ 4817.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersten D25-753	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #3	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 13						
Dalbey D 13-11 (SI) - Wellbore #1 - Gyro Surveys	14,665.99	6,715.59	381.86	284.92	3.939	CC, ES, SF
Dalbey D 13-12 (PR) - Wellbore #1 - Gyro Surveys	14,184.28	6,702.83	1,529.74	1,436.48	16.403	CC
Dalbey D 13-12 (PR) - Wellbore #1 - Gyro Surveys	14,200.00	6,703.00	1,529.82	1,436.46	16.387	ES
Dalbey D 13-12 (PR) - Wellbore #1 - Gyro Surveys	14,300.00	6,704.10	1,534.11	1,440.29	16.351	SF
Dalbey D 13-13 (SI) - Wellbore #1 - As-Drilled	13,271.37	6,720.07	1,780.22	1,693.84	20.609	CC, ES
Dalbey D 13-13 (SI) - Wellbore #1 - As-Drilled	13,400.00	6,718.82	1,784.86	1,697.81	20.502	SF
Dalbey D 13-14 (PA) - Wellbore #1 - Gyro Surveys	13,269.72	6,688.87	608.08	521.90	7.056	CC, ES, SF
Guttersten 12-13 (SI) - Wellbore #1 - Gyro Surveys	15,858.83	6,761.33	1,902.95	1,796.37	17.854	CC, ES
Guttersten 12-13 (SI) - Wellbore #1 - Gyro Surveys	16,000.00	6,758.52	1,908.18	1,800.86	17.780	SF
Guttersten 13C (PR) - Wellbore #1 - Gyro Surveys	16,639.14	6,748.56	1,498.40	1,385.82	13.309	CC, ES
Guttersten 13C (PR) - Wellbore #1 - Gyro Surveys	16,700.00	6,749.40	1,499.64	1,386.54	13.260	SF
Guttersten 13D (PR) - Wellbore #1 - Gyro Surveys	14,036.81	6,697.16	1,487.38	1,395.32	16.157	CC, ES
Guttersten 13D (PR) - Wellbore #1 - Gyro Surveys	14,200.00	6,697.33	1,496.30	1,403.09	16.053	SF
Guttersten 13N (PR) - Wellbore #1 - Gyro Surveys	16,617.58	6,679.19	62.26	-49.95	0.555	Level 1, CC, ES, SF
Guttersten 13S (PR) - Wellbore #1 - Gyro Surveys	15,380.44	6,658.22	1,484.80	1,382.40	14.499	CC
Guttersten 13S (PR) - Wellbore #1 - Gyro Surveys	15,400.00	6,658.30	1,484.93	1,382.35	14.476	ES
Guttersten 13S (PR) - Wellbore #1 - Gyro Surveys	15,500.00	6,658.71	1,489.61	1,386.31	14.421	SF
Guttersten 13T (PR) - Wellbore #1 - Gyro Surveys	12,813.75	6,681.76	1,384.23	1,301.45	16.720	CC, ES
Guttersten 13T (PR) - Wellbore #1 - Gyro Surveys	12,900.00	6,681.22	1,386.92	1,303.45	16.615	SF
Guttersten 21-13 (SI) - Wellbore #1 - Gyro Surveys	17,226.92	6,689.41	628.18	511.09	5.365	CC, ES, SF
Guttersten 22-13 (SI) - Wellbore #1 - Gyro Surveys	15,969.64	6,713.37	475.70	368.53	4.439	CC, ES, SF
Guttersten 31-13 (PR) - Wellbore #1 - Gyro Surveys	17,268.35	6,689.35	757.10	639.80	6.454	CC, ES
Guttersten 31-13 (PR) - Wellbore #1 - Gyro Surveys	17,300.00	6,688.94	757.76	640.18	6.444	SF
Guttersten 32-13 (PR) - Wellbore #1 - Gyro Surveys	16,081.81	6,683.16	856.29	748.30	7.930	CC, ES
Guttersten 32-13 (PR) - Wellbore #1 - Gyro Surveys	16,100.00	6,683.02	856.48	748.32	7.919	SF
Guttersten 34-13 (PR) - Wellbore #1 - Gyro Surveys	13,320.98	6,692.53	746.47	659.91	8.623	CC, ES
Guttersten 34-13 (PR) - Wellbore #1 - Gyro Surveys	13,400.00	6,692.87	750.64	663.54	8.618	SF
Guttersten 41-13 (PR) - Wellbore #1 - Gyro Surveys	17,207.10	6,551.57	2,150.77	2,034.23	18.455	CC, ES
Guttersten 41-13 (PR) - Wellbore #1 - Gyro Surveys	17,400.00	6,551.83	2,159.40	2,041.48	18.312	SF
Guttersten 42-13 (PR) - Wellbore #1 - Gyro Surveys	15,940.37	6,588.20	2,245.87	2,139.21	21.056	CC, ES
Guttersten 42-13 (PR) - Wellbore #1 - Gyro Surveys	16,200.00	6,594.73	2,260.82	2,152.35	20.843	SF
Guttersten 43-13 - Wellbore #1 - Wellbore #1 - As Drilled	14,668.67	6,690.64	2,145.87	2,048.97	22.144	CC
Guttersten 43-13 - Wellbore #1 - Wellbore #1 - As Drilled	14,700.00	6,691.12	2,146.10	2,048.93	22.085	ES
Guttersten 43-13 - Wellbore #1 - Wellbore #1 - As Drilled	14,900.00	6,694.30	2,158.30	2,059.72	21.894	SF
Guttersten 44-13 - Wellbore #1 - Wellbore #1 - As Drilled	13,317.60	6,727.31	2,087.34	1,995.52	22.731	CC, ES
Guttersten 44-13 - Wellbore #1 - Wellbore #1 - As Drilled	13,600.00	6,726.28	2,106.36	2,012.59	22.464	SF
L F Ranch 1-13 (PR) - Wellbore #1 - Gyro Surveys	14,360.16	6,706.36	719.22	624.49	7.592	CC, ES
L F Ranch 1-13 (PR) - Wellbore #1 - Gyro Surveys	14,400.00	6,706.16	720.33	625.26	7.577	SF
L. F. Ranch 13-4 (SI) - Wellbore #1 - Gyro Surveys	16,883.11	6,794.47	1,510.75	1,395.92	13.156	CC
L. F. Ranch 13-4 (SI) - Wellbore #1 - Gyro Surveys	16,900.00	6,793.34	1,510.85	1,395.91	13.145	ES
L. F. Ranch 13-4 (SI) - Wellbore #1 - Gyro Surveys	17,000.00	6,786.83	1,515.25	1,399.91	13.137	SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersten D25-753
Project:	Mustang	TVD Reference:	KB @ 4817.00ft
Reference Site:	D Section 25	MD Reference:	KB @ 4817.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersten D25-753	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #3	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 14						
Dalbey D 14-1 (SI) - Wellbore #1 - Gyro Surveys	17,229.58	6,713.43	3,225.30	3,108.15	27.532	CC, ES
Dalbey D 14-1 (SI) - Wellbore #1 - Gyro Surveys	17,600.00	6,710.42	3,246.50	3,127.26	27.227	SF
Dalbey D 14-2 (SI) - Wellbore #1 - Gyro Surveys	16,984.20	6,734.31	4,140.70	4,025.42	35.920	CC
Dalbey D 14-2 (SI) - Wellbore #1 - Gyro Surveys	17,000.00	6,734.37	4,140.73	4,025.33	35.884	ES
Dalbey D 14-2 (SI) - Wellbore #1 - Gyro Surveys	17,600.00	6,736.71	4,186.24	4,067.35	35.213	SF
Dalbey D 14-3 (SI) - Wellbore #1 - Gyro Surveys	17,201.23	6,780.09	5,574.89	5,457.71	47.577	CC, ES
Dalbey D 14-3 (SI) - Wellbore #1 - Gyro Surveys	17,749.89	6,780.48	5,601.82	5,480.93	46.339	SF
Dalbey D 14-6 (SI) - Wellbore #1 - Gyro Surveys	16,036.79	6,735.24	5,783.50	5,675.75	53.672	CC
Dalbey D 14-6 (SI) - Wellbore #1 - Gyro Surveys	16,100.00	6,735.15	5,783.85	5,675.62	53.443	ES
Dalbey D 14-6 (SI) - Wellbore #1 - Gyro Surveys	17,300.00	6,733.44	5,919.85	5,804.56	51.349	SF
Dalbey D 14-7 (SI) - Wellbore #1 - Gyro Surveys	15,903.85	6,769.34	4,525.24	4,418.35	42.338	CC, ES
Dalbey D 14-7 (SI) - Wellbore #1 - Gyro Surveys	16,700.00	6,768.92	4,594.74	4,483.18	41.187	SF
Dalbey D 14-8 (SI) - Wellbore #1 - Gyro Surveys	15,943.27	6,738.63	3,273.14	3,166.06	30.566	CC, ES
Dalbey D 14-8 (SI) - Wellbore #1 - Gyro Surveys	16,400.00	6,739.79	3,304.85	3,195.22	30.145	SF
Guttersten State D 14-23 (SI) - Wellbore #1 - Gyro Survey	13,866.28	6,800.00	3,725.97	3,634.81	40.876	CC
Guttersten State D 14-23 (SI) - Wellbore #1 - Gyro Survey	13,900.00	6,800.00	3,726.12	3,634.73	40.772	ES
Guttersten State D 14-23 (SI) - Wellbore #1 - Gyro Survey	14,500.00	6,800.00	3,779.47	3,684.67	39.865	SF
Guttersten State D 14-24 (PR) - Wellbore #1 - Gyro Survey	13,982.88	6,740.15	5,189.73	5,097.95	56.542	CC
Guttersten State D 14-24 (PR) - Wellbore #1 - Gyro Survey	14,000.00	6,740.09	5,189.76	5,097.85	56.467	ES
Guttersten State D 14-24 (PR) - Wellbore #1 - Gyro Survey	15,200.00	6,735.98	5,330.54	5,231.66	53.904	SF
Guttersten State D 14-33 (PR) - Wellbore #1 - Gyro Survey	14,051.56	6,940.32	7,449.58	7,356.64	80.148	CC
Guttersten State D 14-33 (PR) - Wellbore #1 - Gyro Survey	14,100.00	6,939.86	7,449.74	7,356.44	79.843	ES
Guttersten State D 14-33 (PR) - Wellbore #1 - Gyro Survey	16,500.00	6,917.29	7,841.60	7,734.14	72.973	SF
HSR-Guttersten State 4-14 (PA) - Wellbore #1 - Gyro Survey	17,217.48	6,788.67	7,107.99	6,991.25	60.885	CC
HSR-Guttersten State 4-14 (PA) - Wellbore #1 - Gyro Survey	17,300.00	6,788.13	7,108.47	6,991.11	60.567	ES
HSR-Guttersten State 4-14 (PA) - Wellbore #1 - Gyro Survey	17,749.89	6,785.20	7,127.90	7,007.35	59.127	SF
HSR-Guttersten State 5-14 (PA) - Wellbore #1 - Gyro Survey	16,047.36	6,733.23	7,070.55	6,963.30	65.921	CC
HSR-Guttersten State 5-14 (PA) - Wellbore #1 - Gyro Survey	16,100.00	6,732.96	7,070.75	6,963.10	65.681	ES
HSR-Guttersten State 5-14 (PA) - Wellbore #1 - Gyro Survey	17,749.89	6,724.54	7,272.64	7,154.90	61.770	SF
Spike D 14-09 (SI) - Wellbore #1 - Gyro Surveys	14,806.70	6,744.36	2,939.86	2,841.65	29.933	CC, ES
Spike D 14-09 (SI) - Wellbore #1 - Gyro Surveys	15,200.00	6,743.03	2,966.05	2,865.67	29.547	SF
Spike D 14-16 (SI) - Wellbore #1 - Gyro Surveys	13,174.12	6,821.45	2,994.43	2,908.53	34.860	CC
Spike D 14-16 (SI) - Wellbore #1 - Gyro Surveys	13,200.00	6,821.61	2,994.54	2,908.47	34.790	ES
Spike D 14-16 (SI) - Wellbore #1 - Gyro Surveys	13,600.00	6,824.18	3,024.56	2,936.26	34.253	SF
Spike State D 14-11 (PR) - Wellbore #1 - Gyro Surveys	14,811.73	6,769.99	5,557.85	5,459.55	56.536	CC, ES
Spike State D 14-11 (PR) - Wellbore #1 - Gyro Surveys	16,100.00	6,758.54	5,705.19	5,599.30	53.876	SF
Spike State D 14-12 (PR) - Wellbore #1 - Gyro Surveys	14,772.89	6,778.80	7,087.86	6,989.79	72.273	CC
Spike State D 14-12 (PR) - Wellbore #1 - Gyro Surveys	14,800.00	6,778.70	7,087.91	6,989.64	72.126	ES
Spike State D 14-12 (PR) - Wellbore #1 - Gyro Surveys	16,900.00	6,770.40	7,400.16	7,289.52	66.883	SF
Spike State D 14-13 (SI) - Wellbore #1 - Gyro Surveys	13,196.05	6,869.72	7,089.37	7,003.18	82.252	CC
Spike State D 14-13 (SI) - Wellbore #1 - Gyro Surveys	13,200.00	6,869.73	7,089.38	7,003.16	82.225	ES
Spike State D 14-13 (SI) - Wellbore #1 - Gyro Surveys	15,600.00	6,871.77	7,485.87	7,385.56	74.630	SF
Spike State D 14-14 (SI) - Wellbore #1 - Gyro Surveys	13,117.59	6,762.73	5,593.26	5,508.01	65.609	CC, ES
Spike State D 14-14 (SI) - Wellbore #1 - Gyro Surveys	14,700.00	6,766.37	5,812.79	5,718.39	61.574	SF
Spike State D 14-15 (SI) - Wellbore #1 - Gyro Surveys	13,223.14	6,941.13	4,265.98	4,179.46	49.303	CC, ES
Spike State D 14-15 (SI) - Wellbore #1 - Gyro Surveys	14,100.00	6,925.32	4,355.14	4,263.54	47.545	SF
Spike State D14-13J (SI) - Wellbore #1 - Gyro Surveys	13,984.70	6,796.35	6,634.36	6,542.28	72.054	CC
Spike State D14-13J (SI) - Wellbore #1 - Gyro Surveys	14,000.00	6,796.30	6,634.38	6,542.19	71.966	ES
Spike State D14-13J (SI) - Wellbore #1 - Gyro Surveys	16,000.00	6,789.90	6,933.70	6,829.81	66.744	SF
Spike State GWS D 14-10 (SI) - Wellbore #1 - Gyro Survey	14,467.71	6,764.84	4,379.78	4,284.14	45.795	CC
Spike State GWS D 14-10 (SI) - Wellbore #1 - Gyro Survey	14,500.00	6,764.14	4,379.90	4,284.03	45.686	ES
Spike State GWS D 14-10 (SI) - Wellbore #1 - Gyro Survey	15,300.00	6,746.94	4,458.11	4,357.69	44.394	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 - DJ Basin	Local Co-ordinate Reference:	Well Guttersten D25-753
Project:	Mustang	TVD Reference:	KB @ 4817.00ft
Reference Site:	D Section 25	MD Reference:	KB @ 4817.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersten D25-753	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #3	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 23						
Guttersten 23-20 (SI) - Wellbore #1 - Gyro Surveys	10,135.72	6,822.04	6,410.99	6,346.91	100.037	CC
Guttersten 23-20 (SI) - Wellbore #1 - Gyro Surveys	10,200.00	6,821.58	6,411.32	6,346.83	99.417	ES
Guttersten 23-20 (SI) - Wellbore #1 - Gyro Surveys	12,700.00	6,802.41	6,904.78	6,826.61	88.328	SF
Guttersten 23-32 (SI) - Wellbore #1 - Gyro Surveys	10,648.73	6,885.19	4,254.58	4,186.88	62.843	CC
Guttersten 23-32 (SI) - Wellbore #1 - Gyro Surveys	10,700.00	6,884.93	4,254.89	4,186.86	62.544	ES
Guttersten 23-32 (SI) - Wellbore #1 - Gyro Surveys	11,800.00	6,879.48	4,407.59	4,333.57	59.546	SF
Guttersten 31-23 (PR) - Wellbore #1 - Gyro Surveys	11,957.97	6,816.31	3,098.11	3,021.44	40.408	CC, ES
Guttersten 23-41 (PR) - Wellbore #1 - Gyro Surveys	12,500.00	6,807.94	3,145.16	3,065.51	39.488	SF
Guttersten 31-23 (PR) - Wellbore #1 - Gyro Surveys	11,944.28	6,893.40	4,439.34	4,362.29	57.622	CC
Guttersten 31-23 (PR) - Wellbore #1 - Gyro Surveys	12,000.00	6,891.80	4,439.69	4,362.27	57.348	ES
Guttersten 31-23 (PR) - Wellbore #1 - Gyro Surveys	13,000.00	6,864.71	4,563.06	4,480.09	54.992	SF
Guttersten 42-23 (PR) - Wellbore #1 - Gyro Surveys	10,622.09	6,804.80	3,123.09	3,055.77	46.394	CC, ES
Guttersten 42-23 (PR) - Wellbore #1 - Gyro Surveys	11,200.00	6,796.30	3,176.10	3,105.70	45.114	SF
Guttersten D23-711 - Wellbore #1 - Plan #1	17,725.75	17,725.24	2,479.98	2,294.03	13.337	CC, ES
Guttersten D23-711 - Wellbore #1 - Plan #1	17,749.89	17,723.12	2,480.11	2,294.06	13.331	SF
Guttersten D35-720 - Wellbore #1 - Plan #1	6,558.50	7,742.84	3,097.66	3,046.35	60.374	CC, ES
Guttersten D35-720 - Wellbore #1 - Plan #1	7,800.00	6,950.00	3,138.58	3,086.18	59.898	SF
Guttersten D35-730 - Wellbore #1 - Plan #1	6,468.23	7,755.66	3,749.41	3,698.85	74.166	CC, ES
Guttersten D35-730 - Wellbore #1 - Plan #1	8,700.00	6,500.00	3,918.30	3,864.81	73.246	SF
Guttersten D35-740 - Wellbore #1 - Plan #1	2,000.00	2,022.00	4,190.73	4,176.78	300.374	CC
Guttersten D35-740 - Wellbore #1 - Plan #1	2,300.00	2,307.31	4,191.12	4,175.10	261.629	ES
Guttersten D35-740 - Wellbore #1 - Plan #1	9,100.00	6,242.35	4,565.47	4,511.20	84.133	SF
Guttersten D35-750 - Wellbore #1 - Plan #1	6,359.23	7,849.08	5,039.27	4,988.87	99.977	CC, ES
Guttersten D35-750 - Wellbore #1 - Plan #1	9,700.00	6,550.00	5,479.44	5,420.84	93.511	SF
Guttersten D35-760 - Wellbore #1 - Plan #1	2,000.00	2,042.00	5,607.39	5,593.37	399.860	CC
Guttersten D35-760 - Wellbore #1 - Plan #1	2,100.00	2,141.98	5,607.72	5,592.98	380.489	ES
Guttersten D35-760 - Wellbore #1 - Plan #1	10,400.00	6,350.00	6,249.98	6,189.27	102.947	SF
Guttersten D35-770 - Wellbore #1 - Plan #1	2,000.00	2,042.00	5,641.87	5,627.85	402.318	CC
Guttersten D35-770 - Wellbore #1 - Plan #1	2,100.00	2,141.98	5,642.20	5,627.46	382.829	ES
Guttersten D35-770 - Wellbore #1 - Plan #1	10,800.00	5,402.31	6,957.88	6,899.08	118.343	SF
Guttersten D35-780 - Wellbore #1 - Plan #1	2,000.00	2,042.00	5,676.39	5,662.36	404.779	CC
Guttersten D35-780 - Wellbore #1 - Plan #1	2,100.00	2,141.98	5,676.72	5,661.99	385.171	ES
Guttersten D35-780 - Wellbore #1 - Plan #1	11,200.00	4,708.76	7,393.00	7,335.56	128.710	SF
Guttersten State D23-721 - Wellbore #1 - Plan #2	17,724.59	17,555.64	3,140.17	2,953.91	16.859	CC
Guttersten State D23-721 - Wellbore #1 - Plan #2	17,749.89	17,550.58	3,140.27	2,953.90	16.850	ES, SF
Guttersten State D23-731 - Wellbore #1 - Plan #2	5,703.70	6,159.93	3,704.92	3,661.76	85.844	CC
Guttersten State D23-731 - Wellbore #1 - Plan #2	17,749.89	17,527.71	3,800.31	3,613.59	20.353	ES, SF
Guttersten State D23-741 - Guttersten State D23-741 OH	4,214.56	4,419.08	4,104.54	4,074.40	136.159	CC
Guttersten State D23-741 - Guttersten State D23-741 OH	4,300.00	4,487.34	4,104.87	4,074.16	133.660	ES
Guttersten State D23-741 - Guttersten State D23-741 OH	17,749.89	17,639.86	4,460.39	4,274.22	23.958	SF
Guttersten State D23-751 - Wellbore #1 - BHI-Rev A.0	17,727.28	17,545.49	5,099.94	4,913.34	27.330	CC
Guttersten State D23-751 - Wellbore #1 - BHI-Rev A.0	17,749.89	17,545.49	5,099.99	4,913.23	27.307	ES, SF
Guttersten State D23-761 - Wellbore #1 - BHI-Rev A.0	2,000.00	2,041.00	5,550.39	5,536.37	395.896	CC
Guttersten State D23-761 - Wellbore #1 - BHI-Rev A.0	3,900.00	4,279.67	5,554.76	5,526.21	194.535	ES
Guttersten State D23-761 - Wellbore #1 - BHI-Rev A.0	17,749.89	17,501.89	5,761.73	5,575.12	30.876	SF
Guttersten State D23-771 - Wellbore #1 - BHI Rev-B.0	2,000.00	2,040.00	5,585.22	5,571.21	398.482	CC
Guttersten State D23-771 - Wellbore #1 - BHI Rev-B.0	2,100.00	2,139.98	5,585.60	5,570.87	379.173	ES
Guttersten State D23-771 - Wellbore #1 - BHI Rev-B.0	17,749.89	17,630.20	6,419.67	6,233.57	34.495	SF
Guttersten State D23-781 - Wellbore #1 - BHI Rev-A.0	1,903.50	1,944.50	5,620.09	5,606.77	421.891	CC
Guttersten State D23-781 - Wellbore #1 - BHI Rev-A.0	2,000.00	2,022.35	5,620.16	5,606.23	403.422	ES
Guttersten State D23-781 - Wellbore #1 - BHI Rev-A.0	17,749.89	17,591.63	7,029.25	6,843.26	37.795	SF
Guttersten State D35-790 - Wellbore #1 - Plan #1	7,235.87	7,374.24	2,449.04	2,396.40	46.522	CC, ES
Guttersten State D35-790 - Wellbore #1 - Plan #1	7,600.00	7,219.75	2,464.56	2,411.20	46.186	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 - DJ Basin	Local Co-ordinate Reference:	Well Guttersten D25-753
Project:	Mustang	TVD Reference:	KB @ 4817.00ft
Reference Site:	D Section 25	MD Reference:	KB @ 4817.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersten D25-753	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #3	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 23						
Guttersten USX D 23-17 (PR) - Wellbore #1 - Gyro Survey	11,300.87	6,809.47	3,845.61	3,773.53	53.350	CC, ES
Guttersten USX D 23-17 (PR) - Wellbore #1 - Gyro Survey	12,200.00	6,805.15	3,949.32	3,872.30	51.276	SF
Parker Blue D 23-09 (SI) - Wellbore #1 - Gyro Surveys	8,985.26	6,734.65	2,860.03	2,803.34	50.443	CC
Parker Blue D 23-09 (SI) - Wellbore #1 - Gyro Surveys	9,000.00	6,734.41	2,860.07	2,803.30	50.378	ES
Parker Blue D 23-09 (SI) - Wellbore #1 - Gyro Surveys	9,600.00	6,724.78	2,925.34	2,865.80	49.133	SF
Parker Blue D 23-10 (SI) - Wellbore #1 - Gyro Surveys	9,154.83	6,761.33	4,123.26	4,065.49	71.373	CC, ES
Parker Blue D 23-10 (SI) - Wellbore #1 - Gyro Surveys	10,400.00	6,751.80	4,307.17	4,243.21	67.342	SF
Parker Blue D 23-11 (SI) - Wellbore #1 - Gyro Surveys	9,566.36	6,819.37	5,594.67	5,534.20	92.515	CC
Parker Blue D 23-11 (SI) - Wellbore #1 - Gyro Surveys	9,600.00	6,819.15	5,594.77	5,534.10	92.217	ES
Parker Blue D 23-11 (SI) - Wellbore #1 - Gyro Surveys	11,700.00	6,809.66	5,987.70	5,915.93	83.427	SF
Parker Blue D 23-13 (SI) - Wellbore #1 - Gyro Surveys	0.00	21.13	7,048.70			
Parker Blue D 23-13 (SI) - Wellbore #1 - Gyro Surveys	1,300.00	1,272.46	7,051.41	7,042.72	810.594	ES
Parker Blue D 23-13 (SI) - Wellbore #1 - Gyro Surveys	12,100.00	6,680.56	8,043.87	7,972.14	112.141	SF
Parker Blue D 23-14 (SI) - Wellbore #1 - Gyro Surveys	0.00	9.77	5,625.04			
Parker Blue D 23-14 (SI) - Wellbore #1 - Gyro Surveys	8,300.00	6,814.74	5,631.53	5,578.13	105.467	ES
Parker Blue D 23-14 (SI) - Wellbore #1 - Gyro Surveys	10,700.00	6,800.69	6,128.12	6,063.35	94.604	SF
Parker Blue D 23-15 (SI) - Wellbore #1 - Gyro Surveys	1,624.83	1,617.01	4,261.85	4,250.77	384.610	CC
Parker Blue D 23-15 (SI) - Wellbore #1 - Gyro Surveys	2,000.00	1,975.48	4,262.75	4,249.07	311.771	ES
Parker Blue D 23-15 (SI) - Wellbore #1 - Gyro Surveys	9,300.00	6,738.35	4,579.98	4,522.79	80.082	SF
Parker Blue D 23-3J (SI) - Wellbore #1 - Gyro Surveys	9,395.57	6,873.15	6,609.34	6,546.34	104.909	CC
Parker Blue D 23-3J (SI) - Wellbore #1 - Gyro Surveys	9,400.00	6,873.16	6,609.34	6,546.32	104.866	ES
Parker Blue D 23-3J (SI) - Wellbore #1 - Gyro Surveys	12,300.00	6,877.96	7,219.36	7,140.77	91.868	SF
Parker Red D 23-05 (PR) - Wellbore #1 - Gyro Surveys	10,608.39	6,736.32	7,055.31	6,988.40	105.446	CC
Parker Red D 23-05 (PR) - Wellbore #1 - Gyro Surveys	10,700.00	6,735.91	7,055.91	6,988.40	104.520	ES
Parker Red D 23-05 (PR) - Wellbore #1 - Gyro Surveys	13,600.00	6,719.77	7,663.36	7,579.75	91.664	SF
Parker Red D 23-2J (SI) - Wellbore #1 - Gyro Surveys	10,967.96	6,622.79	6,223.21	6,154.27	90.265	CC
Parker Red D 23-2J (SI) - Wellbore #1 - Gyro Surveys	11,000.00	6,623.24	6,223.29	6,154.14	89.986	ES
Parker Red D 23-2J (SI) - Wellbore #1 - Gyro Surveys	13,300.00	6,659.35	6,645.69	6,563.54	80.896	SF
Parker Red D 23-3 (PR) - Wellbore #1 - Gyro Surveys	11,960.91	6,641.11	5,747.16	5,671.05	75.507	CC
Parker Red D 23-3 (PR) - Wellbore #1 - Gyro Surveys	12,000.00	6,639.97	5,747.30	5,670.92	75.247	ES
Parker Red D 23-3 (PR) - Wellbore #1 - Gyro Surveys	13,800.00	6,600.00	6,034.10	5,947.69	69.833	SF
Parker Red D 23-4 (SI) - Wellbore #1 - Gyro Surveys	11,866.23	6,761.81	7,082.59	7,006.63	93.237	CC
Parker Red D 23-4 (SI) - Wellbore #1 - Gyro Surveys	11,900.00	6,761.96	7,082.67	7,006.47	92.949	ES
Parker Red D 23-4 (SI) - Wellbore #1 - Gyro Surveys	14,500.00	6,773.48	7,556.43	7,465.14	82.774	SF
Two E Ranch 1-23 (SI) - Wellbore #1 - Gyro Surveys	8,487.77	6,778.09	3,355.62	3,301.43	61.924	CC
Two E Ranch 1-23 (SI) - Wellbore #1 - Gyro Surveys	8,500.00	6,777.99	3,355.64	3,301.40	61.860	ES
Two E Ranch 1-23 (SI) - Wellbore #1 - Gyro Surveys	9,300.00	6,771.32	3,452.52	3,394.69	59.700	SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersten D25-753
Project:	Mustang	TVD Reference:	KB @ 4817.00ft
Reference Site:	D Section 25	MD Reference:	KB @ 4817.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersten D25-753	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #3	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 24						
Dalbey D 24-10 (PR) - Wellbore #1 - Gyro Surveys	9,025.72	6,707.07	1,193.63	1,136.80	21.001	CC, ES
Dalbey D 24-10 (PR) - Wellbore #1 - Gyro Surveys	9,200.00	6,706.77	1,206.29	1,148.39	20.834	SF
Dalbey D 24-15 (SI) - Wellbore #1 - Gyro Surveys	8,064.92	6,714.28	725.43	673.49	13.966	CC, ES
Dalbey D 24-15 (SI) - Wellbore #1 - Gyro Surveys	8,100.00	6,714.42	726.28	674.14	13.931	SF
Glazier 2-24 (PR) - Wellbore #1 - Gyro Surveys	11,239.76	6,694.79	1,834.81	1,763.55	25.749	CC, ES
Glazier 2-24 (PR) - Wellbore #1 - Gyro Surveys	11,500.00	6,692.84	1,853.17	1,780.14	25.377	SF
Guttersten 11-24 (SI) - Wellbore #1 - Gyro Surveys	12,011.33	6,743.67	1,846.25	1,769.36	24.010	CC, ES
Guttersten 11-24 (SI) - Wellbore #1 - Gyro Surveys	12,200.00	6,743.22	1,855.87	1,778.01	23.836	SF
Guttersten 12-24 (SI) - Wellbore #1 - Gyro Surveys	10,714.40	6,730.20	1,859.10	1,791.51	27.507	CC, ES
Guttersten 12-24 (SI) - Wellbore #1 - Gyro Surveys	10,900.00	6,729.37	1,868.34	1,799.80	27.261	SF
Guttersten 21-24 (SI) - Wellbore #1 - Gyro Surveys	12,027.57	6,702.85	528.04	451.11	6.864	CC, ES, SF
Guttersten 22-24 (PR) - Wellbore #1 - Gyro Surveys	10,798.91	6,702.07	474.69	406.54	6.965	CC
Guttersten 22-24 (PR) - Wellbore #1 - Gyro Surveys	10,800.00	6,702.07	474.69	406.53	6.965	ES, SF
Guttersten 24A (SI) - Wellbore #1 - Gyro Surveys	11,352.28	6,711.44	1,153.86	1,081.80	16.012	CC, ES
Guttersten 24A (SI) - Wellbore #1 - Gyro Surveys	11,400.00	6,711.76	1,154.85	1,082.55	15.974	SF
Guttersten 24J (PR) - Wellbore #1 - Gyro Surveys	12,651.70	6,702.82	1,067.56	986.00	13.089	CC, ES
Guttersten 24J (PR) - Wellbore #1 - Gyro Surveys	12,700.00	6,702.24	1,068.65	986.88	13.068	SF
Guttersten 24N (SI) - Wellbore #1 - MWD Surveys	11,392.58	6,700.93	73.97	2.75	1.039	Level 2, CC, ES, SF
Guttersten 24S (PR) - Wellbore #1 - MWD Surveys	9,908.18	6,690.85	1,540.21	1,478.93	25.135	CC, ES
Guttersten 24S (PR) - Wellbore #1 - MWD Surveys	10,100.00	6,688.83	1,552.11	1,489.56	24.815	SF
Guttersten 43-24 (PR) - Wellbore #1 - Gyro Surveys	9,285.33	6,727.57	2,083.52	2,025.20	35.724	CC
Guttersten 43-24 (PR) - Wellbore #1 - Gyro Surveys	9,300.00	6,727.46	2,083.57	2,025.15	35.665	ES
Guttersten 43-24 (PR) - Wellbore #1 - Gyro Surveys	9,700.00	6,724.61	2,124.38	2,063.58	34.941	SF
Guttersten 44-24 (PR) - Wellbore #1 - Gyro Surveys	8,047.85	6,704.69	2,159.77	2,107.92	41.649	CC, ES
Guttersten 44-24 (PR) - Wellbore #1 - Gyro Surveys	8,500.00	6,704.39	2,206.59	2,152.58	40.853	SF
Karch Blue D 24-12 (PA) - Wellbore #1 - Gyro Surveys	9,536.20	6,728.81	1,801.74	1,742.02	30.167	CC, ES
Karch Blue D 24-12 (PA) - Wellbore #1 - Gyro Surveys	9,800.00	6,728.21	1,820.95	1,760.04	29.894	SF
Karch Blue D 24-14 (PR) - Wellbore #1 - No Surveys	8,013.31	6,722.89	233.34	70.44	1.432	Level 3, CC, ES, SF
Karch Blue D24-11 (PA) - Wellbore #1 - Gyro Surveys	9,537.94	6,699.84	385.58	319.09	5.799	CC, ES, SF
Koerner 31-24 (SI) - Wellbore #1 - Gyro Surveys	12,080.79	6,703.21	794.73	717.43	10.281	CC, ES
Koerner 31-24 (SI) - Wellbore #1 - Gyro Surveys	12,100.00	6,703.21	794.96	717.48	10.260	SF
Koerner 32-24 (SI) - Wellbore #1 - Gyro Surveys	10,646.56	6,675.11	810.25	743.15	12.076	CC, ES
Koerner 32-24 (SI) - Wellbore #1 - Gyro Surveys	10,700.00	6,674.78	812.01	744.50	12.028	SF
Koerner 42-24 (SI) - Wellbore #1 - Gyro Surveys	10,637.01	6,709.61	2,116.13	2,049.12	31.579	CC, ES
Koerner 42-24 (SI) - Wellbore #1 - Gyro Surveys	11,000.00	6,704.56	2,147.03	2,077.63	30.935	SF
LF Ranch 1-24 (SI) - Wellbore #1 - Gyro Surveys	8,430.01	6,777.07	1,457.16	1,403.23	27.017	CC, ES
LF Ranch 1-24 (SI) - Wellbore #1 - Gyro Surveys	8,600.00	6,778.35	1,467.05	1,412.44	26.866	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 - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D25-753
Project:	Mustang	TVD Reference:	KB @ 4817.00ft
Reference Site:	D Section 25	MD Reference:	KB @ 4817.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D25-753	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #3	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 25						
Coors Energy 13-25D (PR) - Wellbore #1 - MWD Surveys	2,486.44	3,015.00	2,639.57	2,616.03	112.144	CC
Coors Energy 13-25D (PR) - Wellbore #1 - MWD Surveys	2,500.00	3,025.63	2,639.61	2,615.96	111.604	ES
Coors Energy 13-25D (PR) - Wellbore #1 - MWD Surveys	6,450.00	6,545.98	3,044.91	2,988.97	54.430	SF
Coors Energy 14-25D (PR) - Wellbore #1 - MWD Surveys	991.93	990.00	3,039.78	3,034.35	559.619	CC
Coors Energy 14-25D (PR) - Wellbore #1 - MWD Surveys	1,100.00	1,064.52	3,040.35	3,034.26	499.328	ES
Coors Energy 14-25D (PR) - Wellbore #1 - MWD Surveys	6,600.00	6,689.76	4,249.34	4,199.26	84.853	SF
Coors Energy 23-25D (PR) - Wellbore #1 - MWD Surveys	4,898.89	5,386.00	2,346.84	2,309.62	63.050	CC
Coors Energy 23-25D (PR) - Wellbore #1 - MWD Surveys	4,900.00	5,386.00	2,346.84	2,309.62	63.043	ES
Coors Energy 23-25D (PR) - Wellbore #1 - MWD Surveys	6,450.00	6,534.74	2,535.98	2,489.83	54.953	SF
Coors Energy 24-25 (PR) - Wellbore #1 - Gyro Surveys	2,051.83	2,098.42	3,337.99	3,323.70	233.548	CC, ES
Coors Energy 24-25 (PR) - Wellbore #1 - Gyro Surveys	6,650.00	6,563.79	4,187.89	4,141.17	89.625	SF
Coors Energy 25HD (PR) - Wellbore #1 - MWD Surveys	2,008.76	2,080.63	2,965.64	2,947.90	167.153	CC, ES
Coors Energy 25HD (PR) - Wellbore #1 - MWD Surveys	6,500.00	6,656.43	3,873.01	3,815.04	66.813	SF
Coors Energy 25LD (PR) - Wellbore #1 - MWD Surveys	0.00	0.00	3,051.58			
Coors Energy 25LD (PR) - Wellbore #1 - MWD Surveys	800.00	781.02	3,053.79	3,049.76	756.828	ES
Coors Energy 25LD (PR) - Wellbore #1 - MWD Surveys	6,650.00	6,748.40	4,532.24	4,485.79	97.574	SF
Coors Energy 25TD (PR) - Wellbore #1 - MWD Surveys	1,243.98	1,217.01	3,744.89	3,737.76	524.930	CC
Coors Energy 25TD (PR) - Wellbore #1 - MWD Surveys	1,300.00	1,252.28	3,745.05	3,737.59	502.555	ES
Coors Energy 25TD (PR) - Wellbore #1 - MWD Surveys	6,700.00	6,673.16	4,814.64	4,768.44	104.210	SF
Coors Energy 25XD (PR) - Wellbore #1 - MWD Surveys	843.82	830.61	3,680.15	3,675.87	859.577	CC
Coors Energy 25XD (PR) - Wellbore #1 - MWD Surveys	1,500.00	1,460.91	3,681.19	3,672.25	411.575	ES
Coors Energy 25XD (PR) - Wellbore #1 - MWD Surveys	6,600.00	6,696.82	4,236.99	4,180.22	74.625	SF
Coors Energy 25YD (PR) - Wellbore #1 - MWD Surveys	871.15	901.76	3,713.83	3,709.32	823.984	CC, ES
Coors Energy 25YD (PR) - Wellbore #1 - MWD Surveys	6,750.00	7,002.62	5,324.46	5,272.25	101.982	SF
Coors Energy 33-25D (PR) - Wellbore #1 - MWD Surveys	5,124.78	5,484.45	2,576.75	2,537.39	65.473	CC, ES
Coors Energy 33-25D (PR) - Wellbore #1 - MWD Surveys	6,500.00	6,624.43	2,691.79	2,643.68	55.953	SF
Coors Energy 34-25 (PR) - Wellbore #1 - Gyro Surveys	0.00	0.00	3,542.19			
Coors Energy 34-25 (PR) - Wellbore #1 - Gyro Surveys	2,004.21	1,990.44	3,555.24	3,541.50	258.727	ES
Coors Energy 34-25 (PR) - Wellbore #1 - Gyro Surveys	6,600.00	6,475.74	4,221.55	4,175.25	91.182	SF
Coors Energy 43-25D (PR) - Wellbore #1 - MWD Surveys	5,537.89	5,820.53	3,310.60	3,261.05	66.812	CC
Coors Energy 43-25D (PR) - Wellbore #1 - MWD Surveys	5,900.00	6,169.45	3,311.05	3,259.23	63.897	ES
Coors Energy 43-25D (PR) - Wellbore #1 - MWD Surveys	6,550.00	6,723.33	3,359.38	3,303.96	60.614	SF
Coors Energy 44-25D (PR) - Wellbore #1 - MWD Surveys	100.00	70.17	3,704.77	3,704.52	10,000.000	CC
Coors Energy 44-25D (PR) - Wellbore #1 - MWD Surveys	500.00	454.64	3,705.91	3,703.54	1,560.604	ES
Coors Energy 44-25D (PR) - Wellbore #1 - MWD Surveys	6,650.00	6,589.84	4,488.72	4,440.25	92.613	SF
Dalbey D 25-03 (SI) - Wellbore #1 - Gyro Surveys	3,015.52	2,973.66	483.16	462.42	23.287	CC
Dalbey D 25-03 (SI) - Wellbore #1 - Gyro Surveys	3,100.00	3,056.84	483.40	462.06	22.651	ES
Dalbey D 25-03 (SI) - Wellbore #1 - Gyro Surveys	5,400.00	5,317.22	646.40	608.83	17.206	SF
Dalbey D 25-05 (SI) - Wellbore #1 - Gyro Surveys	1,776.63	1,772.66	1,613.41	1,601.26	132.752	CC
Dalbey D 25-05 (SI) - Wellbore #1 - Gyro Surveys	2,000.00	1,991.01	1,613.82	1,600.11	117.672	ES
Dalbey D 25-05 (SI) - Wellbore #1 - Gyro Surveys	6,550.00	6,490.11	2,288.47	2,242.47	49.757	SF
Guttersen 11-25 (PR) - Wellbore #1 - MWD Surveys	100.00	82.46	1,476.78	1,476.51	5,385.695	CC
Guttersen 11-25 (PR) - Wellbore #1 - MWD Surveys	1,000.00	971.28	1,479.18	1,473.77	273.377	ES
Guttersen 11-25 (PR) - Wellbore #1 - MWD Surveys	7,000.00	6,753.38	1,785.05	1,737.74	37.734	SF
Guttersen 22-25 (PA) - Wellbore #1 - MWD Surveys	1,272.53	1,245.54	462.38	455.04	62.983	CC
Guttersen 22-25 (PA) - Wellbore #1 - MWD Surveys	1,400.00	1,369.51	462.74	454.52	56.285	ES
Guttersen 22-25 (PA) - Wellbore #1 - MWD Surveys	6,100.00	6,022.27	1,038.55	996.88	24.919	SF
Guttersen 25E (PR) - Wellbore #1 - MWD Surveys	100.00	82.50	2,141.87	2,141.60	7,830.991	CC
Guttersen 25E (PR) - Wellbore #1 - MWD Surveys	7,380.99	6,763.74	2,180.99	2,132.30	44.790	ES
Guttersen 25E (PR) - Wellbore #1 - MWD Surveys	7,700.00	6,758.78	2,204.20	2,154.58	44.425	SF
Guttersen 25KD (PR) - Wellbore #1 - MWD Surveys	2,226.82	2,300.33	1,002.62	985.25	57.724	CC, ES
Guttersen 25KD (PR) - Wellbore #1 - MWD Surveys	6,350.00	6,486.26	1,992.65	1,941.31	38.810	SF
Guttersen 25O (PR) - Wellbore #1 - MWD Surveys	1,046.00	1,014.00	1,156.58	1,150.77	199.225	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 - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D25-753
Project:	Mustang	TVD Reference:	KB @ 4817.00ft
Reference Site:	D Section 25	MD Reference:	KB @ 4817.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D25-753	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #3	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 25						
Guttersen 25O (PR) - Wellbore #1 - MWD Surveys	2,100.00	2,075.89	1,157.10	1,143.86	87.406	ES
Guttersen 25O (PR) - Wellbore #1 - MWD Surveys	6,400.00	6,299.50	1,561.24	1,517.23	35.477	SF
Guttersen D 25-17 (SI) - Wellbore #1 - Gyro Surveys	6,420.11	6,329.57	1,455.74	1,410.79	32.387	CC, ES
Guttersen D 25-17 (SI) - Wellbore #1 - Gyro Surveys	6,700.00	6,572.40	1,483.01	1,436.16	31.652	SF
Guttersen D25-715 - Wellbore #1 - Plan #3	2,730.83	2,560.07	2,230.35	2,211.96	121.247	CC
Guttersen D25-715 - Wellbore #1 - Plan #3	2,800.00	2,614.22	2,230.58	2,211.76	118.501	ES
Guttersen D25-715 - Wellbore #1 - Plan #3	17,749.89	17,818.49	2,428.53	2,229.53	12.204	SF
Guttersen D25-724 - Wellbore #1 - Plan #3	17,749.89	17,691.92	1,840.83	1,641.59	9.239	CC, ES, SF
Guttersen D25-734 - Wellbore #1 - Plan #5	17,749.89	17,707.66	1,218.53	1,019.29	6.116	CC, ES, SF
Guttersen D25-743 - Wellbore #1 - Plan #3	17,749.89	17,821.05	605.20	406.51	3.046	CC, ES, SF
Guttersen D25-762 - Wellbore #1 - Plan #3	2,000.00	2,000.00	37.50	23.63	2.703	CC, ES
Guttersen D25-762 - Wellbore #1 - Plan #3	2,100.00	2,098.93	38.58	24.00	2.647	SF
Guttersen D25-772 - Wellbore #1 - Plan #3	2,000.00	1,999.00	75.00	61.13	5.408	CC, ES
Guttersen D25-772 - Wellbore #1 - Plan #3	2,100.00	2,096.43	76.36	61.79	5.243	SF
Guttersen D25-781 - Wellbore #1 - Plan #3	2,000.00	2,000.00	112.50	98.63	8.109	CC, ES
Guttersen D25-781 - Wellbore #1 - Plan #3	2,200.00	2,192.41	117.83	102.60	7.735	SF
Guttersen State D36-714 - Wellbore #1 - Plan #1	2,634.32	2,445.13	2,199.69	2,182.08	124.900	CC, ES
Guttersen State D36-714 - Wellbore #1 - Plan #1	6,600.00	5,917.37	2,881.54	2,837.34	65.194	SF
Guttersen State D36-724 - Wellbore #1 - Plan #1	2,766.59	2,587.95	2,156.70	2,138.17	116.358	CC
Guttersen State D36-724 - Wellbore #1 - Plan #1	2,900.00	2,708.87	2,157.41	2,138.01	111.190	ES
Guttersen State D36-724 - Wellbore #1 - Plan #1	6,550.00	6,194.07	2,439.78	2,394.69	54.105	SF
Guttersen State D36-733 - Wellbore #1 - Plan #1	5,092.84	5,055.97	1,933.29	1,897.46	53.968	CC
Guttersen State D36-733 - Wellbore #1 - Plan #1	5,200.00	5,157.19	1,933.61	1,897.01	52.841	ES
Guttersen State D36-733 - Wellbore #1 - Plan #1	6,400.00	6,250.00	1,986.27	1,941.22	44.092	SF
Guttersen State D36-743 - Wellbore #1 - Plan #1	5,602.66	5,709.14	1,602.14	1,561.33	39.256	CC
Guttersen State D36-743 - Wellbore #1 - Plan #1	5,700.00	5,802.41	1,602.66	1,561.10	38.567	ES
Guttersen State D36-743 - Wellbore #1 - Plan #1	6,350.00	6,334.89	1,635.02	1,588.97	35.502	SF
Guttersen State D36-752 - Wellbore #1 - Plan #1	2,731.38	2,721.37	76.63	57.79	4.068	CC, ES, SF
Guttersen State D36-762 - Wellbore #1 - Plan #1	2,792.49	2,788.55	18.13	-1.18	0.939	Level 1, CC, ES, SF
Guttersen State D36-771 - Wellbore #1 - Plan #1	2,804.74	2,801.65	46.47	27.03	2.391	CC, ES, SF
Guttersen State D36-781 - Wellbore #1 - Plan #1	2,676.12	2,673.71	106.97	88.43	5.770	CC, ES
Guttersen State D36-781 - Wellbore #1 - Plan #1	2,700.00	2,695.43	107.41	88.73	5.749	SF
Karch Blue D 25-02 (DA) - Wellbore #1 - No Surveys	6,773.69	6,579.87	866.67	710.81	5.561	CC
Karch Blue D 25-02 (DA) - Wellbore #1 - No Surveys	6,800.00	6,595.92	866.99	710.72	5.548	ES
Karch Blue D 25-02 (DA) - Wellbore #1 - No Surveys	6,850.00	6,624.00	869.49	712.48	5.538	SF
Karch Blue D 25-08 (SI) - Wellbore #1 - Gyro Surveys	6,361.68	6,298.83	2,466.06	2,421.45	55.283	CC, ES
Karch Blue D 25-08 (SI) - Wellbore #1 - Gyro Surveys	6,750.00	6,567.15	2,531.31	2,484.30	53.855	SF
Karch Blue D25-07 (SI) - Wellbore #1 - Gyro Surveys	4,608.97	4,543.70	1,380.21	1,348.16	43.065	CC
Karch Blue D25-07 (SI) - Wellbore #1 - Gyro Surveys	5,000.00	4,932.45	1,380.81	1,345.95	39.612	ES
Karch Blue D25-07 (SI) - Wellbore #1 - Gyro Surveys	6,450.00	6,338.24	1,438.15	1,392.96	31.822	SF
L F Ranch 2-25 (PR) - Wellbore #1 - Gyro Surveys	6,841.24	6,645.76	2,143.43	2,095.92	45.113	CC
L F Ranch 2-25 (PR) - Wellbore #1 - Gyro Surveys	6,850.00	6,649.90	2,143.46	2,095.90	45.070	ES
L F Ranch 2-25 (PR) - Wellbore #1 - Gyro Surveys	7,100.00	6,725.71	2,164.01	2,115.37	44.488	SF
LF Ranches 1 (PA) - Wellbore #1 - No Surveys	6,593.89	6,453.30	1,888.31	1,735.63	12.367	CC
LF Ranches 1 (PA) - Wellbore #1 - No Surveys	6,650.00	6,497.66	1,889.06	1,735.28	12.284	ES
LF Ranches 1 (PA) - Wellbore #1 - No Surveys	6,850.00	6,628.00	1,906.20	1,749.10	12.133	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 - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D25-753
Project:	Mustang	TVD Reference:	KB @ 4817.00ft
Reference Site:	D Section 25	MD Reference:	KB @ 4817.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D25-753	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #3	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 26						
Adam Red D 26-11 (PR) - Wellbore #1 - Gyro Surveys	1,684.37	1,727.39	5,726.83	5,715.16	490.974	CC
Adam Red D 26-11 (PR) - Wellbore #1 - Gyro Surveys	2,000.00	2,000.00	5,727.68	5,713.93	416.685	ES
Adam Red D 26-11 (PR) - Wellbore #1 - Gyro Surveys	6,950.00	6,885.26	6,546.23	6,497.65	134.750	SF
Adam Red D 26-12 (PR) - Wellbore #1 - Gyro Surveys	1,425.69	1,475.72	6,870.01	6,860.15	696.728	CC
Adam Red D 26-12 (PR) - Wellbore #1 - Gyro Surveys	1,800.00	1,800.00	6,870.82	6,858.48	557.057	ES
Adam Red D 26-12 (PR) - Wellbore #1 - Gyro Surveys	7,150.00	6,793.50	7,721.70	7,665.85	138.244	SF
Adam Red D 26-13 (PR) - Wellbore #1 - Gyro Surveys	2,016.04	2,119.36	7,073.65	7,059.42	497.118	CC, ES
Adam Red D 26-13 (PR) - Wellbore #1 - Gyro Surveys	7,700.00	7,700.00	8,387.26	8,334.34	158.505	SF
Adam Red D 26-14 (PR) - Wellbore #1 - Gyro Surveys	1,194.60	1,244.61	5,903.55	5,895.33	717.644	CC
Adam Red D 26-14 (PR) - Wellbore #1 - Gyro Surveys	2,000.00	2,014.09	5,907.31	5,893.52	428.274	ES
Adam Red D 26-14 (PR) - Wellbore #1 - Gyro Surveys	6,950.00	6,778.36	6,846.47	6,793.63	129.572	SF
Coors Energy 14-25H (PR) - Wellbore #1 - MWD Surveys	0.00	0.00	3,197.00			
Coors Energy 14-25H (PR) - Wellbore #1 - MWD Surveys	6,400.00	8,811.00	3,305.80	3,216.52	37.028	SF
Heyde 1-26 (PR) - Wellbore #1 - Gyro Surveys	2,053.73	2,069.31	2,940.38	2,926.20	207.379	CC
Heyde 1-26 (PR) - Wellbore #1 - Gyro Surveys	2,100.00	2,116.35	2,940.54	2,926.03	202.685	ES
Heyde 1-26 (PR) - Wellbore #1 - Gyro Surveys	7,100.00	6,739.92	3,475.18	3,426.59	71.510	SF
Heyde 26ND (PR) - Wellbore #1 - MWD Surveys	4,753.77	5,418.45	4,842.75	4,804.34	126.086	CC
Heyde 26ND (PR) - Wellbore #1 - MWD Surveys	4,800.00	5,449.00	4,842.98	4,804.28	125.129	ES
Heyde 26ND (PR) - Wellbore #1 - MWD Surveys	8,300.00	7,033.88	5,457.63	5,399.99	94.685	SF
Heyde 26RD (PR) - Wellbore #1 - MWD Surveys	1,000.18	998.54	3,040.86	3,034.39	469.647	CC, ES
Heyde 26RD (PR) - Wellbore #1 - MWD Surveys	8,300.00	6,868.30	3,835.00	3,779.50	69.095	SF
Heyde 26VD (PR) - Wellbore #1 - MWD Surveys	5,036.23	5,418.00	2,378.81	2,338.69	59.291	CC
Heyde 26VD (PR) - Wellbore #1 - MWD Surveys	5,100.00	5,464.64	2,379.04	2,338.45	58.618	ES
Heyde 26VD (PR) - Wellbore #1 - MWD Surveys	6,750.00	6,713.39	2,577.02	2,525.54	50.064	SF
Heyde 31-26 (PR) - Wellbore #1 - No Surveys	0.00	0.00	4,220.59			
Heyde 31-26 (PR) - Wellbore #1 - No Surveys	8,300.00	6,808.17	4,935.11	4,882.54	93.875	SF
Heyde 32-26 (SI) - Wellbore #1 - Gyro Surveys	382.96	408.14	4,051.89	4,049.49	1,693.645	CC
Heyde 32-26 (SI) - Wellbore #1 - Gyro Surveys	600.00	591.97	4,052.79	4,048.98	1,063.610	ES
Heyde 32-26 (SI) - Wellbore #1 - Gyro Surveys	7,000.00	6,854.16	4,775.09	4,726.36	97.986	SF
Heyde 41-26 (PR) - Wellbore #1 - Gyro Surveys	713.79	708.09	2,646.27	2,641.64	572.229	CC
Heyde 41-26 (PR) - Wellbore #1 - Gyro Surveys	1,000.00	973.10	2,647.50	2,640.92	402.545	ES
Heyde 41-26 (PR) - Wellbore #1 - Gyro Surveys	7,400.00	6,765.15	3,072.47	3,022.92	62.007	SF
Heyde 42-26 (PR) - Wellbore #1 - Gyro Surveys	0.00	0.00	2,677.58			
Heyde 42-26 (PR) - Wellbore #1 - Gyro Surveys	2,000.00	2,001.77	2,688.00	2,674.24	195.249	ES
Heyde 42-26 (PR) - Wellbore #1 - Gyro Surveys	6,850.00	6,683.00	3,399.19	3,351.55	71.342	SF
HSR-Waste Services 10-26 (SI) - Wellbore #1 - No Surve	2,000.00	2,029.00	4,271.65	4,224.13	89.898	CC
HSR-Waste Services 10-26 (SI) - Wellbore #1 - No Surve	2,100.00	2,128.98	4,273.21	4,223.34	85.682	ES
HSR-Waste Services 10-26 (SI) - Wellbore #1 - No Surve	6,800.00	6,680.92	5,106.84	4,948.89	32.333	SF
HSR-Waste Services 15-26 (SI) - Wellbore #1 - No Surve	2,000.00	2,045.00	5,032.30	4,984.47	105.198	CC
HSR-Waste Services 15-26 (SI) - Wellbore #1 - No Surve	2,100.00	2,144.98	5,033.96	4,983.77	100.292	ES
HSR-Waste Services 15-26 (SI) - Wellbore #1 - No Surve	6,800.00	6,696.92	5,922.34	5,764.07	37.419	SF
HSR-Waste Services 16-26 (SI) - Wellbore #1 - Gyro Sur	0.00	0.00	4,071.29			
HSR-Waste Services 16-26 (SI) - Wellbore #1 - Gyro Sur	6,650.00	6,596.84	4,974.52	4,927.68	106.202	SF
HSR-Waste Services 9-26 (PA) - Wellbore #1 - Gyro Sur	2,017.65	2,046.31	3,172.07	3,158.08	226.708	CC, ES
HSR-Waste Services 9-26 (PA) - Wellbore #1 - Gyro Sur	6,650.00	6,588.62	3,949.99	3,903.22	84.455	SF
Waste Management 11-26 (PR) - Wellbore #1 - Gyro Sur	0.00	18.68	6,665.52			
Waste Management 11-26 (PR) - Wellbore #1 - Gyro Sur	1,600.00	1,585.18	6,672.15	6,661.27	613.453	ES
Waste Management 11-26 (PR) - Wellbore #1 - Gyro Sur	10,800.00	6,487.07	8,237.60	8,175.47	132.582	SF
Waste Management 12-26 (PR) - Wellbore #1 - Gyro Sur	0.00	24.27	6,728.73			
Waste Management 12-26 (PR) - Wellbore #1 - Gyro Sur	2,100.00	2,242.91	6,736.90	6,721.94	450.372	ES
Waste Management 12-26 (PR) - Wellbore #1 - Gyro Sur	9,700.00	6,583.18	8,386.02	8,329.48	148.318	SF
Waste Management 12-26A (PR) - Wellbore #1 - Gyro Su	0.00	21.62	6,039.06			
Waste Management 12-26A (PR) - Wellbore #1 - Gyro Su	400.00	391.13	6,040.88	6,038.49	2,520.919	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 - DJ Basin	Local Co-ordinate Reference:	Well Guttersten D25-753
Project:	Mustang	TVD Reference:	KB @ 4817.00ft
Reference Site:	D Section 25	MD Reference:	KB @ 4817.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersten D25-753	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #3	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 26						
Waste Management 12-26A (PR) - Wellbore #1 - Gyro Sur	8,900.00	8,900.00	7,172.26	7,110.66	116.446	SF
Waste Management 21-26 (PR) - Wellbore #1 - Gyro Sur	0.00	16.50	5,249.97			
Waste Management 21-26 (PR) - Wellbore #1 - Gyro Sur	2,100.00	2,139.77	5,251.61	5,237.01	359.860	ES
Waste Management 21-26 (PR) - Wellbore #1 - Gyro Sur	9,400.00	6,854.90	6,186.88	6,129.71	108.207	SF
Waste Management 22-26 (PR) - Wellbore #1 - Gyro Sur	1,214.60	1,247.62	5,298.13	5,289.83	638.002	CC
Waste Management 22-26 (PR) - Wellbore #1 - Gyro Sur	2,000.00	1,997.21	5,301.45	5,287.71	385.959	ES
Waste Management 22-26 (PR) - Wellbore #1 - Gyro Sur	7,150.00	6,890.10	6,007.98	5,958.96	122.563	SF
Waste Management 26FD (PR) - Wellbore #1 - MWD Su	838.16	876.67	6,090.92	6,085.45	1,114.987	CC
Waste Management 26FD (PR) - Wellbore #1 - MWD Su	1,046.47	1,104.25	6,090.97	6,083.96	867.930	ES
Waste Management 26FD (PR) - Wellbore #1 - MWD Su	11,400.00	6,969.00	9,346.39	9,277.00	134.681	SF
Waste Management 26KD (PR) - Wellbore #1 - MWD Su	1,417.24	1,458.95	6,053.10	6,043.44	627.210	CC
Waste Management 26KD (PR) - Wellbore #1 - MWD Su	2,200.00	2,461.20	6,055.09	6,037.69	347.990	ES
Waste Management 26KD (PR) - Wellbore #1 - MWD Su	6,950.00	6,683.59	6,764.13	6,709.68	124.229	SF
Waste Management D 26-25 (SI) - Wellbore #1 - Gyro Sur	2,014.55	2,096.94	6,293.41	6,279.25	444.496	CC, ES
Waste Management D 26-25 (SI) - Wellbore #1 - Gyro Sur	6,900.00	6,840.06	7,120.64	7,072.26	147.205	SF
Waste Management 26JD (PR) - Wellbore #1 - MWD Surv	966.90	990.00	5,584.37	5,578.43	939.501	CC
Waste Management 26JD (PR) - Wellbore #1 - MWD Surv	1,000.00	990.00	5,584.47	5,578.41	921.149	ES
Waste Management 26JD (PR) - Wellbore #1 - MWD Surv	10,400.00	6,835.18	7,092.98	7,026.74	107.083	SF
DD Section 06						
Guttersten DD18-715 - Guttersten DD18-715 - Plan #1	17,749.89	12,558.12	7,753.42	7,600.56	50.723	CC, ES, SF
Guttersten DD18-725 - Guttersten DD18-725 - Plan #1	17,749.89	12,401.67	7,093.53	6,941.38	46.622	CC, ES, SF
Guttersten DD18-730 - Guttersten DD18-730 - Plan #1	17,749.89	12,609.68	6,762.74	6,610.59	44.449	CC, ES, SF
Guttersten DD18-735 - Guttersten DD18-735 - Plan #1	17,749.89	12,516.31	6,431.75	6,279.55	42.260	CC, ES, SF
Guttersten DD18-746 - Guttersten DD18-746 - Plan #1	17,749.89	12,514.24	5,771.70	5,619.11	37.827	CC, ES, SF
Guttersten DD18-750 - Guttersten DD18-750 - Plan #1	17,749.89	12,777.68	5,441.49	5,288.24	35.506	CC, ES, SF
Guttersten DD18-754 - Guttersten DD18-754 - Plan #1	17,749.89	12,588.42	5,110.17	4,957.11	33.387	CC, ES, SF
Guttersten DD18-765 - Guttersten DD18-765 - Plan #1	17,749.89	12,411.61	4,450.35	4,297.92	29.196	CC, ES, SF
Guttersten DD18-770 - Guttersten DD18-770 - Plan #1	17,749.89	12,603.31	4,120.09	3,967.88	27.069	CC, ES, SF
Guttersten DD18-775 - Guttersten DD18-775 - Plan #1	17,749.89	12,492.11	3,788.62	3,636.36	24.883	CC, ES, SF
Guttersten DD18-785 - Guttersten DD18-785 - Plan #1	17,749.89	12,479.00	3,129.22	2,976.62	20.506	CC, ES, SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D25-753
Project:	Mustang	TVD Reference:	KB @ 4817.00ft
Reference Site:	D Section 25	MD Reference:	KB @ 4817.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D25-753	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #3	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						
DD Section 18						
Guttersen 18D - Wellbore #1 - Wellbore #1 - As Drilled	13,998.02	6,620.37	6,734.87	6,644.36	74.409	CC
Guttersen 18D - Wellbore #1 - Wellbore #1 - As Drilled	14,100.00	6,618.78	6,735.64	6,644.32	73.760	ES
Guttersen 18D - Wellbore #1 - Wellbore #1 - As Drilled	16,200.00	6,586.02	7,085.62	6,981.08	67.777	SF
Guttersen 24-18 - Wellbore #1 - Wellbore #1 - As Drilled	13,339.97	6,691.65	4,858.53	4,772.59	56.535	CC
Guttersen 24-18 - Wellbore #1 - Wellbore #1 - As Drilled	13,400.00	6,691.50	4,858.90	4,772.48	56.227	ES
Guttersen 24-18 - Wellbore #1 - Wellbore #1 - As Drilled	14,600.00	6,688.52	5,019.26	4,925.10	53.307	SF
Guttersen 33-18 - Wellbore #1 - Wellbore #1 - As Drilled	14,758.60	6,725.27	6,136.07	6,038.36	62.798	CC
Guttersen 33-18 - Wellbore #1 - Wellbore #1 - As Drilled	14,800.00	6,724.86	6,136.21	6,038.16	62.586	ES
Guttersen 33-18 - Wellbore #1 - Wellbore #1 - As Drilled	16,500.00	6,708.22	6,378.36	6,269.37	58.525	SF
Guttersen 34-18 - Wellbore #1 - Wellbore #1 - As Drilled	13,317.45	6,734.45	6,070.55	5,984.98	70.947	CC
Guttersen 34-18 - Wellbore #1 - Wellbore #1 - As Drilled	13,400.00	6,734.97	6,071.11	5,984.89	70.415	ES
Guttersen 34-18 - Wellbore #1 - Wellbore #1 - As Drilled	15,300.00	6,745.65	6,386.07	6,287.82	64.994	SF
Guttersen 43-18 - Wellbore #1 - Wellbore #1 - As Drilled	14,763.65	6,732.79	7,333.33	7,233.12	73.181	CC
Guttersen 43-18 - Wellbore #1 - Wellbore #1 - As Drilled	14,800.00	6,732.55	7,333.42	7,232.92	72.970	ES
Guttersen 43-18 - Wellbore #1 - Wellbore #1 - As Drilled	17,100.00	6,716.83	7,696.49	7,581.23	66.778	SF
Guttersen 44-18 - Wellbore #1 - Wellbore #1 - As Drilled	13,395.69	6,701.89	7,412.95	7,326.95	86.201	CC
Guttersen 44-18 - Wellbore #1 - Wellbore #1 - As Drilled	13,500.00	6,701.90	7,413.68	7,326.86	85.396	ES
Guttersen 44-18 - Wellbore #1 - Wellbore #1 - As Drilled	16,100.00	6,702.36	7,890.82	7,787.56	76.418	SF
Karch Blue DD18-03J - Wellbore #1 - Wellbore #1 - As D	14,393.65	6,793.16	4,455.63	4,360.20	46.690	CC
Karch Blue DD18-03J - Wellbore #1 - Wellbore #1 - As D	14,400.00	6,793.15	4,455.64	4,360.15	46.664	ES
Karch Blue DD18-03J - Wellbore #1 - Wellbore #1 - As D	15,400.00	6,790.95	4,567.86	4,465.79	44.748	SF
Karch Blue DD18-12 - Original Drilling - Original Drilling -	14,767.02	6,683.34	3,317.23	3,215.09	32.477	CC
Karch Blue DD18-12 - Original Drilling - Original Drilling -	14,800.00	6,683.39	3,317.39	3,214.98	32.391	ES
Karch Blue DD18-12 - Original Drilling - Original Drilling -	15,300.00	6,684.21	3,359.77	3,253.97	31.755	SF
Karch Blue DD18-13 - Wellbore #1 - Wellbore #1 - As Dri	13,277.02	6,655.23	3,276.34	3,190.21	38.038	CC
Karch Blue DD18-13 - Wellbore #1 - Wellbore #1 - As Dri	13,300.00	6,655.46	3,276.42	3,190.10	37.956	ES
Karch Blue DD18-13 - Wellbore #1 - Wellbore #1 - As Dri	13,900.00	6,661.76	3,335.04	3,244.73	36.928	SF
SPIKE STATE GWS DD #18-1J(PA) - SPIKE STATE GW	16,704.13	6,752.16	6,738.90	6,514.18	29.988	CC
SPIKE STATE GWS DD #18-1J(PA) - SPIKE STATE GW	16,800.00	6,751.91	6,739.58	6,514.08	29.887	ES
SPIKE STATE GWS DD #18-1J(PA) - SPIKE STATE GW	17,749.89	6,749.42	6,819.56	6,587.26	29.357	SF
DD Section 19						
Champlin 366 Amoco B1 (PR) - Wellbore #1 - Gyro Surv	11,036.48	6,600.00	7,082.86	7,013.35	101.897	CC
Champlin 366 Amoco B1 (PR) - Wellbore #1 - Gyro Surv	11,100.00	6,600.00	7,083.15	7,013.18	101.230	ES
Champlin 366 Amoco B1 (PR) - Wellbore #1 - Gyro Surv	15,800.00	15,800.00	8,534.97	8,408.30	67.379	SF
Champlin 366 Amoco D1 (PA) - Wellbore #1 - No Survey	8,415.09	6,741.84	4,472.42	4,307.27	27.082	CC, ES
Champlin 366 Amoco D1 (PA) - Wellbore #1 - No Survey	9,100.00	6,740.05	4,524.56	4,355.72	26.798	SF
Guttersen 31-19 (PR) - Wellbore #1 - Gyro Surveys	12,023.78	6,698.17	6,155.13	6,078.21	80.029	CC
Guttersen 31-19 (PR) - Wellbore #1 - Gyro Surveys	12,100.00	6,696.74	6,155.60	6,078.11	79.438	ES
Guttersen 31-19 (PR) - Wellbore #1 - Gyro Surveys	15,800.00	15,800.00	7,220.76	7,092.80	56.427	SF
Guttersen 44-19 (SI) - Wellbore #1 - No Surveys	8,169.90	6,787.49	7,505.61	7,340.71	45.518	CC
Guttersen 44-19 (SI) - Wellbore #1 - No Surveys	8,200.00	6,787.41	7,505.67	7,340.63	45.480	ES
Guttersen 44-19 (SI) - Wellbore #1 - No Surveys	10,100.00	6,782.44	7,749.80	7,574.28	44.152	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 - DJ Basin	Local Co-ordinate Reference:	Well Gutttersen D25-753
Project:	Mustang	TVD Reference:	KB @ 4817.00ft
Reference Site:	D Section 25	MD Reference:	KB @ 4817.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Gutttersen D25-753	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #3	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						
DD Section 30						
Gutttersen 11-30 (PR) - Wellbore #1 - Gyro Surveys	6,943.56	6,657.32	3,472.48	3,424.56	72.469	CC
Gutttersen 11-30 (PR) - Wellbore #1 - Gyro Surveys	6,950.00	6,659.75	3,472.49	3,424.54	72.425	ES
Gutttersen 11-30 (PR) - Wellbore #1 - Gyro Surveys	7,700.00	6,699.87	3,578.16	3,527.70	70.916	SF
Gutttersen 12-30 (PR) - Wellbore #1 - Gyro Surveys	6,350.47	6,160.50	3,634.22	3,590.13	82.429	CC, ES
Gutttersen 12-30 (PR) - Wellbore #1 - Gyro Surveys	6,950.00	6,594.97	3,740.31	3,692.56	78.328	SF
Gutttersen 22-30 (PR) - Wellbore #1 - Gyro Surveys	6,476.22	6,418.48	4,970.69	4,925.25	109.391	CC, ES
Gutttersen 22-30 (PR) - Wellbore #1 - Gyro Surveys	7,100.00	6,600.00	5,070.76	5,022.54	105.151	SF
Gutttersen 30 A (PR) - Wellbore #1 - Gyro Surveys	6,585.47	6,427.20	4,263.57	4,217.67	92.893	CC
Gutttersen 30 A (PR) - Wellbore #1 - Gyro Surveys	6,600.00	6,439.32	4,263.61	4,217.61	92.699	ES
Gutttersen 30 A (PR) - Wellbore #1 - Gyro Surveys	7,200.00	6,685.43	4,340.60	4,291.76	88.872	SF
Gutttersen State DD30-715 - Gutttersen State DD30-715 -	12,549.12	17,403.77	7,807.34	7,660.61	53.209	CC
Gutttersen State DD30-715 - Gutttersen State DD30-715 -	12,600.00	17,403.77	7,807.51	7,660.38	53.067	ES
Gutttersen State DD30-715 - Gutttersen State DD30-715 -	14,300.00	17,403.77	8,001.26	7,844.00	50.877	SF
Gutttersen State DD30-725 - Gutttersen State DD30-725 -	12,540.20	17,269.51	7,168.02	7,021.39	48.885	CC
Gutttersen State DD30-725 - Gutttersen State DD30-725 -	12,600.00	17,269.51	7,168.27	7,021.19	48.737	ES
Gutttersen State DD30-725 - Gutttersen State DD30-725 -	14,000.00	17,269.51	7,315.16	7,159.97	47.137	SF
Gutttersen State DD30-735 - Gutttersen State DD30-735 -	12,530.46	17,436.50	6,507.43	6,361.28	44.524	CC
Gutttersen State DD30-735 - Gutttersen State DD30-735 -	12,600.00	17,436.50	6,507.81	6,361.15	44.374	ES
Gutttersen State DD30-735 - Gutttersen State DD30-735 -	13,700.00	17,436.50	6,611.70	6,458.95	43.285	SF
Gutttersen State DD30-745 - Gutttersen State DD30-745 -	12,520.85	17,588.29	5,846.44	5,700.84	40.154	CC, ES
Gutttersen State DD30-745 - Gutttersen State DD30-745 -	13,400.00	17,588.29	5,912.17	5,761.93	39.351	SF
Gutttersen State DD30-755 - Gutttersen State DD30-755 -	12,510.26	17,383.05	5,109.97	4,963.56	34.901	CC, ES
Gutttersen State DD30-755 - Gutttersen State DD30-755 -	13,200.00	17,383.05	5,156.31	5,005.76	34.249	SF
Gutttersen State DD30-766 - Gutttersen State DD30-766 -	12,500.20	17,329.34	4,400.29	4,255.13	30.313	CC, ES
Gutttersen State DD30-766 - Gutttersen State DD30-766 -	13,000.00	17,329.34	4,428.58	4,280.65	29.937	SF
Gutttersen State DD30-775 - Gutttersen State DD30-775 -	12,491.78	17,481.59	3,792.77	3,647.66	26.137	CC
Gutttersen State DD30-775 - Gutttersen State DD30-775 -	12,500.00	17,481.59	3,792.78	3,647.62	26.128	ES
Gutttersen State DD30-775 - Gutttersen State DD30-775 -	12,800.00	17,481.59	3,805.28	3,658.64	25.950	SF
Gutttersen State DD30-785 - Gutttersen State DD30-785 -	12,482.30	17,796.63	3,150.64	3,005.48	21.705	CC
Gutttersen State DD30-785 - Gutttersen State DD30-785 -	12,500.00	17,796.63	3,150.69	3,005.44	21.692	ES
Gutttersen State DD30-785 - Gutttersen State DD30-785 -	12,700.00	17,796.63	3,158.15	3,012.18	21.636	SF
Karch Blue DD 30-12 (PA) - Wellbore #1 - No Surveys	6,204.70	6,101.09	4,116.63	3,972.38	28.538	CC
Karch Blue DD 30-12 (PA) - Wellbore #1 - No Surveys	6,350.00	6,243.73	4,117.74	3,970.09	27.889	ES
Karch Blue DD 30-12 (PA) - Wellbore #1 - No Surveys	6,800.00	6,610.92	4,228.36	4,071.72	26.995	SF
Karch Blue DD 30-14 (PA) - Wellbore #1 - No Surveys	4,052.88	3,990.17	6,213.62	6,119.51	66.028	CC
Karch Blue DD 30-14 (PA) - Wellbore #1 - No Surveys	6,302.08	6,202.90	6,226.70	6,080.04	42.456	ES
Karch Blue DD 30-14 (PA) - Wellbore #1 - No Surveys	6,900.00	6,669.78	6,400.03	6,241.91	40.475	SF
Karch Blue DD 30-3 J (PA) - Wellbore #1 - No Surveys	6,309.27	6,208.96	5,397.85	5,251.06	36.772	CC
Karch Blue DD 30-3 J (PA) - Wellbore #1 - No Surveys	6,350.00	6,248.73	5,398.56	5,250.82	36.541	ES
Karch Blue DD 30-3 J (PA) - Wellbore #1 - No Surveys	6,900.00	6,668.78	5,543.26	5,385.16	35.061	SF
L F Ranch 2-30 (PR) - Wellbore #1 - Gyro Surveys	6,852.15	6,824.21	4,804.66	4,756.54	99.866	CC, ES
L F Ranch 2-30 (PR) - Wellbore #1 - Gyro Surveys	8,500.00	6,898.69	5,190.49	5,136.30	95.781	SF
State 19 (PA) - Wellbore #1 - NO Surveys	6,734.53	6,625.44	7,052.79	6,896.15	45.027	CC
State 19 (PA) - Wellbore #1 - NO Surveys	6,800.00	6,666.92	7,053.43	6,895.73	44.728	ES
State 19 (PA) - Wellbore #1 - NO Surveys	7,200.00	6,791.96	7,087.68	6,926.23	43.899	SF

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