

Project: Mustang
Site: D Section 25
Well: Gutteresen D25-772
Wellbore: Wellbore #1
Design: Plan #3

Northern Region - DJ Basin

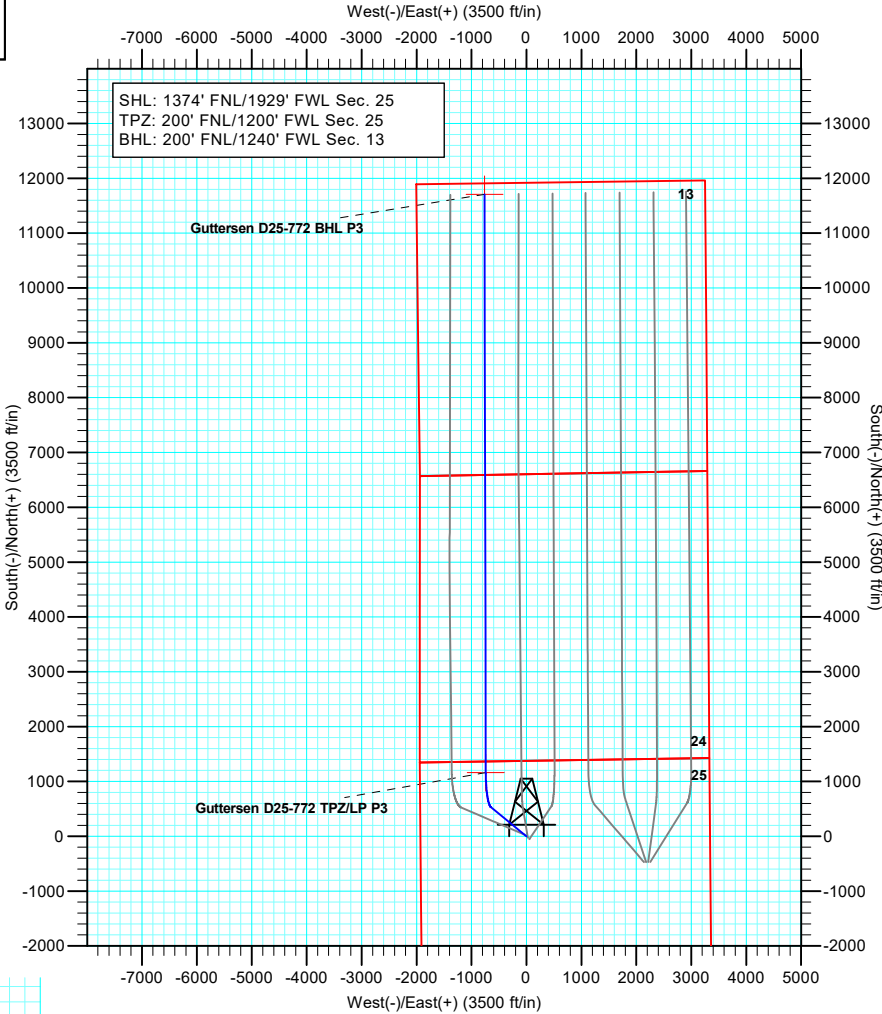
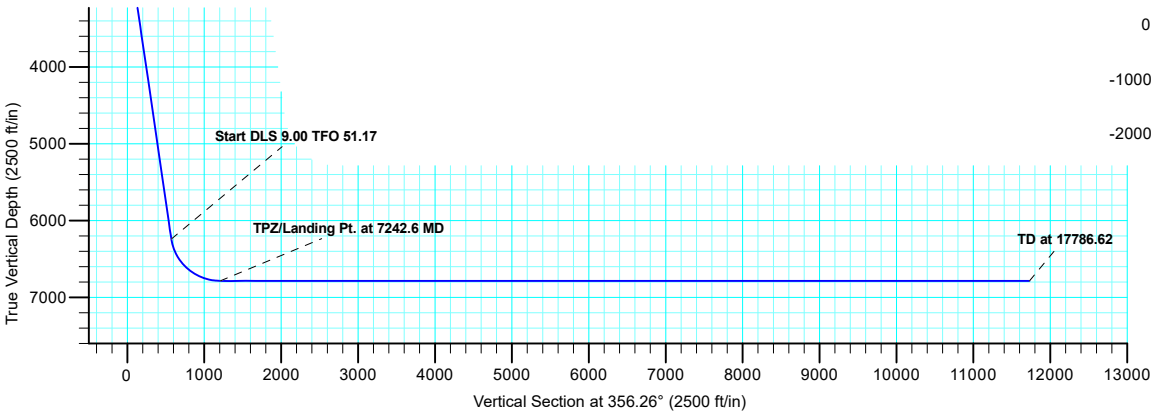
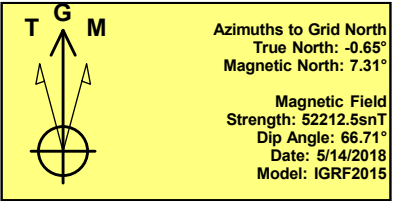
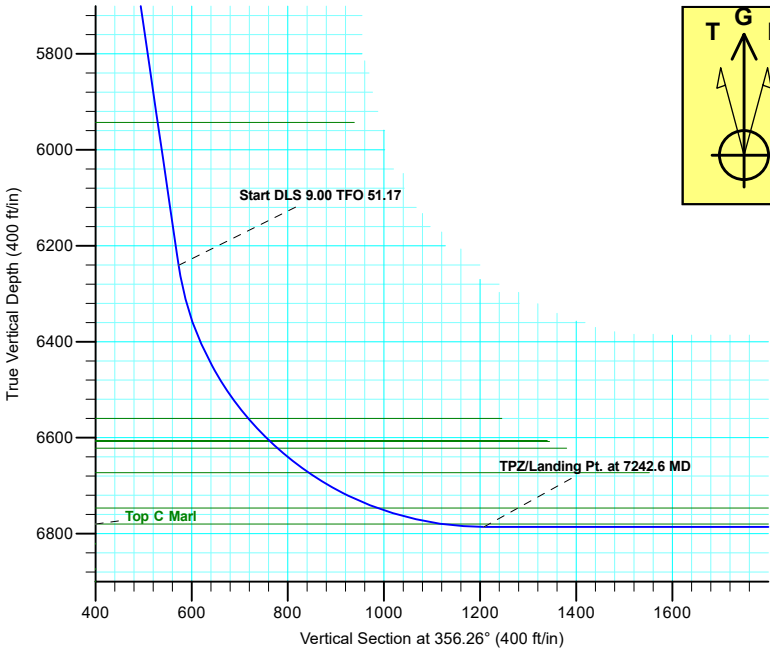
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Colorado Northern Zone
System Datum: Mean Sea Level

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	2601.21	12.02	309.33	2596.80	39.83	-48.62	2.00	309.33	42.91
4	6327.13	12.02	309.33	6240.98	531.73	-649.06	0.00	0.00	572.88
5	7242.60	90.00	359.87	6786.00	1162.53	-740.13	9.00	51.17	1208.28
6	17786.62	90.00	359.87	6786.00	11706.52	-764.28	0.00	0.00	11731.44

WELL DETAILS: Gutteresen D25-772

+N/-S	+E/-W	Northing	Ground Level: Easting	4786.00 Latitude	Longitude	Slot
0.00	0.00	1317211.12	3278687.05	40.1998376	-104.5022902	



Plan: Plan #3 (Gutteresen D25-772/Wellbore #1)

Created By: Shelly C. Peterkin Date: 10:52, June 24 2019

Northern Region - DJ Basin

Mustang

D Section 25

Guttersen D25-772

Wellbore #1

Plan: Plan #3

Standard Planning Report

24 June, 2019

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Guttersen D25-772
Company:	Northern Region - DJ Basin	TVD Reference:	KB @ 4816.00ft
Project:	Mustang	MD Reference:	KB @ 4816.00ft
Site:	D Section 25	North Reference:	Grid
Well:	Guttersen D25-772	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 D25-772					
Well Position	+N/-S	1,181.68 ft	Northing:	1,317,211.12 usft	Latitude:	40.1998376
	+E/-W	-678.51 ft	Easting:	3,278,687.05 usft	Longitude:	-104.5022902
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	4,786.00 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	5/14/2018	7.96	66.71	52,212.46020987

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	356.26

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	
2,601.21	12.02	309.33	2,596.80	39.83	-48.62	2.00	2.00	0.00	309.33	
6,327.13	12.02	309.33	6,240.98	531.73	-649.06	0.00	0.00	0.00	0.00	
7,242.60	90.00	359.87	6,786.00	1,162.53	-740.13	9.00	8.52	5.52	51.17	Guttersen D25-772 TI
17,786.62	90.00	359.87	6,786.00	11,706.52	-764.28	0.00	0.00	0.00	0.00	Guttersen D25-772 BI

Noble Energy, Inc.

Planning Report

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Company:	Northern Region - DJ Basin	TVD Reference:	KB @ 4816.00ft
Project:	Mustang	MD Reference:	KB @ 4816.00ft
Site:	D Section 25	North Reference:	Grid
Well:	Guttersen D25-772	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
679.00	0.00	0.00	679.00	0.00	0.00	0.00	0.00	0.00	0.00
Upper Pierre Aquifer Top									
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
717.00	0.00	0.00	717.00	0.00	0.00	0.00	0.00	0.00	0.00
Pierre									
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
1,616.00	0.00	0.00	1,616.00	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	309.33	2,099.98	1.11	-1.35	1.19	2.00	2.00	0.00
2,200.00	4.00	309.33	2,199.84	4.42	-5.40	4.76	2.00	2.00	0.00
2,300.00	6.00	309.33	2,299.45	9.95	-12.14	10.72	2.00	2.00	0.00
2,400.00	8.00	309.33	2,398.70	17.67	-21.57	19.04	2.00	2.00	0.00
2,500.00	10.00	309.33	2,497.47	27.58	-33.67	29.72	2.00	2.00	0.00
2,601.21	12.02	309.33	2,596.80	39.83	-48.62	42.91	2.00	2.00	0.00
Start 3725.93 hold at 2601.21 MD									
2,700.00	12.02	309.33	2,693.43	52.87	-64.54	56.97	0.00	0.00	0.00
2,800.00	12.02	309.33	2,791.24	66.08	-80.66	71.19	0.00	0.00	0.00
2,900.00	12.02	309.33	2,889.04	79.28	-96.77	85.41	0.00	0.00	0.00
3,000.00	12.02	309.33	2,986.85	92.48	-112.89	99.64	0.00	0.00	0.00
3,100.00	12.02	309.33	3,084.65	105.68	-129.00	113.86	0.00	0.00	0.00
3,200.00	12.02	309.33	3,182.46	118.88	-145.12	128.09	0.00	0.00	0.00
3,300.00	12.02	309.33	3,280.27	132.09	-161.23	142.31	0.00	0.00	0.00
3,400.00	12.02	309.33	3,378.07	145.29	-177.35	156.53	0.00	0.00	0.00
3,500.00	12.02	309.33	3,475.88	158.49	-193.46	170.76	0.00	0.00	0.00
3,600.00	12.02	309.33	3,573.68	171.69	-209.58	184.98	0.00	0.00	0.00
3,696.43	12.02	309.33	3,668.00	184.42	-225.12	198.70	0.00	0.00	0.00
Parkman									
3,700.00	12.02	309.33	3,671.49	184.89	-225.69	199.20	0.00	0.00	0.00
3,800.00	12.02	309.33	3,769.30	198.10	-241.81	213.43	0.00	0.00	0.00
3,900.00	12.02	309.33	3,867.10	211.30	-257.92	227.65	0.00	0.00	0.00
4,000.00	12.02	309.33	3,964.91	224.50	-274.04	241.88	0.00	0.00	0.00
4,100.00	12.02	309.33	4,062.71	237.70	-290.15	256.10	0.00	0.00	0.00
4,127.90	12.02	309.33	4,090.00	241.38	-294.65	260.07	0.00	0.00	0.00

Noble Energy, Inc.

Planning Report

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Company:	Northern Region - DJ Basin	TVD Reference:	KB @ 4816.00ft
Project:	Mustang	MD Reference:	KB @ 4816.00ft
Site:	D Section 25	North Reference:	Grid
Well:	Guttersen D25-772	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									
4,200.00	12.02	309.33	4,160.52	250.90	-306.27	270.32	0.00	0.00	0.00
4,300.00	12.02	309.33	4,258.33	264.10	-322.38	284.55	0.00	0.00	0.00
4,317.05	12.02	309.33	4,275.00	266.36	-325.13	286.97	0.00	0.00	0.00
Shannon									
4,400.00	12.02	309.33	4,356.13	277.31	-338.50	298.77	0.00	0.00	0.00
4,500.00	12.02	309.33	4,453.94	290.51	-354.61	312.99	0.00	0.00	0.00
4,600.00	12.02	309.33	4,551.74	303.71	-370.73	327.22	0.00	0.00	0.00
4,700.00	12.02	309.33	4,649.55	316.91	-386.84	341.44	0.00	0.00	0.00
4,800.00	12.02	309.33	4,747.36	330.11	-402.96	355.67	0.00	0.00	0.00
4,900.00	12.02	309.33	4,845.16	343.32	-419.07	369.89	0.00	0.00	0.00
5,000.00	12.02	309.33	4,942.97	356.52	-435.19	384.11	0.00	0.00	0.00
5,100.00	12.02	309.33	5,040.77	369.72	-451.30	398.34	0.00	0.00	0.00
5,200.00	12.02	309.33	5,138.58	382.92	-467.42	412.56	0.00	0.00	0.00
5,300.00	12.02	309.33	5,236.39	396.12	-483.53	426.78	0.00	0.00	0.00
5,400.00	12.02	309.33	5,334.19	409.33	-499.65	441.01	0.00	0.00	0.00
5,500.00	12.02	309.33	5,432.00	422.53	-515.76	455.23	0.00	0.00	0.00
5,600.00	12.02	309.33	5,529.80	435.73	-531.88	469.46	0.00	0.00	0.00
5,700.00	12.02	309.33	5,627.61	448.93	-548.00	483.68	0.00	0.00	0.00
5,800.00	12.02	309.33	5,725.42	462.13	-564.11	497.90	0.00	0.00	0.00
5,900.00	12.02	309.33	5,823.22	475.34	-580.23	512.13	0.00	0.00	0.00
6,000.00	12.02	309.33	5,921.03	488.54	-596.34	526.35	0.00	0.00	0.00
6,022.47	12.02	309.33	5,943.00	491.50	-599.96	529.55	0.00	0.00	0.00
Teepee Buttes									
6,100.00	12.02	309.33	6,018.83	501.74	-612.46	540.57	0.00	0.00	0.00
6,200.00	12.02	309.33	6,116.64	514.94	-628.57	554.80	0.00	0.00	0.00
6,300.00	12.02	309.33	6,214.45	528.14	-644.69	569.02	0.00	0.00	0.00
6,327.13	12.02	309.33	6,240.98	531.73	-649.06	572.88	0.00	0.00	0.00
Start DLS 9.00 TFO 51.17									
6,350.00	13.41	316.25	6,263.29	535.15	-652.73	576.54	9.00	6.06	30.30
6,400.00	16.91	327.13	6,311.55	545.45	-660.70	587.34	9.00	7.01	21.75
6,450.00	20.80	334.21	6,358.87	559.56	-668.51	601.93	9.00	7.77	14.16
6,500.00	24.88	339.10	6,404.94	577.39	-676.13	620.21	9.00	8.17	9.78
6,550.00	29.08	342.67	6,449.49	598.83	-683.50	642.08	9.00	8.40	7.14
6,600.00	33.35	345.40	6,492.24	623.74	-690.59	667.41	9.00	8.55	5.46
6,650.00	37.67	347.57	6,532.93	651.98	-697.35	696.02	9.00	8.64	4.34
6,684.93	40.71	348.85	6,560.00	673.58	-701.85	717.87	9.00	8.70	3.66
Sharon Springs									
6,700.00	42.03	349.35	6,571.31	683.36	-703.73	727.76	9.00	8.72	3.34
6,748.35	46.26	350.81	6,606.00	716.53	-709.51	761.23	9.00	8.75	3.02
Top A Chalk									
6,750.00	46.40	350.86	6,607.14	717.71	-709.70	762.42	9.00	8.77	2.79
6,751.25	46.51	350.89	6,608.00	718.60	-709.84	763.32	9.00	8.77	2.78
Top A Marl									
6,771.94	48.33	351.45	6,622.00	733.65	-712.18	778.49	9.00	8.78	2.69
Top B Chalk									
6,800.00	50.80	352.16	6,640.20	754.79	-715.22	799.78	9.00	8.79	2.52
6,850.00	55.20	353.31	6,670.28	794.39	-720.26	839.63	9.00	8.81	2.29
6,854.79	55.62	353.41	6,673.00	798.31	-720.72	843.56	9.00	8.82	2.15
Top B Marl									
6,900.00	59.62	354.34	6,697.21	836.26	-724.79	881.71	9.00	8.83	2.05
6,950.00	64.04	355.28	6,720.81	880.15	-728.77	925.76	9.00	8.85	1.88
7,000.00	68.47	356.15	6,740.94	925.78	-732.18	971.51	9.00	8.86	1.74

Noble Energy, Inc.

Planning Report

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Project:	Mustang	MD Reference:	KB @ 4816.00ft
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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)
7,017.10	69.99	356.43	6,747.00	941.73	-733.22	987.50	9.00	8.86	1.67
Top C Chalk									
7,050.00	72.90	356.97	6,757.47	972.87	-735.01	1,018.68	9.00	8.87	1.63
7,100.00	77.34	357.75	6,770.31	1,021.13	-737.23	1,066.99	9.00	8.87	1.56
7,150.00	81.78	358.51	6,779.37	1,070.26	-738.83	1,116.12	9.00	8.88	1.51
7,154.54	82.18	358.57	6,780.00	1,074.76	-738.95	1,120.62	9.00	8.88	1.49
Top C Marl									
7,200.00	86.22	359.25	6,784.59	1,119.96	-739.81	1,165.78	9.00	8.88	1.48
7,242.60	90.00	359.87	6,786.00	1,162.53	-740.13	1,208.28	9.00	8.88	1.46
TPZ/Landing Pt. at 7242.6 MD									
7,300.00	90.00	359.87	6,786.00	1,219.93	-740.27	1,265.57	0.00	0.00	0.00
7,400.00	90.00	359.87	6,786.00	1,319.93	-740.50	1,365.37	0.00	0.00	0.00
7,500.00	90.00	359.87	6,786.00	1,419.93	-740.72	1,465.17	0.00	0.00	0.00
7,600.00	90.00	359.87	6,786.00	1,519.93	-740.95	1,564.97	0.00	0.00	0.00
7,700.00	90.00	359.87	6,786.00	1,619.93	-741.18	1,664.78	0.00	0.00	0.00
7,800.00	90.00	359.87	6,786.00	1,719.93	-741.41	1,764.58	0.00	0.00	0.00
7,900.00	90.00	359.87	6,786.00	1,819.93	-741.64	1,864.38	0.00	0.00	0.00
8,000.00	90.00	359.87	6,786.00	1,919.93	-741.87	1,964.18	0.00	0.00	0.00
8,100.00	90.00	359.87	6,786.00	2,019.93	-742.10	2,063.98	0.00	0.00	0.00
8,200.00	90.00	359.87	6,786.00	2,119.93	-742.33	2,163.79	0.00	0.00	0.00
8,300.00	90.00	359.87	6,786.00	2,219.93	-742.56	2,263.59	0.00	0.00	0.00
8,400.00	90.00	359.87	6,786.00	2,319.93	-742.79	2,363.39	0.00	0.00	0.00
8,500.00	90.00	359.87	6,786.00	2,419.93	-743.01	2,463.19	0.00	0.00	0.00
8,600.00	90.00	359.87	6,786.00	2,519.93	-743.24	2,563.00	0.00	0.00	0.00
8,700.00	90.00	359.87	6,786.00	2,619.93	-743.47	2,662.80	0.00	0.00	0.00
8,800.00	90.00	359.87	6,786.00	2,719.93	-743.70	2,762.60	0.00	0.00	0.00
8,900.00	90.00	359.87	6,786.00	2,819.93	-743.93	2,862.40	0.00	0.00	0.00
9,000.00	90.00	359.87	6,786.00	2,919.93	-744.16	2,962.20	0.00	0.00	0.00
9,100.00	90.00	359.87	6,786.00	3,019.93	-744.39	3,062.01	0.00	0.00	0.00
9,200.00	90.00	359.87	6,786.00	3,119.93	-744.62	3,161.81	0.00	0.00	0.00
9,300.00	90.00	359.87	6,786.00	3,219.93	-744.85	3,261.61	0.00	0.00	0.00
9,400.00	90.00	359.87	6,786.00	3,319.93	-745.08	3,361.41	0.00	0.00	0.00
9,500.00	90.00	359.87	6,786.00	3,419.93	-745.30	3,461.22	0.00	0.00	0.00
9,600.00	90.00	359.87	6,786.00	3,519.93	-745.53	3,561.02	0.00	0.00	0.00
9,700.00	90.00	359.87	6,786.00	3,619.92	-745.76	3,660.82	0.00	0.00	0.00
9,800.00	90.00	359.87	6,786.00	3,719.92	-745.99	3,760.62	0.00	0.00	0.00
9,900.00	90.00	359.87	6,786.00	3,819.92	-746.22	3,860.42	0.00	0.00	0.00
10,000.00	90.00	359.87	6,786.00	3,919.92	-746.45	3,960.23	0.00	0.00	0.00
10,100.00	90.00	359.87	6,786.00	4,019.92	-746.68	4,060.03	0.00	0.00	0.00
10,200.00	90.00	359.87	6,786.00	4,119.92	-746.91	4,159.83	0.00	0.00	0.00
10,300.00	90.00	359.87	6,786.00	4,219.92	-747.14	4,259.63	0.00	0.00	0.00
10,400.00	90.00	359.87	6,786.00	4,319.92	-747.36	4,359.44	0.00	0.00	0.00
10,500.00	90.00	359.87	6,786.00	4,419.92	-747.59	4,459.24	0.00	0.00	0.00
10,600.00	90.00	359.87	6,786.00	4,519.92	-747.82	4,559.04	0.00	0.00	0.00
10,700.00	90.00	359.87	6,786.00	4,619.92	-748.05	4,658.84	0.00	0.00	0.00
10,800.00	90.00	359.87	6,786.00	4,719.92	-748.28	4,758.64	0.00	0.00	0.00
10,900.00	90.00	359.87	6,786.00	4,819.92	-748.51	4,858.45	0.00	0.00	0.00
11,000.00	90.00	359.87	6,786.00	4,919.92	-748.74	4,958.25	0.00	0.00	0.00
11,100.00	90.00	359.87	6,786.00	5,019.92	-748.97	5,058.05	0.00	0.00	0.00
11,200.00	90.00	359.87	6,786.00	5,119.92	-749.20	5,157.85	0.00	0.00	0.00
11,300.00	90.00	359.87	6,786.00	5,219.92	-749.43	5,257.66	0.00	0.00	0.00
11,400.00	90.00	359.87	6,786.00	5,319.92	-749.65	5,357.46	0.00	0.00	0.00
11,500.00	90.00	359.87	6,786.00	5,419.92	-749.88	5,457.26	0.00	0.00	0.00

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Guttersen D25-772
Company:	Northern Region - DJ Basin	TVD Reference:	KB @ 4816.00ft
Project:	Mustang	MD Reference:	KB @ 4816.00ft
Site:	D Section 25	North Reference:	Grid
Well:	Guttersen D25-772	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	90.00	359.87	6,786.00	5,519.92	-750.11	5,557.06	0.00	0.00	0.00
11,700.00	90.00	359.87	6,786.00	5,619.92	-750.34	5,656.86	0.00	0.00	0.00
11,800.00	90.00	359.87	6,786.00	5,719.92	-750.57	5,756.67	0.00	0.00	0.00
11,900.00	90.00	359.87	6,786.00	5,819.92	-750.80	5,856.47	0.00	0.00	0.00
12,000.00	90.00	359.87	6,786.00	5,919.92	-751.03	5,956.27	0.00	0.00	0.00
12,100.00	90.00	359.87	6,786.00	6,019.92	-751.26	6,056.07	0.00	0.00	0.00
12,200.00	90.00	359.87	6,786.00	6,119.92	-751.49	6,155.88	0.00	0.00	0.00
12,300.00	90.00	359.87	6,786.00	6,219.92	-751.72	6,255.68	0.00	0.00	0.00
12,400.00	90.00	359.87	6,786.00	6,319.92	-751.94	6,355.48	0.00	0.00	0.00
12,500.00	90.00	359.87	6,786.00	6,419.92	-752.17	6,455.28	0.00	0.00	0.00
12,600.00	90.00	359.87	6,786.00	6,519.92	-752.40	6,555.08	0.00	0.00	0.00
12,700.00	90.00	359.87	6,786.00	6,619.92	-752.63	6,654.89	0.00	0.00	0.00
12,800.00	90.00	359.87	6,786.00	6,719.92	-752.86	6,754.69	0.00	0.00	0.00
12,900.00	90.00	359.87	6,786.00	6,819.92	-753.09	6,854.49	0.00	0.00	0.00
13,000.00	90.00	359.87	6,786.00	6,919.92	-753.32	6,954.29	0.00	0.00	0.00
13,100.00	90.00	359.87	6,786.00	7,019.92	-753.55	7,054.10	0.00	0.00	0.00
13,200.00	90.00	359.87	6,786.00	7,119.92	-753.78	7,153.90	0.00	0.00	0.00
13,300.00	90.00	359.87	6,786.00	7,219.92	-754.01	7,253.70	0.00	0.00	0.00
13,400.00	90.00	359.87	6,786.00	7,319.92	-754.23	7,353.50	0.00	0.00	0.00
13,500.00	90.00	359.87	6,786.00	7,419.91	-754.46	7,453.30	0.00	0.00	0.00
13,600.00	90.00	359.87	6,786.00	7,519.91	-754.69	7,553.11	0.00	0.00	0.00
13,700.00	90.00	359.87	6,786.00	7,619.91	-754.92	7,652.91	0.00	0.00	0.00
13,800.00	90.00	359.87	6,786.00	7,719.91	-755.15	7,752.71	0.00	0.00	0.00
13,900.00	90.00	359.87	6,786.00	7,819.91	-755.38	7,852.51	0.00	0.00	0.00
14,000.00	90.00	359.87	6,786.00	7,919.91	-755.61	7,952.32	0.00	0.00	0.00
14,100.00	90.00	359.87	6,786.00	8,019.91	-755.84	8,052.12	0.00	0.00	0.00
14,200.00	90.00	359.87	6,786.00	8,119.91	-756.07	8,151.92	0.00	0.00	0.00
14,300.00	90.00	359.87	6,786.00	8,219.91	-756.30	8,251.72	0.00	0.00	0.00
14,400.00	90.00	359.87	6,786.00	8,319.91	-756.52	8,351.52	0.00	0.00	0.00
14,500.00	90.00	359.87	6,786.00	8,419.91	-756.75	8,451.33	0.00	0.00	0.00
14,600.00	90.00	359.87	6,786.00	8,519.91	-756.98	8,551.13	0.00	0.00	0.00
14,700.00	90.00	359.87	6,786.00	8,619.91	-757.21	8,650.93	0.00	0.00	0.00
14,800.00	90.00	359.87	6,786.00	8,719.91	-757.44	8,750.73	0.00	0.00	0.00
14,900.00	90.00	359.87	6,786.00	8,819.91	-757.67	8,850.54	0.00	0.00	0.00
15,000.00	90.00	359.87	6,786.00	8,919.91	-757.90	8,950.34	0.00	0.00	0.00
15,100.00	90.00	359.87	6,786.00	9,019.91	-758.13	9,050.14	0.00	0.00	0.00
15,200.00	90.00	359.87	6,786.00	9,119.91	-758.36	9,149.94	0.00	0.00	0.00
15,300.00	90.00	359.87	6,786.00	9,219.91	-758.59	9,249.74	0.00	0.00	0.00
15,400.00	90.00	359.87	6,786.00	9,319.91	-758.81	9,349.55	0.00	0.00	0.00
15,500.00	90.00	359.87	6,786.00	9,419.91	-759.04	9,449.35	0.00	0.00	0.00
15,600.00	90.00	359.87	6,786.00	9,519.91	-759.27	9,549.15	0.00	0.00	0.00
15,700.00	90.00	359.87	6,786.00	9,619.91	-759.50	9,648.95	0.00	0.00	0.00
15,800.00	90.00	359.87	6,786.00	9,719.91	-759.73	9,748.76	0.00	0.00	0.00
15,900.00	90.00	359.87	6,786.00	9,819.91	-759.96	9,848.56	0.00	0.00	0.00
16,000.00	90.00	359.87	6,786.00	9,919.91	-760.19	9,948.36	0.00	0.00	0.00
16,100.00	90.00	359.87	6,786.00	10,019.91	-760.42	10,048.16	0.00	0.00	0.00
16,200.00	90.00	359.87	6,786.00	10,119.91	-760.65	10,147.96	0.00	0.00	0.00
16,300.00	90.00	359.87	6,786.00	10,219.91	-760.88	10,247.77	0.00	0.00	0.00
16,400.00	90.00	359.87	6,786.00	10,319.91	-761.10	10,347.57	0.00	0.00	0.00
16,500.00	90.00	359.87	6,786.00	10,419.91	-761.33	10,447.37	0.00	0.00	0.00
16,600.00	90.00	359.87	6,786.00	10,519.91	-761.56	10,547.17	0.00	0.00	0.00
16,700.00	90.00	359.87	6,786.00	10,619.91	-761.79	10,646.98	0.00	0.00	0.00
16,800.00	90.00	359.87	6,786.00	10,719.91	-762.02	10,746.78	0.00	0.00	0.00
16,900.00	90.00	359.87	6,786.00	10,819.91	-762.25	10,846.58	0.00	0.00	0.00

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Guttersen D25-772
Company:	Northern Region - DJ Basin	TVD Reference:	KB @ 4816.00ft
Project:	Mustang	MD Reference:	KB @ 4816.00ft
Site:	D Section 25	North Reference:	Grid
Well:	Guttersen D25-772	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	90.00	359.87	6,786.00	10,919.91	-762.48	10,946.38	0.00	0.00	0.00
17,100.00	90.00	359.87	6,786.00	11,019.91	-762.71	11,046.18	0.00	0.00	0.00
17,200.00	90.00	359.87	6,786.00	11,119.91	-762.94	11,145.99	0.00	0.00	0.00
17,300.00	90.00	359.87	6,786.00	11,219.91	-763.17	11,245.79	0.00	0.00	0.00
17,400.00	90.00	359.87	6,786.00	11,319.90	-763.39	11,345.59	0.00	0.00	0.00
17,500.00	90.00	359.87	6,786.00	11,419.90	-763.62	11,445.39	0.00	0.00	0.00
17,600.00	90.00	359.87	6,786.00	11,519.90	-763.85	11,545.19	0.00	0.00	0.00
17,700.00	90.00	359.87	6,786.00	11,619.90	-764.08	11,645.00	0.00	0.00	0.00
17,786.62	90.00	359.87	6,786.00	11,706.52	-764.28	11,731.44	0.00	0.00	0.00
TD at 17786.62									

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									
Guttersen D25-772 TPZ	0.00	0.00	6,786.00	1,162.53	-740.13	1,318,373.65	3,277,946.92	40.2030515	-104.5048929
- plan hits target center									
- Point									
Guttersen D25-772 BHL	0.00	0.00	6,786.00	11,706.52	-764.28	1,328,917.62	3,277,922.78	40.2319948	-104.5045556
- plan hits target center									
- Point									

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
679.00	679.00	Upper Pierre Aquifer Top				
717.00	717.00	Pierre				
1,616.00	1,616.00	Upper Pierre Aquifer Base				
3,696.43	3,668.00	Parkman				
4,127.90	4,090.00	Sussex				
4,317.05	4,275.00	Shannon				
6,022.47	5,943.00	Teepee Buttes				
6,684.93	6,560.00	Sharon Springs				
6,748.35	6,606.00	Top A Chalk				
6,751.25	6,608.00	Top A Marl				
6,771.94	6,622.00	Top B Chalk				
6,854.79	6,673.00	Top B Marl				
7,017.10	6,747.00	Top C Chalk				
7,154.54	6,780.00	Top C Marl				

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Guttersen D25-772
Company:	Northern Region - DJ Basin	TVD Reference:	KB @ 4816.00ft
Project:	Mustang	MD Reference:	KB @ 4816.00ft
Site:	D Section 25	North Reference:	Grid
Well:	Guttersen D25-772	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
2,601.21	2,596.80	39.83	-48.62	Start 3725.93 hold at 2601.21 MD
6,327.13	6,240.98	531.73	-649.06	Start DLS 9.00 TFO 51.17
7,242.60	6,786.00	1,162.53	-740.13	TPZ/Landing Pt. at 7242.6 MD
17,786.62	6,786.00	11,706.52	-764.28	TD at 17786.62

Northern Region - DJ Basin

Mustang

D Section 25

Guttersen D25-772

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 D25-772
Project:	Mustang	TVD Reference:	KB @ 4816.00ft
Reference Site:	D Section 25	MD Reference:	KB @ 4816.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersten D25-772	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	17,786.62	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	17,786.62	17,394.65	3,692.74	3,475.66	17.011	CC, ES, SF
Guttersten D12-725 - Wellbore #1 - Plan #1	17,786.62	17,354.05	3,047.46	2,831.25	14.095	CC, ES, SF
Guttersten D12-735 - Wellbore #1 - Plan #1	17,786.62	17,566.38	2,401.81	2,186.63	11.162	CC, ES, SF
Guttersten D12-745 - Wellbore #1 - Plan #1	17,786.62	17,749.15	1,762.95	1,550.19	8.286	CC, ES, SF
Guttersten D12-750 - Wellbore #1 - Plan #1	17,786.62	17,957.30	1,449.98	1,238.54	6.858	CC, ES, SF
Guttersten D12-755 - Wellbore #1 - Plan #1	17,786.62	17,362.69	1,142.41	936.48	5.548	CC, ES, SF
Guttersten D12-765 - Wellbore #1 - Plan #1	17,786.62	17,427.57	575.62	412.17	3.522	CC, ES, SF
Guttersten D12-770 - Wellbore #1 - Plan #1	17,786.62	17,530.79	422.13	341.97	5.267	CC, ES, SF
Guttersten D12-775 - Wellbore #1 - Plan #1	17,786.62	17,387.70	472.01	344.93	3.714	CC, ES, SF
Guttersten D12-785 - Wellbore #1 - Plan #1	17,786.62	17,570.64	974.74	774.58	4.870	CC, ES, SF
D Section 02						
Booth D11-715 - Booth D11-715 - Plan #1	17,786.62	17,531.72	1,641.13	1,461.85	9.154	CC, ES, SF
Booth D11-725 - Booth D11-725 - Plan #1	17,786.62	17,473.90	2,277.57	2,094.61	12.448	CC, ES, SF
Booth D11-730 - Booth D11-730 - Plan #1	17,786.62	17,544.11	2,602.61	2,418.78	14.158	CC, ES, SF
Booth D11-735 - Booth D11-735 - Plan #1	17,786.62	17,341.28	2,921.90	2,737.29	15.827	CC, ES, SF
Booth D11-745 - Booth D11-745 - Plan #1	17,786.62	17,438.95	3,568.39	3,382.95	19.243	CC, ES, SF
Booth D11-755 - Booth D11-755 - Plan #1	17,786.62	17,399.56	4,216.51	4,031.04	22.734	CC, ES, SF
Booth D11-765 - Booth D11-765 - Plan #1	17,786.62	17,474.67	4,865.58	4,679.67	26.171	CC, ES, SF
Booth D11-770 - Booth D11-770 - Plan #1	17,786.62	17,651.37	5,192.64	5,006.74	27.932	CC, ES, SF
Booth D11-775 - Booth D11-775 - Plan #1	17,786.62	17,638.00	5,515.26	5,328.93	29.600	CC, ES, SF
Booth D11-785 - Booth D11-785 - Plan #1	17,786.62	17,818.48	6,164.95	5,977.99	32.975	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 D25-772
Project:	Mustang	TVD Reference:	KB @ 4816.00ft
Reference Site:	D Section 25	MD Reference:	KB @ 4816.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D25-772	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	17,786.62	6,726.00	4,124.47	4,010.52	36.195	CC, ES, SF
GUTTERSEN #12D(PR) - Wellbore #1 - No Surveys	17,786.62	6,720.00	3,115.86	2,969.07	21.228	CC, ES, SF
Guttersen #33-12(PR) - Wellbore #1 - No Surveys	17,786.62	6,710.00	2,990.96	2,859.73	22.793	CC, ES, SF
GUTTERSEN #34-12(PR) - Wellbore #1 - No Surveys	17,786.62	6,710.00	2,246.77	2,096.03	14.905	CC, ES, SF
Guttersen #43-12(PR) - Wellbore #1 - Gyro	17,786.62	6,666.78	4,066.91	3,959.34	37.806	CC, ES, SF
GUTTERSEN #44-12(PR) - Wellbore #1 - Gyro	17,786.62	6,533.32	3,476.45	3,358.48	29.469	CC, ES, SF
GUTTERSEN D #12-20(PR) - Wellbore #1 - No Surveys	17,786.62	6,710.00	2,883.49	2,794.03	32.231	CC, ES, SF
GUTTERSEN D #12-25(PR) - Wellbore #1 - No Surveys	17,786.62	6,717.00	1,639.69	1,548.21	17.925	CC, ES, SF
GUTTERSEN STATE D #12-19(PR) - Wellbore #1 - No S	17,786.62	6,717.00	4,243.85	4,153.85	47.156	CC, ES, SF
GUTTERSEN STATE D #12-2JI(SI) - Wellbore #1 - No Su	17,786.62	6,750.00	5,281.67	5,172.60	48.425	CC, ES, SF
Guttersen State D12-01JI - Wellbore #1 - Wellbore #1 - A	17,786.62	7,148.05	5,831.22	5,741.14	64.738	CC, ES, SF
Guttersen State D12-08JI - Wellbore #1 - Wellbore #1 - A	17,786.62	6,787.52	4,798.41	4,698.92	48.226	CC, ES, SF
KARCH BLUE D #12-11(PR) - Wellbore #1 - No Surveys	17,786.62	6,701.00	2,399.88	2,294.36	22.743	CC, ES, SF
KARCH BLUE D #12-12(PR) - Wellbore #1 - No Surveys	17,786.62	6,698.00	2,288.00	2,194.62	24.500	CC, ES, SF
KARCH BLUE D #12-14(PR) - Wellbore #1 - No Surveys	17,786.62	6,704.00	1,137.24	1,008.89	8.860	CC, ES, SF
L F RANCH #2-12(SI) - Wellbore #1 - No Surveys	17,786.62	6,695.00	1,231.55	1,138.96	13.301	CC, ES, SF
SPIKE STATE #D 12-3(PR) - Wellbore #1 - No Surveys	17,786.62	6,709.00	4,908.57	4,814.54	52.202	CC, ES, SF
SPIKE STATE #D 12-4(PR) - Wellbore #1 - No Surveys	17,786.62	6,700.00	4,796.14	4,705.41	52.860	CC, ES, SF
SPIKE STATE #D 12-5(PR) - Wellbore #1 - No Surveys	17,786.62	6,697.00	3,576.76	3,485.53	39.206	CC, ES, SF
SPIKE STATE #D 12-6(PA) - Wellbore #1 - Gyro	17,786.62	6,741.92	3,565.59	3,504.12	57.998	CC, ES, SF
STATE #10(TA) - Wellbore #1 - No Surveys	17,786.62	6,764.00	5,106.48	4,986.07	42.408	CC, ES, SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersten D25-772
Project:	Mustang	TVD Reference:	KB @ 4816.00ft
Reference Site:	D Section 25	MD Reference:	KB @ 4816.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersten D25-772	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	14,716.05	6,702.27	861.21	764.42	8.898	CC, ES, SF
Dalbey D 13-12 (PR) - Wellbore #1 - Gyro Surveys	14,233.46	6,718.45	286.21	193.05	3.072	CC, ES, SF
Dalbey D 13-13 (SI) - Wellbore #1 - As-Drilled	13,320.13	6,725.82	535.80	449.59	6.215	CC, ES, SF
Dalbey D 13-14 (PA) - Wellbore #1 - Gyro Surveys	13,319.80	6,712.64	636.14	549.93	7.379	CC, ES, SF
Guttersten 12-13 (SI) - Wellbore #1 - Gyro Surveys	15,908.09	6,733.14	661.08	555.09	6.237	CC, ES, SF
Guttersten 13C (PR) - Wellbore #1 - Gyro Surveys	16,690.80	6,743.25	2,739.86	2,627.57	24.400	CC
Guttersten 13C (PR) - Wellbore #1 - Gyro Surveys	16,700.00	6,743.35	2,739.87	2,627.52	24.388	ES
Guttersten 13C (PR) - Wellbore #1 - Gyro Surveys	16,900.00	6,745.60	2,747.83	2,634.43	24.232	SF
Guttersten 13D (PR) - Wellbore #1 - Gyro Surveys	14,088.78	6,729.83	2,730.72	2,638.56	29.631	CC
Guttersten 13D (PR) - Wellbore #1 - Gyro Surveys	14,100.00	6,729.89	2,730.74	2,638.52	29.609	ES
Guttersten 13D (PR) - Wellbore #1 - Gyro Surveys	14,400.00	6,731.53	2,748.40	2,654.66	29.319	SF
Guttersten 13N (PR) - Wellbore #1 - Gyro Surveys	16,667.83	6,683.79	1,179.22	1,067.30	10.536	CC, ES
Guttersten 13N (PR) - Wellbore #1 - Gyro Surveys	16,700.00	6,683.18	1,179.66	1,067.63	10.530	SF
Guttersten 13S (PR) - Wellbore #1 - Gyro Surveys	15,432.20	6,663.43	2,727.36	2,625.19	26.693	CC, ES
Guttersten 13S (PR) - Wellbore #1 - Gyro Surveys	15,700.00	6,665.27	2,740.48	2,636.93	26.466	SF
Guttersten 13T (PR) - Wellbore #1 - Gyro Surveys	12,865.40	6,691.05	2,629.04	2,546.34	31.790	CC, ES
Guttersten 13T (PR) - Wellbore #1 - Gyro Surveys	13,200.00	6,689.75	2,650.24	2,565.92	31.428	SF
Guttersten 21-13 (SI) - Wellbore #1 - Gyro Surveys	17,276.62	6,701.24	612.74	495.90	5.244	CC, ES, SF
Guttersten 22-13 (SI) - Wellbore #1 - Gyro Surveys	16,019.64	6,696.45	766.31	659.41	7.168	CC, ES, SF
Guttersten 31-13 (PR) - Wellbore #1 - Gyro Surveys	17,318.94	6,754.17	1,996.60	1,879.01	16.979	CC, ES
Guttersten 31-13 (PR) - Wellbore #1 - Gyro Surveys	17,400.00	6,754.99	1,998.24	1,880.24	16.934	SF
Guttersten 32-13 (PR) - Wellbore #1 - Gyro Surveys	16,132.88	6,711.05	2,097.95	1,989.99	19.432	CC, ES
Guttersten 32-13 (PR) - Wellbore #1 - Gyro Surveys	16,300.00	6,710.21	2,104.60	1,995.88	19.359	SF
Guttersten 34-13 (PR) - Wellbore #1 - Gyro Surveys	13,372.25	6,715.28	1,990.68	1,904.10	22.992	CC, ES
Guttersten 34-13 (PR) - Wellbore #1 - Gyro Surveys	13,500.00	6,716.37	1,994.78	1,907.57	22.875	SF
Guttersten 41-13 (PR) - Wellbore #1 - Gyro Surveys	17,259.12	6,522.21	3,391.13	3,275.29	29.274	CC
Guttersten 41-13 (PR) - Wellbore #1 - Gyro Surveys	17,300.00	6,522.21	3,391.38	3,275.27	29.209	ES
Guttersten 41-13 (PR) - Wellbore #1 - Gyro Surveys	17,600.00	6,522.28	3,408.22	3,290.53	28.960	SF
Guttersten 42-13 (PR) - Wellbore #1 - Gyro Surveys	15,992.07	6,569.70	3,487.75	3,381.61	32.859	CC
Guttersten 42-13 (PR) - Wellbore #1 - Gyro Surveys	16,000.00	6,569.89	3,487.76	3,381.57	32.842	ES
Guttersten 42-13 (PR) - Wellbore #1 - Gyro Surveys	16,400.00	6,579.83	3,511.51	3,403.10	32.391	SF
Guttersten 43-13 - Wellbore #1 - Wellbore #1 - As Drilled	14,721.27	6,700.98	3,389.00	3,292.22	35.017	CC, ES
Guttersten 43-13 - Wellbore #1 - Wellbore #1 - As Drilled	15,200.00	6,712.74	3,422.63	3,323.27	34.449	SF
Guttersten 44-13 - Wellbore #1 - Wellbore #1 - As Drilled	13,369.98	6,757.21	3,331.38	3,238.75	35.966	CC
Guttersten 44-13 - Wellbore #1 - Wellbore #1 - As Drilled	13,400.00	6,757.18	3,331.52	3,238.70	35.893	ES
Guttersten 44-13 - Wellbore #1 - Wellbore #1 - As Drilled	13,900.00	6,756.66	3,373.28	3,277.92	35.376	SF
L F Ranch 1-13 (PR) - Wellbore #1 - Gyro Surveys	14,411.36	6,710.16	1,962.59	1,867.98	20.745	CC, ES
L F Ranch 1-13 (PR) - Wellbore #1 - Gyro Surveys	14,600.00	6,711.59	1,971.63	1,876.22	20.665	SF
L. F. Ranch 13-4 (SI) - Wellbore #1 - Gyro Surveys	16,935.77	6,724.85	271.13	157.28	2.381	CC, ES, SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D25-772
Project:	Mustang	TVD Reference:	KB @ 4816.00ft
Reference Site:	D Section 25	MD Reference:	KB @ 4816.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D25-772	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
D Section 14						
Dalbey D 14-1 (SI) - Wellbore #1 - Gyro Surveys	17,276.87	6,746.48	1,984.64	1,867.57	16.952	CC
Dalbey D 14-1 (SI) - Wellbore #1 - Gyro Surveys	17,300.00	6,746.41	1,984.78	1,867.48	16.920	ES
Dalbey D 14-1 (SI) - Wellbore #1 - Gyro Surveys	17,500.00	6,745.83	1,997.15	1,878.38	16.816	SF
Dalbey D 14-2 (SI) - Wellbore #1 - Gyro Surveys	17,030.94	6,753.99	2,899.71	2,784.59	25.188	CC, ES
Dalbey D 14-2 (SI) - Wellbore #1 - Gyro Surveys	17,400.00	6,756.38	2,923.10	2,805.21	24.795	SF
Dalbey D 14-3 (SI) - Wellbore #1 - Gyro Surveys	17,246.58	6,814.71	4,334.05	4,217.03	37.038	CC
Dalbey D 14-3 (SI) - Wellbore #1 - Gyro Surveys	17,300.00	6,814.59	4,334.38	4,216.89	36.894	ES
Dalbey D 14-3 (SI) - Wellbore #1 - Gyro Surveys	17,786.62	6,813.48	4,367.56	4,246.43	36.056	SF
Dalbey D 14-6 (SI) - Wellbore #1 - Gyro Surveys	16,081.76	6,768.29	4,541.86	4,434.14	42.162	CC
Dalbey D 14-6 (SI) - Wellbore #1 - Gyro Surveys	16,100.00	6,768.29	4,541.90	4,434.02	42.100	ES
Dalbey D 14-6 (SI) - Wellbore #1 - Gyro Surveys	17,000.00	6,768.30	4,633.76	4,519.60	40.592	SF
Dalbey D 14-7 (SI) - Wellbore #1 - Gyro Surveys	15,950.17	6,781.23	3,283.20	3,176.52	30.775	CC
Dalbey D 14-7 (SI) - Wellbore #1 - Gyro Surveys	16,000.00	6,781.30	3,283.58	3,176.45	30.651	ES
Dalbey D 14-7 (SI) - Wellbore #1 - Gyro Surveys	16,500.00	6,781.97	3,328.92	3,218.30	30.094	SF
Dalbey D 14-8 (SI) - Wellbore #1 - Gyro Surveys	15,990.77	6,756.19	2,031.15	1,924.24	18.998	CC
Dalbey D 14-8 (SI) - Wellbore #1 - Gyro Surveys	16,000.00	6,756.24	2,031.17	1,924.17	18.983	ES
Dalbey D 14-8 (SI) - Wellbore #1 - Gyro Surveys	16,200.00	6,757.35	2,041.90	1,933.32	18.805	SF
Guttersen State D 14-23 (SI) - Wellbore #1 - Gyro Survey	13,913.37	6,800.00	2,482.05	2,391.16	27.308	CC, ES
Guttersen State D 14-23 (SI) - Wellbore #1 - Gyro Survey	14,300.00	6,800.00	2,511.99	2,418.22	26.790	SF
Guttersen State D 14-24 (PR) - Wellbore #1 - Gyro Surve	14,028.27	6,761.16	3,946.31	3,854.52	42.993	CC, ES
Guttersen State D 14-24 (PR) - Wellbore #1 - Gyro Surve	14,900.00	6,758.54	4,041.44	3,943.61	41.310	SF
Guttersen State D 14-33 (PR) - Wellbore #1 - Gyro Surve	14,095.38	6,938.79	6,205.84	6,113.20	66.991	CC
Guttersen State D 14-33 (PR) - Wellbore #1 - Gyro Surve	14,100.00	6,938.76	6,205.84	6,113.16	66.963	ES
Guttersen State D 14-33 (PR) - Wellbore #1 - Gyro Surve	16,000.00	6,925.89	6,491.52	6,386.09	61.572	SF
HSR-Guttersen State 4-14 (PA) - Wellbore #1 - Gyro Surv	17,261.24	6,812.30	5,867.25	5,750.74	50.356	CC
HSR-Guttersen State 4-14 (PA) - Wellbore #1 - Gyro Surv	17,300.00	6,812.15	5,867.38	5,750.53	50.213	ES
HSR-Guttersen State 4-14 (PA) - Wellbore #1 - Gyro Surv	17,786.62	6,810.26	5,890.73	5,770.02	48.802	SF
HSR-Guttersen State 5-14 (PA) - Wellbore #1 - Gyro Surv	16,091.00	6,765.50	5,828.99	5,721.90	54.431	CC
HSR-Guttersen State 5-14 (PA) - Wellbore #1 - Gyro Surv	16,100.00	6,765.47	5,828.99	5,721.83	54.392	ES
HSR-Guttersen State 5-14 (PA) - Wellbore #1 - Gyro Surv	17,600.00	6,761.75	6,021.14	5,903.85	51.337	SF
Spike D 14-09 (SI) - Wellbore #1 - Gyro Surveys	14,854.43	6,758.33	1,696.84	1,598.79	17.307	CC, ES
Spike D 14-09 (SI) - Wellbore #1 - Gyro Surveys	15,000.00	6,758.17	1,703.07	1,603.79	17.154	SF
Spike D 14-16 (SI) - Wellbore #1 - Gyro Surveys	13,221.81	6,816.59	1,749.91	1,664.22	20.422	CC, ES
Spike D 14-16 (SI) - Wellbore #1 - Gyro Surveys	13,400.00	6,817.26	1,758.96	1,671.79	20.179	SF
Spike State D 14-11 (PR) - Wellbore #1 - Gyro Surveys	14,856.71	6,790.41	4,315.05	4,216.81	43.922	CC
Spike State D 14-11 (PR) - Wellbore #1 - Gyro Surveys	14,900.00	6,790.01	4,315.27	4,216.65	43.759	ES
Spike State D 14-11 (PR) - Wellbore #1 - Gyro Surveys	15,800.00	6,782.19	4,416.94	4,312.15	42.153	SF
Spike State D 14-12 (PR) - Wellbore #1 - Gyro Surveys	14,816.68	6,802.42	5,844.95	5,746.96	59.654	CC
Spike State D 14-12 (PR) - Wellbore #1 - Gyro Surveys	14,900.00	6,802.42	5,845.54	5,746.86	59.239	ES
Spike State D 14-12 (PR) - Wellbore #1 - Gyro Surveys	16,500.00	6,802.33	6,082.51	5,973.26	55.676	SF
Spike State D 14-13 (SI) - Wellbore #1 - Gyro Surveys	13,239.93	6,854.70	5,844.95	5,758.94	67.953	CC
Spike State D 14-13 (SI) - Wellbore #1 - Gyro Surveys	13,300.00	6,854.59	5,845.26	5,758.76	67.571	ES
Spike State D 14-13 (SI) - Wellbore #1 - Gyro Surveys	15,100.00	6,851.40	6,133.79	6,035.38	62.333	SF
Spike State D 14-14 (SI) - Wellbore #1 - Gyro Surveys	13,162.82	6,786.66	4,348.96	4,263.69	51.006	CC
Spike State D 14-14 (SI) - Wellbore #1 - Gyro Surveys	13,200.00	6,786.82	4,349.12	4,263.54	50.822	ES
Spike State D 14-14 (SI) - Wellbore #1 - Gyro Surveys	14,300.00	6,791.44	4,495.17	4,402.18	48.337	SF
Spike State D 14-15 (SI) - Wellbore #1 - Gyro Surveys	13,270.48	6,911.01	3,021.86	2,935.83	35.126	CC
Spike State D 14-15 (SI) - Wellbore #1 - Gyro Surveys	13,300.00	6,910.55	3,022.01	2,935.72	35.022	ES
Spike State D 14-15 (SI) - Wellbore #1 - Gyro Surveys	13,800.00	6,902.86	3,067.90	2,977.96	34.113	SF
Spike State D14-13J (SI) - Wellbore #1 - Gyro Surveys	14,028.87	6,816.17	5,390.78	5,298.76	58.584	CC
Spike State D14-13J (SI) - Wellbore #1 - Gyro Surveys	14,100.00	6,816.18	5,391.25	5,298.64	58.215	ES
Spike State D14-13J (SI) - Wellbore #1 - Gyro Surveys	15,500.00	6,816.40	5,587.91	5,485.89	54.771	SF
Spike State GWS D 14-10 (SI) - Wellbore #1 - Gyro Surv	14,513.75	6,778.98	3,136.51	3,041.00	32.840	CC, ES

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D25-772
Project:	Mustang	TVD Reference:	KB @ 4816.00ft
Reference Site:	D Section 25	MD Reference:	KB @ 4816.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D25-772	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						
Spike State GWS D 14-10 (SI) - Wellbore #1 - Gyro Surv	15,100.00	6,766.89	3,190.81	3,091.16	32.022	SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersten D25-772
Project:	Mustang	TVD Reference:	KB @ 4816.00ft
Reference Site:	D Section 25	MD Reference:	KB @ 4816.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersten D25-772	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 23-20 (SI) - Wellbore #1 - Gyro Surveys	10,180.05	6,833.67	5,163.80	5,099.69	80.548	CC
Guttersten 23-20 (SI) - Wellbore #1 - Gyro Surveys	10,200.00	6,833.57	5,163.84	5,099.59	80.371	ES
Guttersten 23-20 (SI) - Wellbore #1 - Gyro Surveys	12,100.00	6,823.84	5,509.16	5,432.98	72.311	SF
Guttersten 23-32 (SI) - Wellbore #1 - Gyro Surveys	10,695.53	6,863.61	3,007.96	2,940.57	44.632	CC
Guttersten 23-32 (SI) - Wellbore #1 - Gyro Surveys	10,700.00	6,863.60	3,007.96	2,940.53	44.608	ES
Guttersten 23-32 (SI) - Wellbore #1 - Gyro Surveys	11,400.00	6,861.98	3,089.35	3,017.13	42.777	SF
Guttersten 31-23 (PR) - Wellbore #1 - Gyro Surveys	12,005.91	6,800.19	1,852.60	1,776.24	24.262	CC, ES
Guttersten 23-41 (PR) - Wellbore #1 - Gyro Surveys	12,300.00	6,796.43	1,875.79	1,797.20	23.868	SF
Guttersten 31-23 (PR) - Wellbore #1 - Gyro Surveys	11,990.93	6,885.40	3,193.72	3,116.95	41.598	CC
Guttersten 31-23 (PR) - Wellbore #1 - Gyro Surveys	12,000.00	6,885.18	3,193.74	3,116.88	41.557	ES
Guttersten 31-23 (PR) - Wellbore #1 - Gyro Surveys	12,700.00	6,869.21	3,271.45	3,189.74	40.034	SF
Guttersten 42-23 (PR) - Wellbore #1 - Gyro Surveys	10,669.65	6,806.18	1,876.26	1,809.05	27.914	CC
Guttersten 42-23 (PR) - Wellbore #1 - Gyro Surveys	10,700.00	6,805.82	1,876.51	1,809.04	27.812	ES
Guttersten 42-23 (PR) - Wellbore #1 - Gyro Surveys	11,000.00	6,802.25	1,905.12	1,835.52	27.371	SF
Guttersten D23-711 - Wellbore #1 - Plan #1	8,139.33	8,089.50	1,235.79	1,180.10	22.187	CC
Guttersten D23-711 - Wellbore #1 - Plan #1	17,786.62	17,723.12	1,240.09	1,054.38	6.677	ES, SF
Guttersten D35-720 - Wellbore #1 - Plan #1	7,248.45	7,232.96	1,859.86	1,808.19	35.993	CC, ES
Guttersten D35-720 - Wellbore #1 - Plan #1	7,600.00	7,017.58	1,872.51	1,820.31	35.873	SF
Guttersten D35-730 - Wellbore #1 - Plan #1	7,229.49	7,196.26	2,519.95	2,468.81	49.277	CC, ES
Guttersten D35-730 - Wellbore #1 - Plan #1	8,100.00	6,650.00	2,570.61	2,518.10	48.952	SF
Guttersten D35-740 - Wellbore #1 - Plan #1	7,791.82	6,500.00	3,135.17	3,084.33	61.662	CC
Guttersten D35-740 - Wellbore #1 - Plan #1	7,800.00	6,496.95	3,135.18	3,084.32	61.636	ES
Guttersten D35-740 - Wellbore #1 - Plan #1	8,600.00	6,366.91	3,230.83	3,176.80	59.796	SF
Guttersten D35-750 - Wellbore #1 - Plan #1	7,227.17	7,264.43	3,813.88	3,762.58	74.341	CC, ES
Guttersten D35-750 - Wellbore #1 - Plan #1	9,100.00	6,600.00	4,088.50	4,031.18	71.330	SF
Guttersten D35-760 - Wellbore #1 - Plan #1	7,749.45	6,584.05	4,424.72	4,374.16	87.514	CC, ES
Guttersten D35-760 - Wellbore #1 - Plan #1	9,600.00	6,373.04	4,774.96	4,716.16	81.205	SF
Guttersten D35-770 - Wellbore #1 - Plan #1	7,888.19	5,953.74	5,094.15	5,044.83	103.281	CC
Guttersten D35-770 - Wellbore #1 - Plan #1	7,900.00	5,952.51	5,094.16	5,044.80	103.189	ES
Guttersten D35-770 - Wellbore #1 - Plan #1	10,100.00	5,724.74	5,548.88	5,489.40	93.299	SF
Guttersten D35-780 - Wellbore #1 - Plan #1	7,927.84	5,414.64	5,443.68	5,396.07	114.328	CC, ES
Guttersten D35-780 - Wellbore #1 - Plan #1	10,500.00	5,140.32	6,014.52	5,955.16	101.329	SF
Guttersten State D23-721 - Wellbore #1 - Plan #2	17,776.18	17,555.61	1,900.27	1,714.17	10.211	CC
Guttersten State D23-721 - Wellbore #1 - Plan #2	17,786.62	17,550.58	1,900.33	1,714.17	10.208	ES, SF
Guttersten State D23-731 - Wellbore #1 - Plan #2	7,145.60	6,796.33	2,558.80	2,508.54	50.920	CC
Guttersten State D23-731 - Wellbore #1 - Plan #2	17,786.62	17,527.71	2,560.05	2,373.57	13.728	ES, SF
Guttersten State D23-741 - Guttersten State D23-741 OH	6,964.60	6,511.76	3,184.63	3,135.76	65.158	CC
Guttersten State D23-741 - Guttersten State D23-741 OH	17,786.62	17,639.86	3,220.11	3,034.16	17.317	ES, SF
Guttersten State D23-751 - Wellbore #1 - BHI-Rev A.0	17,772.63	17,547.00	3,859.83	3,673.41	20.705	CC
Guttersten State D23-751 - Wellbore #1 - BHI-Rev A.0	17,786.62	17,545.49	3,859.85	3,673.33	20.693	ES, SF
Guttersten State D23-761 - Wellbore #1 - BHI-Rev A.0	17,775.67	17,508.20	4,522.05	4,335.59	24.252	CC
Guttersten State D23-761 - Wellbore #1 - BHI-Rev A.0	17,786.62	17,501.89	4,522.08	4,335.57	24.246	ES, SF
Guttersten State D23-771 - Wellbore #1 - BHI Rev-B.0	8,567.43	8,441.82	5,111.72	5,053.73	88.147	CC
Guttersten State D23-771 - Wellbore #1 - BHI Rev-B.0	17,786.62	17,625.24	5,179.46	4,993.58	27.864	ES, SF
Guttersten State D23-781 - Wellbore #1 - BHI Rev-A.0	4,128.35	3,113.75	5,393.43	5,368.32	214.767	CC
Guttersten State D23-781 - Wellbore #1 - BHI Rev-A.0	4,200.00	3,157.50	5,393.72	5,368.20	211.304	ES
Guttersten State D23-781 - Wellbore #1 - BHI Rev-A.0	17,786.62	17,583.35	5,789.62	5,603.73	31.145	SF
Guttersten State D35-790 - Wellbore #1 - Plan #1	7,281.40	7,376.84	1,199.14	1,146.32	22.701	CC, ES
Guttersten State D35-790 - Wellbore #1 - Plan #1	7,500.00	7,250.00	1,207.18	1,153.89	22.652	SF
Guttersten USX D 23-17 (PR) - Wellbore #1 - Gyro Survey	11,347.74	6,814.72	2,599.42	2,527.43	36.107	CC, ES
Guttersten USX D 23-17 (PR) - Wellbore #1 - Gyro Survey	11,900.00	6,812.76	2,657.44	2,581.59	35.035	SF
Parker Blue D 23-09 (SI) - Wellbore #1 - Gyro Surveys	9,032.77	6,749.00	1,611.81	1,554.97	28.357	CC, ES
Parker Blue D 23-09 (SI) - Wellbore #1 - Gyro Surveys	9,300.00	6,745.34	1,633.80	1,575.22	27.890	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 D25-772
Project:	Mustang	TVD Reference:	KB @ 4816.00ft
Reference Site:	D Section 25	MD Reference:	KB @ 4816.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D25-772	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						
Parker Blue D 23-10 (SI) - Wellbore #1 - Gyro Surveys	9,201.29	6,777.59	2,875.19	2,817.29	49.661	CC, ES
Parker Blue D 23-10 (SI) - Wellbore #1 - Gyro Surveys	10,000.00	6,774.50	2,984.07	2,921.31	47.548	SF
Parker Blue D 23-11 (SI) - Wellbore #1 - Gyro Surveys	9,611.56	6,877.68	4,346.91	4,286.35	71.779	CC, ES
Parker Blue D 23-11 (SI) - Wellbore #1 - Gyro Surveys	11,100.00	6,820.63	4,594.70	4,525.01	65.926	SF
Parker Blue D 23-13 (SI) - Wellbore #1 - Gyro Surveys	8,418.85	6,763.26	5,881.09	5,827.39	109.512	CC, ES
Parker Blue D 23-13 (SI) - Wellbore #1 - Gyro Surveys	11,300.00	6,755.41	6,548.91	6,479.32	94.102	SF
Parker Blue D 23-14 (SI) - Wellbore #1 - Gyro Surveys	8,328.49	6,822.67	4,382.55	4,329.12	82.017	CC, ES
Parker Blue D 23-14 (SI) - Wellbore #1 - Gyro Surveys	10,100.00	6,817.56	4,727.05	4,664.06	75.051	SF
Parker Blue D 23-15 (SI) - Wellbore #1 - Gyro Surveys	7,899.04	6,771.97	3,096.12	3,044.70	60.205	CC
Parker Blue D 23-15 (SI) - Wellbore #1 - Gyro Surveys	7,900.00	6,771.96	3,096.12	3,044.69	60.200	ES
Parker Blue D 23-15 (SI) - Wellbore #1 - Gyro Surveys	8,800.00	6,763.97	3,224.54	3,168.74	57.791	SF
Parker Blue D 23-3J (SI) - Wellbore #1 - Gyro Surveys	9,439.93	6,875.03	5,361.40	5,298.43	85.140	CC
Parker Blue D 23-3J (SI) - Wellbore #1 - Gyro Surveys	9,500.00	6,875.29	5,361.73	5,298.37	84.619	ES
Parker Blue D 23-3J (SI) - Wellbore #1 - Gyro Surveys	11,600.00	6,884.28	5,780.17	5,704.03	75.917	SF
Parker Red D 23-05 (PR) - Wellbore #1 - Gyro Surveys	10,652.02	6,789.10	5,808.80	5,741.66	86.518	CC
Parker Red D 23-05 (PR) - Wellbore #1 - Gyro Surveys	10,700.00	6,789.29	5,809.00	5,741.51	86.069	ES
Parker Red D 23-05 (PR) - Wellbore #1 - Gyro Surveys	16,100.00	16,100.00	7,963.79	7,840.47	64.579	SF
Parker Red D 23-2J (SI) - Wellbore #1 - Gyro Surveys	11,013.00	6,666.96	4,977.95	4,908.64	71.812	CC, ES
Parker Red D 23-2J (SI) - Wellbore #1 - Gyro Surveys	12,700.00	6,701.58	5,255.91	5,175.58	65.424	SF
Parker Red D 23-3 (PR) - Wellbore #1 - Gyro Surveys	12,004.20	6,709.02	4,502.53	4,426.06	58.879	CC, ES
Parker Red D 23-3 (PR) - Wellbore #1 - Gyro Surveys	13,300.00	6,674.90	4,685.18	4,600.13	55.086	SF
Parker Red D 23-4 (SI) - Wellbore #1 - Gyro Surveys	11,910.06	6,788.25	5,837.17	5,761.14	76.777	CC
Parker Red D 23-4 (SI) - Wellbore #1 - Gyro Surveys	12,000.00	6,788.90	5,837.86	5,761.13	76.079	ES
Parker Red D 23-4 (SI) - Wellbore #1 - Gyro Surveys	14,000.00	6,805.75	6,200.01	6,110.29	69.105	SF
Two E Ranch 1-23 (SI) - Wellbore #1 - Gyro Surveys	8,535.00	6,786.57	2,106.88	2,052.56	38.793	CC, ES
Two E Ranch 1-23 (SI) - Wellbore #1 - Gyro Surveys	9,000.00	6,783.87	2,157.58	2,100.61	37.876	SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersten D25-772
Project:	Mustang	TVD Reference:	KB @ 4816.00ft
Reference Site:	D Section 25	MD Reference:	KB @ 4816.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersten D25-772	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	9,077.26	6,712.50	2,441.90	2,385.01	42.918	CC, ES
Dalbey D 24-10 (PR) - Wellbore #1 - Gyro Surveys	9,500.00	6,712.81	2,478.22	2,419.58	42.262	SF
Dalbey D 24-15 (SI) - Wellbore #1 - Gyro Surveys	8,116.16	6,732.54	1,974.49	1,922.30	37.833	CC, ES
Dalbey D 24-15 (SI) - Wellbore #1 - Gyro Surveys	8,400.00	6,734.67	1,994.78	1,941.66	37.546	SF
Glazier 2-24 (PR) - Wellbore #1 - Gyro Surveys	11,291.83	6,705.42	3,081.02	3,009.77	43.243	CC
Glazier 2-24 (PR) - Wellbore #1 - Gyro Surveys	11,300.00	6,705.38	3,081.03	3,009.74	43.214	ES
Glazier 2-24 (PR) - Wellbore #1 - Gyro Surveys	11,800.00	6,702.89	3,122.65	3,048.87	42.324	SF
Guttersten 11-24 (SI) - Wellbore #1 - Gyro Surveys	12,060.08	6,743.63	600.68	523.97	7.830	CC, ES
Guttersten 11-24 (SI) - Wellbore #1 - Gyro Surveys	12,100.00	6,743.64	602.01	524.84	7.802	SF
Guttersten 12-24 (SI) - Wellbore #1 - Gyro Surveys	10,763.08	6,738.52	612.38	544.85	9.068	CC, ES
Guttersten 12-24 (SI) - Wellbore #1 - Gyro Surveys	10,800.00	6,738.45	613.49	545.56	9.031	SF
Guttersten 21-24 (SI) - Wellbore #1 - Gyro Surveys	12,077.57	6,724.96	717.20	640.19	9.313	CC, ES, SF
Guttersten 22-24 (PR) - Wellbore #1 - Gyro Surveys	10,848.90	6,718.68	771.87	703.69	11.322	CC, ES, SF
Guttersten 24A (SI) - Wellbore #1 - Gyro Surveys	11,400.00	6,720.35	92.29	20.24	1.281	Level 3, ES, SF
Guttersten 24A (SI) - Wellbore #1 - Gyro Surveys	11,401.72	6,720.37	92.27	20.27	1.282	Level 3, CC
Guttersten 24J (PR) - Wellbore #1 - Gyro Surveys	12,700.00	6,721.82	177.29	95.72	2.173	ES, SF
Guttersten 24J (PR) - Wellbore #1 - Gyro Surveys	12,700.93	6,721.82	177.29	95.73	2.174	CC
Guttersten 24N (SI) - Wellbore #1 - MWD Surveys	11,442.95	6,734.89	1,319.65	1,248.22	18.475	CC, ES
Guttersten 24N (SI) - Wellbore #1 - MWD Surveys	11,500.00	6,734.70	1,320.88	1,249.23	18.433	SF
Guttersten 24S (PR) - Wellbore #1 - MWD Surveys	9,959.98	6,697.29	2,787.67	2,726.37	45.480	CC, ES
Guttersten 24S (PR) - Wellbore #1 - MWD Surveys	10,400.00	6,693.67	2,822.18	2,758.84	44.557	SF
Guttersten 43-24 (PR) - Wellbore #1 - Gyro Surveys	9,337.67	6,748.76	3,331.38	3,272.94	57.005	CC, ES
Guttersten 43-24 (PR) - Wellbore #1 - Gyro Surveys	10,100.00	6,745.32	3,417.49	3,355.57	55.190	SF
Guttersten 44-24 (PR) - Wellbore #1 - Gyro Surveys	792.88	736.90	3,375.18	3,370.17	673.604	CC
Guttersten 44-24 (PR) - Wellbore #1 - Gyro Surveys	8,100.30	6,709.07	3,408.95	3,356.95	65.557	ES
Guttersten 44-24 (PR) - Wellbore #1 - Gyro Surveys	8,900.00	6,710.90	3,501.49	3,446.43	63.598	SF
Karch Blue D 24-12 (PA) - Wellbore #1 - Gyro Surveys	9,584.94	6,741.67	553.99	494.21	9.267	CC, ES
Karch Blue D 24-12 (PA) - Wellbore #1 - Gyro Surveys	9,600.00	6,741.68	554.20	494.26	9.246	SF
Karch Blue D 24-14 (PR) - Wellbore #1 - No Surveys	8,063.52	6,735.00	1,015.81	852.50	6.220	CC, ES, SF
Karch Blue D24-11 (PA) - Wellbore #1 - Gyro Surveys	9,588.26	6,726.96	861.94	795.13	12.902	CC, ES
Karch Blue D24-11 (PA) - Wellbore #1 - Gyro Surveys	9,600.00	6,727.08	862.02	795.18	12.897	SF
Koerner 31-24 (SI) - Wellbore #1 - Gyro Surveys	12,132.04	6,733.77	2,039.86	1,962.48	26.361	CC, ES
Koerner 31-24 (SI) - Wellbore #1 - Gyro Surveys	12,300.00	6,734.13	2,046.77	1,968.58	26.179	SF
Koerner 32-24 (SI) - Wellbore #1 - Gyro Surveys	10,697.75	6,645.71	2,056.79	1,990.07	30.825	CC
Koerner 32-24 (SI) - Wellbore #1 - Gyro Surveys	10,700.00	6,645.70	2,056.79	1,990.06	30.820	ES
Koerner 32-24 (SI) - Wellbore #1 - Gyro Surveys	10,900.00	6,645.35	2,066.71	1,999.09	30.561	SF
Koerner 42-24 (SI) - Wellbore #1 - Gyro Surveys	10,689.23	6,727.21	3,362.82	3,295.80	50.175	CC
Koerner 42-24 (SI) - Wellbore #1 - Gyro Surveys	10,700.00	6,727.08	3,362.84	3,295.75	50.129	ES
Koerner 42-24 (SI) - Wellbore #1 - Gyro Surveys	11,400.00	6,719.18	3,437.10	3,366.59	48.745	SF
LF Ranch 1-24 (SI) - Wellbore #1 - Gyro Surveys	8,478.95	6,758.36	208.49	154.67	3.874	CC, ES, SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersten D25-772
Project:	Mustang	TVD Reference:	KB @ 4816.00ft
Reference Site:	D Section 25	MD Reference:	KB @ 4816.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersten D25-772	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
D Section 25						
Coors Energy 13-25D (PR) - Wellbore #1 - MWD Surveys	5,182.33	5,507.09	2,459.12	2,412.32	52.546	CC
Coors Energy 13-25D (PR) - Wellbore #1 - MWD Surveys	5,200.00	5,519.48	2,459.14	2,412.23	52.424	ES
Coors Energy 13-25D (PR) - Wellbore #1 - MWD Surveys	6,450.00	6,546.16	2,553.92	2,499.89	47.270	SF
Coors Energy 14-25D (PR) - Wellbore #1 - MWD Surveys	1,001.64	1,000.73	3,085.78	3,080.27	560.478	CC
Coors Energy 14-25D (PR) - Wellbore #1 - MWD Surveys	1,100.00	1,066.97	3,086.29	3,080.19	506.129	ES
Coors Energy 14-25D (PR) - Wellbore #1 - MWD Surveys	6,550.00	6,614.33	3,857.71	3,806.58	75.447	SF
Coors Energy 23-25D (PR) - Wellbore #1 - MWD Surveys	4,833.66	5,326.13	2,389.53	2,351.18	62.305	CC, ES
Coors Energy 23-25D (PR) - Wellbore #1 - MWD Surveys	6,450.00	6,522.25	2,587.40	2,538.87	53.320	SF
Coors Energy 24-25 (PR) - Wellbore #1 - Gyro Surveys	2,058.34	2,105.55	3,393.92	3,379.58	236.672	CC
Coors Energy 24-25 (PR) - Wellbore #1 - Gyro Surveys	2,100.00	2,144.60	3,394.15	3,379.52	232.078	ES
Coors Energy 24-25 (PR) - Wellbore #1 - Gyro Surveys	6,650.00	6,538.29	4,244.26	4,197.38	90.533	SF
Coors Energy 25HD (PR) - Wellbore #1 - MWD Surveys	2,050.17	2,139.10	3,002.37	2,984.11	164.409	CC
Coors Energy 25HD (PR) - Wellbore #1 - MWD Surveys	2,300.00	2,460.58	3,003.23	2,981.98	141.316	ES
Coors Energy 25HD (PR) - Wellbore #1 - MWD Surveys	6,500.00	6,611.72	3,325.44	3,266.42	56.353	SF
Coors Energy 25LD (PR) - Wellbore #1 - MWD Surveys	0.00	0.00	3,097.71			
Coors Energy 25LD (PR) - Wellbore #1 - MWD Surveys	800.00	781.95	3,099.90	3,095.87	767.932	ES
Coors Energy 25LD (PR) - Wellbore #1 - MWD Surveys	6,650.00	6,680.40	4,371.93	4,325.00	93.166	SF
Coors Energy 25TD (PR) - Wellbore #1 - MWD Surveys	1,242.55	1,216.58	3,817.57	3,810.44	535.611	CC
Coors Energy 25TD (PR) - Wellbore #1 - MWD Surveys	1,300.00	1,252.46	3,817.73	3,810.28	512.270	ES
Coors Energy 25TD (PR) - Wellbore #1 - MWD Surveys	6,700.00	6,662.51	5,310.47	5,264.04	114.374	SF
Coors Energy 25XD (PR) - Wellbore #1 - MWD Surveys	842.68	830.82	3,752.99	3,748.71	877.349	CC
Coors Energy 25XD (PR) - Wellbore #1 - MWD Surveys	1,500.00	1,459.91	3,754.19	3,745.25	419.918	ES
Coors Energy 25XD (PR) - Wellbore #1 - MWD Surveys	6,650.00	6,712.99	5,083.32	5,027.37	90.846	SF
Coors Energy 25YD (PR) - Wellbore #1 - MWD Surveys	868.38	901.11	3,786.62	3,782.13	842.213	CC, ES
Coors Energy 25YD (PR) - Wellbore #1 - MWD Surveys	6,750.00	7,005.60	6,013.05	5,962.39	118.693	SF
Coors Energy 33-25D (PR) - Wellbore #1 - MWD Surveys	4,338.81	5,053.90	2,956.88	2,921.49	83.559	CC
Coors Energy 33-25D (PR) - Wellbore #1 - MWD Surveys	4,400.00	5,093.35	2,957.14	2,921.36	82.654	ES
Coors Energy 33-25D (PR) - Wellbore #1 - MWD Surveys	6,500.00	6,617.75	3,244.42	3,196.00	67.001	SF
Coors Energy 34-25 (PR) - Wellbore #1 - Gyro Surveys	0.00	0.00	3,609.50			
Coors Energy 34-25 (PR) - Wellbore #1 - Gyro Surveys	2,003.10	1,990.54	3,622.49	3,608.75	263.694	ES
Coors Energy 34-25 (PR) - Wellbore #1 - Gyro Surveys	6,750.00	6,581.57	4,637.98	4,590.69	98.074	SF
Coors Energy 43-25D (PR) - Wellbore #1 - MWD Surveys	2,473.74	3,122.65	3,580.07	3,558.22	163.867	CC
Coors Energy 43-25D (PR) - Wellbore #1 - MWD Surveys	2,500.00	3,136.17	3,580.24	3,558.20	162.419	ES
Coors Energy 43-25D (PR) - Wellbore #1 - MWD Surveys	6,550.00	6,711.81	4,195.41	4,139.25	74.706	SF
Coors Energy 44-25D (PR) - Wellbore #1 - MWD Surveys	100.00	71.06	3,777.60	3,777.34	10,000.000	CC
Coors Energy 44-25D (PR) - Wellbore #1 - MWD Surveys	500.00	455.17	3,778.75	3,776.37	1,590.644	ES
Coors Energy 44-25D (PR) - Wellbore #1 - MWD Surveys	6,700.00	6,605.28	5,179.39	5,131.26	107.611	SF
Dalbey D 25-03 (SI) - Wellbore #1 - Gyro Surveys	4,358.31	4,289.00	112.47	82.10	3.703	CC, ES
Dalbey D 25-03 (SI) - Wellbore #1 - Gyro Surveys	4,400.00	4,329.97	112.76	82.10	3.678	SF
Dalbey D 25-05 (SI) - Wellbore #1 - Gyro Surveys	5,977.17	5,892.28	1,368.04	1,325.97	32.522	CC
Dalbey D 25-05 (SI) - Wellbore #1 - Gyro Surveys	6,200.00	6,105.55	1,368.74	1,325.07	31.346	ES
Dalbey D 25-05 (SI) - Wellbore #1 - Gyro Surveys	6,500.00	6,389.58	1,392.96	1,347.13	30.396	SF
Guttersten 11-25 (PR) - Wellbore #1 - MWD Surveys	6,878.79	6,679.38	545.92	499.15	11.674	CC, ES
Guttersten 11-25 (PR) - Wellbore #1 - MWD Surveys	6,900.00	6,690.25	546.29	499.40	11.651	SF
Guttersten 22-25 (PA) - Wellbore #1 - MWD Surveys	1,278.15	1,252.16	529.77	522.38	71.742	CC
Guttersten 22-25 (PA) - Wellbore #1 - MWD Surveys	1,400.00	1,370.08	530.11	521.89	64.464	ES
Guttersten 22-25 (PA) - Wellbore #1 - MWD Surveys	6,100.00	5,998.40	1,251.95	1,210.32	30.067	SF
Guttersten 25E (PR) - Wellbore #1 - MWD Surveys	7,429.26	6,772.67	931.22	882.31	19.036	CC, ES
Guttersten 25E (PR) - Wellbore #1 - MWD Surveys	7,500.00	6,771.81	933.91	884.70	18.979	SF
Guttersten 25KD (PR) - Wellbore #1 - MWD Surveys	2,220.20	2,312.00	1,069.58	1,052.20	61.553	CC, ES
Guttersten 25KD (PR) - Wellbore #1 - MWD Surveys	6,350.00	6,444.06	1,666.08	1,611.11	30.310	SF
Guttersten 25O (PR) - Wellbore #1 - MWD Surveys	1,042.64	1,011.64	1,230.34	1,224.55	212.683	CC
Guttersten 25O (PR) - Wellbore #1 - MWD Surveys	2,015.57	1,991.03	1,230.76	1,218.12	97.359	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 Guttersen D25-772
Project:	Mustang	TVD Reference:	KB @ 4816.00ft
Reference Site:	D Section 25	MD Reference:	KB @ 4816.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D25-772	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	6,450.00	6,338.35	2,005.18	1,960.82	45.205	SF
Guttersen D 25-17 (SI) - Wellbore #1 - Gyro Surveys	2,053.86	2,034.53	1,913.60	1,899.51	135.888	CC, ES
Guttersen D 25-17 (SI) - Wellbore #1 - Gyro Surveys	6,750.00	6,633.19	2,621.52	2,574.27	55.480	SF
Guttersen D25-715 - Wellbore #1 - Plan #3	2,000.00	1,987.00	2,301.12	2,287.30	166.432	CC, ES
Guttersen D25-715 - Wellbore #1 - Plan #3	17,786.62	17,813.35	3,668.79	3,470.02	18.458	SF
Guttersen D25-724 - Wellbore #1 - Plan #3	2,000.00	1,986.00	2,264.54	2,250.72	163.828	CC, ES
Guttersen D25-724 - Wellbore #1 - Plan #3	17,786.62	17,684.23	3,081.23	2,882.63	15.514	SF
Guttersen D25-734 - Wellbore #1 - Plan #5	2,000.00	1,986.00	2,227.97	2,214.15	161.183	CC
Guttersen D25-734 - Wellbore #1 - Plan #5	2,200.00	2,306.71	2,229.14	2,213.49	142.427	ES
Guttersen D25-734 - Wellbore #1 - Plan #5	17,786.62	17,697.75	2,458.94	2,260.13	12.368	SF
Guttersen D25-743 - Wellbore #1 - Plan #3	17,786.62	17,810.52	1,842.85	1,644.47	9.290	CC, ES, SF
Guttersen D25-753 - Wellbore #1 - Plan #3	2,000.23	2,001.24	75.00	61.12	5.404	CC, ES
Guttersen D25-753 - Wellbore #1 - Plan #3	2,100.00	2,101.44	76.43	61.84	5.239	SF
Guttersen D25-762 - Wellbore #1 - Plan #3	2,004.66	2,005.72	37.50	23.59	2.696	CC
Guttersen D25-762 - Wellbore #1 - Plan #3	2,100.00	2,102.07	37.80	23.21	2.591	ES
Guttersen D25-762 - Wellbore #1 - Plan #3	2,200.00	2,203.03	38.97	23.68	2.549	SF
Guttersen D25-781 - Wellbore #1 - Plan #3	2,451.62	2,446.96	36.25	19.38	2.149	CC
Guttersen D25-781 - Wellbore #1 - Plan #3	2,500.00	2,494.69	36.32	19.15	2.115	ES
Guttersen D25-781 - Wellbore #1 - Plan #3	2,601.21	2,594.47	37.03	19.25	2.083	SF
Guttersen State D36-714 - Wellbore #1 - Plan #1	2,000.00	1,986.00	2,273.30	2,259.47	164.462	CC, ES
Guttersen State D36-714 - Wellbore #1 - Plan #1	6,650.00	5,714.75	3,920.94	3,877.92	91.137	SF
Guttersen State D36-724 - Wellbore #1 - Plan #1	2,000.00	1,987.00	2,236.25	2,222.42	161.739	CC, ES
Guttersen State D36-724 - Wellbore #1 - Plan #1	6,650.00	6,191.47	3,465.27	3,420.04	76.614	SF
Guttersen State D36-733 - Wellbore #1 - Plan #1	2,000.00	1,986.00	2,199.22	2,185.40	159.103	CC, ES
Guttersen State D36-733 - Wellbore #1 - Plan #1	6,450.00	6,300.00	2,896.76	2,851.37	63.826	SF
Guttersen State D36-743 - Wellbore #1 - Plan #1	2,000.00	1,986.00	2,162.20	2,148.38	156.424	CC, ES
Guttersen State D36-743 - Wellbore #1 - Plan #1	6,300.00	6,400.00	2,385.09	2,338.90	51.635	SF
Guttersen State D36-752 - Wellbore #1 - Plan #1	2,000.00	2,001.00	167.70	153.83	12.086	CC, ES
Guttersen State D36-752 - Wellbore #1 - Plan #1	2,300.00	2,299.56	176.70	160.72	11.053	SF
Guttersen State D36-762 - Wellbore #1 - Plan #1	2,000.00	2,001.00	154.61	140.74	11.142	CC
Guttersen State D36-762 - Wellbore #1 - Plan #1	2,100.00	2,100.98	155.19	140.61	10.637	ES
Guttersen State D36-762 - Wellbore #1 - Plan #1	2,500.00	2,505.27	167.62	150.28	9.665	SF
Guttersen State D36-771 - Wellbore #1 - Plan #1	2,593.68	2,608.05	144.04	126.10	8.028	CC
Guttersen State D36-771 - Wellbore #1 - Plan #1	2,601.21	2,615.62	144.05	126.06	8.007	ES
Guttersen State D36-771 - Wellbore #1 - Plan #1	2,800.00	2,812.79	150.32	130.96	7.765	SF
Guttersen State D36-781 - Wellbore #1 - Plan #1	2,825.39	2,842.31	70.87	51.48	3.654	CC, ES, SF
Karch Blue D 25-02 (DA) - Wellbore #1 - No Surveys	2,000.00	1,945.00	1,535.27	1,489.43	33.494	CC
Karch Blue D 25-02 (DA) - Wellbore #1 - No Surveys	2,200.00	2,144.84	1,538.02	1,487.48	30.432	ES
Karch Blue D 25-02 (DA) - Wellbore #1 - No Surveys	6,950.00	6,665.81	2,096.13	1,937.90	13.248	SF
Karch Blue D 25-08 (SI) - Wellbore #1 - Gyro Surveys	2,011.85	1,972.84	2,744.03	2,730.34	200.333	CC, ES
Karch Blue D 25-08 (SI) - Wellbore #1 - Gyro Surveys	7,100.00	7,100.00	3,741.69	3,691.83	75.053	SF
Karch Blue D25-07 (SI) - Wellbore #1 - Gyro Surveys	2,037.49	2,009.21	1,490.55	1,476.63	107.031	CC, ES
Karch Blue D25-07 (SI) - Wellbore #1 - Gyro Surveys	6,500.00	6,376.74	2,311.09	2,265.59	50.795	SF
L F Ranch 2-25 (PR) - Wellbore #1 - Gyro Surveys	100.00	42.20	2,727.35	2,727.15	10,000.000	CC
L F Ranch 2-25 (PR) - Wellbore #1 - Gyro Surveys	2,000.00	1,935.03	2,733.99	2,720.45	202.008	ES
L F Ranch 2-25 (PR) - Wellbore #1 - Gyro Surveys	7,242.60	6,750.46	3,411.52	3,362.44	69.507	SF
LF Ranches 1 (PA) - Wellbore #1 - No Surveys	2,000.00	1,949.00	2,385.33	2,339.41	51.949	CC
LF Ranches 1 (PA) - Wellbore #1 - No Surveys	2,100.00	2,048.98	2,386.48	2,338.21	49.439	ES
LF Ranches 1 (PA) - Wellbore #1 - No Surveys	6,950.00	6,669.81	3,120.40	2,962.12	19.715	SF

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Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D25-772
Project:	Mustang	TVD Reference:	KB @ 4816.00ft
Reference Site:	D Section 25	MD Reference:	KB @ 4816.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D25-772	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						
Adam Red D 26-11 (PR) - Wellbore #1 - Gyro Surveys	6,469.72	6,600.00	5,341.78	5,295.57	115.605	CC, ES
Adam Red D 26-11 (PR) - Wellbore #1 - Gyro Surveys	6,950.00	6,857.47	5,440.63	5,391.75	111.301	SF
Adam Red D 26-12 (PR) - Wellbore #1 - Gyro Surveys	6,468.18	6,400.85	6,414.76	6,363.23	124.482	CC, ES
Adam Red D 26-12 (PR) - Wellbore #1 - Gyro Surveys	7,150.00	6,807.37	6,571.58	6,515.14	116.449	SF
Adam Red D 26-13 (PR) - Wellbore #1 - Gyro Surveys	6,392.81	6,325.43	6,788.33	6,743.29	150.715	CC
Adam Red D 26-13 (PR) - Wellbore #1 - Gyro Surveys	6,400.00	6,329.96	6,788.35	6,743.27	150.569	ES
Adam Red D 26-13 (PR) - Wellbore #1 - Gyro Surveys	7,100.00	7,100.00	6,994.55	6,944.32	139.262	SF
Adam Red D 26-14 (PR) - Wellbore #1 - Gyro Surveys	6,364.70	6,325.29	5,690.03	5,641.31	116.798	CC, ES
Adam Red D 26-14 (PR) - Wellbore #1 - Gyro Surveys	6,950.00	6,763.89	5,861.75	5,808.52	110.138	SF
Coors Energy 14-25H (PR) - Wellbore #1 - MWD Surveys	0.00	0.00	3,209.44			
Coors Energy 14-25H (PR) - Wellbore #1 - MWD Surveys	5,400.00	7,976.25	3,457.22	3,395.99	56.464	SF
Heyde 1-26 (PR) - Wellbore #1 - Gyro Surveys	6,755.46	6,605.00	2,211.50	2,164.26	46.822	CC, ES
Heyde 1-26 (PR) - Wellbore #1 - Gyro Surveys	7,050.00	6,738.16	2,241.07	2,192.32	45.971	SF
Heyde 26ND (PR) - Wellbore #1 - MWD Surveys	6,732.85	6,833.40	3,817.63	3,766.65	74.884	CC
Heyde 26ND (PR) - Wellbore #1 - MWD Surveys	6,750.00	6,844.07	3,817.71	3,766.61	74.712	ES
Heyde 26ND (PR) - Wellbore #1 - MWD Surveys	7,400.00	7,024.02	3,942.78	3,888.03	72.014	SF
Heyde 26RD (PR) - Wellbore #1 - MWD Surveys	7,367.57	6,878.39	2,457.98	2,405.92	47.221	CC, ES
Heyde 26RD (PR) - Wellbore #1 - MWD Surveys	7,900.00	6,874.27	2,514.98	2,460.60	46.246	SF
Heyde 26VD (PR) - Wellbore #1 - MWD Surveys	6,479.35	6,534.21	1,409.70	1,358.76	27.673	CC
Heyde 26VD (PR) - Wellbore #1 - MWD Surveys	6,500.00	6,552.39	1,409.87	1,358.75	27.583	ES
Heyde 26VD (PR) - Wellbore #1 - MWD Surveys	6,700.00	6,687.08	1,432.17	1,379.45	27.168	SF
Heyde 31-26 (PR) - Wellbore #1 - No Surveys	6,980.04	6,851.28	3,433.67	3,384.96	70.492	CC, ES
Heyde 31-26 (PR) - Wellbore #1 - No Surveys	7,600.00	6,801.11	3,522.59	3,471.97	69.581	SF
Heyde 32-26 (SI) - Wellbore #1 - Gyro Surveys	6,515.42	6,462.87	3,530.91	3,485.01	76.915	CC, ES
Heyde 32-26 (SI) - Wellbore #1 - Gyro Surveys	7,000.00	6,827.44	3,611.61	3,562.68	73.807	SF
Heyde 41-26 (PR) - Wellbore #1 - Gyro Surveys	7,043.78	6,754.76	1,789.59	1,740.87	36.731	CC
Heyde 41-26 (PR) - Wellbore #1 - Gyro Surveys	7,050.00	6,756.23	1,789.61	1,740.86	36.711	ES
Heyde 41-26 (PR) - Wellbore #1 - Gyro Surveys	7,200.00	6,776.56	1,799.47	1,750.16	36.492	SF
Heyde 42-26 (PR) - Wellbore #1 - Gyro Surveys	6,409.76	6,317.52	2,229.69	2,184.62	49.473	CC, ES
Heyde 42-26 (PR) - Wellbore #1 - Gyro Surveys	6,750.00	6,602.71	2,283.14	2,235.77	48.189	SF
HSR-Waste Services 10-26 (SI) - Wellbore #1 - No Surve	6,356.67	6,299.77	4,041.59	3,892.54	27.116	CC, ES
HSR-Waste Services 10-26 (SI) - Wellbore #1 - No Surve	6,750.00	6,637.14	4,125.00	3,967.71	26.225	SF
HSR-Waste Services 15-26 (SI) - Wellbore #1 - No Surve	6,333.24	6,292.95	4,923.28	4,774.42	33.073	CC
HSR-Waste Services 15-26 (SI) - Wellbore #1 - No Surve	6,350.00	6,309.29	4,923.45	4,774.19	32.987	ES
HSR-Waste Services 15-26 (SI) - Wellbore #1 - No Surve	6,800.00	6,686.20	5,050.93	4,892.45	31.872	SF
HSR-Waste Services 16-26 (SI) - Wellbore #1 - Gyro Sur	0.00	0.00	4,079.67			
HSR-Waste Services 16-26 (SI) - Wellbore #1 - Gyro Sur	6,700.00	6,623.02	4,316.27	4,268.79	90.893	SF
HSR-Waste Services 9-26 (PA) - Wellbore #1 - Gyro Sur	6,335.03	6,322.52	3,058.83	3,013.81	67.953	CC, ES
HSR-Waste Services 9-26 (PA) - Wellbore #1 - Gyro Sur	6,650.00	6,569.79	3,124.72	3,077.62	66.343	SF
Waste Management 11-26 (PR) - Wellbore #1 - Gyro Sur	6,973.87	6,561.89	5,856.41	5,808.58	122.437	CC, ES
Waste Management 11-26 (PR) - Wellbore #1 - Gyro Sur	9,900.00	6,554.66	6,684.97	6,624.85	111.204	SF
Waste Management 12-26 (PR) - Wellbore #1 - Gyro Sur	6,600.11	6,419.71	6,087.00	6,040.96	132.205	CC, ES
Waste Management 12-26 (PR) - Wellbore #1 - Gyro Sur	8,600.00	6,657.37	6,729.22	6,675.27	124.742	SF
Waste Management 12-26A (PR) - Wellbore #1 - Gyro Su	6,693.07	6,457.43	5,349.09	5,302.57	114.994	CC
Waste Management 12-26A (PR) - Wellbore #1 - Gyro Su	6,700.00	6,462.52	5,349.10	5,302.54	114.887	ES
Waste Management 12-26A (PR) - Wellbore #1 - Gyro Su	8,400.00	6,663.70	5,809.27	5,756.01	109.066	SF
Waste Management 21-26 (PR) - Wellbore #1 - Gyro Sur	7,072.70	6,852.11	4,381.11	4,332.25	89.669	CC, ES
Waste Management 21-26 (PR) - Wellbore #1 - Gyro Sur	8,700.00	6,859.03	4,742.18	4,687.03	85.981	SF
Waste Management 22-26 (PR) - Wellbore #1 - Gyro Sur	6,575.26	6,508.81	4,717.26	4,671.00	101.966	CC
Waste Management 22-26 (PR) - Wellbore #1 - Gyro Sur	6,600.00	6,539.36	4,717.41	4,670.95	101.534	ES
Waste Management 22-26 (PR) - Wellbore #1 - Gyro Sur	7,150.00	6,877.13	4,812.36	4,763.02	97.540	SF
Waste Management 26FD (PR) - Wellbore #1 - MWD Su	835.69	875.33	6,038.65	6,033.20	1,108.174	CC
Waste Management 26FD (PR) - Wellbore #1 - MWD Su	1,048.04	1,104.50	6,038.74	6,031.72	859.683	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 Guttersen D25-772
Project:	Mustang	TVD Reference:	KB @ 4816.00ft
Reference Site:	D Section 25	MD Reference:	KB @ 4816.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D25-772	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 26FD (PR) - Wellbore #1 - MWD Su	10,400.00	6,992.02	7,723.86	7,657.11	115.719	SF
Waste Management 26KD (PR) - Wellbore #1 - MWD Su	6,497.60	6,520.58	5,525.70	5,472.96	104.763	CC
Waste Management 26KD (PR) - Wellbore #1 - MWD Su	6,500.00	6,522.68	5,525.70	5,472.94	104.734	ES
Waste Management 26KD (PR) - Wellbore #1 - MWD Su	6,950.00	6,718.00	5,593.65	5,538.84	102.052	SF
Waste Management D 26-25 (SI) - Wellbore #1 - Gyro Su	6,411.97	6,427.29	5,952.27	5,906.80	130.894	CC, ES
Waste Management D 26-25 (SI) - Wellbore #1 - Gyro Su	6,950.00	6,834.00	6,076.83	6,027.97	124.352	SF
Waste Mangement 26JD (PR) - Wellbore #1 - MWD Surv	7,341.29	6,862.06	5,128.58	5,075.51	96.632	CC, ES
Waste Mangement 26JD (PR) - Wellbore #1 - MWD Surv	9,700.00	6,865.17	5,644.98	5,580.62	87.710	SF
DD Section 06						
Guttersen 06D - Wellbore #1 - Wellbore #1 - As Drilled						Out of range
Guttersen 23-06 - Wellbore #1 - Wellbore #1 - As Drilled	17,786.62	6,877.20	9,533.44	9,441.95	104.201	CC, ES, SF
Guttersen 24-06 - Wellbore #1 - Wellbore #1 - As Drilled	17,786.62	7,059.01	8,577.25	8,478.71	87.039	CC, ES, SF
Guttersen 33-06 - Wellbore #1 - Wellbore #1 - As Drilled						Out of range
Guttersen 34-06 - Wellbore #1 - Wellbore #1 - As Drilled	17,786.62	6,821.86	9,609.35	9,506.02	92.997	CC, ES, SF
Guttersen 43-06 - Wellbore #1 - Wellbore #1 - As Drilled						Out of range
Guttersen 44-06 - Wellbore #1 - Wellbore #1 - As Drilled						Out of range
Guttersen DD18-715 - Guttersen DD18-715 - Plan #1	17,786.62	12,557.64	8,993.64	8,840.95	58.903	CC, ES, SF
Guttersen DD18-725 - Guttersen DD18-725 - Plan #1	17,786.62	12,398.94	8,334.01	8,182.17	54.889	CC, ES, SF
Guttersen DD18-730 - Guttersen DD18-730 - Plan #1	17,786.62	12,608.52	8,002.32	7,850.24	52.620	CC, ES, SF
Guttersen DD18-735 - Guttersen DD18-735 - Plan #1	17,786.62	12,518.02	7,671.86	7,519.84	50.466	CC, ES, SF
Guttersen DD18-746 - Guttersen DD18-746 - Plan #1	17,786.62	12,517.05	7,012.16	6,859.88	46.049	CC, ES, SF
Guttersen DD18-750 - Guttersen DD18-750 - Plan #1	17,786.62	12,781.04	6,680.86	6,527.70	43.621	CC, ES, SF
Guttersen DD18-754 - Guttersen DD18-754 - Plan #1	17,786.62	12,607.67	6,350.30	6,197.26	41.492	CC, ES, SF
Guttersen DD18-765 - Guttersen DD18-765 - Plan #1	17,786.62	12,416.62	5,690.87	5,538.75	37.411	CC, ES, SF
Guttersen DD18-770 - Guttersen DD18-770 - Plan #1	17,786.62	12,602.25	5,359.30	5,207.11	35.216	CC, ES, SF
Guttersen DD18-775 - Guttersen DD18-775 - Plan #1	17,786.62	12,501.78	5,028.78	4,876.68	33.062	CC, ES, SF
Guttersen DD18-785 - Guttersen DD18-785 - Plan #1	17,786.62	12,486.21	4,369.77	4,217.56	28.707	CC, ES, SF

Noble Energy, Inc.
Anticollision Summary Report

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Project:	Mustang	TVD Reference:	KB @ 4816.00ft
Reference Site:	D Section 25	MD Reference:	KB @ 4816.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D25-772	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	14,054.42	6,622.60	7,978.66	7,888.32	88.324	CC
Guttersen 18D - Wellbore #1 - Wellbore #1 - As Drilled	14,100.00	6,622.00	7,978.79	7,888.13	88.009	ES
Guttersen 18D - Wellbore #1 - Wellbore #1 - As Drilled	16,800.00	6,587.00	8,437.77	8,331.80	79.629	SF
Guttersen 24-18 - Wellbore #1 - Wellbore #1 - As Drilled	13,394.83	6,702.31	6,102.85	6,016.99	71.075	CC
Guttersen 24-18 - Wellbore #1 - Wellbore #1 - As Drilled	13,400.00	6,702.31	6,102.86	6,016.96	71.045	ES
Guttersen 24-18 - Wellbore #1 - Wellbore #1 - As Drilled	15,100.00	6,701.98	6,336.59	6,241.12	66.369	SF
Guttersen 33-18 - Wellbore #1 - Wellbore #1 - As Drilled	14,814.58	6,750.52	7,378.92	7,281.18	75.491	CC
Guttersen 33-18 - Wellbore #1 - Wellbore #1 - As Drilled	14,900.00	6,749.89	7,379.42	7,281.06	75.027	ES
Guttersen 33-18 - Wellbore #1 - Wellbore #1 - As Drilled	17,000.00	6,734.40	7,695.74	7,585.41	69.757	SF
Guttersen 34-18 - Wellbore #1 - Wellbore #1 - As Drilled	13,373.74	6,760.44	7,314.76	7,229.14	85.426	CC
Guttersen 34-18 - Wellbore #1 - Wellbore #1 - As Drilled	13,400.00	6,760.66	7,314.81	7,229.00	85.242	ES
Guttersen 34-18 - Wellbore #1 - Wellbore #1 - As Drilled	15,900.00	6,778.26	7,738.70	7,638.72	77.399	SF
Guttersen 43-18 - Wellbore #1 - Wellbore #1 - As Drilled	14,820.81	6,756.45	8,576.21	8,475.87	85.469	CC
Guttersen 43-18 - Wellbore #1 - Wellbore #1 - As Drilled	14,900.00	6,756.11	8,576.58	8,475.66	84.987	ES
Guttersen 43-18 - Wellbore #1 - Wellbore #1 - As Drilled	17,700.00	6,744.32	9,046.60	8,929.53	77.276	SF
Guttersen 44-18 - Wellbore #1 - Wellbore #1 - As Drilled	13,453.00	6,716.67	8,657.17	8,571.19	100.683	CC
Guttersen 44-18 - Wellbore #1 - Wellbore #1 - As Drilled	13,500.00	6,716.80	8,657.30	8,570.98	100.293	ES
Guttersen 44-18 - Wellbore #1 - Wellbore #1 - As Drilled	16,800.00	6,727.09	9,281.65	9,176.40	88.192	SF
Karch Blue DD18-03J - Wellbore #1 - Wellbore #1 - As D	14,448.44	6,836.64	5,698.31	5,602.48	59.463	CC
Karch Blue DD18-03J - Wellbore #1 - Wellbore #1 - As D	14,500.00	6,836.66	5,698.55	5,602.36	59.242	ES
Karch Blue DD18-03J - Wellbore #1 - Wellbore #1 - As D	15,800.00	6,837.19	5,856.41	5,752.88	56.573	SF
Karch Blue DD18-12 - Original Drilling - Original Drilling -	14,820.58	6,702.42	4,560.19	4,457.98	44.617	CC, ES
Karch Blue DD18-12 - Original Drilling - Original Drilling -	15,700.00	6,706.16	4,644.21	4,537.14	43.375	SF
Karch Blue DD18-13 - Wellbore #1 - Wellbore #1 - As Dri	13,330.26	6,651.64	4,520.77	4,434.88	52.638	CC, ES
Karch Blue DD18-13 - Wellbore #1 - Wellbore #1 - As Dri	14,300.00	6,662.41	4,623.59	4,532.38	50.694	SF
SPIKE STATE GWS DD #18-1J(PA) - SPIKE STATE GW	16,760.92	6,787.00	7,979.81	7,754.43	35.406	CC
SPIKE STATE GWS DD #18-1J(PA) - SPIKE STATE GW	16,800.00	6,787.00	7,979.91	7,754.24	35.361	ES
SPIKE STATE GWS DD #18-1J(PA) - SPIKE STATE GW	17,786.62	6,787.00	8,045.47	7,813.19	34.637	SF
DD Section 19						
Champlin 366 Amoco B1 (PR) - Wellbore #1 - Gyro Surv	11,093.17	6,600.00	8,329.28	8,259.90	120.063	CC
Champlin 366 Amoco B1 (PR) - Wellbore #1 - Gyro Surv	11,100.00	6,600.00	8,329.28	8,259.86	119.986	ES
Champlin 366 Amoco B1 (PR) - Wellbore #1 - Gyro Surv	16,200.00	16,200.00	9,769.55	9,641.16	76.094	SF
Champlin 366 Amoco D1 (PA) - Wellbore #1 - No Survey	2,000.00	1,969.00	5,527.76	5,481.45	119.347	CC
Champlin 366 Amoco D1 (PA) - Wellbore #1 - No Survey	2,200.00	2,168.84	5,530.71	5,479.69	108.402	ES
Champlin 366 Amoco D1 (PA) - Wellbore #1 - No Survey	9,400.00	6,755.00	5,796.32	5,626.33	34.097	SF
Guttersen 31-19 (PR) - Wellbore #1 - Gyro Surveys	11,800.00	11,800.00	7,405.83	7,313.10	79.864	ES
Guttersen 31-19 (PR) - Wellbore #1 - Gyro Surveys	12,079.28	6,754.95	7,400.58	7,323.48	95.987	CC
Guttersen 31-19 (PR) - Wellbore #1 - Gyro Surveys	16,900.00	16,900.00	8,831.60	8,697.56	65.889	SF
Guttersen 44-19 (SI) - Wellbore #1 - No Surveys	2,000.00	2,014.00	8,300.18	8,252.96	175.790	CC
Guttersen 44-19 (SI) - Wellbore #1 - No Surveys	2,100.00	2,113.98	8,301.19	8,251.62	167.460	ES
Guttersen 44-19 (SI) - Wellbore #1 - No Surveys	10,700.00	6,800.00	9,097.07	8,919.10	51.115	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 D25-772
Project:	Mustang	TVD Reference:	KB @ 4816.00ft
Reference Site:	D Section 25	MD Reference:	KB @ 4816.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersten D25-772	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						
Guttersten 11-30 (PR) - Wellbore #1 - Gyro Surveys	920.16	874.17	4,077.59	4,071.65	685.853	CC
Guttersten 11-30 (PR) - Wellbore #1 - Gyro Surveys	2,002.13	1,958.08	4,081.97	4,068.36	300.001	ES
Guttersten 11-30 (PR) - Wellbore #1 - Gyro Surveys	8,400.00	6,696.28	4,960.36	4,908.09	94.892	SF
Guttersten 12-30 (PR) - Wellbore #1 - Gyro Surveys	1,389.04	1,343.06	3,989.31	3,980.04	430.490	CC
Guttersten 12-30 (PR) - Wellbore #1 - Gyro Surveys	2,000.00	1,928.54	3,990.84	3,977.34	295.660	ES
Guttersten 12-30 (PR) - Wellbore #1 - Gyro Surveys	7,050.00	6,631.47	4,909.50	4,861.46	102.208	SF
Guttersten 22-30 (PR) - Wellbore #1 - Gyro Surveys	2,011.08	2,002.37	5,364.13	5,350.33	388.648	CC, ES
Guttersten 22-30 (PR) - Wellbore #1 - Gyro Surveys	7,100.00	6,600.00	6,251.10	6,203.05	130.085	SF
Guttersten 30 A (PR) - Wellbore #1 - Gyro Surveys	100.00	37.67	4,668.54	4,668.35	10,000.000	CC
Guttersten 30 A (PR) - Wellbore #1 - Gyro Surveys	2,000.00	1,943.11	4,678.53	4,664.97	344.989	ES
Guttersten 30 A (PR) - Wellbore #1 - Gyro Surveys	8,100.00	6,682.83	5,787.63	5,736.63	113.483	SF
Guttersten State DD30-715 - Guttersten State DD30-715 -	2,000.00	2,037.00	8,604.05	8,590.04	614.334	CC, ES
Guttersten State DD30-715 - Guttersten State DD30-715 -	14,700.00	17,403.77	9,291.20	9,133.00	58.731	SF
Guttersten State DD30-725 - Guttersten State DD30-725 -	5,326.12	11,220.19	8,320.25	8,257.92	133.498	CC
Guttersten State DD30-725 - Guttersten State DD30-725 -	5,400.00	11,230.07	8,320.57	8,257.89	132.742	ES
Guttersten State DD30-725 - Guttersten State DD30-725 -	14,400.00	17,269.51	8,604.15	8,448.13	55.151	SF
Guttersten State DD30-735 - Guttersten State DD30-735 -	5,544.85	11,421.00	7,687.89	7,623.71	119.792	CC
Guttersten State DD30-735 - Guttersten State DD30-735 -	12,600.00	17,436.50	7,752.47	7,606.30	53.036	ES
Guttersten State DD30-735 - Guttersten State DD30-735 -	14,000.00	17,436.50	7,880.19	7,726.86	51.392	SF
Guttersten State DD30-745 - Guttersten State DD30-745 -	5,655.35	11,607.73	7,035.98	6,970.37	107.231	CC
Guttersten State DD30-745 - Guttersten State DD30-745 -	12,600.00	17,588.29	7,091.52	6,945.86	48.687	ES
Guttersten State DD30-745 - Guttersten State DD30-745 -	13,700.00	17,588.29	7,179.89	7,029.06	47.601	SF
Guttersten State DD30-755 - Guttersten State DD30-755 -	5,830.20	11,400.32	6,303.24	6,238.12	96.791	CC
Guttersten State DD30-755 - Guttersten State DD30-755 -	12,600.00	17,383.05	6,354.96	6,208.32	43.338	ES
Guttersten State DD30-755 - Guttersten State DD30-755 -	13,500.00	17,383.05	6,423.20	6,271.91	42.456	SF
Guttersten State DD30-766 - Guttersten State DD30-766 -	5,900.08	11,361.87	5,595.16	5,529.62	85.378	CC
Guttersten State DD30-766 - Guttersten State DD30-766 -	12,600.00	17,329.34	5,645.54	5,500.20	38.844	ES
Guttersten State DD30-766 - Guttersten State DD30-766 -	13,300.00	17,329.34	5,694.34	5,545.78	38.330	SF
Guttersten State DD30-775 - Guttersten State DD30-775 -	5,909.90	11,552.45	5,016.83	4,949.90	74.950	CC
Guttersten State DD30-775 - Guttersten State DD30-775 -	12,545.46	17,481.59	5,037.83	4,892.95	34.772	ES
Guttersten State DD30-775 - Guttersten State DD30-775 -	13,100.00	17,481.59	5,068.25	4,921.14	34.450	SF
Guttersten State DD30-785 - Guttersten State DD30-785 -	6,111.05	11,888.07	4,389.09	4,319.86	63.398	CC
Guttersten State DD30-785 - Guttersten State DD30-785 -	12,535.65	17,796.63	4,395.73	4,250.72	30.313	ES
Guttersten State DD30-785 - Guttersten State DD30-785 -	12,900.00	17,796.63	4,410.80	4,264.62	30.173	SF
Karch Blue DD 30-12 (PA) - Wellbore #1 - No Surveys	2,000.00	1,960.00	4,247.42	4,201.29	92.062	CC
Karch Blue DD 30-12 (PA) - Wellbore #1 - No Surveys	2,100.00	2,059.98	4,249.11	4,200.62	87.626	ES
Karch Blue DD 30-12 (PA) - Wellbore #1 - No Surveys	6,850.00	6,630.28	5,248.60	5,091.46	33.401	SF
Karch Blue DD 30-14 (PA) - Wellbore #1 - No Surveys	2,000.00	1,966.00	6,294.87	6,248.61	136.086	CC
Karch Blue DD 30-14 (PA) - Wellbore #1 - No Surveys	2,100.00	2,065.98	6,296.59	6,247.98	129.530	ES
Karch Blue DD 30-14 (PA) - Wellbore #1 - No Surveys	6,900.00	6,663.21	7,354.66	7,196.73	46.568	SF
Karch Blue DD 30-3 J (PA) - Wellbore #1 - No Surveys	2,000.00	1,965.00	5,541.23	5,495.00	119.845	CC
Karch Blue DD 30-3 J (PA) - Wellbore #1 - No Surveys	2,100.00	2,064.98	5,542.92	5,494.33	114.073	ES
Karch Blue DD 30-3 J (PA) - Wellbore #1 - No Surveys	6,950.00	6,685.81	6,588.06	6,429.54	41.561	SF
L F Ranch 2-30 (PR) - Wellbore #1 - Gyro Surveys	2,013.96	2,010.59	5,327.68	5,313.83	384.520	CC, ES
L F Ranch 2-30 (PR) - Wellbore #1 - Gyro Surveys	9,400.00	6,947.03	6,677.65	6,620.68	117.217	SF
State 19 (PA) - Wellbore #1 - NO Surveys	2,000.00	2,016.00	7,519.49	7,472.23	159.121	CC
State 19 (PA) - Wellbore #1 - NO Surveys	2,100.00	2,115.98	7,520.82	7,471.21	151.596	ES
State 19 (PA) - Wellbore #1 - NO Surveys	7,242.60	6,802.00	8,324.40	8,162.68	51.473	SF

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