

Project: Mustang
 Site: C Section 33
 Well: Gutteresen D09-755
 Wellbore: Gutteresen D09-755
 Design: Plan #1

Northern Region - DJ Basin

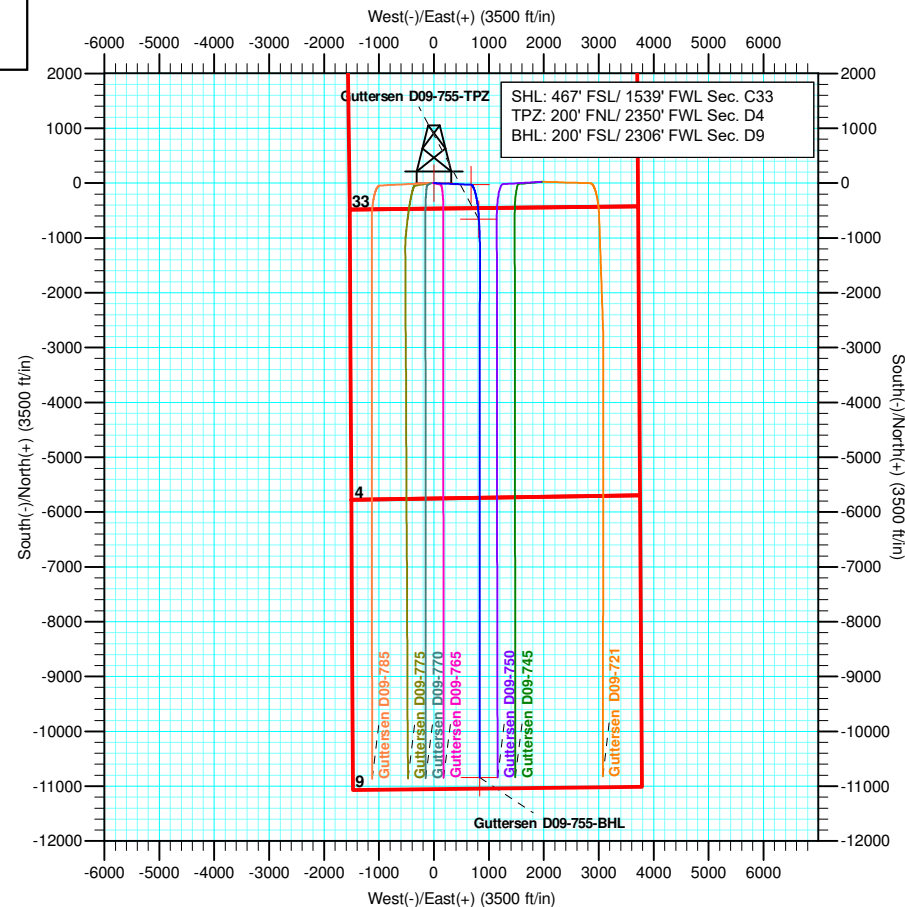
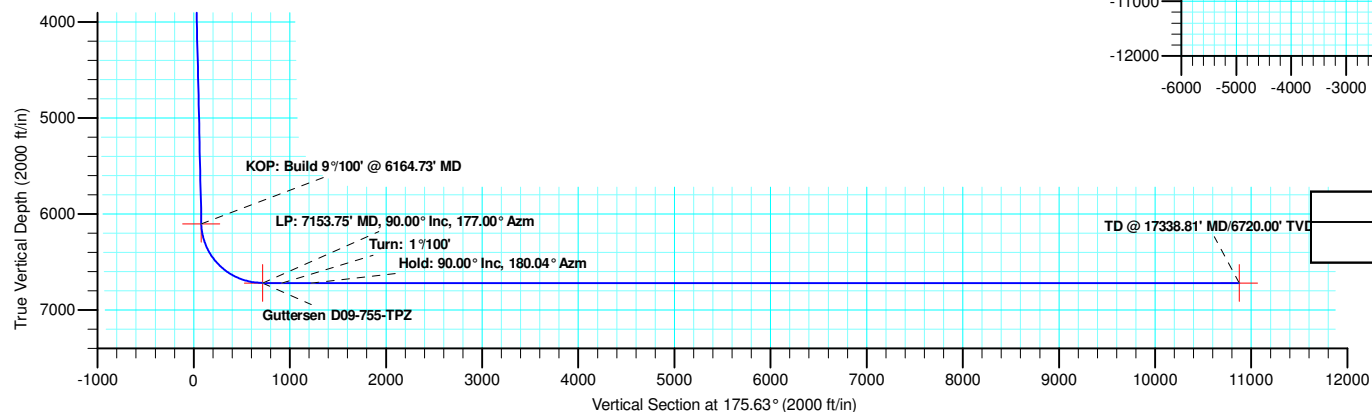
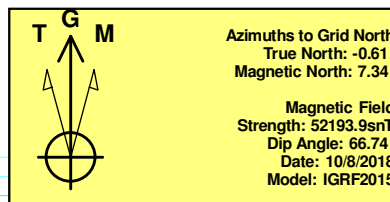
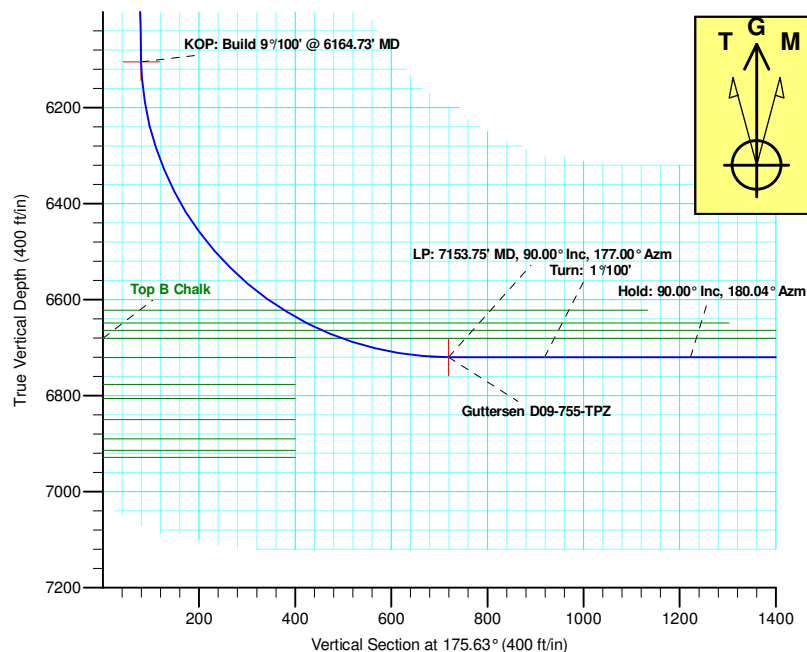
Geodetic System: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Zone: Colorado Northern Zone
 System Datum: Mean Sea Level

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	2200.00	0.00	0.00	2200.00	0.00	0.00	0.00	0.00	0.00	
3	2722.86	10.46	92.45	2719.96	-2.04	47.54	2.00	92.45	5.66	
4	6164.73	10.46	92.45	6104.67	-28.79	671.66	0.00	0.00	79.92	
5	7153.75	90.00	177.00	6720.00	-658.53	817.88	9.00	84.64	718.98	Gutteresen D09-755-TPZ
6	7353.75	90.00	177.00	6720.00	-858.25	828.34	0.00	0.00	918.92	
7	7657.84	90.00	180.04	6720.00	-1162.21	836.20	1.00	90.00	1222.59	
8	17338.81	90.00	180.04	6720.00	-10843.18	829.28	0.00	0.00	10874.84	Gutteresen D09-755-BHL

WELL DETAILS: Gutteresen D09-755

+N/-S	+E/-W	Northing	Ground Level: Easting	4724.00 Latitude	Longitude	Slot
0.00	0.00	1340051.64	3262365.92	40.2630230	-104.5598490	



Plan: Plan #1 (Gutteresen D09-755/Gutteresen D09-755)

Created By: Keith Noack Date: 10:40, October 09 2018

Northern Region - DJ Basin

Mustang

C Section 33

Guttersen D09-755

Guttersen D09-755

Plan: Plan #1

Standard Planning Report

09 October, 2018

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Guttersen D09-755
Company:	Northern Region - DJ Basin	TVD Reference:	Well @ 4754.00ft
Project:	Mustang	MD Reference:	Well @ 4754.00ft
Site:	C Section 33	North Reference:	Grid
Well:	Guttersen D09-755	Survey Calculation Method:	Minimum Curvature
Wellbore:	Guttersen D09-755		
Design:	Plan #1		

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		C Section 33			
Site Position:		Northing:	1,339,901.69 usft	Latitude:	40.2626140
From:	Lat/Long	Easting:	3,262,275.97 usft	Longitude:	-104.5601770
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.61

Well	Guttersen D09-755					
Well Position	+N-S	149.95 ft	Northing:	1,340,051.64 usft	Latitude:	40.2630230
	+E-W	89.95 ft	Easting:	3,262,365.92 usft	Longitude:	-104.5598490
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	4,724.00 ft

Wellbore	Guttersen D09-755				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	10/8/2018	7.95	66.74	52,193.91817489

Design	Plan #1			
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	175.63

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	
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,722.86	10.46	92.45	2,719.96	-2.04	47.54	2.00	2.00	0.00	92.45	
6,164.73	10.46	92.45	6,104.67	-28.79	671.66	0.00	0.00	0.00	0.00	
7,153.75	90.00	177.00	6,720.00	-658.53	817.88	9.00	8.04	8.55	84.64	Guttersen D09-755
7,353.75	90.00	177.00	6,720.00	-858.25	828.34	0.00	0.00	0.00	0.00	
7,657.84	90.00	180.04	6,720.00	-1,162.21	836.20	1.00	0.00	1.00	90.00	
17,338.81	90.00	180.04	6,720.00	-10,843.18	829.28	0.00	0.00	0.00	0.00	Guttersen D09-755

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Guttersen D09-755
Company:	Northern Region - DJ Basin	TVD Reference:	Well @ 4754.00ft
Project:	Mustang	MD Reference:	Well @ 4754.00ft
Site:	C Section 33	North Reference:	Grid
Well:	Guttersen D09-755	Survey Calculation Method:	Minimum Curvature
Wellbore:	Guttersen D09-755		
Design:	Plan #1		

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
460.00	0.00	0.00	460.00	0.00	0.00	0.00	0.00	0.00	0.00
Pierre									
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
593.00	0.00	0.00	593.00	0.00	0.00	0.00	0.00	0.00	0.00
Upper Pierre Aquifer Top									
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
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
1,513.00	0.00	0.00	1,513.00	0.00	0.00	0.00	0.00	0.00	0.00
Upper Pierre Aquifer Base									
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
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
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
Build: 2°/100'									
2,300.00	2.00	92.45	2,299.98	-0.07	1.74	0.21	2.00	2.00	0.00
2,400.00	4.00	92.45	2,399.84	-0.30	6.97	0.83	2.00	2.00	0.00
2,500.00	6.00	92.45	2,499.45	-0.67	15.68	1.87	2.00	2.00	0.00
2,600.00	8.00	92.45	2,598.70	-1.19	27.85	3.31	2.00	2.00	0.00
2,700.00	10.00	92.45	2,697.47	-1.86	43.48	5.17	2.00	2.00	0.00
2,722.86	10.46	92.45	2,719.96	-2.04	47.54	5.66	2.00	2.00	0.00
Hold: 10.46° Inc, 92.45° Azm									
2,800.00	10.46	92.45	2,795.82	-2.64	61.53	7.32	0.00	0.00	0.00
2,900.00	10.46	92.45	2,894.16	-3.41	79.66	9.48	0.00	0.00	0.00
3,000.00	10.46	92.45	2,992.50	-4.19	97.79	11.64	0.00	0.00	0.00
3,100.00	10.46	92.45	3,090.84	-4.97	115.93	13.79	0.00	0.00	0.00
3,200.00	10.46	92.45	3,189.18	-5.75	134.06	15.95	0.00	0.00	0.00
3,300.00	10.46	92.45	3,287.52	-6.52	152.19	18.11	0.00	0.00	0.00
3,400.00	10.46	92.45	3,385.86	-7.30	170.33	20.27	0.00	0.00	0.00
3,500.00	10.46	92.45	3,484.19	-8.08	188.46	22.43	0.00	0.00	0.00
3,600.00	10.46	92.45	3,582.53	-8.86	206.59	24.58	0.00	0.00	0.00
3,609.63	10.46	92.45	3,592.00	-8.93	208.34	24.79	0.00	0.00	0.00
Parkman									
3,700.00	10.46	92.45	3,680.87	-9.63	224.73	26.74	0.00	0.00	0.00
3,800.00	10.46	92.45	3,779.21	-10.41	242.86	28.90	0.00	0.00	0.00
3,900.00	10.46	92.45	3,877.55	-11.19	260.99	31.06	0.00	0.00	0.00
4,000.00	10.46	92.45	3,975.89	-11.96	279.13	33.21	0.00	0.00	0.00
4,021.47	10.46	92.45	3,997.00	-12.13	283.02	33.68	0.00	0.00	0.00

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Project:	Mustang	MD Reference:	Well @ 4754.00ft
Site:	C Section 33	North Reference:	Grid
Well:	Guttersen D09-755	Survey Calculation Method:	Minimum Curvature
Wellbore:	Guttersen D09-755		
Design:	Plan #1		

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	10.46	92.45	4,074.23	-12.74	297.26	35.37	0.00	0.00	0.00
4,200.00	10.46	92.45	4,172.57	-13.52	315.39	37.53	0.00	0.00	0.00
4,300.00	10.46	92.45	4,270.91	-14.30	333.53	39.69	0.00	0.00	0.00
4,400.00	10.46	92.45	4,369.25	-15.07	351.66	41.85	0.00	0.00	0.00
4,500.00	10.46	92.45	4,467.59	-15.85	369.79	44.00	0.00	0.00	0.00
4,582.79	10.46	92.45	4,549.00	-16.49	384.81	45.79	0.00	0.00	0.00
Shannon									
4,600.00	10.46	92.45	4,565.92	-16.63	387.93	46.16	0.00	0.00	0.00
4,700.00	10.46	92.45	4,664.26	-17.40	406.06	48.32	0.00	0.00	0.00
4,800.00	10.46	92.45	4,762.60	-18.18	424.19	50.48	0.00	0.00	0.00
4,900.00	10.46	92.45	4,860.94	-18.96	442.33	52.63	0.00	0.00	0.00
5,000.00	10.46	92.45	4,959.28	-19.74	460.46	54.79	0.00	0.00	0.00
5,100.00	10.46	92.45	5,057.62	-20.51	478.59	56.95	0.00	0.00	0.00
5,200.00	10.46	92.45	5,155.96	-21.29	496.73	59.11	0.00	0.00	0.00
5,300.00	10.46	92.45	5,254.30	-22.07	514.86	61.27	0.00	0.00	0.00
5,400.00	10.46	92.45	5,352.64	-22.85	532.99	63.42	0.00	0.00	0.00
5,500.00	10.46	92.45	5,450.98	-23.62	551.13	65.58	0.00	0.00	0.00
5,600.00	10.46	92.45	5,549.32	-24.40	569.26	67.74	0.00	0.00	0.00
5,700.00	10.46	92.45	5,647.65	-25.18	587.39	69.90	0.00	0.00	0.00
5,800.00	10.46	92.45	5,745.99	-25.95	605.53	72.05	0.00	0.00	0.00
5,900.00	10.46	92.45	5,844.33	-26.73	623.66	74.21	0.00	0.00	0.00
5,986.10	10.46	92.45	5,929.00	-27.40	639.27	76.07	0.00	0.00	0.00
Teepee Buttes									
6,000.00	10.46	92.45	5,942.67	-27.51	641.79	76.37	0.00	0.00	0.00
6,100.00	10.46	92.45	6,041.01	-28.29	659.93	78.53	0.00	0.00	0.00
6,164.73	10.46	92.45	6,104.67	-28.79	671.66	79.92	0.00	0.00	0.00
KOP: Build 9°/100' @ 6164.73' MD									
6,200.00	11.20	108.94	6,139.32	-30.04	678.10	81.66	9.00	2.12	46.74
6,250.00	13.51	127.13	6,188.17	-35.14	687.36	87.46	9.00	4.62	36.39
6,300.00	16.72	139.31	6,236.45	-44.13	696.71	97.13	9.00	6.42	24.34
6,350.00	20.42	147.43	6,283.84	-56.94	706.10	110.62	9.00	7.39	16.24
6,400.00	24.37	153.08	6,330.07	-73.50	715.48	127.84	9.00	7.91	11.30
6,450.00	28.48	157.21	6,374.84	-93.70	724.77	148.70	9.00	8.22	8.26
6,500.00	32.69	160.36	6,417.87	-117.42	733.93	173.05	9.00	8.41	6.31
6,550.00	36.96	162.87	6,458.91	-144.51	742.90	200.75	9.00	8.54	5.01
6,600.00	41.27	164.91	6,497.70	-174.81	751.63	231.62	9.00	8.62	4.10
6,650.00	45.61	166.64	6,534.00	-208.13	760.05	265.49	9.00	8.68	3.45
6,700.00	49.97	168.12	6,567.58	-244.27	768.12	302.13	9.00	8.73	2.97
6,750.00	54.35	169.43	6,598.25	-282.99	775.80	341.33	9.00	8.76	2.61
6,792.74	58.11	170.44	6,622.00	-317.97	782.00	376.68	9.00	8.78	2.36
Sharon Springs									
6,800.00	58.75	170.60	6,625.80	-324.07	783.02	382.84	9.00	8.80	2.24
6,847.63	62.94	171.61	6,649.00	-365.15	789.44	424.29	9.00	8.81	2.13
Top A Chalk									
6,850.00	63.15	171.66	6,650.08	-367.24	789.75	426.40	9.00	8.81	2.05
6,882.44	66.01	172.31	6,664.00	-396.26	793.83	455.64	9.00	8.82	1.99
Top A Marl									
6,900.00	67.56	172.65	6,670.92	-412.25	795.94	471.75	9.00	8.82	1.93
6,927.86	70.02	173.17	6,681.00	-438.02	799.15	497.69	9.00	8.83	1.87
Top B Chalk									
6,950.00	71.98	173.57	6,688.21	-458.82	801.56	518.61	9.00	8.83	1.82
7,000.00	76.39	174.45	6,701.83	-506.65	806.58	566.68	9.00	8.84	1.76

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Guttersen D09-755
Company:	Northern Region - DJ Basin	TVD Reference:	Well @ 4754.00ft
Project:	Mustang	MD Reference:	Well @ 4754.00ft
Site:	C Section 33	North Reference:	Grid
Well:	Guttersen D09-755	Survey Calculation Method:	Minimum Curvature
Wellbore:	Guttersen D09-755		
Design:	Plan #1		

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)
7,050.00	80.82	175.30	6,711.71	-555.46	810.95	615.68	9.00	8.85	1.69
7,100.00	85.24	176.12	6,717.77	-604.94	814.66	665.30	9.00	8.85	1.65
7,153.75	90.00	177.00	6,720.00	-658.53	817.88	718.98	9.00	8.85	1.63
LP: 7153.75' MD, 90.00° Inc, 177.00° Azm									
7,200.00	90.00	177.00	6,720.00	-704.71	820.30	765.22	0.00	0.00	0.00
7,300.00	90.00	177.00	6,720.00	-804.58	825.53	865.19	0.00	0.00	0.00
7,353.75	90.00	177.00	6,720.00	-858.25	828.34	918.92	0.00	0.00	0.00
Turn: 1°/100'									
7,400.00	90.00	177.46	6,720.00	-904.45	830.58	965.15	1.00	0.00	1.00
7,500.00	90.00	178.46	6,720.00	-1,004.39	834.13	1,065.07	1.00	0.00	1.00
7,600.00	90.00	179.46	6,720.00	-1,104.37	835.95	1,164.90	1.00	0.00	1.00
7,657.84	90.00	180.04	6,720.00	-1,162.21	836.20	1,222.59	1.00	0.00	1.00
Hold: 90.00° Inc, 180.04° Azm									
7,700.00	90.00	180.04	6,720.00	-1,204.37	836.17	1,264.62	0.00	0.00	0.00
7,800.00	90.00	180.04	6,720.00	-1,304.37	836.09	1,364.33	0.00	0.00	0.00
7,900.00	90.00	180.04	6,720.00	-1,404.37	836.02	1,464.03	0.00	0.00	0.00
8,000.00	90.00	180.04	6,720.00	-1,504.37	835.95	1,563.73	0.00	0.00	0.00
8,100.00	90.00	180.04	6,720.00	-1,604.37	835.88	1,663.44	0.00	0.00	0.00
8,200.00	90.00	180.04	6,720.00	-1,704.37	835.81	1,763.14	0.00	0.00	0.00
8,300.00	90.00	180.04	6,720.00	-1,804.37	835.74	1,862.84	0.00	0.00	0.00
8,400.00	90.00	180.04	6,720.00	-1,904.37	835.67	1,962.55	0.00	0.00	0.00
8,500.00	90.00	180.04	6,720.00	-2,004.37	835.59	2,062.25	0.00	0.00	0.00
8,600.00	90.00	180.04	6,720.00	-2,104.37	835.52	2,161.95	0.00	0.00	0.00
8,700.00	90.00	180.04	6,720.00	-2,204.37	835.45	2,261.66	0.00	0.00	0.00
8,800.00	90.00	180.04	6,720.00	-2,304.37	835.38	2,361.36	0.00	0.00	0.00
8,900.00	90.00	180.04	6,720.00	-2,404.37	835.31	2,461.06	0.00	0.00	0.00
9,000.00	90.00	180.04	6,720.00	-2,504.37	835.24	2,560.77	0.00	0.00	0.00
9,100.00	90.00	180.04	6,720.00	-2,604.37	835.17	2,660.47	0.00	0.00	0.00
9,200.00	90.00	180.04	6,720.00	-2,704.37	835.09	2,760.17	0.00	0.00	0.00
9,300.00	90.00	180.04	6,720.00	-2,804.37	835.02	2,859.88	0.00	0.00	0.00
9,400.00	90.00	180.04	6,720.00	-2,904.37	834.95	2,959.58	0.00	0.00	0.00
9,500.00	90.00	180.04	6,720.00	-3,004.37	834.88	3,059.28	0.00	0.00	0.00
9,600.00	90.00	180.04	6,720.00	-3,104.37	834.81	3,158.99	0.00	0.00	0.00
9,700.00	90.00	180.04	6,720.00	-3,204.37	834.74	3,258.69	0.00	0.00	0.00
9,800.00	90.00	180.04	6,720.00	-3,304.37	834.67	3,358.39	0.00	0.00	0.00
9,900.00	90.00	180.04	6,720.00	-3,404.37	834.59	3,458.10	0.00	0.00	0.00
10,000.00	90.00	180.04	6,720.00	-3,504.37	834.52	3,557.80	0.00	0.00	0.00
10,100.00	90.00	180.04	6,720.00	-3,604.37	834.45	3,657.50	0.00	0.00	0.00
10,200.00	90.00	180.04	6,720.00	-3,704.37	834.38	3,757.21	0.00	0.00	0.00
10,300.00	90.00	180.04	6,720.00	-3,804.37	834.31	3,856.91	0.00	0.00	0.00
10,400.00	90.00	180.04	6,720.00	-3,904.37	834.24	3,956.61	0.00	0.00	0.00
10,500.00	90.00	180.04	6,720.00	-4,004.37	834.17	4,056.32	0.00	0.00	0.00
10,600.00	90.00	180.04	6,720.00	-4,104.37	834.09	4,156.02	0.00	0.00	0.00
10,700.00	90.00	180.04	6,720.00	-4,204.37	834.02	4,255.72	0.00	0.00	0.00
10,800.00	90.00	180.04	6,720.00	-4,304.37	833.95	4,355.43	0.00	0.00	0.00
10,900.00	90.00	180.04	6,720.00	-4,404.37	833.88	4,455.13	0.00	0.00	0.00
11,000.00	90.00	180.04	6,720.00	-4,504.37	833.81	4,554.83	0.00	0.00	0.00
11,100.00	90.00	180.04	6,720.00	-4,604.37	833.74	4,654.54	0.00	0.00	0.00
11,200.00	90.00	180.04	6,720.00	-4,704.37	833.67	4,754.24	0.00	0.00	0.00
11,300.00	90.00	180.04	6,720.00	-4,804.37	833.59	4,853.94	0.00	0.00	0.00
11,400.00	90.00	180.04	6,720.00	-4,904.37	833.52	4,953.65	0.00	0.00	0.00
11,500.00	90.00	180.04	6,720.00	-5,004.37	833.45	5,053.35	0.00	0.00	0.00
11,600.00	90.00	180.04	6,720.00	-5,104.37	833.38	5,153.05	0.00	0.00	0.00

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Guttersen D09-755
Company:	Northern Region - DJ Basin	TVD Reference:	Well @ 4754.00ft
Project:	Mustang	MD Reference:	Well @ 4754.00ft
Site:	C Section 33	North Reference:	Grid
Well:	Guttersen D09-755	Survey Calculation Method:	Minimum Curvature
Wellbore:	Guttersen D09-755		
Design:	Plan #1		

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)
11,700.00	90.00	180.04	6,720.00	-5,204.37	833.31	5,252.76	0.00	0.00	0.00
11,800.00	90.00	180.04	6,720.00	-5,304.37	833.24	5,352.46	0.00	0.00	0.00
11,900.00	90.00	180.04	6,720.00	-5,404.37	833.17	5,452.16	0.00	0.00	0.00
12,000.00	90.00	180.04	6,720.00	-5,504.37	833.09	5,551.87	0.00	0.00	0.00
12,100.00	90.00	180.04	6,720.00	-5,604.37	833.02	5,651.57	0.00	0.00	0.00
12,200.00	90.00	180.04	6,720.00	-5,704.37	832.95	5,751.27	0.00	0.00	0.00
12,300.00	90.00	180.04	6,720.00	-5,804.37	832.88	5,850.98	0.00	0.00	0.00
12,400.00	90.00	180.04	6,720.00	-5,904.37	832.81	5,950.68	0.00	0.00	0.00
12,500.00	90.00	180.04	6,720.00	-6,004.37	832.74	6,050.38	0.00	0.00	0.00
12,600.00	90.00	180.04	6,720.00	-6,104.37	832.67	6,150.09	0.00	0.00	0.00
12,700.00	90.00	180.04	6,720.00	-6,204.37	832.60	6,249.79	0.00	0.00	0.00
12,800.00	90.00	180.04	6,720.00	-6,304.37	832.52	6,349.49	0.00	0.00	0.00
12,900.00	90.00	180.04	6,720.00	-6,404.37	832.45	6,449.20	0.00	0.00	0.00
13,000.00	90.00	180.04	6,720.00	-6,504.37	832.38	6,548.90	0.00	0.00	0.00
13,100.00	90.00	180.04	6,720.00	-6,604.37	832.31	6,648.60	0.00	0.00	0.00
13,200.00	90.00	180.04	6,720.00	-6,704.37	832.24	6,748.31	0.00	0.00	0.00
13,300.00	90.00	180.04	6,720.00	-6,804.37	832.17	6,848.01	0.00	0.00	0.00
13,400.00	90.00	180.04	6,720.00	-6,904.37	832.10	6,947.71	0.00	0.00	0.00
13,500.00	90.00	180.04	6,720.00	-7,004.37	832.02	7,047.42	0.00	0.00	0.00
13,600.00	90.00	180.04	6,720.00	-7,104.37	831.95	7,147.12	0.00	0.00	0.00
13,700.00	90.00	180.04	6,720.00	-7,204.37	831.88	7,246.82	0.00	0.00	0.00
13,800.00	90.00	180.04	6,720.00	-7,304.37	831.81	7,346.53	0.00	0.00	0.00
13,900.00	90.00	180.04	6,720.00	-7,404.37	831.74	7,446.23	0.00	0.00	0.00
14,000.00	90.00	180.04	6,720.00	-7,504.37	831.67	7,545.93	0.00	0.00	0.00
14,100.00	90.00	180.04	6,720.00	-7,604.37	831.60	7,645.64	0.00	0.00	0.00
14,200.00	90.00	180.04	6,720.00	-7,704.37	831.52	7,745.34	0.00	0.00	0.00
14,300.00	90.00	180.04	6,720.00	-7,804.37	831.45	7,845.04	0.00	0.00	0.00
14,400.00	90.00	180.04	6,720.00	-7,904.37	831.38	7,944.75	0.00	0.00	0.00
14,500.00	90.00	180.04	6,720.00	-8,004.37	831.31	8,044.45	0.00	0.00	0.00
14,600.00	90.00	180.04	6,720.00	-8,104.37	831.24	8,144.15	0.00	0.00	0.00
14,700.00	90.00	180.04	6,720.00	-8,204.36	831.17	8,243.86	0.00	0.00	0.00
14,800.00	90.00	180.04	6,720.00	-8,304.36	831.10	8,343.56	0.00	0.00	0.00
14,900.00	90.00	180.04	6,720.00	-8,404.36	831.02	8,443.26	0.00	0.00	0.00
15,000.00	90.00	180.04	6,720.00	-8,504.36	830.95	8,542.97	0.00	0.00	0.00
15,100.00	90.00	180.04	6,720.00	-8,604.36	830.88	8,642.67	0.00	0.00	0.00
15,200.00	90.00	180.04	6,720.00	-8,704.36	830.81	8,742.37	0.00	0.00	0.00
15,300.00	90.00	180.04	6,720.00	-8,804.36	830.74	8,842.08	0.00	0.00	0.00
15,400.00	90.00	180.04	6,720.00	-8,904.36	830.67	8,941.78	0.00	0.00	0.00
15,500.00	90.00	180.04	6,720.00	-9,004.36	830.60	9,041.48	0.00	0.00	0.00
15,600.00	90.00	180.04	6,720.00	-9,104.36	830.52	9,141.19	0.00	0.00	0.00
15,700.00	90.00	180.04	6,720.00	-9,204.36	830.45	9,240.89	0.00	0.00	0.00
15,800.00	90.00	180.04	6,720.00	-9,304.36	830.38	9,340.59	0.00	0.00	0.00
15,900.00	90.00	180.04	6,720.00	-9,404.36	830.31	9,440.30	0.00	0.00	0.00
16,000.00	90.00	180.04	6,720.00	-9,504.36	830.24	9,540.00	0.00	0.00	0.00
16,100.00	90.00	180.04	6,720.00	-9,604.36	830.17	9,639.70	0.00	0.00	0.00
16,200.00	90.00	180.04	6,720.00	-9,704.36	830.10	9,739.41	0.00	0.00	0.00
16,300.00	90.00	180.04	6,720.00	-9,804.36	830.02	9,839.11	0.00	0.00	0.00
16,400.00	90.00	180.04	6,720.00	-9,904.36	829.95	9,938.81	0.00	0.00	0.00
16,500.00	90.00	180.04	6,720.00	-10,004.36	829.88	10,038.52	0.00	0.00	0.00
16,600.00	90.00	180.04	6,720.00	-10,104.36	829.81	10,138.22	0.00	0.00	0.00
16,700.00	90.00	180.04	6,720.00	-10,204.36	829.74	10,237.92	0.00	0.00	0.00
16,800.00	90.00	180.04	6,720.00	-10,304.36	829.67	10,337.63	0.00	0.00	0.00
16,900.00	90.00	180.04	6,720.00	-10,404.36	829.60	10,437.33	0.00	0.00	0.00
17,000.00	90.00	180.04	6,720.00	-10,504.36	829.52	10,537.03	0.00	0.00	0.00

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Guttersen D09-755
Company:	Northern Region - DJ Basin	TVD Reference:	Well @ 4754.00ft
Project:	Mustang	MD Reference:	Well @ 4754.00ft
Site:	C Section 33	North Reference:	Grid
Well:	Guttersen D09-755	Survey Calculation Method:	Minimum Curvature
Wellbore:	Guttersen D09-755		
Design:	Plan #1		

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)
17,100.00	90.00	180.04	6,720.00	-10,604.36	829.45	10,636.74	0.00	0.00	0.00
17,200.00	90.00	180.04	6,720.00	-10,704.36	829.38	10,736.44	0.00	0.00	0.00
17,300.00	90.00	180.04	6,720.00	-10,804.36	829.31	10,836.14	0.00	0.00	0.00
17,338.81	90.00	180.04	6,720.00	-10,843.18	829.28	10,874.84	0.00	0.00	0.00
TD @ 17338.81' MD/6720.00' TVD									

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 D09-755-SI - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	1,340,051.64	3,262,365.92	40.2630230	-104.5598490
Guttersen D09-755-KI - plan hits target center - Point	0.00	0.00	6,104.67	-28.79	671.66	1,340,022.85	3,263,037.59	40.2629244	-104.5574435
Guttersen D09-755-TI - plan hits target center - Point	0.00	0.00	6,720.00	-658.53	817.88	1,339,393.12	3,263,183.80	40.2611916	-104.5569436
Guttersen D09-755-BI - plan hits target center - Point	0.00	0.00	6,720.00	-10,843.18	829.28	1,329,208.48	3,263,195.20	40.2332350	-104.5572906

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
460.00	460.00	Pierre				
593.00	593.00	Upper Pierre Aquifer Top				
1,513.00	1,513.00	Upper Pierre Aquifer Base				
3,609.63	3,592.00	Parkman				
4,021.47	3,997.00	Sussex				
4,582.79	4,549.00	Shannon				
5,986.10	5,929.00	Teepee Buttes				
6,792.74	6,622.00	Sharon Springs				
6,847.63	6,649.00	Top A Chalk				
6,882.44	6,664.00	Top A Marl				
6,927.86	6,681.00	Top B Chalk				

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Guttersen D09-755
Company:	Northern Region - DJ Basin	TVD Reference:	Well @ 4754.00ft
Project:	Mustang	MD Reference:	Well @ 4754.00ft
Site:	C Section 33	North Reference:	Grid
Well:	Guttersen D09-755	Survey Calculation Method:	Minimum Curvature
Wellbore:	Guttersen D09-755		
Design:	Plan #1		

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
2,200.00	2,200.00	0.00	0.00	Build: 2°/100'	
2,722.86	2,719.96	-2.04	47.54	Hold: 10.46° Inc, 92.45° Azm	
6,164.73	6,104.67	-28.79	671.66	KOP: Build 9°/100' @ 6164.73' MD	
7,153.75	6,720.00	-658.53	817.88	LP: 7153.75' MD, 90.00° Inc, 177.00° Azm	
7,353.75	6,720.00	-858.25	828.34	Turn: 1°/100'	
7,657.84	6,720.00	-1,162.21	836.20	Hold: 90.00° Inc, 180.04° Azm	
17,338.81	6,720.00	-10,843.18	829.28	TD @ 17338.81' MD/6720.00' TVD	

Northern Region - DJ Basin

Mustang

C Section 33

Guttersen D09-755

Guttersen D09-755

Plan #1

Anticollision Summary Report

08 October, 2018

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Gutttersen D09-755
Project:	Mustang	TVD Reference:	Well @ 4754.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4754.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Gutttersen D09-755	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Gutttersen D09-755	Database:	EDMP
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Reference	Plan #1		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 10,000.00 ft	Error Surface:	Pedal Curve
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program		Date	10/8/2018		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.00	17,338.81	Plan #1 (Gutttersen D09-755)	2_MWD+IFR1+MS	A008Mb: IFR dec & multi-station analysis	

Summary						
Site Name Offest Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
C Section 32						
HENNINGTON C #32-10(PR) - Wellbore #1 - No Surveys	2,200.00	2,216.00	3,813.63	3,786.64	141.289	CC, ES
HENNINGTON C #32-10(PR) - Wellbore #1 - No Surveys	6,750.00	6,614.25	4,638.67	4,557.30	57.006	SF
HENNINGTON C #32-2(PR) - Wellbore #1 - No Surveys	2,200.00	2,217.00	5,548.39	5,521.39	205.492	CC
HENNINGTON C #32-2(PR) - Wellbore #1 - No Surveys	2,300.00	2,316.98	5,549.57	5,521.35	196.638	ES
HENNINGTON C #32-2(PR) - Wellbore #1 - No Surveys	6,650.00	6,551.00	6,213.33	6,132.73	77.087	SF
HENNINGTON C #32-7(PA) - Wellbore #1 - Gyro Survey	0.00	7.90	4,681.07			
HENNINGTON C #32-7(PA) - Wellbore #1 - Gyro Survey	900.00	884.11	4,684.81	4,678.89	791.742	ES
HENNINGTON C #32-7(PA) - Wellbore #1 - Gyro Survey	6,650.00	6,370.86	5,434.60	5,389.20	119.695	SF
HOWELL #1(SI) - Wellbore #1 - No Surveys	2,200.00	2,246.00	5,643.38	5,616.13	207.070	CC, ES
HOWELL #1(SI) - Wellbore #1 - No Surveys	7,050.00	6,757.71	6,518.50	6,435.17	78.219	SF
HOWELL #32-1(SI) - Wellbore #1 - No Surveys	2,200.00	2,230.00	5,490.55	5,463.44	202.499	CC, ES
HOWELL #32-1(SI) - Wellbore #1 - No Surveys	6,800.00	6,655.80	6,335.29	6,253.47	77.426	SF
HOWELL #32-2(SI) - Wellbore #1 - No Surveys	2,200.00	2,224.00	6,218.07	6,191.01	229.775	CC, ES
HOWELL #32-2(SI) - Wellbore #1 - No Surveys	6,750.00	6,622.25	7,003.87	6,922.46	86.027	SF
HOWELL #32-23(PR) - Wellbore #1 - No Surveys	2,200.00	2,257.00	6,673.60	6,646.25	244.011	CC, ES
HOWELL #32-23(PR) - Wellbore #1 - No Surveys	6,850.00	6,707.08	7,544.55	7,462.18	91.587	SF
HOWELL #C 32-12(SI) - Wellbore #1 - No Surveys	2,200.00	2,271.00	6,328.15	6,300.68	230.352	CC, ES
HOWELL #C 32-12(SI) - Wellbore #1 - No Surveys	7,000.00	6,772.83	7,228.64	7,145.33	86.767	SF
MCGUIRK-HOWELL C #32-11(SI) - Wellbore #1 - No Su	2,200.00	2,229.00	5,101.07	5,073.97	188.195	CC, ES
MCGUIRK-HOWELL C #32-11(SI) - Wellbore #1 - No Su	6,850.00	6,679.08	5,965.16	5,882.99	72.591	SF
MCGUIRK-HOWELL C #32-14(TA) - Wellbore #1 - No Si	2,200.00	2,235.00	4,974.18	4,947.02	183.160	CC, ES
MCGUIRK-HOWELL C #32-14(TA) - Wellbore #1 - No Si	7,050.00	6,746.71	5,823.90	5,740.62	69.931	SF
MCGUIRK-HOWELL C #32-4(SI) - Wellbore #1 - No Sur	2,200.00	2,272.00	7,408.28	7,380.80	269.584	CC, ES
MCGUIRK-HOWELL C #32-4(SI) - Wellbore #1 - No Sur	6,850.00	6,722.08	8,268.40	8,185.93	100.260	SF
NELSON #32-25(PR) - Wellbore #1 - No Surveys	2,200.00	2,261.00	6,506.59	6,479.21	237.602	CC, ES
NELSON #32-25(PR) - Wellbore #1 - No Surveys	6,800.00	6,686.80	7,344.55	7,262.47	89.478	SF
PLUSS #32-43(PA) - Wellbore #1 - Gyro Surveys	0.00	20.42	3,695.26			
PLUSS #32-43(PA) - Wellbore #1 - Gyro Surveys	1,200.00	1,196.73	3,698.40	3,690.32	457.655	ES
PLUSS #32-43(PA) - Wellbore #1 - Gyro Surveys	7,000.00	6,548.83	4,644.85	4,597.90	98.927	SF
PTF #C 32-1(SI) - Wellbore #1 - No Surveys	2,200.00	2,209.00	4,562.65	4,535.72	169.422	CC
PTF #C 32-1(SI) - Wellbore #1 - No Surveys	2,300.00	2,308.98	4,563.57	4,535.42	162.101	ES
PTF #C 32-1(SI) - Wellbore #1 - No Surveys	6,600.00	6,506.70	5,117.27	5,037.13	63.855	SF
PTF #C 32-16(SI) - Wellbore #1 - No Surveys	2,200.00	2,210.00	2,219.93	2,192.99	82.405	CC, ES
PTF #C 32-16(SI) - Wellbore #1 - No Surveys	6,800.00	6,635.80	3,031.14	2,949.38	37.073	SF
PTF #C 32-8(SI) - Wellbore #1 - No Surveys	2,200.00	2,199.00	3,422.86	3,396.01	127.512	CC
PTF #C 32-8(SI) - Wellbore #1 - No Surveys	2,300.00	2,298.98	3,424.05	3,395.98	122.003	ES
PTF #C 32-8(SI) - Wellbore #1 - No Surveys	6,550.00	6,457.91	4,044.20	3,964.67	50.855	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 D09-755
Project:	Mustang	TVD Reference:	Well @ 4754.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4754.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D09-755	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen D09-755	Database:	EDMP
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Summary						
Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
C Section 32						
PTF #C 32-9(SI) - Wellbore #1 - No Surveys	2,200.00	2,201.00	2,520.44	2,493.58	93.833	CC, ES
PTF #C 32-9(SI) - Wellbore #1 - No Surveys	6,550.00	6,459.91	3,247.80	3,168.30	40.852	SF

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D09-755
Project:	Mustang	TVD Reference:	Well @ 4754.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4754.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D09-755	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen D09-755	Database:	EDMP
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
C Section 33						
GUTTERSEN C #33-31D - GUTTERSEN C #33-31D OH	715.01	749.95	2,400.42	2,396.77	657.887	CC, ES
GUTTERSEN C #33-31D - GUTTERSEN C #33-31D OH	6,500.00	6,608.31	4,321.18	4,272.94	89.562	SF
GUTTERSEN C #33-32 - Wellbore #1 - No Surveys	2,200.00	2,210.00	2,415.31	2,321.58	25.768	CC
GUTTERSEN C #33-32 - Wellbore #1 - No Surveys	2,400.00	2,409.84	2,419.46	2,317.04	23.623	ES
GUTTERSEN C #33-32 - Wellbore #1 - No Surveys	6,350.00	6,306.16	2,910.32	2,637.83	10.681	SF
GUTTERSEN C #33-33D - GUTTERSEN C #33-33D OH	2,849.88	3,222.76	2,128.65	2,105.65	92.513	CC
GUTTERSEN C #33-33D - GUTTERSEN C #33-33D OH	2,900.00	3,258.72	2,128.85	2,105.43	90.886	ES
GUTTERSEN C #33-33D - GUTTERSEN C #33-33D OH	6,400.00	6,498.58	2,531.83	2,479.11	48.024	SF
Guttersen C28-715 - Guttersen C28-715 - Plan #1	3,174.92	2,800.00	2,000.72	1,980.26	97.777	CC
Guttersen C28-715 - Guttersen C28-715 - Plan #1	3,200.00	2,813.84	2,000.80	1,980.21	97.209	ES
Guttersen C28-715 - Guttersen C28-715 - Plan #1	8,000.00	6,334.77	2,466.49	2,414.69	47.610	SF
Guttersen C28-725 - Guttersen C28-725 - Plan #1	7,472.57	6,541.44	1,844.63	1,795.07	37.221	CC, ES
Guttersen C28-725 - Guttersen C28-725 - Plan #1	7,657.84	6,497.16	1,856.13	1,806.02	37.041	SF
Guttersen C28-735 - Guttersen C28-735 - Plan #1	7,303.18	6,771.58	1,243.89	1,194.88	25.381	CC, ES
Guttersen C28-735 - Guttersen C28-735 - Plan #1	7,400.00	6,716.03	1,246.31	1,197.11	25.332	SF
Guttersen C28-745 - Guttersen C28-745 - Plan #1	7,041.32	6,950.76	615.24	566.65	12.663	CC, ES
Guttersen C28-745 - Guttersen C28-745 - Plan #1	7,050.00	6,944.55	615.27	566.68	12.661	SF
Guttersen C28-750 - Guttersen C28-750 - Plan #1	7,174.76	6,976.09	306.56	257.49	6.247	CC, ES
Guttersen C28-750 - Guttersen C28-750 - Plan #1	7,200.00	6,957.71	307.02	257.71	6.227	SF
Guttersen C28-755 - Guttersen C28-755 - Plan #1	7,157.16	6,998.88	69.34	19.61	1.394	Level 3, CC, ES, SF
Guttersen C28-765 - Guttersen C28-765 - Plan #1	2,200.00	2,199.00	151.63	136.33	9.909	CC, ES
Guttersen C28-765 - Guttersen C28-765 - Plan #1	2,400.00	2,389.09	158.71	142.11	9.560	SF
Guttersen C28-770 - Guttersen C28-770 - Plan #1	2,200.00	2,199.00	156.81	141.51	10.247	CC, ES
Guttersen C28-770 - Guttersen C28-770 - Plan #1	2,300.00	2,293.83	158.86	142.89	9.948	SF
Guttersen C28-775 - Guttersen C28-775 - Plan #1	2,200.00	2,200.00	164.50	149.19	10.747	CC, ES
Guttersen C28-775 - Guttersen C28-775 - Plan #1	2,300.00	2,294.50	166.80	150.83	10.443	SF
Guttersen C28-785 - Guttersen C28-785 - Plan #1	2,200.00	2,200.00	174.87	159.56	11.424	CC, ES
Guttersen C28-785 - Guttersen C28-785 - Plan #1	2,300.00	2,294.45	177.27	161.29	11.097	SF
GUTTERSEN D #03-30D - Wellbore #1 - No Surveys	4,814.31	4,736.67	211.45	6.88	1.034	Level 2, CC
GUTTERSEN D #03-30D - Wellbore #1 - No Surveys	5,100.00	5,017.62	217.72	0.89	1.004	Level 2, ES, SF
Guttersen D09-721 - Guttersen D09-721 - Plan #1	3,085.86	2,722.52	1,960.63	1,940.70	98.391	CC
Guttersen D09-721 - Guttersen D09-721 - Plan #1	3,100.00	2,730.92	1,960.65	1,940.65	98.043	ES
Guttersen D09-721 - Guttersen D09-721 - Plan #1	17,338.81	17,566.03	2,256.77	2,073.13	12.289	SF
Guttersen D09-745 - Guttersen D09-745 - Plan #1	7,646.10	7,701.72	638.67	587.61	12.509	CC
Guttersen D09-745 - Guttersen D09-745 - Plan #1	17,338.81	17,390.97	658.32	474.49	3.581	ES, SF
Guttersen D09-750 - Guttersen D09-750 - Plan #1	7,646.71	7,865.11	377.32	331.86	8.300	CC
Guttersen D09-750 - Guttersen D09-750 - Plan #1	17,338.81	17,557.20	392.79	212.50	2.179	ES, SF
Guttersen D09-765 - Guttersen D09-765 - Plan #1	2,200.00	2,201.00	22.33	7.01	1.458	Level 3, CC, ES, SF
Guttersen D09-770 - Guttersen D09-770 - Plan #1	2,200.00	2,201.00	44.93	29.62	2.935	CC, ES
Guttersen D09-770 - Guttersen D09-770 - Plan #1	2,300.00	2,300.98	46.68	30.66	2.914	SF
Guttersen D09-775 - Guttersen D09-775 - Plan #1	2,200.00	2,201.00	67.54	52.23	4.411	CC, ES
Guttersen D09-775 - Guttersen D09-775 - Plan #1	2,300.00	2,300.98	69.28	53.27	4.325	SF
Guttersen D09-785 - Guttersen D09-785 - Plan #1	2,200.00	2,201.00	89.86	74.55	5.870	CC, ES
Guttersen D09-785 - Guttersen D09-785 - Plan #1	2,300.00	2,297.82	93.33	77.34	5.837	SF
LINDSAY #33-1 - LINDSAY #33-1 OH - As-Drilled	6,512.41	6,393.64	1,019.31	973.95	22.469	CC, ES
LINDSAY #33-1 - LINDSAY #33-1 OH - As-Drilled	6,650.00	6,497.40	1,027.95	981.74	22.245	SF
LINDSAY #33-3 - Wellbore #1 - No Surveys	3,988.61	3,931.69	2,855.60	2,686.29	16.866	CC
LINDSAY #33-3 - Wellbore #1 - No Surveys	6,164.73	6,071.67	2,882.78	2,619.79	10.961	ES
LINDSAY #33-3 - Wellbore #1 - No Surveys	6,400.00	6,302.93	2,931.69	2,658.61	10.735	SF
LINDSAY #33-4 - Wellbore #1 - No Surveys	6,202.43	6,108.70	3,077.99	2,813.31	11.629	CC
LINDSAY #33-4 - Wellbore #1 - No Surveys	6,250.00	6,155.17	3,079.65	2,812.93	11.547	ES
LINDSAY #33-4 - Wellbore #1 - No Surveys	6,500.00	6,384.87	3,142.11	2,865.34	11.353	SF
LINDSAY #33-5 - Wellbore #1 - No Surveys	6,239.67	6,130.11	1,892.48	1,626.83	7.124	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 D09-755
Project:	Mustang	TVD Reference:	Well @ 4754.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4754.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D09-755	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen D09-755	Database:	EDMP
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Separation Factor	Warning
C Section 33						
LINDSAY #33-5 - Wellbore #1 - No Surveys	6,250.00	6,140.17	1,892.55	1,626.46	7.112	ES
LINDSAY #33-5 - Wellbore #1 - No Surveys	6,450.00	6,326.84	1,921.40	1,647.12	7.005	SF
LINDSAY #33-6 - Wellbore #1 - No Surveys	4,392.18	3,936.55	1,538.90	1,367.91	9.000	CC
LINDSAY #33-6 - Wellbore #1 - No Surveys	6,164.73	5,679.67	1,572.17	1,324.88	6.357	ES
LINDSAY #33-6 - Wellbore #1 - No Surveys	6,300.00	5,811.45	1,591.53	1,338.47	6.289	SF
LINDSAY #33-7 - Wellbore #1 - No Surveys	3,600.40	3,557.93	4,172.44	4,019.50	27.282	CC
LINDSAY #33-7 - Wellbore #1 - No Surveys	6,164.73	6,079.67	4,198.31	3,934.99	15.944	ES
LINDSAY #33-7 - Wellbore #1 - No Surveys	6,500.00	6,407.13	4,291.35	4,013.77	15.460	SF
LINDSAY #33-8 - Wellbore #1 - No Surveys	6,188.22	6,105.76	4,322.44	4,057.94	16.342	CC
LINDSAY #33-8 - Wellbore #1 - No Surveys	6,200.00	6,117.32	4,322.55	4,057.54	16.311	ES
LINDSAY #33-8 - Wellbore #1 - No Surveys	6,500.00	6,404.13	4,394.90	4,117.37	15.836	SF
LINDSAY #C33-10 - Wellbore #1 - No Surveys	2,200.00	2,209.00	4,297.84	4,203.82	45.715	CC
LINDSAY #C33-10 - Wellbore #1 - No Surveys	2,600.00	2,589.70	4,305.41	4,194.79	38.919	ES
LINDSAY #C33-10 - Wellbore #1 - No Surveys	6,550.00	6,449.91	4,658.86	4,379.54	16.679	SF
LINDSAY #C33-11 - LINDSAY #C33-11 OH - As-Drilled	1,771.00	1,757.04	2,980.24	2,968.16	246.638	CC
LINDSAY #C33-11 - LINDSAY #C33-11 OH - As-Drilled	2,200.00	2,160.46	2,982.33	2,967.31	198.492	ES
LINDSAY #C33-11 - LINDSAY #C33-11 OH - As-Drilled	6,450.00	6,411.58	3,456.59	3,411.38	76.451	SF
LINDSAY #C33-12 - Wellbore #1 - No Surveys	2,200.00	2,178.00	1,757.43	1,664.66	18.943	CC
LINDSAY #C33-12 - Wellbore #1 - No Surveys	2,400.00	2,377.84	1,761.25	1,659.79	17.359	ES
LINDSAY #C33-12 - Wellbore #1 - No Surveys	6,350.00	6,261.84	2,242.12	1,971.09	8.273	SF
LINDSAY #C33-13 - LINDSAY #C33-13 OH - As-Drilled	100.00	81.13	889.88	889.61	3,323.590	CC
LINDSAY #C33-13 - LINDSAY #C33-13 OH - As-Drilled	2,100.00	2,076.69	896.11	881.73	62.321	ES
LINDSAY #C33-13 - LINDSAY #C33-13 OH - As-Drilled	6,400.00	6,322.71	1,663.41	1,618.77	37.267	SF
LINDSAY #C33-14 - Wellbore #1 - No Surveys	6,225.41	6,141.20	4,810.48	4,544.43	18.081	CC
LINDSAY #C33-14 - Wellbore #1 - No Surveys	6,250.00	6,165.17	4,810.89	4,543.78	18.011	ES
LINDSAY #C33-14 - Wellbore #1 - No Surveys	6,650.00	6,511.00	4,929.24	4,646.97	17.463	SF
LINDSAY #C33-15 - Wellbore #1 - No Surveys	6,256.42	6,157.41	3,725.53	3,458.95	13.975	CC
LINDSAY #C33-15 - Wellbore #1 - No Surveys	6,300.00	6,200.55	3,726.67	3,458.20	13.881	ES
LINDSAY #C33-15 - Wellbore #1 - No Surveys	6,650.00	6,503.00	3,817.78	3,536.03	13.550	SF
LINDSAY #C33-16 - Wellbore #1 - No Surveys	6,683.65	6,506.91	2,341.45	2,059.48	8.304	CC
LINDSAY #C33-16 - Wellbore #1 - No Surveys	6,750.00	6,548.25	2,342.86	2,059.02	8.254	ES
LINDSAY #C33-16 - Wellbore #1 - No Surveys	6,900.00	6,620.92	2,357.30	2,070.11	8.208	SF
LINDSAY #C33-9 - Wellbore #1 - No Surveys	6,332.80	6,212.66	2,855.83	2,586.64	10.609	CC
LINDSAY #C33-9 - Wellbore #1 - No Surveys	6,400.00	6,275.07	2,857.89	2,585.96	10.510	ES
LINDSAY #C33-9 - Wellbore #1 - No Surveys	6,650.00	6,479.00	2,902.99	2,622.07	10.334	SF
LINDSAY C #33-17 - Wellbore #1 - No Surveys	6,210.43	6,125.54	3,856.44	3,591.06	14.532	CC
LINDSAY C #33-17 - Wellbore #1 - No Surveys	6,250.00	6,164.17	3,857.56	3,590.49	14.444	ES
LINDSAY C #33-17 - Wellbore #1 - No Surveys	6,500.00	6,406.13	3,915.60	3,637.97	14.104	SF
LINDSAY C #33-18 - Wellbore #1 - As-Drilled	1,172.28	1,157.80	3,374.94	3,359.60	220.004	CC
LINDSAY C #33-18 - Wellbore #1 - As-Drilled	1,300.00	1,241.00	3,375.87	3,358.96	199.751	ES
LINDSAY C #33-18 - Wellbore #1 - As-Drilled	6,450.00	6,434.45	3,612.07	3,499.19	32.000	SF
LINDSAY C #33-19 - Wellbore #1 - No Surveys	2,200.00	2,184.00	3,456.38	3,363.36	37.160	CC
LINDSAY C #33-19 - Wellbore #1 - No Surveys	4,300.00	4,254.91	3,520.63	3,337.27	19.201	ES
LINDSAY C #33-19 - Wellbore #1 - No Surveys	6,450.00	6,358.84	3,693.68	3,418.26	13.411	SF
LINDSAY C #33-20 - Wellbore #1 - No Surveys	2,200.00	2,180.00	2,002.25	1,909.39	21.564	CC
LINDSAY C #33-20 - Wellbore #1 - No Surveys	3,300.00	3,267.52	2,032.87	1,892.66	14.498	ES
LINDSAY C #33-20 - Wellbore #1 - No Surveys	6,350.00	6,263.84	2,254.45	1,983.21	8.312	SF
LINDSAY C #33-21 - Wellbore #1 - No Surveys	6,182.34	6,084.98	2,085.98	1,822.34	7.912	CC
LINDSAY C #33-21 - Wellbore #1 - No Surveys	6,200.00	6,102.32	2,086.22	1,821.82	7.890	ES
LINDSAY C #33-21 - Wellbore #1 - No Surveys	6,400.00	6,306.93	2,122.33	1,849.02	7.765	SF
LINDSAY C #33-22 - Wellbore #1 - No Surveys	6,256.70	6,154.68	2,675.23	2,408.55	10.032	CC
LINDSAY C #33-22 - Wellbore #1 - No Surveys	6,300.00	6,203.55	2,676.36	2,407.57	9.957	ES
LINDSAY C #33-22 - Wellbore #1 - No Surveys	6,550.00	6,418.91	2,727.38	2,449.11	9.801	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 D09-755
Project:	Mustang	TVD Reference:	Well @ 4754.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4754.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D09-755	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen D09-755	Database:	EDMP
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
C Section 33						
LINDSAY C #33-23 - Wellbore #1 - No Surveys	6,375.68	6,256.74	1,893.45	1,622.38	6.985	CC
LINDSAY C #33-23 - Wellbore #1 - No Surveys	6,400.00	6,279.07	1,893.70	1,621.65	6.961	ES
LINDSAY C #33-23 - Wellbore #1 - No Surveys	6,600.00	6,446.70	1,915.48	1,636.03	6.854	SF
LINDSAY C #33-24 - Wellbore #1 - No Surveys	6,209.85	6,108.97	953.84	689.12	3.603	CC
LINDSAY C #33-24 - Wellbore #1 - No Surveys	6,250.00	6,148.17	955.02	688.58	3.584	ES
LINDSAY C #33-24 - Wellbore #1 - No Surveys	6,300.00	6,203.55	959.81	690.98	3.570	SF
LINDSAY C #33-25 - Wellbore #1 - No Surveys	2,200.00	2,172.00	788.06	695.52	8.516	CC
LINDSAY C #33-25 - Wellbore #1 - No Surveys	2,600.00	2,570.70	796.10	686.24	7.246	ES
LINDSAY C #33-25 - Wellbore #1 - No Surveys	6,200.00	6,111.32	1,172.46	907.99	4.433	SF
D Section 03						
Becca D03-32D - Wellbore #1 - Wellbore #1- As Drilled	9,581.65	6,828.65	2,819.54	2,759.87	47.252	CC
Becca D03-32D - Wellbore #1 - Wellbore #1- As Drilled	9,600.00	6,828.55	2,819.60	2,759.77	47.127	ES
Becca D03-32D - Wellbore #1 - Wellbore #1- As Drilled	11,000.00	6,821.00	3,156.17	3,079.66	41.251	SF

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D09-755
Project:	Mustang	TVD Reference:	Well @ 4754.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4754.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D09-755	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen D09-755	Database:	EDMP
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
D Section 04						
Burghart D04-22 - Wellbore #1 - Wellbore #1- As Drilled	9,432.42	6,677.96	1,591.10	1,533.87	27.803	CC, ES
Burghart D04-22 - Wellbore #1 - Wellbore #1- As Drilled	9,700.00	6,674.57	1,613.44	1,554.21	27.243	SF
Gittlein Blue D04-08 - Wellbore #1 - Wellbore #1- As Drill	8,982.94	6,655.16	2,175.97	2,121.27	39.783	CC
Gittlein Blue D04-08 - Wellbore #1 - Wellbore #1- As Drill	9,000.00	6,654.92	2,176.04	2,121.22	39.699	ES
Gittlein Blue D04-08 - Wellbore #1 - Wellbore #1- As Drill	9,500.00	6,647.84	2,236.55	2,178.53	38.550	SF
GITTLEIN D #04-24(PR) - GITTLEIN D #04-24 - No Surv	10,976.70	6,685.00	176.16	-1.49	0.992	Level 1, CC, ES, SF
Gittlein D #04-33(PR) - Gittlein D #04-33 - No Surveys	10,970.96	6,689.00	2,118.17	1,940.47	11.920	CC, ES
Gittlein D #04-33(PR) - Gittlein D #04-33 - No Surveys	11,100.00	6,689.00	2,122.10	1,943.85	11.905	SF
GUTTERSEN D #04-32(PR) - GUTTERSEN D #04-32 -	9,463.81	6,711.00	2,183.71	2,015.24	12.962	CC, ES
GUTTERSEN D #04-32(PR) - GUTTERSEN D #04-32 -	9,600.00	6,711.00	2,187.96	2,018.96	12.947	SF
Guttersen D 04-18(PR) - Guttersen D 04-18 - Wellbore #	8,279.65	6,684.57	22.39	-18.44	0.548	Level 1, CC, ES, SF
Guttersen D 04-21(SI) - Guttersen D 04-21 - Wellbore #1	9,745.93	6,682.96	453.39	404.52	9.277	CC, ES
Guttersen D 04-21(SI) - Guttersen D 04-21 - Wellbore #1	9,800.00	6,682.30	456.60	407.05	9.214	SF
Guttersen D03-33D - Wellbore #1 - Wellbore #1- As Drill	10,772.97	6,752.16	2,709.61	2,640.12	38.993	CC
Guttersen D03-33D - Wellbore #1 - Wellbore #1- As Drill	10,800.00	6,752.24	2,709.75	2,640.07	38.889	ES
Guttersen D03-33D - Wellbore #1 - Wellbore #1- As Drill	11,300.00	6,753.77	2,760.39	2,687.75	38.001	SF
Guttersen D04-30D - Plan B - Plan B	1,116.86	1,125.90	1,448.71	1,442.26	224.837	CC
Guttersen D04-30D - Plan B - Plan B	1,200.00	1,194.36	1,449.03	1,442.05	207.460	ES
Guttersen D04-30D - Plan B - Plan B	6,950.00	6,733.36	2,410.30	2,363.13	51.095	SF
Guttersen D04-31D - Plan B - Plan B	925.82	930.20	1,462.20	1,457.16	290.406	CC, ES
Guttersen D04-31D - Plan B - Plan B	8,700.00	6,951.25	2,467.35	2,408.04	41.596	SF
Guttersen D04-69HN - Original Drilling - Original Drilling	6,915.73	8,534.58	129.50	92.86	3.534	CC
Guttersen D04-69HN - Original Drilling - Original Drilling	6,950.00	8,539.60	134.75	85.70	2.747	ES
Guttersen D04-69HN - Original Drilling - Original Drilling	7,000.00	8,546.46	158.59	96.22	2.543	SF
Karch Blue D04-02 - Wellbore #1 - Wellbore #1- As Drille	7,709.01	6,636.71	1,031.30	981.95	20.895	CC, ES
Karch Blue D04-02 - Wellbore #1 - Wellbore #1- As Drille	7,800.00	6,635.62	1,035.31	985.50	20.787	SF
Karch Blue D04-07 - Wellbore #1 - Wellbore #1- As Drille	9,040.37	6,662.06	888.12	833.05	16.126	CC, ES
Karch Blue D04-07 - Wellbore #1 - Wellbore #1- As Drille	9,100.00	6,661.49	890.12	834.52	16.009	SF
Karch D04-17 - Wellbore #1 - Wellbore #1- As Drilled	8,302.97	6,684.65	1,574.17	1,522.73	30.602	CC, ES
Karch D04-17 - Wellbore #1 - Wellbore #1- As Drilled	8,600.00	6,680.85	1,601.94	1,548.75	30.114	SF
MARIE #D4-11(PR) - MARIE #D4-11 - No Surveys	10,240.11	6,679.00	181.12	8.50	1.049	Level 2, CC, ES, SF
MARIE D #04-20(PR) - MARIE D #04-20 - No Surveys	9,570.73	6,689.00	1,036.98	868.32	6.148	CC, ES, SF
MARIE D #4-12(PR) - MARIE D #4-12 - No Surveys	10,269.42	6,691.00	1,612.47	1,439.42	9.318	CC, ES
MARIE D #4-12(PR) - MARIE D #4-12 - No Surveys	10,300.00	6,691.00	1,612.76	1,439.60	9.314	SF
MARIE D #4-13 (PR) - MARIE D #4-13 - No Surveys	11,606.53	6,685.00	1,491.30	1,309.24	8.191	CC, ES, SF
MARIE D #4-14(PR) - MARIE D #4-14 - No Surveys	11,592.10	6,683.00	344.16	162.24	1.892	CC, ES, SF
MARIE D #4-19 (SI) - MARIE D #4-19 - No Surveys	8,252.93	6,699.00	803.47	641.41	4.958	CC, ES, SF
MARIE D #4-25(PR) - MARIE D #4-25 - No Surveys	10,804.77	6,684.00	950.45	773.98	5.386	CC, ES, SF
MARIE D #4-3(SI) - MARIE D #4-3 - No Surveys	7,638.41	6,681.00	374.97	215.48	2.351	CC, ES, SF
MARIE D #4-4(SI) - MARIE D #4-4 - No Surveys	2,200.00	2,181.00	1,470.66	1,419.39	28.683	CC
MARIE D #4-4(SI) - MARIE D #4-4 - No Surveys	2,300.00	2,280.98	1,471.68	1,418.05	27.445	ES
MARIE D #4-4(SI) - MARIE D #4-4 - No Surveys	7,700.00	6,701.00	1,743.02	1,583.00	10.893	SF
MARIE D #4-5(SI) - MARIE D #4-5 - No Surveys	8,954.69	6,696.00	1,714.94	1,549.60	10.372	CC, ES
MARIE D #4-5(SI) - MARIE D #4-5 - No Surveys	9,000.00	6,696.00	1,715.54	1,550.06	10.367	SF
MARIE D #4-6(SI) - MARIE D #4-6 - No Surveys	9,056.91	6,680.00	381.27	215.70	2.303	CC, ES, SF
Marie D04-09 - Wellbore #1 - Wellbore #1- As Drilled	10,202.60	6,706.99	2,227.48	2,165.51	35.944	CC, ES
Marie D04-09 - Wellbore #1 - Wellbore #1- As Drilled	10,700.00	6,711.30	2,282.33	2,216.76	34.804	SF
Marie D04-10 - Wellbore #1 - Wellbore #1- As Drilled	10,375.49	6,676.84	993.45	930.35	15.742	CC, ES
Marie D04-10 - Wellbore #1 - Wellbore #1- As Drilled	10,500.00	6,676.57	1,001.23	936.95	15.577	SF
Marie D04-15 - Wellbore #1 - Wellbore #1- As Drilled	11,564.59	6,682.35	955.06	883.84	13.410	CC, ES
Marie D04-15 - Wellbore #1 - Wellbore #1- As Drilled	11,700.00	6,682.97	964.61	892.12	13.305	SF
Marie D04-16 - Wellbore #1 - Wellbore #1- As Drilled	11,482.27	6,667.03	2,212.58	2,141.95	31.326	CC
Marie D04-16 - Wellbore #1 - Wellbore #1- As Drilled	11,500.00	6,667.08	2,212.65	2,141.86	31.255	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 D09-755
Project:	Mustang	TVD Reference:	Well @ 4754.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4754.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D09-755	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen D09-755	Database:	EDMP
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
D Section 04						
Marie D04-16 - Wellbore #1 - Wellbore #1- As Drilled	11,900.00	6,668.24	2,251.67	2,177.82	30.489	SF
Marie D04-23 - Wellbore #1 - Wellbore #1-As Drilled	10,890.92	6,676.14	1,598.91	1,532.38	24.032	CC
Marie D04-23 - Wellbore #1 - Wellbore #1-As Drilled	10,900.00	6,676.14	1,598.93	1,532.31	24.001	ES
Marie D04-23 - Wellbore #1 - Wellbore #1-As Drilled	11,100.00	6,676.29	1,612.52	1,544.21	23.608	SF
Marie D04-72-1HN - Original Drilling - Original Drilling - A	7,400.00	11,395.00	2,562.43	2,451.76	23.153	SF
Marie D04-72-1HN - Original Drilling - Original Drilling - A	12,100.33	6,302.49	2,482.93	2,408.04	33.151	CC, ES
Marie D04-73-1HN - Original Drilling - Original Drilling - A	7,500.00	11,120.83	1,748.56	1,638.61	15.904	ES, SF
Marie D04-73-1HN - Original Drilling - Original Drilling - A	9,310.55	9,274.53	1,742.39	1,656.89	20.379	CC
Marie D04-74-1HN - Original Drilling - Original Drilling - P	12,138.83	6,723.57	1,270.71	1,197.40	17.334	CC, ES
Marie D04-74-1HN - Original Drilling - Original Drilling - P	12,300.00	6,722.96	1,280.89	1,206.10	17.127	SF
Marie D04-74-1HN - Original Drilling - ST01 - ST-01- As	7,792.98	10,895.97	1,229.53	1,164.95	19.039	CC, ES
Marie D04-74-1HN - Original Drilling - ST01 - ST-01- As	12,200.00	6,608.41	1,333.39	1,259.77	18.112	SF
Two E Ranch 01-04 - Wellbore #1 - Wellbore #1- As Drill	7,653.53	6,670.18	1,910.04	1,861.01	38.953	CC
Two E Ranch 01-04 - Wellbore #1 - Wellbore #1- As Drill	7,657.84	6,670.15	1,910.05	1,861.00	38.940	ES
Two E Ranch 01-04 - Wellbore #1 - Wellbore #1- As Drill	8,000.00	6,668.18	1,941.46	1,890.92	38.410	SF

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D09-755
Project:	Mustang	TVD Reference:	Well @ 4754.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4754.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D09-755	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen D09-755	Database:	EDMP
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
D Section 05						
BECKER #15-9I(PR) - Wellbore #1 - Gyro Surveys	10,852.48	6,691.37	5,078.92	5,012.63	76.612	CC
BECKER #15-9I(PR) - Wellbore #1 - Gyro Surveys	10,900.00	6,690.82	5,079.14	5,012.57	76.298	ES
BECKER #15-9I(PR) - Wellbore #1 - Gyro Surveys	12,300.00	6,674.45	5,281.14	5,207.58	71.794	SF
BECKER #5-13(PA) - Wellbore #1 - No Surveys	10,384.85	6,734.00	5,639.36	5,540.61	57.110	CC
BECKER #5-13(PA) - Wellbore #1 - No Surveys	10,400.00	6,734.00	5,639.38	5,540.54	57.060	ES
BECKER #5-13(PA) - Wellbore #1 - No Surveys	11,800.00	6,734.00	5,814.21	5,707.96	54.724	SF
BECKER #5-14(PA) - Wellbore #1 - Gyro Surveys	11,554.35	6,600.00	6,900.07	6,829.32	97.530	CC
BECKER #5-14(PA) - Wellbore #1 - Gyro Surveys	11,600.00	6,600.00	6,900.22	6,829.18	97.132	ES
BECKER #5-14(PA) - Wellbore #1 - Gyro Surveys	14,100.00	6,536.26	7,354.10	7,269.95	87.398	SF
BECKER #5-16(PA) - Wellbore #1 - Gyro Surveys	10,243.17	6,793.23	3,184.83	3,122.06	50.733	CC, ES
BECKER #5-16(PA) - Wellbore #1 - Gyro Surveys	10,800.00	6,797.61	3,233.14	3,167.86	49.523	SF
BECKER #5-2(PA) - Wellbore #1 - Gyro Surveys	11,426.32	6,818.95	5,918.47	5,847.64	83.556	CC, ES
BECKER #5-2(PA) - Wellbore #1 - Gyro Surveys	13,300.00	6,806.62	6,207.95	6,127.26	76.934	SF
BECKER #5-5(PA) - Wellbore #1 - Gyro Surveys	11,514.46	6,687.73	3,165.45	3,094.57	44.659	CC, ES
BECKER #5-5(PA) - Wellbore #1 - Gyro Surveys	12,000.00	6,687.18	3,202.47	3,129.30	43.762	SF
BECKER #5-8(PR) - Wellbore #1 - Gyro Surveys	10,702.57	6,900.00	6,784.52	6,718.34	102.518	CC, ES
BECKER #5-8(PR) - Wellbore #1 - Gyro Surveys	13,400.00	6,900.00	7,301.09	7,220.81	90.951	SF
BECKER #6(SI) - Wellbore #1 - Gyro Surveys	10,823.63	6,557.03	3,757.57	3,692.13	57.422	CC, ES
BECKER #6(SI) - Wellbore #1 - Gyro Surveys	11,600.00	6,552.11	3,836.93	3,767.81	55.511	SF
Becker 5-1(PA) - Wellbore #1 - Gyro Surveys	10,294.09	6,705.65	4,385.39	4,322.76	70.020	CC
Becker 5-1(PA) - Wellbore #1 - Gyro Surveys	10,300.00	6,705.60	4,385.39	4,322.73	69.984	ES
Becker 5-1(PA) - Wellbore #1 - Gyro Surveys	11,500.00	6,693.88	4,548.16	4,479.83	66.561	SF
Becker 5-15(PA) - Wellbore #1 - Gyro Surveys	11,822.87	6,536.07	4,600.56	4,526.09	61.773	CC, ES
Becker 5-15(PA) - Wellbore #1 - Gyro Surveys	12,800.00	6,478.80	4,702.84	4,624.02	59.665	SF
Becker Ranch #5E-223 - Wellbore #1 - As Drilled	500.00	560.76	5,956.64	5,953.39	1,833.510	CC, ES
Becker Ranch #5E-223 - Wellbore #1 - As Drilled	13,300.00	11,398.00	7,256.98	7,116.86	51.791	SF
Becker Ranch #5E-403 - As Drilled - As Drilled	0.00	54.54	5,964.72			
Becker Ranch #5E-403 - As Drilled - As Drilled	13,500.00	11,599.00	7,584.53	7,438.22	51.840	SF
Becker Ranch #5J-103 - Wellbore #1 - As Drilled	2,312.69	2,620.00	5,818.75	5,801.56	338.520	CC, ES
Becker Ranch #5J-103 - Wellbore #1 - As Drilled	10,800.00	8,438.00	6,687.05	6,608.61	85.255	SF
Becker Ranch #5J-203 - Wellbore #1 - Plan #1	100.00	176.00	4,669.13	4,668.58	8,485.413	CC
Becker Ranch #5J-203 - Wellbore #1 - Plan #1	200.00	230.23	4,669.51	4,668.40	4,234.743	ES
Becker Ranch #5J-203 - Wellbore #1 - Plan #1	13,400.00	11,568.80	6,316.32	6,211.60	60.317	SF
Becker Ranch #5J-303 - Wellbore #1 - As Drilled	2,235.62	2,390.00	5,861.63	5,845.43	361.846	CC, ES
Becker Ranch #5J-303 - Wellbore #1 - As Drilled	12,800.00	11,473.00	6,516.00	6,374.54	46.064	SF
Becker Ranch #5J-323 - Wellbore #1 - As Drilled	0.00	54.15	4,674.20			
Becker Ranch #5J-323 - Wellbore #1 - As Drilled	12,800.00	11,430.00	5,877.76	5,736.59	41.636	SF
Becker Ranch #5J-323R - Wellbore #1 - Plan #1	600.00	674.00	4,676.29	4,672.16	1,131.895	CC
Becker Ranch #5J-323R - Wellbore #1 - Plan #1	700.00	734.13	4,676.61	4,671.90	994.142	ES
Becker Ranch #5J-323R - Wellbore #1 - Plan #1	13,200.00	11,454.00	5,945.80	5,843.50	58.119	SF
Becker Ranch #5J-343 - Wellbore #1 - As Drilled	899.70	978.85	5,928.66	5,922.48	960.078	CC
Becker Ranch #5J-343 - Wellbore #1 - As Drilled	1,000.00	1,050.00	5,928.98	5,922.19	873.326	ES
Becker Ranch #5J-343 - Wellbore #1 - As Drilled	13,000.00	11,500.00	6,867.13	6,725.34	48.432	SF
Becker Ranch #5M-203 - Wellbore #1 - Plan #1	403.98	444.48	3,508.92	3,506.32	1,346.055	CC
Becker Ranch #5M-203 - Wellbore #1 - Plan #1	500.00	500.00	3,509.16	3,506.01	1,113.901	ES
Becker Ranch #5M-203 - Wellbore #1 - Plan #1	12,800.00	11,268.00	4,941.69	4,841.20	49.177	SF
Becker Ranch #5M-243 - Wellbore #1 - Plan #1	1,400.00	1,476.00	4,678.59	4,668.72	473.997	CC
Becker Ranch #5M-243 - Wellbore #1 - Plan #1	1,700.00	1,740.53	4,679.64	4,667.75	393.570	ES
Becker Ranch #5M-243 - Wellbore #1 - Plan #1	13,000.00	11,282.50	5,578.69	5,478.33	55.587	SF
Becker Ranch #5M-303 - Wellbore #1 - Plan #1	2,521.88	3,114.95	4,635.79	4,616.20	236.675	CC, ES
Becker Ranch #5M-303 - Wellbore #1 - Plan #1	12,800.00	11,462.20	5,217.67	5,118.05	52.373	SF
Becker Ranch #5M-323 - Wellbore #1 - Plan #1	1,403.98	1,444.48	3,448.68	3,438.91	352.761	CC
Becker Ranch #5M-323 - Wellbore #1 - Plan #1	1,500.00	1,521.41	3,448.79	3,438.40	331.768	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 Gutttersen D09-755
Project:	Mustang	TVD Reference:	Well @ 4754.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4754.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Gutttersen D09-755	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Gutttersen D09-755	Database:	EDMP
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
D Section 05						
Becker Ranch #5M-323 - Wellbore #1 - Plan #1	12,600.00	11,315.70	4,500.04	4,401.17	45.512	SF
Becker Ranch #5M-423 - Wellbore #1 - Plan #1	903.98	944.48	3,478.80	3,472.61	561.864	CC
Becker Ranch #5M-423 - Wellbore #1 - Plan #1	1,000.00	1,000.00	3,479.03	3,472.30	516.592	ES
Becker Ranch #5M-423 - Wellbore #1 - Plan #1	12,700.00	11,437.50	4,725.83	4,625.89	47.288	SF
Becker Ranch #5R-203 - Wellbore #1 - Plan #1	903.98	944.48	2,452.19	2,446.00	396.054	CC
Becker Ranch #5R-203 - Wellbore #1 - Plan #1	1,000.00	1,024.38	2,452.32	2,445.50	359.532	ES
Becker Ranch #5R-303 - Wellbore #1 - Plan #1	12,300.00	11,257.60	3,533.07	3,435.82	36.332	SF
Becker Ranch #5R-243 - Wellbore #1 - Plan #1	2,200.00	2,239.50	3,421.31	3,405.83	221.019	CC, ES
Becker Ranch #5R-243 - Wellbore #1 - Plan #1	12,500.00	11,231.80	4,248.76	4,150.99	43.455	SF
Becker Ranch #5R-303 - Wellbore #1 - Plan #1	2,418.77	2,703.24	3,260.09	3,242.26	182.858	CC, ES
Becker Ranch #5R-303 - Wellbore #1 - Plan #1	12,300.00	11,308.90	3,813.07	3,715.92	39.248	SF
Becker Ranch #5R-323 - Wellbore #1 - Plan #1	2,200.00	2,241.50	2,422.67	2,407.19	156.434	CC, ES
Becker Ranch #5R-323 - Wellbore #1 - Plan #1	12,200.00	11,332.80	3,313.53	3,216.91	34.296	SF
Becker Ranch #5R-443 - Wellbore #1 - Plan #1	2,200.00	2,243.00	3,448.68	3,433.19	222.671	CC, ES
Becker Ranch #5R-443 - Wellbore #1 - Plan #1	12,400.00	11,417.20	4,181.83	4,083.88	42.695	SF
Becker Ranch #5U-243 - Wellbore #1 - Plan #1	2,361.41	2,531.34	2,379.86	2,362.82	139.669	CC
Becker Ranch #5U-243 - Wellbore #1 - Plan #1	2,400.00	2,569.88	2,380.10	2,362.80	137.521	ES
Becker Ranch #5U-243 - Wellbore #1 - Plan #1	12,100.00	11,243.60	2,938.49	2,842.81	30.711	SF
Becker Ranch #5U-303 - Wellbore #1 - Plan #1	2,587.97	2,916.90	2,158.36	2,139.18	112.571	CC
Becker Ranch #5U-303 - Wellbore #1 - Plan #1	2,600.00	2,928.92	2,158.38	2,139.12	112.072	ES
Becker Ranch #5U-303 - Wellbore #1 - Plan #1	11,900.00	11,348.00	2,512.88	2,417.23	26.271	SF
Becker Ranch #5U-443 - Wellbore #1 - Plan #1	2,544.43	2,851.00	2,265.77	2,247.05	120.981	CC, ES
Becker Ranch #5U-443 - Wellbore #1 - Plan #1	12,000.00	11,407.70	2,732.57	2,636.36	28.402	SF
LDS #D08-18D(PR) - Wellbore #1 - MWD Surveys	13,623.00	7,186.53	4,870.62	4,770.15	48.480	CC, ES
LDS #D08-18D(PR) - Wellbore #1 - MWD Surveys	14,100.00	7,185.66	4,893.92	4,792.17	48.098	SF
LDS #D08-29(SI) - Wellbore #1 - Gyro Surveys	12,048.59	6,655.36	6,176.93	6,102.35	82.820	CC
LDS #D08-29(SI) - Wellbore #1 - Gyro Surveys	12,100.00	6,655.14	6,177.14	6,102.23	82.459	ES
LDS #D08-29(SI) - Wellbore #1 - Gyro Surveys	14,000.00	6,646.51	6,477.84	6,392.82	76.195	SF
LDS D08-28D(PR) - Wellbore #1 - MWD Surveys	12,131.90	6,828.77	5,171.37	5,094.75	67.495	CC, ES
LDS D08-28D(PR) - Wellbore #1 - MWD Surveys	13,600.00	6,804.00	5,375.63	5,291.23	63.694	SF
LDS D08-30D(SI) - Wellbore #1 - MWD Surveys	12,231.37	6,898.60	7,705.00	7,627.09	98.900	CC
LDS D08-30D(SI) - Wellbore #1 - MWD Surveys	12,300.00	6,898.60	7,705.30	7,626.92	98.309	ES
LDS D08-30D(SI) - Wellbore #1 - MWD Surveys	16,600.00	16,600.00	8,856.07	8,724.18	67.146	SF

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D09-755
Project:	Mustang	TVD Reference:	Well @ 4754.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4754.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D09-755	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen D09-755	Database:	EDMP
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Separation Factor	Warning
D Section 08						
Becker D17-715 - Wellbore #1 - Plan #1	17,338.81	12,438.68	2,659.36	2,504.60	17.183	CC, ES, SF
Becker D17-725 - Wellbore #1 - Plan #1	17,338.81	12,265.63	3,304.23	3,150.37	21.475	CC, ES, SF
Becker D17-730 - Wellbore #1 - Plan #1	12,024.34	7,061.04	3,652.58	3,574.43	46.739	CC
Becker D17-730 - Wellbore #1 - Plan #1	17,338.81	12,478.28	3,655.11	3,500.64	23.662	ES, SF
Becker D17-735 - Wellbore #1 - Plan #1	17,338.81	12,382.87	3,954.44	3,800.70	25.721	CC, ES, SF
Becker D17-745 - Wellbore #1 - Plan #1	11,660.04	6,028.32	4,500.02	4,430.23	64.478	CC
Becker D17-745 - Wellbore #1 - Plan #1	11,700.00	6,042.99	4,500.18	4,430.04	64.162	ES
Becker D17-745 - Wellbore #1 - Plan #1	17,338.81	12,334.58	4,600.34	4,447.01	30.002	SF
Becker D17-750 - Wellbore #1 - Plan #1	11,420.31	5,632.50	4,657.70	4,592.33	71.257	CC
Becker D17-750 - Wellbore #1 - Plan #1	11,500.00	5,661.74	4,658.29	4,592.23	70.519	ES
Becker D17-750 - Wellbore #1 - Plan #1	17,338.81	12,601.08	4,929.63	4,776.25	32.138	SF
Becker D17-755 - Wellbore #1 - Plan #1	17,338.81	12,573.02	5,250.00	5,096.79	34.266	CC, ES, SF
Becker D17-765 - Wellbore #1 - Plan #1	17,338.81	12,306.73	5,896.09	5,727.62	34.998	CC, ES, SF
Becker D17-770 - Wellbore #1 - Plan #1	17,338.81	12,439.50	6,224.61	6,055.90	36.895	CC, ES, SF
Becker D17-775 - Wellbore #1 - Plan #1	17,338.81	12,307.38	6,545.77	6,377.33	38.862	CC, ES, SF
Becker D17-785 - Wellbore #1 - Plan #1	11,941.18	6,584.03	7,187.04	7,112.06	95.854	CC
Becker D17-785 - Wellbore #1 - Plan #1	17,338.81	12,207.01	7,192.81	7,040.62	47.261	ES, SF
HSR-ALVIN DECHANT #12-8 (SI) - Wellbore #1 - No Su	15,522.30	6,728.00	6,785.26	6,648.62	49.659	CC
HSR-ALVIN DECHANT #12-8 (SI) - Wellbore #1 - No Su	15,600.00	6,728.00	6,785.71	6,648.52	49.465	ES
HSR-ALVIN DECHANT #12-8 (SI) - Wellbore #1 - No Su	17,000.00	6,728.00	6,944.30	6,799.01	47.795	SF
HSR-ALVIN DECHANT #13-8(SI) - Wellbore #1 - No Sur	17,107.83	6,717.00	6,857.05	6,708.03	46.014	CC
HSR-ALVIN DECHANT #13-8(SI) - Wellbore #1 - No Sur	17,200.00	6,717.00	6,857.67	6,708.00	45.818	ES
HSR-ALVIN DECHANT #13-8(SI) - Wellbore #1 - No Sur	17,338.81	6,717.00	6,860.94	6,710.32	45.550	SF
HSR-LDS #14-8(SI) - Wellbore #1 - No Surveys	16,577.91	6,708.00	5,720.97	5,576.22	39.522	CC
HSR-LDS #14-8(SI) - Wellbore #1 - No Surveys	16,600.00	6,708.00	5,721.02	5,576.11	39.481	ES
HSR-LDS #14-8(SI) - Wellbore #1 - No Surveys	17,338.81	6,708.00	5,771.35	5,622.01	38.645	SF
HSR-LDS #15-8(SI) - Wellbore #1 - No Surveys	16,846.08	6,705.00	4,285.66	4,138.81	29.185	CC
HSR-LDS #15-8(SI) - Wellbore #1 - No Surveys	16,900.00	6,705.00	4,286.00	4,138.80	29.117	ES
HSR-LDS #15-8(SI) - Wellbore #1 - No Surveys	17,338.81	6,705.00	4,313.89	4,164.30	28.838	SF
HSR-LDS #16-8(SI) - Wellbore #1 - No Surveys	16,954.73	6,704.00	2,927.49	2,779.80	19.821	CC, ES
HSR-LDS #16-8(SI) - Wellbore #1 - No Surveys	17,200.00	6,704.00	2,937.75	2,788.84	19.729	SF
HSR-LDS #3-8(SI) - Wellbore #1 - No Surveys	13,073.26	6,706.00	5,720.84	5,603.20	48.630	CC
HSR-LDS #3-8(SI) - Wellbore #1 - No Surveys	13,100.00	6,706.00	5,720.91	5,603.09	48.558	ES
HSR-LDS #3-8(SI) - Wellbore #1 - No Surveys	14,300.00	6,706.00	5,850.89	5,726.30	46.959	SF
HSR-LDS #4-8(SI) - Wellbore 1 - No Surveys	13,231.60	6,731.00	6,858.08	6,739.03	57.608	CC
HSR-LDS #4-8(SI) - Wellbore 1 - No Surveys	13,300.00	6,731.00	6,858.42	6,738.91	57.388	ES
HSR-LDS #4-8(SI) - Wellbore 1 - No Surveys	15,000.00	6,731.00	7,082.41	6,953.13	54.785	SF
HSR-LDS #5-8(SI) - Wellbore #1 - No Surveys	14,384.56	6,724.00	7,015.62	6,887.84	54.906	CC
HSR-LDS #5-8(SI) - Wellbore #1 - No Surveys	14,400.00	6,724.00	7,015.63	6,887.75	54.861	ES
HSR-LDS #5-8(SI) - Wellbore #1 - No Surveys	16,100.00	6,724.00	7,222.30	7,084.51	52.414	SF
HSR-LDS #6-8(SI) - Wellbore #1 - No Surveys	14,318.02	6,704.00	5,614.88	5,487.79	44.181	CC, ES
HSR-LDS #6-8(SI) - Wellbore #1 - No Surveys	15,400.00	6,704.00	5,718.18	5,584.91	42.907	SF
HSR-LDS #9-8(SI) - Wellbore #1 - No Surveys	15,396.03	6,699.00	2,975.70	2,840.30	21.977	CC
HSR-LDS #9-8(SI) - Wellbore #1 - No Surveys	15,400.00	6,699.00	2,975.71	2,840.28	21.973	ES
HSR-LDS #9-8(SI) - Wellbore #1 - No Surveys	15,700.00	6,699.00	2,991.19	2,854.31	21.853	SF
HSR-LDS A #10-8(SI) - Wellbore #1 - No Surveys	15,679.41	6,703.00	4,206.56	4,068.91	30.560	CC
HSR-LDS A #10-8(SI) - Wellbore #1 - No Surveys	15,700.00	6,703.00	4,206.61	4,068.83	30.531	ES
HSR-LDS A #10-8(SI) - Wellbore #1 - No Surveys	16,200.00	6,703.00	4,238.65	4,098.13	30.163	SF
HSR-LDS A #11-8(SI) - Wellbore #1 - No Surveys	15,539.02	6,705.00	5,665.51	5,528.95	41.485	CC
HSR-LDS A #11-8(SI) - Wellbore #1 - No Surveys	15,600.00	6,705.00	5,665.84	5,528.86	41.361	ES
HSR-LDS A #11-8(SI) - Wellbore #1 - No Surveys	16,600.00	6,705.00	5,764.00	5,621.39	40.418	SF
LDS #18-8(SI) - Wellbore #1 - No Surveys	13,771.41	6,726.00	6,257.47	6,134.38	50.835	CC
LDS #18-8(SI) - Wellbore #1 - No Surveys	13,800.00	6,726.00	6,257.53	6,134.25	50.755	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 D09-755
Project:	Mustang	TVD Reference:	Well @ 4754.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4754.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D09-755	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen D09-755	Database:	EDMP
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
D Section 08						
LDS #18-8(SI) - Wellbore #1 - No Surveys	15,200.00	6,726.00	6,418.47	6,287.17	48.883	SF
LDS #20-8(SI) - Wellbore #1 - No Surveys	16,303.21	6,702.00	3,630.02	3,487.48	25.467	CC, ES
LDS #20-8(SI) - Wellbore #1 - No Surveys	16,700.00	6,702.00	3,651.64	3,507.01	25.249	SF
LDS D #09-30(SI) - Wellbore #1 - No Surveys	12,466.51	6,693.00	2,511.97	2,398.96	22.227	CC, ES
LDS D #09-30(SI) - Wellbore #1 - No Surveys	12,700.00	6,693.00	2,522.80	2,408.71	22.113	SF
LDS D #09-31D(SI) - Wellbore #1 - No Surveys	12,490.94	6,693.00	2,513.93	2,400.73	22.209	CC
LDS D #09-31D(SI) - Wellbore #1 - No Surveys	12,500.00	6,693.00	2,513.94	2,400.70	22.200	ES
LDS D #09-31D(SI) - Wellbore #1 - No Surveys	12,700.00	6,693.00	2,522.60	2,408.43	22.095	SF
RUBY RED #D #8-1D(PA) - Wellbore #1 - Gyro Surveys	13,296.26	6,660.59	3,357.70	3,273.86	40.049	CC
RUBY RED #D #8-1D(PA) - Wellbore #1 - Gyro Surveys	13,300.00	6,660.56	3,357.70	3,273.84	40.039	ES
RUBY RED #D #8-1D(PA) - Wellbore #1 - Gyro Surveys	13,800.00	6,656.33	3,395.27	3,308.99	39.352	SF
RUBY RED #D 8-7(PR) - Wellbore #1 - Gyro Surveys	14,359.44	6,703.36	4,446.96	4,354.79	48.251	CC
RUBY RED #D 8-7(PR) - Wellbore #1 - Gyro Surveys	14,400.00	6,703.07	4,447.14	4,354.72	48.117	ES
RUBY RED #D 8-7(PR) - Wellbore #1 - Gyro Surveys	15,200.00	6,697.25	4,525.70	4,429.16	46.882	SF
RUBY RED #D 8-8(PR) - Wellbore #1 - Gyro Surveys	14,356.09	6,716.74	2,800.02	2,707.82	30.367	CC, ES
RUBY RED #D 8-8(PR) - Wellbore #1 - Gyro Surveys	14,700.00	6,713.55	2,821.06	2,727.31	30.091	SF
RUBY RED D8-2(PA) - Wellbore #1 - Gyro Surveys	12,815.80	6,680.82	4,538.17	4,457.84	56.494	CC, ES
RUBY RED D8-2(PA) - Wellbore #1 - Gyro Surveys	13,800.00	6,678.30	4,643.67	4,558.23	54.355	SF
TWO E RANCHES #1(PA) - Wellbore #1 - Gyro Surveys	15,976.17	6,798.14	6,571.30	6,466.20	62.520	CC
TWO E RANCHES #1(PA) - Wellbore #1 - Gyro Surveys	16,000.00	6,798.33	6,571.35	6,466.07	62.421	ES
TWO E RANCHES #1(PA) - Wellbore #1 - Gyro Surveys	17,338.81	6,800.00	6,711.09	6,598.03	59.358	SF

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

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D09-755
Project:	Mustang	TVD Reference:	Well @ 4754.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4754.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D09-755	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen D09-755	Database:	EDMP
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
D Section 09						
ART RED #D 9-14(PR) - ART RED #D 9-14 - No Surveys	16,957.09	6,707.00	230.30	6.95	1.031	Level 2, CC, ES, SF
ART RED #D 9-3J(PA) - ART RED #D 9-3J - No Surveys	16,494.68	6,699.00	1,348.17	1,128.64	6.141	CC
ART RED #D 9-3J(PA) - ART RED #D 9-3J - No Surveys	16,500.00	6,699.00	1,348.19	1,128.63	6.140	ES, SF
ART RED #D 9-4J(PR) - ART RED #D 9-4J - No Surveys	15,802.28	6,697.00	1,877.94	1,663.89	8.773	CC, ES
ART RED #D 9-4J(PR) - ART RED #D 9-4J - No Surveys	15,900.00	6,697.00	1,880.48	1,665.48	8.746	SF
ART RED D #9-10(PR) - ART RED D #9-10 - No Surveys	15,452.79	6,703.00	1,025.76	814.32	4.851	CC, ES
ART RED D #9-10(PR) - ART RED D #9-10 - No Surveys	15,500.00	6,703.00	1,026.85	814.87	4.844	SF
ART RED D #9-11(PR) - ART RED D #9-11 - No Surveys	15,523.04	6,695.00	347.07	135.24	1.638	CC, ES, SF
Art Red D 9-16 (PR) - Wellbore #1 - Gyro Surveys	16,901.76	6,709.13	2,490.01	2,377.95	22.220	CC, ES
Art Red D 9-16 (PR) - Wellbore #1 - Gyro Surveys	17,200.00	6,711.44	2,507.81	2,393.33	21.906	SF
FRONT RANGE #D09-20D(PR) - FRONT RANGE #D09	14,960.89	7,056.41	981.96	874.49	9.137	CC, ES
FRONT RANGE #D09-20D(PR) - FRONT RANGE #D09	15,000.00	7,056.71	982.73	874.75	9.101	SF
FRONT RANGE #D09-25D(PR) - FRONT RANGE #D09	16,073.38	6,928.08	821.04	713.51	7.636	CC, ES
FRONT RANGE #D09-25D(PR) - FRONT RANGE #D09	16,100.00	6,928.00	821.47	713.82	7.631	SF
FRONT RANGE #D09-32D(PR) - FRONT RANGE #D09	14,945.80	6,945.58	2,226.68	2,120.41	20.954	CC, ES
FRONT RANGE #D09-32D(PR) - FRONT RANGE #D09	15,100.00	6,945.24	2,232.01	2,125.16	20.890	SF
FRONT RANGE D #09-28(SI) - FRONT RANGE D #09-2	12,434.29	6,688.00	306.33	118.20	1.628	CC, ES, SF
FRONT RANGE D #09-33(PR) - FRONT RANGE D #09-	16,242.70	6,704.00	2,134.18	1,916.52	9.805	CC, ES
FRONT RANGE D #09-33(PR) - FRONT RANGE D #09-	16,300.00	6,704.00	2,134.95	1,917.01	9.796	SF
FRONT RANGE D #16-29(SI) - FRONT RANGE D #16-2	17,338.81	6,705.18	1,088.10	982.11	10.265	CC, ES, SF
FRONT RANGE D #16-30(SI) - FRONT RANGE D #16-3	17,123.15	6,705.00	2,062.00	1,837.38	9.180	CC, ES
FRONT RANGE D #16-30(SI) - FRONT RANGE D #16-3	17,200.00	6,705.00	2,063.43	1,838.45	9.172	SF
GITTLEIN #18-9(PR) - GITTLEIN #18-9 - No Surveys	13,778.31	6,810.25	1,247.55	1,159.70	14.201	CC, ES
GITTLEIN #18-9(PR) - GITTLEIN #18-9 - No Surveys	13,800.00	6,810.25	1,247.74	1,159.81	14.190	SF
GITTLEIN #D #9-7(PR) - GITTLEIN #D #9-7 - No Survey	14,325.19	6,651.00	807.44	605.79	4.004	CC, ES, SF
GITTLEIN WHITE #D 9-2(SI) - GITTLEIN WHITE #D 9-2	12,872.73	6,685.00	1,091.30	899.98	5.704	CC, ES
GITTLEIN WHITE #D 9-2(SI) - GITTLEIN WHITE #D 9-2	12,900.00	6,685.00	1,091.64	900.00	5.697	SF
GITTLEIN-UPRC #9-12(PA) - GITTLEIN-UPRC #9-12 - V	15,549.65	6,698.07	1,472.83	1,382.49	16.303	CC, ES
GITTLEIN-UPRC #9-12(PA) - GITTLEIN-UPRC #9-12 - V	15,600.00	6,698.72	1,473.69	1,383.18	16.281	SF
GUTTERSEN #9-15(PR) - GUTTERSEN #9-15 - No Sur	16,826.70	6,698.00	985.57	763.43	4.437	CC, ES
GUTTERSEN #9-15(PR) - GUTTERSEN #9-15 - No Sur	16,900.00	6,698.00	988.29	765.39	4.434	SF
GUTTERSEN D #09-09(PR) - GUTTERSEN D #09-09 -	15,350.52	6,691.00	2,421.40	2,210.99	11.508	CC, ES
GUTTERSEN D #09-09(PR) - GUTTERSEN D #09-09 -	15,600.00	6,691.00	2,434.21	2,221.68	11.454	SF
GUTTERSEN D #09-21(PR) - GUTTERSEN D #09-21 -	14,973.59	6,695.00	365.05	157.50	1.759	CC, ES, SF
GUTTERSEN D #09-22(SI) - GUTTERSEN D #09-22 - N	14,882.83	6,698.00	1,617.29	1,410.38	7.817	CC
GUTTERSEN D #09-22(SI) - GUTTERSEN D #09-22 - N	14,900.00	6,698.00	1,617.38	1,410.29	7.810	ES
GUTTERSEN D #09-22(SI) - GUTTERSEN D #09-22 - N	15,000.00	6,698.00	1,621.53	1,413.50	7.795	SF
GUTTERSEN D #09-24(PR) - GUTTERSEN D #09-24 -	16,141.87	6,707.00	466.83	249.91	2.152	CC, ES, SF
GUTTERSEN D #16-28(PR) - GUTTERSEN D #16-28 -	17,338.81	6,702.00	273.25	57.58	1.267	Level 3, CC, ES, SF
Guttersen D09-27D - Wellbore #1 - Wellbore #1- As Drill	12,116.01	6,804.94	1,613.88	1,533.11	19.980	CC, ES
Guttersen D09-27D - Wellbore #1 - Wellbore #1- As Drill	12,400.00	6,806.36	1,638.68	1,554.25	19.409	SF
Guttersen D10-30D - Wellbore #1 - Wellbore #1- As Drill	12,276.47	6,737.91	2,865.34	2,786.31	36.256	CC
Guttersen D10-30D - Wellbore #1 - Wellbore #1- As Drill	12,300.00	6,737.85	2,865.43	2,786.23	36.176	ES
Guttersen D10-30D - Wellbore #1 - Wellbore #1- As Drill	12,800.00	6,736.49	2,912.77	2,830.46	35.389	SF
HSR TIM GITTLEIN #3-9(SI) - HSR TIM GITTLEIN #3-9	12,892.83	6,688.00	357.34	165.81	1.866	CC, ES, SF
HSR TIM GITTLEIN #4-9(SI) - HSR TIM GITTLEIN #4-9	13,051.80	6,690.00	1,528.03	1,335.27	7.927	CC, ES
HSR TIM GITTLEIN #4-9(SI) - HSR TIM GITTLEIN #4-9	13,100.00	6,690.00	1,528.79	1,335.85	7.924	SF
HSR TIM GITTLEIN #5-9(SI) - HSR TIM GITTLEIN #5-9	14,088.19	6,692.00	1,521.64	1,320.98	7.583	CC
HSR TIM GITTLEIN #5-9(SI) - HSR TIM GITTLEIN #5-9	14,100.00	6,692.00	1,521.68	1,320.97	7.582	ES, SF
HSR TIM GITTLEIN #6-9(SI) - HSR TIM GITTLEIN #6-9	13,991.07	6,691.00	342.93	143.04	1.716	CC, ES, SF
KARCH WHITE #D 9-1(SI) - KARCH WHITE #D 9-1 - No	12,866.86	6,683.00	2,244.18	2,052.94	11.735	CC
KARCH WHITE #D 9-1(SI) - KARCH WHITE #D 9-1 - No	12,900.00	6,683.00	2,244.42	2,052.87	11.717	ES
KARCH WHITE #D 9-1(SI) - KARCH WHITE #D 9-1 - No	13,100.00	6,683.00	2,256.25	2,063.01	11.676	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 D09-755
Project:	Mustang	TVD Reference:	Well @ 4754.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4754.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D09-755	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen D09-755	Database:	EDMP
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
D Section 09						
KARCH WHITE #D 9-8(PR) - KARCH WHITE #D 9-8 - N	14,399.66	6,686.00	2,198.89	1,995.96	10.836	CC
KARCH WHITE #D 9-8(PR) - KARCH WHITE #D 9-8 - N	14,400.00	6,686.00	2,198.89	1,995.96	10.835	ES
KARCH WHITE #D 9-8(PR) - KARCH WHITE #D 9-8 - N	14,600.00	6,686.00	2,208.00	2,003.30	10.787	SF
ROADHOUSE D #9-17(SI) - ROADHOUSE D #9-17 - No	13,529.30	6,687.00	1,659.35	1,463.05	8.453	CC, ES
ROADHOUSE D #9-17(SI) - ROADHOUSE D #9-17 - No	13,600.00	6,687.00	1,660.86	1,463.85	8.431	SF
D Section 10						
Guttersen State D15-27 - Wellbore #1 - Wellbore #1- As	17,256.30	6,763.55	6,983.18	6,868.11	60.686	CC
Guttersen State D15-27 - Wellbore #1 - Wellbore #1- As	17,300.00	6,763.90	6,983.32	6,867.87	60.488	ES
Guttersen State D15-27 - Wellbore #1 - Wellbore #1- As	17,338.81	6,764.21	6,983.67	6,867.88	60.316	SF
Karch Blue D 10-07 (SI) - Wellbore #1 - Gyro Surveys	14,233.75	6,736.10	6,114.43	6,023.17	66.998	CC
Karch Blue D 10-07 (SI) - Wellbore #1 - Gyro Surveys	14,300.00	6,735.80	6,114.79	6,022.96	66.593	ES
Karch Blue D 10-07 (SI) - Wellbore #1 - Gyro Surveys	16,200.00	6,727.49	6,422.80	6,318.17	61.387	SF
Karch State D 10-22 (SI) - Wellbore #1 - No Surveys	14,792.44	6,740.00	6,808.57	6,468.98	20.050	CC
Karch State D 10-22 (SI) - Wellbore #1 - No Surveys	14,800.00	6,740.00	6,808.57	6,468.92	20.046	ES
Karch State D 10-22 (SI) - Wellbore #1 - No Surveys	15,800.00	6,740.00	6,882.71	6,535.26	19.809	SF
Spike ST GWS D 10-14 (PR) - Wellbore #1 - Gyro Surve	16,984.19	6,741.14	4,927.86	4,815.04	43.681	CC
Spike ST GWS D 10-14 (PR) - Wellbore #1 - Gyro Surve	17,000.00	6,741.17	4,927.88	4,814.93	43.626	ES
Spike ST GWS D 10-14 (PR) - Wellbore #1 - Gyro Surve	17,338.81	6,741.73	4,940.60	4,824.81	42.667	SF
Spike ST GWS D 10-16 (PA) - Wellbore #1 - No Surveys	16,809.74	6,744.00	7,518.87	7,295.94	33.728	CC
Spike ST GWS D 10-16 (PA) - Wellbore #1 - No Surveys	16,900.00	6,744.00	7,519.41	7,295.71	33.614	ES
Spike ST GWS D 10-16 (PA) - Wellbore #1 - No Surveys	17,338.81	6,744.00	7,537.46	7,310.17	33.163	SF
Spike State D 10-21D (SI) - Wellbore #1 - Wellbore #1	15,031.49	6,885.80	5,657.24	5,558.85	57.500	CC
Spike State D 10-21D (SI) - Wellbore #1 - Wellbore #1	15,100.00	6,885.62	5,657.66	5,558.73	57.188	ES
Spike State D 10-21D (SI) - Wellbore #1 - Wellbore #1	16,600.00	6,881.66	5,870.66	5,761.89	53.974	SF
Spike State GWS D 10-15 (PA) - Wellbore #1 - No Surve	16,676.45	7,106.00	6,622.53	6,398.55	29.569	CC
Spike State GWS D 10-15 (PA) - Wellbore #1 - No Surve	16,700.00	7,106.00	6,622.57	6,398.39	29.542	ES
Spike State GWS D 10-15 (PA) - Wellbore #1 - No Surve	17,338.81	7,106.00	6,655.57	6,426.24	29.022	SF
Two E Ranch 4-10 (SI) - Wellbore #1 - No Surveys	14,239.92	6,712.00	3,707.99	3,373.74	11.094	CC
Two E Ranch 4-10 (SI) - Wellbore #1 - No Surveys	14,300.00	6,712.00	3,708.47	3,373.69	11.077	ES
Two E Ranch 4-10 (SI) - Wellbore #1 - No Surveys	14,600.00	6,712.00	3,725.43	3,388.19	11.047	SF
Volley State D 10-13 (PR) - Wellbore #1 - Gyro Surveys	16,936.53	6,645.97	3,501.61	3,389.39	31.204	CC
Volley State D 10-13 (PR) - Wellbore #1 - Gyro Surveys	17,000.00	6,646.06	3,502.18	3,389.38	31.047	ES
Volley State D 10-13 (PR) - Wellbore #1 - Gyro Surveys	17,338.81	6,646.59	3,524.64	3,409.17	30.526	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 D09-755
Project:	Mustang	TVD Reference:	Well @ 4754.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4754.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D09-755	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen D09-755	Database:	EDMP
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
D Section 16						
Diggin State D16-23 (SI) - Wellbore #1 - Gyro Surveys	17,338.81	6,735.44	4,457.37	4,394.14	70.490	CC, ES, SF
Diggin State D 16-07 (SI) - Wellbore #1 - No Surveys	17,338.81	6,744.00	2,431.83	2,257.25	13.930	CC, ES, SF
Diggin State D 16-19J (PR) - Wellbore #1 - No Surveys	17,338.81	6,703.00	1,874.80	1,681.09	9.678	CC, ES, SF
Diggin State D16-13 (PR) - Wellbore #1 - Gyro Surveys	17,338.81	6,720.86	5,072.78	5,004.67	74.481	CC, ES, SF
Guttersen ST D 15-32 (SI) - Wellbore #1 - Gyro Surveys	17,338.81	6,703.35	4,089.18	4,001.28	46.521	CC, ES, SF
Guttersen ST D 16-21 (SI) - Wellbore #1 - Gyro Surveys	17,338.81	6,717.08	2,965.16	2,912.19	55.984	CC, ES, SF
Guttersen ST D 16-22D (SI) - Wellbore #1 - MWD Surve	17,338.81	6,853.91	3,185.23	3,109.48	42.052	CC, ES, SF
Guttersen ST D 16-33 (SI) - Wellbore #1 - No Surveys	17,338.81	6,718.00	4,632.35	4,442.30	24.374	CC, ES, SF
Guttersen State D 15-31 (PR) - Wellbore #1 - Gyro Surve	17,338.81	6,738.28	3,045.61	2,938.79	28.512	CC, ES, SF
Guttersen State D 15-33 (SI) - Wellbore #1 - Gyro Survey	17,338.81	6,675.13	5,082.88	5,004.86	65.146	CC, ES, SF
Guttersen State D 16-15X (PR) - Wellbore #1 - Gyro Sur	17,338.81	6,742.84	4,784.00	4,729.18	87.254	CC, ES, SF
Guttersen State D 16-18 (SI) - Wellbore #1 - No Surveys	17,338.81	6,718.00	1,445.91	1,279.64	8.696	CC, ES, SF
Guttersen State D 16-20 (SI) - Wellbore #1 - Gyro Survey	17,338.81	6,716.93	3,044.57	2,977.13	45.146	CC, ES, SF
Guttersen State D 16-24 (SI) - Wellbore #1 - Gyro Survey	17,338.81	6,736.49	4,068.54	4,016.06	77.520	CC, ES, SF
Guttersen State D 16-27 (PR) - Wellbore #1 - No Survey	17,338.81	6,714.00	1,652.75	1,429.96	7.419	CC, ES, SF
Guttersen State D 16-31 (PR) - Wellbore #1 - No Survey	17,338.81	6,714.00	2,613.23	2,399.55	12.230	CC, ES, SF
Guttersen State D 16-32D (SI) - Wellbore #1 - MWD Sur	17,338.81	6,919.37	3,512.76	3,419.76	37.772	CC, ES, SF
Guttersen State D16-63-1HN - Original Drilling - Original	17,338.81	9,512.64	4,519.85	4,417.78	44.280	CC, ES, SF
Guttersen State D16-65-1HN - Original Drilling - Original	17,338.81	9,420.72	3,200.69	3,101.39	32.233	CC, ES, SF
Spike ST GWS D 16-01 (SI) - Wellbore #1 - Gyro Survey	17,338.81	6,738.90	2,445.16	2,334.66	22.128	CC, ES, SF
Spike ST GWS D 16-02 (P&A) - Wellbore #1 - Gyro Surv	17,338.81	6,732.73	1,138.40	1,030.47	10.547	CC, ES, SF
Spike ST GWS D 16-03 (PR) - Wellbore #1 - No Surveys	17,338.81	6,712.00	907.13	725.55	4.996	CC, ES, SF
Spike ST GWS D 16-04 (SI) - Wellbore #1 - No Surveys	17,338.81	6,707.00	1,852.93	1,633.58	8.447	CC, ES, SF
Spike ST GWS D 16-05 (PR) - Wellbore #1 - Gyro Survey	17,338.81	6,721.91	2,782.70	2,695.17	31.792	CC, ES, SF
Spike ST GWS D 16-06 (SI) - Wellbore #1 - No Surveys	17,338.81	6,720.00	2,189.12	2,020.46	12.979	CC, ES, SF
Spike ST GWS D 16-08 (PR) - Wellbore #1 - Gyro Survey	17,338.81	6,746.72	3,325.74	3,233.76	36.155	CC, ES, SF
Spike ST GWS D 16-12 (PA) - Wellbore #1 - Gyro Survey	17,338.81	6,719.94	3,775.46	3,697.73	48.569	CC, ES, SF
Spike ST GWS D 16-14 (SI) - Wellbore #1 - No Surveys	17,338.81	6,753.00	5,041.14	4,875.53	30.441	CC, ES, SF
Spike ST GWS D 16-16 (SI) - Wellbore #1 - No Surveys	17,338.81	6,752.00	5,355.11	5,175.93	29.885	CC, ES, SF
Spike State D 16-10 (SI) - Wellbore #1 - Gyro Surveys	17,338.81	6,726.48	3,591.02	3,533.54	62.475	CC, ES, SF
Spike State D 16-11 (SI) - Wellbore #1 - Gyro Surveys	17,338.81	6,729.01	3,405.17	3,350.47	62.247	CC, ES, SF
Spike State D 16-9 (SI) - Wellbore #1 - Gyro Surveys	17,338.81	6,725.54	4,224.34	4,148.33	55.577	CC, ES, SF
Spike State D16-15 (P&A) - Wellbore #1 - Wellbore #1	17,338.81	6,862.22	4,863.86	4,798.10	73.955	CC, ES, SF
Spike State D16-99HZ - Original Drilling - Original Drilling	17,338.81	17,338.81	3,926.63	3,630.56	13.263	CC, ES, SF
Spike State GWS D 16-7J (PR) - Wellbore #1 - No Surve	17,338.81	6,737.00	2,162.21	1,958.31	10.604	CC, ES, SF
Spike State GWS D16-13J (PR) - Wellbore #1 - Gyro Su	17,338.81	6,700.00	4,334.22	4,271.75	69.385	CC, ES, SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D09-755
Project:	Mustang	TVD Reference:	Well @ 4754.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4754.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D09-755	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen D09-755	Database:	EDMP
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to Well @ 4754.00ft

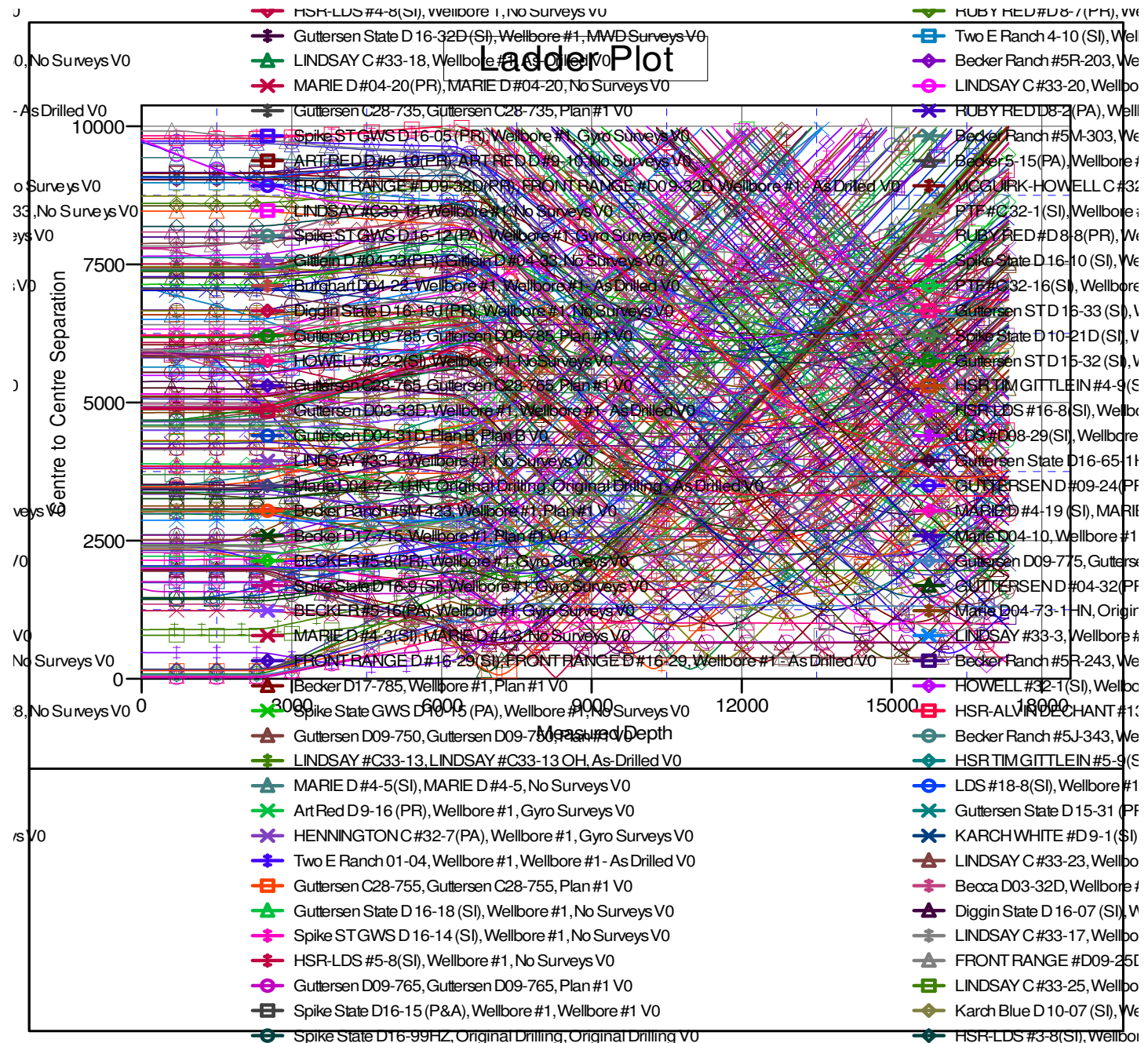
Offset Depths are relative to Offset Datum

Central Meridian is -105.5000000

Coordinates are relative to: Guttersen D09-755

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.61°



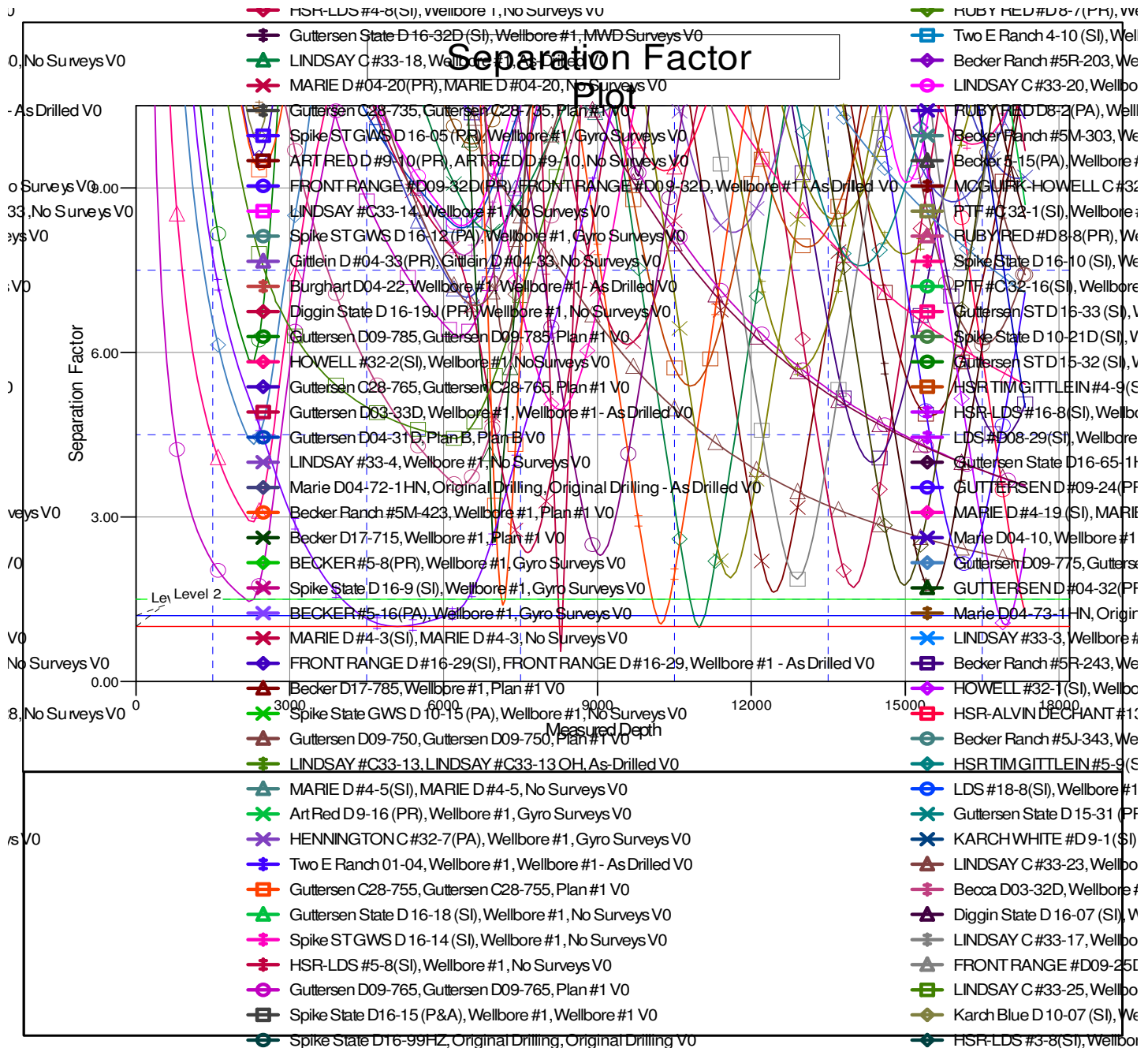
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Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D09-755
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Reference Well:	Guttersen D09-755	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen D09-755	Database:	EDMP
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to Well @ 4754.00ft
Offset Depths are relative to Offset Datum
Central Meridian is -105.5000000

Coordinates are relative to: Guttersen D09-755
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.61°



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