

Project: Mustang
Site: C Section 33
Well: Gutteresen D09-721
Wellbore: Gutteresen D09-721
Design: Plan #1

Northern Region - DJ Basin

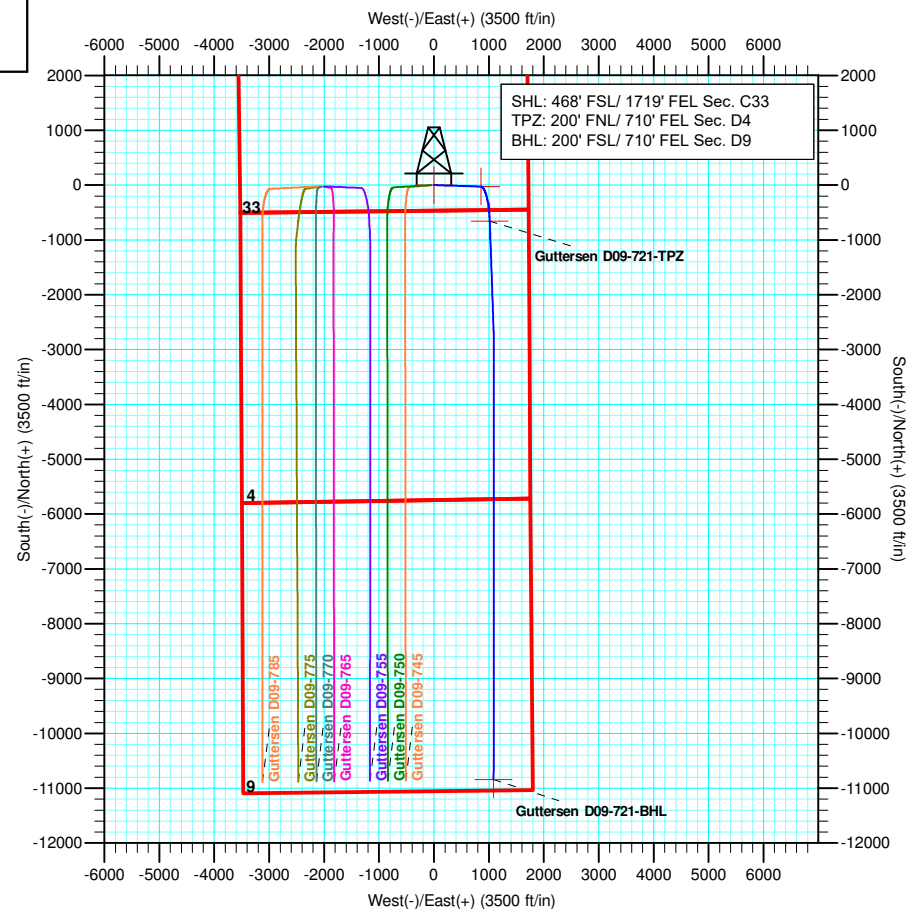
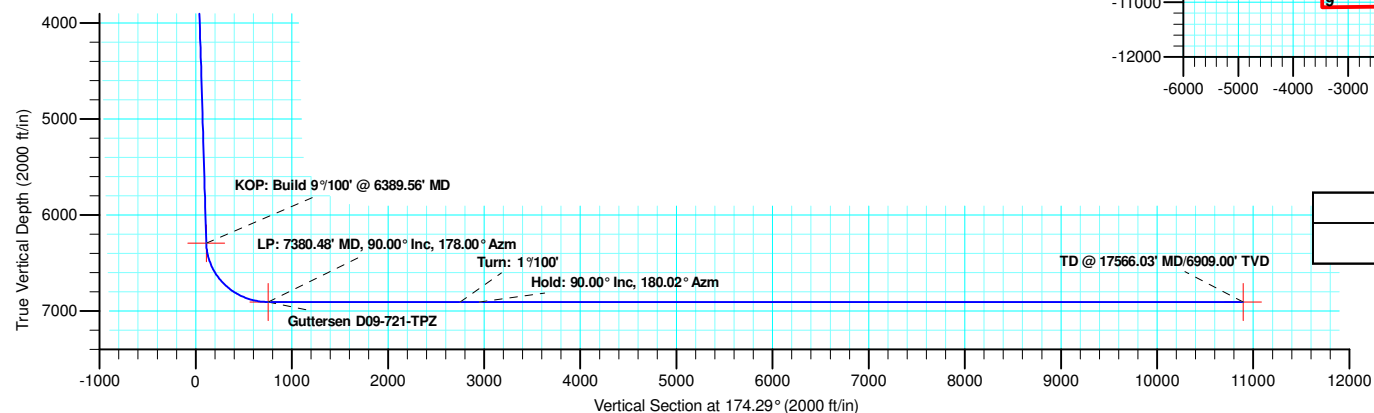
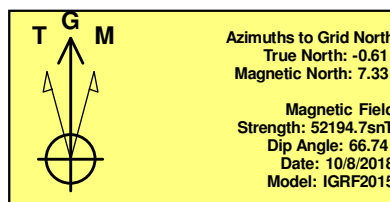
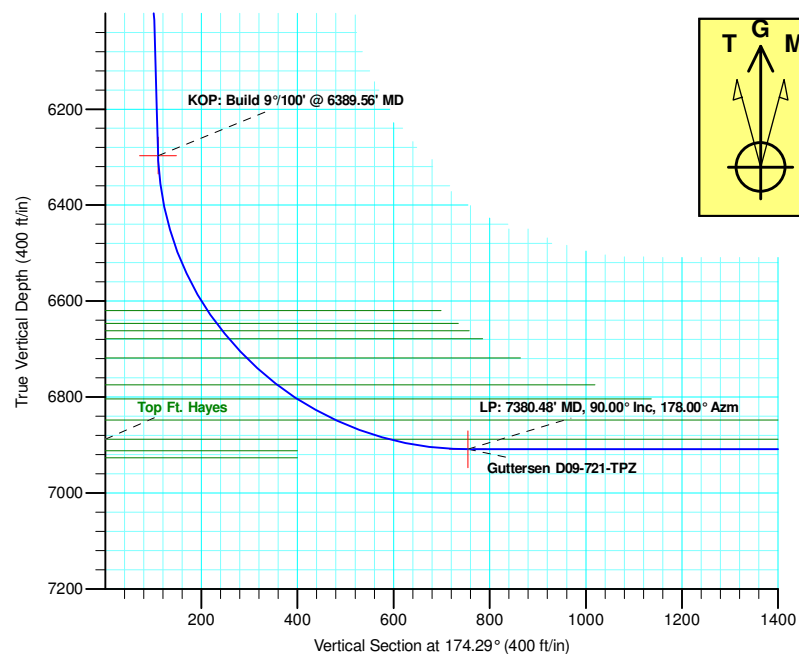
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Colorado Northern Zone
System Datum: Mean Sea Level

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	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	2837.03	12.74	91.71	2831.80	-2.10	70.50	2.00	91.71	9.11	
4	6389.56	12.74	91.71	6296.85	-25.45	853.63	0.00	0.00	110.26	
5	7380.48	90.00	178.00	6909.00	-656.80	1013.88	9.00	86.38	754.41	Gutteresen D09-721-TPZ
6	9380.48	90.00	178.00	6909.00	-2655.58	1083.68	0.00	0.00	2750.22	
7	9582.77	90.00	180.02	6909.00	-2857.84	1087.17	1.00	90.00	2951.82	
8	17566.03	90.00	180.02	6909.00	-10841.10	1083.97	0.00	0.00	10895.15	Gutteresen D09-721-BHL

WELL DETAILS: Gutteresen D09-721

+N/-S	+E/-W	Northing	Ground Level: Easting	4722.00 Latitude	Longitude	Slot
0.00	0.00	1340075.05	3264359.76	40.2630290	-104.5527040	



Plan: Plan #1 (Gutteresen D09-721/Gutteresen D09-721)

Created By: Keith Noack Date: 10:01, October 09 2018

Northern Region - DJ Basin

Mustang

C Section 33

Guttersen D09-721

Guttersen D09-721

Plan: Plan #1

Standard Planning Report

09 October, 2018

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Guttersen D09-721
Company:	Northern Region - DJ Basin	TVD Reference:	Well @ 4752.00ft
Project:	Mustang	MD Reference:	Well @ 4752.00ft
Site:	C Section 33	North Reference:	Grid
Well:	Guttersen D09-721	Survey Calculation Method:	Minimum Curvature
Wellbore:	Guttersen D09-721		
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 D09-721					
Well Position	+N/-S	173.36 ft	Northing:	1,340,075.05 usft	Latitude:	40.2630290
	+E/-W	2,083.80 ft	Easting:	3,264,359.76 usft	Longitude:	-104.5527040
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	4,722.00 ft

Wellbore	Guttersen D09-721				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	10/8/2018	7.95	66.74	52,194.67648782

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	174.29

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	
2,837.03	12.74	91.71	2,831.80	-2.10	70.50	2.00	2.00	0.00	91.71	
6,389.56	12.74	91.71	6,296.85	-25.45	853.63	0.00	0.00	0.00	0.00	
7,380.48	90.00	178.00	6,909.00	-656.80	1,013.88	9.00	7.80	8.71	86.38	Guttersen D09-721
9,380.48	90.00	178.00	6,909.00	-2,655.58	1,083.68	0.00	0.00	0.00	0.00	
9,582.77	90.00	180.02	6,909.00	-2,857.84	1,087.17	1.00	0.00	1.00	90.00	
17,566.03	90.00	180.02	6,909.00	-10,841.10	1,083.97	0.00	0.00	0.00	0.00	Guttersen D09-721

Noble Energy, Inc.

Planning Report

Database: EDMP
Company: Northern Region - DJ Basin
Project: Mustang
Site: C Section 33
Well: Gutttersen D09-721
Wellbore: Gutttersen D09-721
Design: Plan #1

Local Co-ordinate Reference: Well Gutttersen D09-721
TVD Reference: Well @ 4752.00ft
MD Reference: Well @ 4752.00ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

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
458.00	0.00	0.00	458.00	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
591.00	0.00	0.00	591.00	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
1,511.00	0.00	0.00	1,511.00	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	91.71	2,299.98	-0.05	1.74	0.23	2.00	2.00	0.00
2,400.00	4.00	91.71	2,399.84	-0.21	6.98	0.90	2.00	2.00	0.00
2,500.00	6.00	91.71	2,499.45	-0.47	15.69	2.03	2.00	2.00	0.00
2,600.00	8.00	91.71	2,598.70	-0.83	27.87	3.60	2.00	2.00	0.00
2,700.00	10.00	91.71	2,697.47	-1.30	43.50	5.62	2.00	2.00	0.00
2,800.00	12.00	91.71	2,795.62	-1.87	62.57	8.08	2.00	2.00	0.00
2,837.03	12.74	91.71	2,831.80	-2.10	70.50	9.11	2.00	2.00	0.00
Hold: 12.74° Inc, 91.71° Azm									
2,900.00	12.74	91.71	2,893.21	-2.52	84.39	10.90	0.00	0.00	0.00
3,000.00	12.74	91.71	2,990.75	-3.17	106.43	13.75	0.00	0.00	0.00
3,100.00	12.74	91.71	3,088.29	-3.83	128.47	16.59	0.00	0.00	0.00
3,200.00	12.74	91.71	3,185.83	-4.49	150.52	19.44	0.00	0.00	0.00
3,300.00	12.74	91.71	3,283.36	-5.15	172.56	22.29	0.00	0.00	0.00
3,400.00	12.74	91.71	3,380.90	-5.80	194.61	25.14	0.00	0.00	0.00
3,500.00	12.74	91.71	3,478.44	-6.46	216.65	27.98	0.00	0.00	0.00
3,600.00	12.74	91.71	3,575.98	-7.12	238.69	30.83	0.00	0.00	0.00
3,614.38	12.74	91.71	3,590.00	-7.21	241.86	31.24	0.00	0.00	0.00
Parkman									
3,700.00	12.74	91.71	3,673.52	-7.78	260.74	33.68	0.00	0.00	0.00
3,800.00	12.74	91.71	3,771.05	-8.43	282.78	36.52	0.00	0.00	0.00
3,900.00	12.74	91.71	3,868.59	-9.09	304.83	39.37	0.00	0.00	0.00
4,000.00	12.74	91.71	3,966.13	-9.75	326.87	42.22	0.00	0.00	0.00
4,029.60	12.74	91.71	3,995.00	-9.94	333.39	43.06	0.00	0.00	0.00

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Guttersen D09-721
Company:	Northern Region - DJ Basin	TVD Reference:	Well @ 4752.00ft
Project:	Mustang	MD Reference:	Well @ 4752.00ft
Site:	C Section 33	North Reference:	Grid
Well:	Guttersen D09-721	Survey Calculation Method:	Minimum Curvature
Wellbore:	Guttersen D09-721		
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	12.74	91.71	4,063.67	-10.40	348.91	45.07	0.00	0.00	0.00
4,200.00	12.74	91.71	4,161.20	-11.06	370.96	47.91	0.00	0.00	0.00
4,300.00	12.74	91.71	4,258.74	-11.72	393.00	50.76	0.00	0.00	0.00
4,400.00	12.74	91.71	4,356.28	-12.38	415.05	53.61	0.00	0.00	0.00
4,500.00	12.74	91.71	4,453.82	-13.03	437.09	56.46	0.00	0.00	0.00
4,595.53	12.74	91.71	4,547.00	-13.66	458.15	59.18	0.00	0.00	0.00
Shannon									
4,600.00	12.74	91.71	4,551.36	-13.69	459.13	59.30	0.00	0.00	0.00
4,700.00	12.74	91.71	4,648.89	-14.35	481.18	62.15	0.00	0.00	0.00
4,800.00	12.74	91.71	4,746.43	-15.01	503.22	65.00	0.00	0.00	0.00
4,900.00	12.74	91.71	4,843.97	-15.66	525.27	67.84	0.00	0.00	0.00
5,000.00	12.74	91.71	4,941.51	-16.32	547.31	70.69	0.00	0.00	0.00
5,100.00	12.74	91.71	5,039.05	-16.98	569.35	73.54	0.00	0.00	0.00
5,200.00	12.74	91.71	5,136.58	-17.64	591.40	76.39	0.00	0.00	0.00
5,300.00	12.74	91.71	5,234.12	-18.29	613.44	79.23	0.00	0.00	0.00
5,400.00	12.74	91.71	5,331.66	-18.95	635.49	82.08	0.00	0.00	0.00
5,500.00	12.74	91.71	5,429.20	-19.61	657.53	84.93	0.00	0.00	0.00
5,600.00	12.74	91.71	5,526.73	-20.26	679.57	87.78	0.00	0.00	0.00
5,700.00	12.74	91.71	5,624.27	-20.92	701.62	90.62	0.00	0.00	0.00
5,800.00	12.74	91.71	5,721.81	-21.58	723.66	93.47	0.00	0.00	0.00
5,900.00	12.74	91.71	5,819.35	-22.24	745.71	96.32	0.00	0.00	0.00
6,000.00	12.74	91.71	5,916.89	-22.89	767.75	99.16	0.00	0.00	0.00
6,010.37	12.74	91.71	5,927.00	-22.96	770.04	99.46	0.00	0.00	0.00
Teepee Buttes									
6,100.00	12.74	91.71	6,014.42	-23.55	789.79	102.01	0.00	0.00	0.00
6,200.00	12.74	91.71	6,111.96	-24.21	811.84	104.86	0.00	0.00	0.00
6,300.00	12.74	91.71	6,209.50	-24.87	833.88	107.71	0.00	0.00	0.00
6,389.56	12.74	91.71	6,296.85	-25.45	853.63	110.26	0.00	0.00	0.00
KOP: Build 9°/100' @ 6389.56' MD									
6,400.00	12.83	95.93	6,307.04	-25.61	855.93	110.64	9.00	0.89	40.47
6,450.00	14.15	114.48	6,355.68	-28.72	867.02	114.84	9.00	2.63	37.09
6,500.00	16.60	128.80	6,403.90	-35.73	878.15	122.92	9.00	4.90	28.64
6,550.00	19.76	139.10	6,451.41	-46.60	889.26	134.84	9.00	6.33	20.60
6,600.00	23.36	146.50	6,497.92	-61.26	900.27	150.52	9.00	7.19	14.80
6,650.00	27.21	151.97	6,543.12	-79.62	911.12	169.88	9.00	7.70	10.93
6,700.00	31.22	156.15	6,586.76	-101.57	921.74	192.77	9.00	8.03	8.36
6,739.57	34.48	158.82	6,620.00	-121.40	929.93	213.32	9.00	8.22	6.75
Sharon Springs									
6,750.00	35.34	159.45	6,628.55	-126.98	932.06	219.08	9.00	8.31	6.05
6,772.89	37.25	160.74	6,647.00	-139.72	936.67	232.22	9.00	8.35	5.66
Top A Chalk									
6,791.94	38.86	161.74	6,662.00	-150.84	940.44	243.66	9.00	8.41	5.22
Top A Marl									
6,800.00	39.54	162.14	6,668.25	-155.68	942.02	248.63	9.00	8.44	4.96
6,814.06	40.73	162.81	6,679.00	-164.33	944.75	257.51	9.00	8.46	4.77
Top B Chalk									
6,850.00	43.78	164.38	6,705.60	-187.50	951.57	281.25	9.00	8.50	4.39
6,868.82	45.39	165.14	6,719.00	-200.25	955.04	294.27	9.00	8.55	4.02
Top B Marl									
6,900.00	48.06	166.31	6,740.37	-222.25	960.63	316.72	9.00	8.58	3.74
6,950.00	52.38	167.98	6,772.36	-259.70	969.16	354.84	9.00	8.62	3.36
6,954.35	52.75	168.12	6,775.00	-263.08	969.87	358.27	9.00	8.65	3.14

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Guttersen D09-721
Company:	Northern Region - DJ Basin	TVD Reference:	Well @ 4752.00ft
Project:	Mustang	MD Reference:	Well @ 4752.00ft
Site:	C Section 33	North Reference:	Grid
Well:	Guttersen D09-721	Survey Calculation Method:	Minimum Curvature
Wellbore:	Guttersen D09-721		
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)
Top C Chalk									
7,000.00	56.71	169.48	6,801.36	-299.64	977.10	395.36	9.00	8.67	2.97
7,004.84	57.13	169.62	6,804.00	-303.63	977.84	399.41	9.00	8.68	2.82
Top C Marl									
7,050.00	61.06	170.83	6,827.19	-341.80	984.41	438.05	9.00	8.70	2.69
7,095.94	65.06	171.98	6,848.00	-382.29	990.52	478.94	9.00	8.72	2.49
Top D Chalk									
7,100.00	65.42	172.08	6,849.70	-385.94	991.03	482.62	9.00	8.73	2.40
7,150.00	69.79	173.23	6,868.75	-431.78	996.93	528.82	9.00	8.74	2.32
7,200.00	74.17	174.33	6,884.22	-479.03	1,002.07	576.35	9.00	8.76	2.19
7,214.43	75.43	174.64	6,888.00	-492.90	1,003.41	590.28	9.00	8.76	2.13
Top Ft. Hayes									
7,250.00	78.55	175.38	6,896.01	-527.42	1,006.42	624.93	9.00	8.77	2.09
7,300.00	82.94	176.40	6,904.05	-576.62	1,009.96	674.25	9.00	8.77	2.03
7,350.00	87.32	177.40	6,908.29	-626.36	1,012.65	724.00	9.00	8.78	2.00
7,380.48	90.00	178.00	6,909.00	-656.80	1,013.88	754.41	9.00	8.78	1.98
LP: 7380.48' MD, 90.00° Inc, 178.00° Azm									
7,400.00	90.00	178.00	6,909.00	-676.31	1,014.56	773.89	0.00	0.00	0.00
7,500.00	90.00	178.00	6,909.00	-776.25	1,018.05	873.69	0.00	0.00	0.00
7,600.00	90.00	178.00	6,909.00	-876.19	1,021.54	973.48	0.00	0.00	0.00
7,700.00	90.00	178.00	6,909.00	-976.13	1,025.03	1,073.27	0.00	0.00	0.00
7,800.00	90.00	178.00	6,909.00	-1,076.07	1,028.52	1,173.06	0.00	0.00	0.00
7,900.00	90.00	178.00	6,909.00	-1,176.01	1,032.01	1,272.85	0.00	0.00	0.00
8,000.00	90.00	178.00	6,909.00	-1,275.95	1,035.50	1,372.64	0.00	0.00	0.00
8,100.00	90.00	178.00	6,909.00	-1,375.88	1,038.99	1,472.43	0.00	0.00	0.00
8,200.00	90.00	178.00	6,909.00	-1,475.82	1,042.48	1,572.22	0.00	0.00	0.00
8,300.00	90.00	178.00	6,909.00	-1,575.76	1,045.97	1,672.01	0.00	0.00	0.00
8,400.00	90.00	178.00	6,909.00	-1,675.70	1,049.46	1,771.80	0.00	0.00	0.00
8,500.00	90.00	178.00	6,909.00	-1,775.64	1,052.95	1,871.59	0.00	0.00	0.00
8,600.00	90.00	178.00	6,909.00	-1,875.58	1,056.44	1,971.38	0.00	0.00	0.00
8,700.00	90.00	178.00	6,909.00	-1,975.52	1,059.93	2,071.17	0.00	0.00	0.00
8,800.00	90.00	178.00	6,909.00	-2,075.46	1,063.42	2,170.96	0.00	0.00	0.00
8,900.00	90.00	178.00	6,909.00	-2,175.40	1,066.91	2,270.75	0.00	0.00	0.00
9,000.00	90.00	178.00	6,909.00	-2,275.34	1,070.40	2,370.54	0.00	0.00	0.00
9,100.00	90.00	178.00	6,909.00	-2,375.28	1,073.89	2,470.33	0.00	0.00	0.00
9,200.00	90.00	178.00	6,909.00	-2,475.21	1,077.38	2,570.12	0.00	0.00	0.00
9,300.00	90.00	178.00	6,909.00	-2,575.15	1,080.87	2,669.91	0.00	0.00	0.00
9,380.48	90.00	178.00	6,909.00	-2,655.58	1,083.68	2,750.22	0.00	0.00	0.00
Turn: 1°/100'									
9,400.00	90.00	178.20	6,909.00	-2,675.09	1,084.32	2,769.70	1.00	0.00	1.00
9,500.00	90.00	179.20	6,909.00	-2,775.07	1,086.60	2,869.40	1.00	0.00	1.00
9,582.77	90.00	180.02	6,909.00	-2,857.84	1,087.17	2,951.82	1.00	0.00	1.00
Hold: 90.00° Inc, 180.02° Azm									
9,600.00	90.00	180.02	6,909.00	-2,875.06	1,087.16	2,968.96	0.00	0.00	0.00
9,700.00	90.00	180.02	6,909.00	-2,975.06	1,087.12	3,068.46	0.00	0.00	0.00
9,800.00	90.00	180.02	6,909.00	-3,075.06	1,087.08	3,167.96	0.00	0.00	0.00
9,900.00	90.00	180.02	6,909.00	-3,175.06	1,087.04	3,267.46	0.00	0.00	0.00
10,000.00	90.00	180.02	6,909.00	-3,275.06	1,087.00	3,366.96	0.00	0.00	0.00
10,100.00	90.00	180.02	6,909.00	-3,375.06	1,086.96	3,466.46	0.00	0.00	0.00
10,200.00	90.00	180.02	6,909.00	-3,475.06	1,086.92	3,565.96	0.00	0.00	0.00
10,300.00	90.00	180.02	6,909.00	-3,575.06	1,086.88	3,665.46	0.00	0.00	0.00
10,400.00	90.00	180.02	6,909.00	-3,675.06	1,086.84	3,764.96	0.00	0.00	0.00
10,500.00	90.00	180.02	6,909.00	-3,775.06	1,086.80	3,864.46	0.00	0.00	0.00

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Guttersen D09-721
Company:	Northern Region - DJ Basin	TVD Reference:	Well @ 4752.00ft
Project:	Mustang	MD Reference:	Well @ 4752.00ft
Site:	C Section 33	North Reference:	Grid
Well:	Guttersen D09-721	Survey Calculation Method:	Minimum Curvature
Wellbore:	Guttersen D09-721		
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)	
10,600.00	90.00	180.02	6,909.00	-3,875.06	1,086.76	3,963.96	0.00	0.00	0.00	
10,700.00	90.00	180.02	6,909.00	-3,975.06	1,086.72	4,063.46	0.00	0.00	0.00	
10,800.00	90.00	180.02	6,909.00	-4,075.06	1,086.68	4,162.96	0.00	0.00	0.00	
10,900.00	90.00	180.02	6,909.00	-4,175.06	1,086.64	4,262.46	0.00	0.00	0.00	
11,000.00	90.00	180.02	6,909.00	-4,275.06	1,086.60	4,361.96	0.00	0.00	0.00	
11,100.00	90.00	180.02	6,909.00	-4,375.06	1,086.56	4,461.46	0.00	0.00	0.00	
11,200.00	90.00	180.02	6,909.00	-4,475.06	1,086.52	4,560.96	0.00	0.00	0.00	
11,300.00	90.00	180.02	6,909.00	-4,575.06	1,086.48	4,660.46	0.00	0.00	0.00	
11,400.00	90.00	180.02	6,909.00	-4,675.06	1,086.44	4,759.96	0.00	0.00	0.00	
11,500.00	90.00	180.02	6,909.00	-4,775.06	1,086.40	4,859.46	0.00	0.00	0.00	
11,600.00	90.00	180.02	6,909.00	-4,875.06	1,086.36	4,958.96	0.00	0.00	0.00	
11,700.00	90.00	180.02	6,909.00	-4,975.06	1,086.32	5,058.46	0.00	0.00	0.00	
11,800.00	90.00	180.02	6,909.00	-5,075.06	1,086.28	5,157.96	0.00	0.00	0.00	
11,900.00	90.00	180.02	6,909.00	-5,175.06	1,086.24	5,257.46	0.00	0.00	0.00	
12,000.00	90.00	180.02	6,909.00	-5,275.06	1,086.20	5,356.96	0.00	0.00	0.00	
12,100.00	90.00	180.02	6,909.00	-5,375.06	1,086.16	5,456.46	0.00	0.00	0.00	
12,200.00	90.00	180.02	6,909.00	-5,475.06	1,086.12	5,555.96	0.00	0.00	0.00	
12,300.00	90.00	180.02	6,909.00	-5,575.06	1,086.08	5,655.46	0.00	0.00	0.00	
12,400.00	90.00	180.02	6,909.00	-5,675.06	1,086.04	5,754.96	0.00	0.00	0.00	
12,500.00	90.00	180.02	6,909.00	-5,775.06	1,086.00	5,854.46	0.00	0.00	0.00	
12,600.00	90.00	180.02	6,909.00	-5,875.06	1,085.96	5,953.96	0.00	0.00	0.00	
12,700.00	90.00	180.02	6,909.00	-5,975.06	1,085.92	6,053.46	0.00	0.00	0.00	
12,800.00	90.00	180.02	6,909.00	-6,075.06	1,085.88	6,152.96	0.00	0.00	0.00	
12,900.00	90.00	180.02	6,909.00	-6,175.06	1,085.84	6,252.46	0.00	0.00	0.00	
13,000.00	90.00	180.02	6,909.00	-6,275.06	1,085.80	6,351.96	0.00	0.00	0.00	
13,100.00	90.00	180.02	6,909.00	-6,375.06	1,085.76	6,451.46	0.00	0.00	0.00	
13,200.00	90.00	180.02	6,909.00	-6,475.06	1,085.72	6,550.96	0.00	0.00	0.00	
13,300.00	90.00	180.02	6,909.00	-6,575.06	1,085.68	6,650.46	0.00	0.00	0.00	
13,400.00	90.00	180.02	6,909.00	-6,675.06	1,085.64	6,749.96	0.00	0.00	0.00	
13,500.00	90.00	180.02	6,909.00	-6,775.06	1,085.60	6,849.46	0.00	0.00	0.00	
13,600.00	90.00	180.02	6,909.00	-6,875.06	1,085.56	6,948.96	0.00	0.00	0.00	
13,700.00	90.00	180.02	6,909.00	-6,975.06	1,085.52	7,048.46	0.00	0.00	0.00	
13,800.00	90.00	180.02	6,909.00	-7,075.06	1,085.48	7,147.96	0.00	0.00	0.00	
13,900.00	90.00	180.02	6,909.00	-7,175.06	1,085.44	7,247.46	0.00	0.00	0.00	
14,000.00	90.00	180.02	6,909.00	-7,275.06	1,085.40	7,346.96	0.00	0.00	0.00	
14,100.00	90.00	180.02	6,909.00	-7,375.06	1,085.36	7,446.46	0.00	0.00	0.00	
14,200.00	90.00	180.02	6,909.00	-7,475.06	1,085.32	7,545.95	0.00	0.00	0.00	
14,300.00	90.00	180.02	6,909.00	-7,575.06	1,085.28	7,645.45	0.00	0.00	0.00	
14,400.00	90.00	180.02	6,909.00	-7,675.06	1,085.24	7,744.95	0.00	0.00	0.00	
14,500.00	90.00	180.02	6,909.00	-7,775.06	1,085.20	7,844.45	0.00	0.00	0.00	
14,600.00	90.00	180.02	6,909.00	-7,875.06	1,085.16	7,943.95	0.00	0.00	0.00	
14,700.00	90.00	180.02	6,909.00	-7,975.06	1,085.12	8,043.45	0.00	0.00	0.00	
14,800.00	90.00	180.02	6,909.00	-8,075.06	1,085.08	8,142.95	0.00	0.00	0.00	
14,900.00	90.00	180.02	6,909.00	-8,175.06	1,085.04	8,242.45	0.00	0.00	0.00	
15,000.00	90.00	180.02	6,909.00	-8,275.06	1,085.00	8,341.95	0.00	0.00	0.00	
15,100.00	90.00	180.02	6,909.00	-8,375.06	1,084.96	8,441.45	0.00	0.00	0.00	
15,200.00	90.00	180.02	6,909.00	-8,475.06	1,084.92	8,540.95	0.00	0.00	0.00	
15,300.00	90.00	180.02	6,909.00	-8,575.06	1,084.88	8,640.45	0.00	0.00	0.00	
15,400.00	90.00	180.02	6,909.00	-8,675.06	1,084.84	8,739.95	0.00	0.00	0.00	
15,500.00	90.00	180.02	6,909.00	-8,775.06	1,084.80	8,839.45	0.00	0.00	0.00	
15,600.00	90.00	180.02	6,909.00	-8,875.06	1,084.76	8,938.95	0.00	0.00	0.00	
15,700.00	90.00	180.02	6,909.00	-8,975.06	1,084.72	9,038.45	0.00	0.00	0.00	
15,800.00	90.00	180.02	6,909.00	-9,075.06	1,084.68	9,137.95	0.00	0.00	0.00	
15,900.00	90.00	180.02	6,909.00	-9,175.06	1,084.64	9,237.45	0.00	0.00	0.00	

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Guttersen D09-721
Company:	Northern Region - DJ Basin	TVD Reference:	Well @ 4752.00ft
Project:	Mustang	MD Reference:	Well @ 4752.00ft
Site:	C Section 33	North Reference:	Grid
Well:	Guttersen D09-721	Survey Calculation Method:	Minimum Curvature
Wellbore:	Guttersen D09-721		
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)
16,000.00	90.00	180.02	6,909.00	-9,275.06	1,084.60	9,336.95	0.00	0.00	0.00
16,100.00	90.00	180.02	6,909.00	-9,375.06	1,084.56	9,436.45	0.00	0.00	0.00
16,200.00	90.00	180.02	6,909.00	-9,475.06	1,084.52	9,535.95	0.00	0.00	0.00
16,300.00	90.00	180.02	6,909.00	-9,575.06	1,084.48	9,635.45	0.00	0.00	0.00
16,400.00	90.00	180.02	6,909.00	-9,675.06	1,084.44	9,734.95	0.00	0.00	0.00
16,500.00	90.00	180.02	6,909.00	-9,775.06	1,084.40	9,834.45	0.00	0.00	0.00
16,600.00	90.00	180.02	6,909.00	-9,875.06	1,084.36	9,933.95	0.00	0.00	0.00
16,700.00	90.00	180.02	6,909.00	-9,975.06	1,084.32	10,033.45	0.00	0.00	0.00
16,800.00	90.00	180.02	6,909.00	-10,075.06	1,084.28	10,132.95	0.00	0.00	0.00
16,900.00	90.00	180.02	6,909.00	-10,175.06	1,084.24	10,232.45	0.00	0.00	0.00
17,000.00	90.00	180.02	6,909.00	-10,275.06	1,084.20	10,331.95	0.00	0.00	0.00
17,100.00	90.00	180.02	6,909.00	-10,375.06	1,084.16	10,431.45	0.00	0.00	0.00
17,200.00	90.00	180.02	6,909.00	-10,475.06	1,084.12	10,530.95	0.00	0.00	0.00
17,300.00	90.00	180.02	6,909.00	-10,575.06	1,084.08	10,630.45	0.00	0.00	0.00
17,400.00	90.00	180.02	6,909.00	-10,675.06	1,084.04	10,729.95	0.00	0.00	0.00
17,500.00	90.00	180.02	6,909.00	-10,775.06	1,084.00	10,829.45	0.00	0.00	0.00
17,566.03	90.00	180.02	6,909.00	-10,841.10	1,083.97	10,895.15	0.00	0.00	0.00
TD @ 17566.03' MD/6909.00' TVD									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Guttersen D09-721-SI - hit/miss target - Shape - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	1,340,075.05	3,264,359.76	40.2630290	-104.5527040
Guttersen D09-721-KI - plan hits target center - Point	0.00	0.00	6,296.85	-25.45	853.63	1,340,049.59	3,265,213.39	40.2629341	-104.5496464
Guttersen D09-721-BI - plan hits target center - Point	0.00	0.00	6,909.00	-10,841.10	1,083.97	1,329,233.97	3,265,443.73	40.2332391	-104.5492365
Guttersen D09-721-TI - plan hits target center - Point	0.00	0.00	6,909.00	-656.80	1,013.88	1,339,418.25	3,265,373.64	40.2611964	-104.5490964

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Guttersen D09-721
Company:	Northern Region - DJ Basin	TVD Reference:	Well @ 4752.00ft
Project:	Mustang	MD Reference:	Well @ 4752.00ft
Site:	C Section 33	North Reference:	Grid
Well:	Guttersen D09-721	Survey Calculation Method:	Minimum Curvature
Wellbore:	Guttersen D09-721		
Design:	Plan #1		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
458.00	458.00	Pierre				
591.00	591.00	Upper Pierre Aquifer Top				
1,511.00	1,511.00	Upper Pierre Aquifer Base				
3,614.38	3,590.00	Parkman				
4,029.60	3,995.00	Sussex				
4,595.53	4,547.00	Shannon				
6,010.37	5,927.00	Teepee Buttes				
6,739.57	6,620.00	Sharon Springs				
6,772.89	6,647.00	Top A Chalk				
6,791.94	6,662.00	Top A Marl				
6,814.06	6,679.00	Top B Chalk				
6,868.82	6,719.00	Top B Marl				
6,954.35	6,775.00	Top C Chalk				
7,004.84	6,804.00	Top C Marl				
7,095.94	6,848.00	Top D Chalk				
7,214.43	6,888.00	Top Ft. Hayes				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
2,200.00	2,200.00	0.00	0.00	Build: 2°/100'	
2,837.03	2,831.80	-2.10	70.50	Hold: 12.74° Inc, 91.71° Azm	
6,389.56	6,296.85	-25.45	853.63	KOP: Build 9°/100' @ 6389.56' MD	
7,380.48	6,909.00	-656.80	1,013.88	LP: 7380.48' MD, 90.00° Inc, 178.00° Azm	
9,380.48	6,909.00	-2,655.58	1,083.68	Turn: 1°/100'	
9,582.77	6,909.00	-2,857.84	1,087.17	Hold: 90.00° Inc, 180.02° Azm	
17,566.03	6,909.00	-10,841.10	1,083.97	TD @ 17566.03' MD/6909.00' TVD	

Northern Region - DJ Basin

Mustang

C Section 33

Guttersen D09-721

Guttersen D09-721

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 D09-721
Project:	Mustang	TVD Reference:	Well @ 4752.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4752.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Gutttersen D09-721	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Gutttersen D09-721	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	17,565.38	Plan #1 (Gutttersen D09-721)	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						
C Section 33						
GUTTERSEN C #33-31D - GUTTERSEN C #33-31D OH	706.22	756.11	3,865.24	3,861.61	1,065.104	CC, ES
GUTTERSEN C #33-31D - GUTTERSEN C #33-31D OH	6,700.00	6,811.54	5,801.03	5,748.62	110.687	SF
GUTTERSEN C #33-32 - Wellbore #1 - No Surveys	2,200.00	2,212.00	3,885.72	3,791.90	41.420	CC
GUTTERSEN C #33-32 - Wellbore #1 - No Surveys	2,300.00	2,311.98	3,887.25	3,789.08	39.600	ES
GUTTERSEN C #33-32 - Wellbore #1 - No Surveys	6,900.00	6,752.37	4,834.77	4,542.57	16.546	SF
GUTTERSEN C #33-33D - GUTTERSEN C #33-33D OH	2,386.94	2,670.92	3,766.80	3,748.14	201.783	CC
GUTTERSEN C #33-33D - GUTTERSEN C #33-33D OH	2,400.00	2,682.85	3,766.83	3,748.05	200.497	ES
GUTTERSEN C #33-33D - GUTTERSEN C #33-33D OH	7,150.00	7,150.00	4,801.79	4,744.92	84.429	SF
Gutttersen C28-715 - Gutttersen C28-715 - Plan #1	2,200.00	2,196.00	156.90	141.60	10.260	CC
Gutttersen C28-715 - Gutttersen C28-715 - Plan #1	2,300.00	2,292.12	157.53	141.57	9.864	ES
Gutttersen C28-715 - Gutttersen C28-715 - Plan #1	7,200.00	7,225.18	370.77	318.90	7.149	SF
Gutttersen C28-725 - Gutttersen C28-725 - Plan #1	2,200.00	2,194.00	151.90	136.61	9.938	CC, ES
Gutttersen C28-725 - Gutttersen C28-725 - Plan #1	6,950.00	7,413.10	254.09	203.89	5.061	SF
Gutttersen C28-735 - Gutttersen C28-735 - Plan #1	2,200.00	2,193.00	150.10	134.81	9.822	CC, ES
Gutttersen C28-735 - Gutttersen C28-735 - Plan #1	2,400.00	2,383.06	156.17	139.59	9.418	SF
Gutttersen C28-745 - Gutttersen C28-745 - Plan #1	2,200.00	2,192.00	152.04	136.76	9.951	CC, ES
Gutttersen C28-745 - Gutttersen C28-745 - Plan #1	2,400.00	2,382.42	158.79	142.20	9.574	SF
Gutttersen C28-750 - Gutttersen C28-750 - Plan #1	2,200.00	2,192.00	156.81	141.53	10.264	CC, ES
Gutttersen C28-750 - Gutttersen C28-750 - Plan #1	2,400.00	2,382.35	164.35	147.76	9.906	SF
Gutttersen C28-755 - Gutttersen C28-755 - Plan #1	2,208.05	2,214.64	2,001.46	1,986.08	130.093	CC
Gutttersen C28-755 - Gutttersen C28-755 - Plan #1	2,400.00	2,524.23	2,002.20	1,985.15	117.445	ES
Gutttersen C28-755 - Gutttersen C28-755 - Plan #1	6,650.00	7,609.37	2,160.52	2,110.88	43.527	SF
Gutttersen C28-765 - Gutttersen C28-765 - Plan #1	2,200.08	2,201.14	2,023.70	2,008.39	132.174	CC, ES
Gutttersen C28-765 - Gutttersen C28-765 - Plan #1	6,600.00	7,408.14	2,791.77	2,743.57	57.917	SF
Gutttersen C28-770 - Gutttersen C28-770 - Plan #1	2,200.00	2,201.00	2,046.24	2,030.93	133.651	CC, ES
Gutttersen C28-770 - Gutttersen C28-770 - Plan #1	6,950.00	7,374.70	3,177.28	3,127.70	64.073	SF
Gutttersen C28-775 - Gutttersen C28-775 - Plan #1	2,200.00	2,202.00	2,068.48	2,053.16	135.072	CC, ES
Gutttersen C28-775 - Gutttersen C28-775 - Plan #1	6,900.00	7,341.79	3,491.54	3,442.30	70.916	SF
Gutttersen C28-785 - Gutttersen C28-785 - Plan #1	2,200.00	2,202.00	2,091.00	2,075.68	136.542	CC, ES
Gutttersen C28-785 - Gutttersen C28-785 - Plan #1	8,700.00	6,218.50	4,265.07	4,214.93	85.066	SF
GUTTERSEN D #03-30D - Wellbore #1 - No Surveys	2,200.00	2,162.00	1,567.20	1,475.07	17.010	CC
GUTTERSEN D #03-30D - Wellbore #1 - No Surveys	2,300.00	2,261.98	1,568.94	1,472.46	16.262	ES
GUTTERSEN D #03-30D - Wellbore #1 - No Surveys	6,750.00	6,609.45	2,507.66	2,221.23	8.755	SF
Gutttersen D09-745 - Gutttersen D09-745 - Plan #1	2,200.00	2,202.00	22.60	7.29	1.476	Level 3, CC, ES, SF
Gutttersen D09-750 - Gutttersen D09-750 - Plan #1	2,200.00	2,198.00	45.21	29.91	2.955	CC, ES, SF
Gutttersen D09-755 - Gutttersen D09-755 - Plan #1	2,722.52	3,085.86	1,960.63	1,940.70	98.391	CC, ES
Gutttersen D09-755 - Gutttersen D09-755 - Plan #1	17,566.03	17,311.72	2,256.61	2,073.32	12.311	SF

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

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Gutttersen D09-721
Project:	Mustang	TVD Reference:	Well @ 4752.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4752.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Gutttersen D09-721	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Gutttersen D09-721	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						
Gutttersen D09-765 - Gutttersen D09-765 - Plan #1	2,200.00	2,203.00	2,016.31	2,000.99	131.634	CC, ES
Gutttersen D09-765 - Gutttersen D09-765 - Plan #1	17,566.03	17,340.07	2,902.46	2,718.66	15.791	SF
Gutttersen D09-770 - Gutttersen D09-770 - Plan #1	2,200.00	2,203.00	2,038.91	2,023.60	133.110	CC, ES
Gutttersen D09-770 - Gutttersen D09-770 - Plan #1	17,566.03	17,448.58	3,226.80	3,042.63	17.520	SF
Gutttersen D09-775 - Gutttersen D09-775 - Plan #1	2,200.00	2,203.00	2,061.52	2,046.20	134.586	CC, ES
Gutttersen D09-775 - Gutttersen D09-775 - Plan #1	17,566.03	17,290.59	3,556.87	3,372.86	19.330	SF
Gutttersen D09-785 - Gutttersen D09-785 - Plan #1	2,200.00	2,203.00	2,083.84	2,068.53	136.043	CC, ES
Gutttersen D09-785 - Gutttersen D09-785 - Plan #1	17,566.03	17,460.05	4,205.64	4,021.10	22.789	SF
LINDSAY #33-1 - LINDSAY #33-1 OH - As-Drilled	2,240.25	2,210.10	326.96	311.62	21.311	CC, ES
LINDSAY #33-1 - LINDSAY #33-1 OH - As-Drilled	2,600.00	2,565.33	348.08	330.26	19.528	SF
LINDSAY #33-3 - Wellbore #1 - No Surveys	2,200.00	2,169.00	3,237.57	3,145.15	35.034	CC
LINDSAY #33-3 - Wellbore #1 - No Surveys	2,400.00	2,368.84	3,241.19	3,140.09	32.060	ES
LINDSAY #33-3 - Wellbore #1 - No Surveys	6,750.00	6,602.45	3,880.03	3,593.77	13.554	SF
LINDSAY #33-4 - Wellbore #1 - No Surveys	2,200.00	2,169.00	2,851.36	2,758.95	30.854	CC
LINDSAY #33-4 - Wellbore #1 - No Surveys	3,500.00	3,447.44	2,885.86	2,737.70	19.478	ES
LINDSAY #33-4 - Wellbore #1 - No Surveys	6,650.00	6,512.12	3,146.31	2,863.78	11.136	SF
LINDSAY #33-5 - Wellbore #1 - No Surveys	2,200.00	2,154.00	1,534.07	1,442.26	16.709	CC
LINDSAY #33-5 - Wellbore #1 - No Surveys	2,700.00	2,651.47	1,543.09	1,429.65	13.602	ES
LINDSAY #33-5 - Wellbore #1 - No Surveys	6,500.00	6,357.90	1,917.54	1,641.85	6.955	SF
LINDSAY #33-6 - Wellbore #1 - No Surveys	2,200.00	1,777.00	2,176.32	2,099.59	28.362	CC
LINDSAY #33-6 - Wellbore #1 - No Surveys	2,400.00	1,976.84	2,181.52	2,096.11	25.539	ES
LINDSAY #33-6 - Wellbore #1 - No Surveys	6,700.00	6,163.76	2,968.04	2,699.60	11.057	SF
LINDSAY #33-7 - Wellbore #1 - No Surveys	2,200.00	2,177.00	4,438.09	4,345.35	47.859	CC
LINDSAY #33-7 - Wellbore #1 - No Surveys	2,500.00	2,476.45	4,444.23	4,338.48	42.027	ES
LINDSAY #33-7 - Wellbore #1 - No Surveys	6,800.00	6,645.25	4,992.66	4,704.46	17.324	SF
LINDSAY #33-8 - Wellbore #1 - No Surveys	2,200.00	2,180.00	4,157.12	4,064.27	44.771	CC
LINDSAY #33-8 - Wellbore #1 - No Surveys	4,300.00	4,238.74	4,214.83	4,032.04	23.058	ES
LINDSAY #33-8 - Wellbore #1 - No Surveys	6,750.00	6,608.55	4,446.15	4,159.40	15.506	SF
LINDSAY #C33-10 - Wellbore #1 - No Surveys	2,200.00	2,207.00	5,113.32	5,019.39	54.436	CC
LINDSAY #C33-10 - Wellbore #1 - No Surveys	2,400.00	2,407.16	5,117.54	5,014.91	49.863	ES
LINDSAY #C33-10 - Wellbore #1 - No Surveys	6,850.00	6,701.40	5,856.68	5,566.22	20.163	SF
LINDSAY #C33-11 - LINDSAY #C33-11 OH - As-Drilled	1,823.81	1,811.86	4,077.74	4,065.28	327.124	CC
LINDSAY #C33-11 - LINDSAY #C33-11 OH - As-Drilled	2,200.00	2,159.00	4,078.69	4,063.67	271.481	ES
LINDSAY #C33-11 - LINDSAY #C33-11 OH - As-Drilled	6,800.00	6,644.88	4,972.65	4,925.40	105.250	SF
LINDSAY #C33-12 - Wellbore #1 - No Surveys	2,200.00	2,180.00	3,250.27	3,157.42	35.004	CC
LINDSAY #C33-12 - Wellbore #1 - No Surveys	2,300.00	2,279.98	3,251.85	3,154.65	33.455	ES
LINDSAY #C33-12 - Wellbore #1 - No Surveys	6,850.00	6,685.60	4,190.68	3,900.96	14.465	SF
LINDSAY #C33-13 - LINDSAY #C33-13 OH - As-Drilled	100.00	81.29	2,870.06	2,869.79	10,000.000	CC
LINDSAY #C33-13 - LINDSAY #C33-13 OH - As-Drilled	2,100.00	2,065.87	2,876.80	2,862.46	200.583	ES
LINDSAY #C33-13 - LINDSAY #C33-13 OH - As-Drilled	7,100.00	6,803.17	3,951.63	3,903.04	81.333	SF
LINDSAY #C33-14 - Wellbore #1 - No Surveys	6,391.07	6,277.32	4,179.48	3,907.11	15.345	CC
LINDSAY #C33-14 - Wellbore #1 - No Surveys	6,400.00	6,286.04	4,179.55	3,906.79	15.323	ES
LINDSAY #C33-14 - Wellbore #1 - No Surveys	6,750.00	6,607.55	4,278.54	3,991.69	14.916	SF
LINDSAY #C33-15 - Wellbore #1 - No Surveys	6,394.43	6,266.60	2,867.40	2,595.64	10.551	CC
LINDSAY #C33-15 - Wellbore #1 - No Surveys	6,400.00	6,272.04	2,867.43	2,595.43	10.542	ES
LINDSAY #C33-15 - Wellbore #1 - No Surveys	6,650.00	6,508.12	2,918.39	2,636.03	10.336	SF
LINDSAY #C33-16 - Wellbore #1 - No Surveys	6,480.46	6,337.13	333.54	58.45	1.212	Level 3, CC
LINDSAY #C33-16 - Wellbore #1 - No Surveys	6,500.00	6,355.90	333.83	57.91	1.210	Level 3, ES, SF
LINDSAY #C33-9 - Wellbore #1 - No Surveys	6,402.31	6,256.29	1,600.66	1,329.07	5.894	CC
LINDSAY #C33-9 - Wellbore #1 - No Surveys	6,450.00	6,302.68	1,602.46	1,328.83	5.856	ES
LINDSAY #C33-9 - Wellbore #1 - No Surveys	6,500.00	6,401.59	1,617.90	1,339.94	5.821	SF
LINDSAY C #33-17 - Wellbore #1 - No Surveys	3,002.53	2,971.22	3,492.70	3,365.39	27.434	CC
LINDSAY C #33-17 - Wellbore #1 - No Surveys	6,100.00	6,007.58	3,558.87	3,298.48	13.667	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 D09-721
Project:	Mustang	TVD Reference:	Well @ 4752.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4752.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D09-721	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen D09-721	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 C #33-17 - Wellbore #1 - No Surveys	6,700.00	6,564.76	3,659.20	3,374.31	12.844	SF
LINDSAY C #33-18 - Wellbore #1 - As-Drilled	1,101.95	1,090.98	2,896.97	2,882.77	203.952	CC
LINDSAY C #33-18 - Wellbore #1 - As-Drilled	1,200.00	1,147.00	2,897.77	2,882.47	189.435	ES
LINDSAY C #33-18 - Wellbore #1 - As-Drilled	6,750.00	6,673.25	4,076.45	3,967.19	37.308	SF
LINDSAY C #33-19 - Wellbore #1 - No Surveys	2,200.00	2,186.00	4,145.81	4,052.71	44.534	CC
LINDSAY C #33-19 - Wellbore #1 - No Surveys	2,400.00	2,385.84	4,149.94	4,048.16	40.774	ES
LINDSAY C #33-19 - Wellbore #1 - No Surveys	6,850.00	6,708.40	4,887.12	4,596.39	16.810	SF
LINDSAY C #33-20 - Wellbore #1 - No Surveys	2,200.00	2,182.00	2,977.81	2,884.87	32.042	CC
LINDSAY C #33-20 - Wellbore #1 - No Surveys	2,400.00	2,381.84	2,983.19	2,881.57	29.357	ES
LINDSAY C #33-20 - Wellbore #1 - No Surveys	6,750.00	6,610.55	3,797.85	3,511.38	13.258	SF
LINDSAY C #33-21 - Wellbore #1 - No Surveys	2,200.00	2,165.00	2,198.10	2,105.84	23.827	CC
LINDSAY C #33-21 - Wellbore #1 - No Surveys	2,500.00	2,464.45	2,205.15	2,099.88	20.948	ES
LINDSAY C #33-21 - Wellbore #1 - No Surveys	6,600.00	6,462.92	2,747.85	2,467.65	9.807	SF
LINDSAY C #33-22 - Wellbore #1 - No Surveys	3,972.03	3,900.85	2,027.70	1,859.64	12.065	CC
LINDSAY C #33-22 - Wellbore #1 - No Surveys	5,800.00	5,683.81	2,067.39	1,821.10	8.394	ES
LINDSAY C #33-22 - Wellbore #1 - No Surveys	6,550.00	6,413.41	2,125.46	1,847.15	7.637	SF
LINDSAY C #33-23 - Wellbore #1 - No Surveys	4,062.61	3,978.20	852.70	681.20	4.972	CC
LINDSAY C #33-23 - Wellbore #1 - No Surveys	4,900.00	4,805.03	872.47	664.77	4.201	ES
LINDSAY C #33-23 - Wellbore #1 - No Surveys	6,400.00	6,258.04	996.48	725.09	3.672	SF
LINDSAY C #33-24 - Wellbore #1 - No Surveys	2,200.00	2,162.00	1,249.98	1,157.84	13.567	CC
LINDSAY C #33-24 - Wellbore #1 - No Surveys	2,400.00	2,361.84	1,255.37	1,154.55	12.452	ES
LINDSAY C #33-24 - Wellbore #1 - No Surveys	6,550.00	6,413.41	2,025.98	1,748.08	7.290	SF
LINDSAY C #33-25 - Wellbore #1 - No Surveys	2,200.00	2,174.00	2,299.32	2,206.70	24.827	CC
LINDSAY C #33-25 - Wellbore #1 - No Surveys	2,300.00	2,273.98	2,300.98	2,204.02	23.731	ES
LINDSAY C #33-25 - Wellbore #1 - No Surveys	6,850.00	6,679.60	3,263.00	2,973.51	11.272	SF
D Section 03						
Becca D03-32D - Wellbore #1 - Wellbore #1- As Drilled	9,834.70	7,060.86	577.85	516.53	9.424	CC, ES
Becca D03-32D - Wellbore #1 - Wellbore #1- As Drilled	10,100.00	7,059.27	635.84	564.92	8.966	SF

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D09-721
Project:	Mustang	TVD Reference:	Well @ 4752.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4752.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D09-721	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen D09-721	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	9,683.97	6,871.18	654.79	595.98	11.135	CC, ES, SF
Gittlein Blue D04-08 - Wellbore #1 - Wellbore #1- As Drill	9,232.99	6,866.37	59.72	3.21	1.057	Level 2, CC, ES, SF
GITTLEIN D #04-24(PR) - GITTLEIN D #04-24 - No Surv	11,230.37	6,876.00	2,070.36	1,888.09	11.359	CC, ES
GITTLEIN D #04-24(PR) - GITTLEIN D #04-24 - No Surv	11,300.00	6,876.00	2,071.53	1,889.00	11.349	SF
Gittlein D #04-33(PR) - Gittlein D #04-33 - No Surveys	11,223.90	6,880.00	4,364.69	4,182.39	23.941	CC, ES
Gittlein D #04-33(PR) - Gittlein D #04-33 - No Surveys	11,700.00	6,880.00	4,390.58	4,205.84	23.766	SF
GUTTERSEN D #04-32(PR) - GUTTERSEN D #04-32 -	9,716.74	6,902.00	4,429.76	4,256.56	25.575	CC, ES
GUTTERSEN D #04-32(PR) - GUTTERSEN D #04-32 -	10,200.00	6,902.00	4,456.05	4,280.66	25.407	SF
Guttersen D 04-18(PR) - Guttersen D 04-18 - Wellbore #	100.00	61.16	2,218.53	2,218.33	10,000.000	CC
Guttersen D 04-18(PR) - Guttersen D 04-18 - Wellbore #	8,453.69	6,800.01	2,233.62	2,192.12	53.817	ES
Guttersen D 04-18(PR) - Guttersen D 04-18 - Wellbore #	8,700.00	6,800.01	2,247.16	2,205.02	53.330	SF
Guttersen D 04-21(SI) - Guttersen D 04-21 - Wellbore #1	9,997.86	6,800.01	1,794.69	1,744.94	36.072	CC
Guttersen D 04-21(SI) - Guttersen D 04-21 - Wellbore #1	10,000.00	6,800.01	1,794.69	1,744.93	36.067	ES
Guttersen D 04-21(SI) - Guttersen D 04-21 - Wellbore #1	10,100.00	6,800.01	1,797.59	1,747.56	35.926	SF
Guttersen D03-33D - Wellbore #1 - Wellbore #1- As Drill	11,028.78	6,963.36	465.02	394.09	6.556	CC, ES, SF
Guttersen D04-30D - Plan B - Plan B	1,104.08	1,112.11	3,325.70	3,319.35	523.886	CC, ES
Guttersen D04-30D - Plan B - Plan B	7,600.00	6,951.18	4,644.63	4,595.17	93.909	SF
Guttersen D04-31D - Plan B - Plan B	908.99	917.00	3,332.02	3,327.10	676.020	CC, ES
Guttersen D04-31D - Plan B - Plan B	9,900.00	7,153.04	4,863.62	4,799.02	75.285	SF
Guttersen D04-69HN - Original Drilling - Original Drilling	7,050.00	10,716.25	47.16	-64.84	0.421	Level 1, ES, SF
Guttersen D04-69HN - Original Drilling - Original Drilling	7,073.47	10,719.10	41.44	-29.20	0.587	Level 1, CC
Karch Blue D04-02 - Wellbore #1 - Wellbore #1- As Drille	7,920.05	6,929.04	1,148.43	1,097.09	22.368	CC, ES, SF
Karch Blue D04-07 - Wellbore #1 - Wellbore #1- As Drille	9,244.40	6,893.10	1,346.53	1,289.79	23.732	CC, ES
Karch Blue D04-07 - Wellbore #1 - Wellbore #1- As Drille	9,300.00	6,892.60	1,347.67	1,290.82	23.702	SF
Karch D04-17 - Wellbore #1 - Wellbore #1- As Drilled	8,532.23	6,861.93	639.54	586.49	12.056	CC, ES, SF
MARIE #D4-11(PR) - MARIE #D4-11 - No Surveys	10,493.67	6,870.00	2,427.41	2,250.13	13.692	CC
MARIE #D4-11(PR) - MARIE #D4-11 - No Surveys	10,500.00	6,870.00	2,427.42	2,250.11	13.690	ES
MARIE #D4-11(PR) - MARIE #D4-11 - No Surveys	10,600.00	6,870.00	2,429.74	2,252.04	13.673	SF
MARIE D #04-20(PR) - MARIE D #04-20 - No Surveys	9,824.02	6,880.00	3,283.06	3,109.67	18.935	CC, ES
MARIE D #04-20(PR) - MARIE D #04-20 - No Surveys	10,100.00	6,880.00	3,294.64	3,120.12	18.878	SF
MARIE D #4-12(PR) - MARIE D #4-12 - No Surveys	10,522.53	6,882.00	3,858.77	3,681.06	21.713	CC, ES
MARIE D #4-12(PR) - MARIE D #4-12 - No Surveys	10,900.00	6,882.00	3,877.19	3,697.70	21.601	SF
MARIE D #4-13 (PR) - MARIE D #4-13 - No Surveys	11,859.67	6,876.00	3,738.03	3,551.39	20.028	CC, ES
MARIE D #4-13 (PR) - MARIE D #4-13 - No Surveys	12,200.00	6,876.00	3,753.49	3,565.14	19.929	SF
MARIE D #4-14(PR) - MARIE D #4-14 - No Surveys	11,845.60	6,874.00	2,590.88	2,404.38	13.892	CC, ES
MARIE D #4-14(PR) - MARIE D #4-14 - No Surveys	12,000.00	6,874.00	2,595.48	2,408.32	13.868	SF
MARIE D #4-19 (SI) - MARIE D #4-19 - No Surveys	2,200.00	2,181.00	2,648.87	2,597.59	51.662	CC
MARIE D #4-19 (SI) - MARIE D #4-19 - No Surveys	2,300.00	2,280.98	2,650.13	2,596.50	49.422	ES
MARIE D #4-19 (SI) - MARIE D #4-19 - No Surveys	8,600.00	6,890.00	3,019.49	2,852.35	18.066	SF
MARIE D #4-25(PR) - MARIE D #4-25 - No Surveys	11,058.08	6,875.00	3,196.92	3,015.83	17.654	CC, ES
MARIE D #4-25(PR) - MARIE D #4-25 - No Surveys	11,300.00	6,875.00	3,206.06	3,023.86	17.597	SF
MARIE D #4-3(SI) - MARIE D #4-3 - No Surveys	2,200.00	2,163.00	1,926.47	1,875.56	37.838	CC
MARIE D #4-3(SI) - MARIE D #4-3 - No Surveys	2,300.00	2,262.98	1,927.83	1,874.57	36.195	ES
MARIE D #4-3(SI) - MARIE D #4-3 - No Surveys	7,900.00	6,872.00	2,564.67	2,400.36	15.609	SF
MARIE D #4-4(SI) - MARIE D #4-4 - No Surveys	2,200.00	2,183.00	3,131.59	3,080.28	61.029	CC
MARIE D #4-4(SI) - MARIE D #4-4 - No Surveys	2,300.00	2,282.98	3,133.18	3,079.52	58.387	ES
MARIE D #4-4(SI) - MARIE D #4-4 - No Surveys	8,000.00	6,892.00	3,936.72	3,771.75	23.864	SF
MARIE D #4-5(SI) - MARIE D #4-5 - No Surveys	2,200.00	2,178.00	3,796.53	3,745.32	74.131	CC
MARIE D #4-5(SI) - MARIE D #4-5 - No Surveys	2,300.00	2,277.98	3,797.82	3,744.26	70.904	ES
MARIE D #4-5(SI) - MARIE D #4-5 - No Surveys	9,582.77	6,887.00	3,978.55	3,806.93	23.182	SF
MARIE D #4-6(SI) - MARIE D #4-6 - No Surveys	9,217.79	6,871.00	2,619.51	2,449.52	15.410	CC, ES
MARIE D #4-6(SI) - MARIE D #4-6 - No Surveys	9,380.48	6,871.00	2,624.56	2,453.98	15.386	SF
Marie D04-09 - Wellbore #1 - Wellbore #1- As Drilled	10,457.34	6,868.87	20.56	-42.84	0.324	Level 1, 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 D09-721
Project:	Mustang	TVD Reference:	Well @ 4752.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4752.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D09-721	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen D09-721	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 04						
Marie D04-10 - Wellbore #1 - Wellbore #1- As Drilled	10,628.95	6,884.56	1,251.72	1,187.03	19.352	CC, ES
Marie D04-10 - Wellbore #1 - Wellbore #1- As Drilled	10,700.00	6,884.68	1,253.73	1,188.95	19.351	SF
Marie D04-15 - Wellbore #1 - Wellbore #1- As Drilled	11,819.95	6,878.84	1,291.04	1,218.33	17.754	CC, ES, SF
Marie D04-16 - Wellbore #1 - Wellbore #1- As Drilled	11,737.66	6,870.99	32.46	-39.70	0.450	Level 1, CC, ES, SF
Marie D04-23 - Wellbore #1 - Wellbore #1-As Drilled	11,145.13	6,877.53	646.33	578.27	9.497	CC, ES, SF
Marie D04-72-1HN - Original Drilling - Original Drilling - A	7,700.00	11,395.00	383.21	272.28	3.455	SF
Marie D04-72-1HN - Original Drilling - Original Drilling - A	9,582.77	9,521.95	328.38	240.56	3.739	ES
Marie D04-72-1HN - Original Drilling - Original Drilling - A	9,626.18	9,480.20	328.23	240.88	3.757	CC
Marie D04-73-1HN - Original Drilling - Original Drilling - A	7,701.60	11,125.90	479.05	378.38	4.758	CC, ES, SF
Marie D04-74-1HN - Original Drilling - Original Drilling - P	12,392.92	6,922.14	975.18	900.43	13.047	CC, ES
Marie D04-74-1HN - Original Drilling - Original Drilling - P	12,400.00	6,922.16	975.20	900.45	13.046	SF
Marie D04-74-1HN - Original Drilling - ST01 - ST-01- As	7,691.62	11,217.00	957.73	891.56	14.475	CC
Marie D04-74-1HN - Original Drilling - ST01 - ST-01- As	11,823.54	7,115.36	959.19	890.83	14.032	ES
Marie D04-74-1HN - Original Drilling - ST01 - ST-01- As	12,000.00	6,955.09	961.14	892.36	13.975	SF
Two E Ranch 01-04 - Wellbore #1 - Wellbore #1- As Drill	7,893.81	6,860.57	280.14	229.43	5.525	CC, ES, SF

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersten D09-721
Project:	Mustang	TVD Reference:	Well @ 4752.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4752.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersten D09-721	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersten D09-721	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 05						
BECKER #15-9I(PR) - Wellbore #1 - Gyro Surveys	11,102.37	6,873.12	7,326.18	7,258.48	108.212	CC, ES
BECKER #15-9I(PR) - Wellbore #1 - Gyro Surveys	14,000.00	6,839.24	7,878.32	7,795.92	95.610	SF
BECKER #5-13(PA) - Wellbore #1 - No Surveys	2,200.00	2,216.00	7,842.37	7,815.38	290.547	CC
BECKER #5-13(PA) - Wellbore #1 - No Surveys	10,700.00	6,925.00	7,885.95	7,784.34	77.613	ES
BECKER #5-13(PA) - Wellbore #1 - No Surveys	13,400.00	6,925.00	8,355.84	8,239.88	72.058	SF
BECKER #5-14(PA) - Wellbore #1 - Gyro Surveys	11,798.34	6,760.76	9,149.81	9,077.83	127.108	CC
BECKER #5-14(PA) - Wellbore #1 - Gyro Surveys	11,900.00	6,757.79	9,150.38	9,077.76	126.007	ES
BECKER #5-14(PA) - Wellbore #1 - Gyro Surveys	13,400.00	13,400.00	9,288.72	9,183.78	88.520	SF
BECKER #5-16(PA) - Wellbore #1 - Gyro Surveys	10,498.52	7,005.74	5,427.00	5,362.62	84.304	CC
BECKER #5-16(PA) - Wellbore #1 - Gyro Surveys	10,500.00	7,005.76	5,427.00	5,362.61	84.294	ES
BECKER #5-16(PA) - Wellbore #1 - Gyro Surveys	12,200.00	7,028.85	5,687.42	5,614.90	78.417	SF
BECKER #5-2(PA) - Wellbore #1 - Gyro Surveys	11,676.49	7,018.26	8,162.40	8,090.13	112.947	CC
BECKER #5-2(PA) - Wellbore #1 - Gyro Surveys	11,700.00	7,018.08	8,162.43	8,090.02	112.719	ES
BECKER #5-2(PA) - Wellbore #1 - Gyro Surveys	15,100.00	6,992.06	8,851.24	8,761.03	98.121	SF
BECKER #5-5(PA) - Wellbore #1 - Gyro Surveys	11,765.89	6,894.50	5,411.44	5,339.07	74.776	CC
BECKER #5-5(PA) - Wellbore #1 - Gyro Surveys	11,800.00	6,894.26	5,411.55	5,338.98	74.572	ES
BECKER #5-5(PA) - Wellbore #1 - Gyro Surveys	13,300.00	6,883.84	5,624.68	5,544.76	70.375	SF
BECKER #5-8(PR) - Wellbore #1 - Gyro Surveys	1,945.62	1,974.71	8,852.55	8,839.08	657.313	CC
BECKER #5-8(PR) - Wellbore #1 - Gyro Surveys	2,000.00	2,000.00	8,852.61	8,838.86	643.783	ES
BECKER #5-8(PR) - Wellbore #1 - Gyro Surveys	15,200.00	6,900.00	9,977.92	9,888.73	111.864	SF
BECKER #6(SI) - Wellbore #1 - Gyro Surveys	11,075.41	6,628.58	6,010.34	5,943.96	90.535	CC
BECKER #6(SI) - Wellbore #1 - Gyro Surveys	11,100.00	6,628.35	6,010.39	5,943.87	90.347	ES
BECKER #6(SI) - Wellbore #1 - Gyro Surveys	13,100.00	6,609.83	6,342.15	6,265.86	83.136	SF
Becker 5-1(PA) - Wellbore #1 - Gyro Surveys	10,544.60	6,882.06	6,632.90	6,568.83	103.530	CC
Becker 5-1(PA) - Wellbore #1 - Gyro Surveys	10,600.00	6,881.52	6,633.13	6,568.76	103.042	ES
Becker 5-1(PA) - Wellbore #1 - Gyro Surveys	13,100.00	6,857.13	7,108.08	7,031.53	92.857	SF
Becker 5-15(PA) - Wellbore #1 - Gyro Surveys	12,068.61	6,645.73	6,852.80	6,777.20	90.647	CC
Becker 5-15(PA) - Wellbore #1 - Gyro Surveys	12,100.00	6,643.89	6,852.87	6,777.10	90.440	ES
Becker 5-15(PA) - Wellbore #1 - Gyro Surveys	14,200.00	6,520.80	7,175.52	7,089.95	83.848	SF
Becker Ranch #5E-223 - Wellbore #1 - As Drilled	449.94	531.00	7,941.25	7,938.28	2,676.939	CC
Becker Ranch #5E-223 - Wellbore #1 - As Drilled	500.00	531.00	7,941.41	7,938.26	2,524.038	ES
Becker Ranch #5E-223 - Wellbore #1 - As Drilled	14,600.00	11,398.00	9,687.11	9,540.90	66.253	SF
Becker Ranch #5E-403 - As Drilled - As Drilled	0.00	51.00	7,949.15			
Becker Ranch #5E-403 - As Drilled - As Drilled	14,700.00	11,599.00	9,990.30	9,838.08	65.631	SF
Becker Ranch #5J-103 - Wellbore #1 - As Drilled	2,300.08	2,654.10	7,803.85	7,786.57	451.768	CC, ES
Becker Ranch #5J-103 - Wellbore #1 - As Drilled	12,700.00	8,438.00	9,351.60	9,265.06	108.069	SF
Becker Ranch #5J-203 - Wellbore #1 - Plan #1	100.00	178.00	6,648.35	6,647.79	10,000.000	CC, ES
Becker Ranch #5J-203 - Wellbore #1 - Plan #1	14,800.00	11,568.80	8,791.37	8,679.75	78.762	SF
Becker Ranch #5J-303 - Wellbore #1 - As Drilled	2,232.70	2,406.03	7,848.92	7,832.67	483.033	CC
Becker Ranch #5J-303 - Wellbore #1 - As Drilled	2,310.12	2,694.56	7,849.43	7,831.87	447.071	ES
Becker Ranch #5J-303 - Wellbore #1 - As Drilled	13,900.00	11,473.00	8,877.49	8,731.37	60.756	SF
Becker Ranch #5J-323 - Wellbore #1 - As Drilled	0.00	49.77	6,651.96			
Becker Ranch #5J-323 - Wellbore #1 - As Drilled	13,800.00	11,430.00	8,225.37	8,079.57	56.416	SF
Becker Ranch #5J-323R - Wellbore #1 - Plan #1	600.00	676.00	6,653.40	6,649.26	1,607.663	CC
Becker Ranch #5J-323R - Wellbore #1 - Plan #1	700.00	700.00	6,653.83	6,649.25	1,451.821	ES
Becker Ranch #5J-323R - Wellbore #1 - Plan #1	14,600.00	11,454.00	8,418.94	8,310.01	77.286	SF
Becker Ranch #5J-343 - Wellbore #1 - As Drilled	615.19	696.24	7,913.30	7,909.15	1,908.582	CC
Becker Ranch #5J-343 - Wellbore #1 - As Drilled	1,000.00	1,032.82	7,913.77	7,907.04	1,176.326	ES
Becker Ranch #5J-343 - Wellbore #1 - As Drilled	14,200.00	11,500.00	9,259.79	9,112.64	62.928	SF
Becker Ranch #5M-203 - Wellbore #1 - Plan #1	402.03	444.53	5,479.66	5,477.06	2,107.543	CC
Becker Ranch #5M-203 - Wellbore #1 - Plan #1	500.00	500.00	5,479.82	5,476.67	1,739.523	ES
Becker Ranch #5M-203 - Wellbore #1 - Plan #1	14,000.00	11,268.00	7,350.71	7,244.50	69.210	SF
Becker Ranch #5M-243 - Wellbore #1 - Plan #1	1,400.00	1,478.00	6,655.02	6,645.14	673.743	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 D09-721
Project:	Mustang	TVD Reference:	Well @ 4752.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4752.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D09-721	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen D09-721	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-243 - Wellbore #1 - Plan #1	1,600.00	1,640.96	6,655.52	6,644.34	595.464	ES
Becker Ranch #5M-243 - Wellbore #1 - Plan #1	14,300.00	11,282.50	8,017.41	7,911.06	75.387	SF
Becker Ranch #5M-303 - Wellbore #1 - Plan #1	2,506.25	3,308.62	6,603.19	6,582.96	326.366	CC, ES
Becker Ranch #5M-303 - Wellbore #1 - Plan #1	14,000.00	11,462.20	7,619.66	7,514.70	72.592	SF
Becker Ranch #5M-323 - Wellbore #1 - Plan #1	1,402.03	1,444.53	5,418.73	5,408.96	554.661	CC
Becker Ranch #5M-323 - Wellbore #1 - Plan #1	1,500.00	1,500.00	5,418.90	5,408.58	525.124	ES
Becker Ranch #5M-323 - Wellbore #1 - Plan #1	13,800.00	11,315.70	6,899.58	6,795.28	66.153	SF
Becker Ranch #5M-423 - Wellbore #1 - Plan #1	902.03	944.53	5,449.19	5,443.01	881.071	CC
Becker Ranch #5M-423 - Wellbore #1 - Plan #1	1,000.00	1,000.00	5,449.36	5,442.63	809.147	ES
Becker Ranch #5M-423 - Wellbore #1 - Plan #1	13,900.00	11,437.50	7,123.74	7,018.19	67.490	SF
Becker Ranch #5R-203 - Wellbore #1 - Plan #1	902.03	944.53	4,404.30	4,398.12	712.125	CC
Becker Ranch #5R-203 - Wellbore #1 - Plan #1	1,000.00	1,000.00	4,404.51	4,397.77	654.007	ES
Becker Ranch #5R-203 - Wellbore #1 - Plan #1	13,300.00	11,257.60	5,881.96	5,780.28	57.846	SF
Becker Ranch #5R-243 - Wellbore #1 - Plan #1	2,200.00	2,241.50	5,391.04	5,375.56	348.104	CC, ES
Becker Ranch #5R-243 - Wellbore #1 - Plan #1	13,600.00	11,231.80	6,623.26	6,520.64	64.541	SF
Becker Ranch #5R-203 - Wellbore #1 - Plan #1	2,409.53	2,832.20	5,226.95	5,208.69	286.265	CC, ES
Becker Ranch #5R-303 - Wellbore #1 - Plan #1	13,300.00	11,308.90	6,154.97	6,053.75	60.808	SF
Becker Ranch #5R-323 - Wellbore #1 - Plan #1	2,200.00	2,243.50	4,373.97	4,358.47	282.300	CC, ES
Becker Ranch #5R-323 - Wellbore #1 - Plan #1	13,200.00	11,332.80	5,654.55	5,553.71	56.075	SF
Becker Ranch #5R-443 - Wellbore #1 - Plan #1	2,200.00	2,245.00	5,418.73	5,403.24	349.710	CC, ES
Becker Ranch #5R-443 - Wellbore #1 - Plan #1	13,600.00	11,417.20	6,563.99	6,460.95	63.701	SF
Becker Ranch #5U-243 - Wellbore #1 - Plan #1	2,343.36	2,601.34	4,329.86	4,312.63	251.334	CC, ES
Becker Ranch #5U-243 - Wellbore #1 - Plan #1	13,000.00	11,243.60	5,261.00	5,161.81	53.037	SF
Becker Ranch #5U-303 - Wellbore #1 - Plan #1	2,568.51	3,142.55	4,094.49	4,074.57	205.525	CC
Becker Ranch #5U-303 - Wellbore #1 - Plan #1	2,600.00	3,174.01	4,094.66	4,074.51	203.253	ES
Becker Ranch #5U-303 - Wellbore #1 - Plan #1	12,800.00	11,348.00	4,818.36	4,719.82	48.896	SF
Becker Ranch #5U-443 - Wellbore #1 - Plan #1	2,521.97	3,038.47	4,207.86	4,188.54	217.738	CC, ES
Becker Ranch #5U-443 - Wellbore #1 - Plan #1	12,900.00	11,407.70	5,036.77	4,937.44	50.707	SF
LDS #D08-18D(PR) - Wellbore #1 - MWD Surveys	13,873.99	7,397.83	7,117.73	7,016.16	70.080	CC
LDS #D08-18D(PR) - Wellbore #1 - MWD Surveys	13,900.00	7,397.64	7,117.78	7,016.10	70.002	ES
LDS #D08-18D(PR) - Wellbore #1 - MWD Surveys	15,200.00	7,388.23	7,240.19	7,133.80	68.059	SF
LDS #D08-29(SI) - Wellbore #1 - Gyro Surveys	12,299.32	6,871.75	8,424.73	8,348.66	110.744	CC
LDS #D08-29(SI) - Wellbore #1 - Gyro Surveys	12,400.00	6,870.98	8,425.33	8,348.61	109.820	ES
LDS #D08-29(SI) - Wellbore #1 - Gyro Surveys	15,800.00	6,855.10	9,123.06	9,028.40	96.375	SF
LDS D08-28D(PR) - Wellbore #1 - MWD Surveys	12,000.00	12,000.00	7,429.34	7,337.62	80.995	ES, SF
LDS D08-28D(PR) - Wellbore #1 - MWD Surveys	12,377.51	7,067.37	7,419.83	7,341.68	94.952	CC
LDS D08-30D(SI) - Wellbore #1 - MWD Surveys	716.15	729.16	9,343.21	9,338.66	2,056.853	CC
LDS D08-30D(SI) - Wellbore #1 - MWD Surveys	800.00	771.00	9,343.47	9,338.48	1,872.226	ES
LDS D08-30D(SI) - Wellbore #1 - MWD Surveys	13,600.00	3,814.45	9,989.53	9,917.50	138.684	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 Guttersten D09-721
Project:	Mustang	TVD Reference:	Well @ 4752.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4752.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersten D09-721	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersten D09-721	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	17,566.03	12,424.50	4,904.95	4,750.70	31.799	CC, ES, SF
Becker D17-725 - Wellbore #1 - Plan #1	17,566.03	12,250.10	5,554.98	5,401.28	36.141	CC, ES, SF
Becker D17-730 - Wellbore #1 - Plan #1	17,566.03	12,478.61	5,896.56	5,742.01	38.154	CC, ES, SF
Becker D17-735 - Wellbore #1 - Plan #1	17,566.03	12,365.99	6,201.05	6,047.29	40.331	CC, ES, SF
Becker D17-745 - Wellbore #1 - Plan #1	2,105.56	2,130.56	6,318.98	6,304.26	429.301	CC
Becker D17-745 - Wellbore #1 - Plan #1	2,200.00	2,200.00	6,319.03	6,303.72	412.829	ES
Becker D17-745 - Wellbore #1 - Plan #1	17,566.03	12,316.36	6,850.68	6,697.21	44.638	SF
Becker D17-750 - Wellbore #1 - Plan #1	2,200.00	2,225.00	6,336.41	6,321.02	411.553	CC, ES
Becker D17-750 - Wellbore #1 - Plan #1	17,566.03	12,582.18	7,172.97	7,019.29	46.675	SF
Becker D17-755 - Wellbore #1 - Plan #1	17,566.03	12,553.45	7,497.10	7,344.25	49.050	CC, ES, SF
Becker D17-765 - Wellbore #1 - Plan #1	17,566.03	12,285.97	8,146.14	7,977.87	48.412	CC, ES, SF
Becker D17-770 - Wellbore #1 - Plan #1	17,566.03	12,417.91	8,469.03	8,300.48	50.247	CC, ES, SF
Becker D17-775 - Wellbore #1 - Plan #1	17,566.03	12,270.36	8,793.15	8,624.98	52.290	CC, ES, SF
Becker D17-785 - Wellbore #1 - Plan #1	1,904.64	1,953.64	9,164.37	9,151.00	685.708	CC
Becker D17-785 - Wellbore #1 - Plan #1	2,000.00	2,000.00	9,164.50	9,150.63	660.614	ES
Becker D17-785 - Wellbore #1 - Plan #1	17,566.03	12,169.38	9,441.66	9,289.55	62.071	SF
HSR-ALVIN DECHANT #12-8 (SI) - Wellbore #1 - No Su	15,773.78	6,919.00	9,033.21	8,894.34	65.046	CC
HSR-ALVIN DECHANT #12-8 (SI) - Wellbore #1 - No Su	15,800.00	6,919.00	9,033.25	8,894.19	64.960	ES
HSR-ALVIN DECHANT #12-8 (SI) - Wellbore #1 - No Su	17,566.03	6,919.00	9,209.29	9,059.26	61.381	SF
HSR-ALVIN DECHANT #13-8(SI) - Wellbore #1 - No Sur	17,359.29	6,908.00	9,105.50	8,954.28	60.215	CC
HSR-ALVIN DECHANT #13-8(SI) - Wellbore #1 - No Sur	17,400.00	6,908.00	9,105.59	8,954.08	60.100	ES
HSR-ALVIN DECHANT #13-8(SI) - Wellbore #1 - No Sur	17,566.03	6,908.00	9,107.85	8,955.17	59.656	SF
HSR-LDS #14-8(SI) - Wellbore #1 - No Surveys	16,829.73	6,899.00	7,969.26	7,822.29	54.226	CC
HSR-LDS #14-8(SI) - Wellbore #1 - No Surveys	16,900.00	6,899.00	7,969.57	7,822.11	54.048	ES
HSR-LDS #14-8(SI) - Wellbore #1 - No Surveys	17,566.03	6,899.00	8,003.20	7,851.41	52.725	SF
HSR-LDS #15-8(SI) - Wellbore #1 - No Surveys	17,098.34	6,896.00	6,534.03	6,384.97	43.837	CC
HSR-LDS #15-8(SI) - Wellbore #1 - No Surveys	17,100.00	6,896.00	6,534.03	6,384.96	43.833	ES
HSR-LDS #15-8(SI) - Wellbore #1 - No Surveys	17,566.03	6,896.00	6,550.74	6,398.70	43.084	SF
HSR-LDS #16-8(SI) - Wellbore #1 - No Surveys	17,207.42	6,895.00	5,175.89	5,025.99	34.528	CC, ES
HSR-LDS #16-8(SI) - Wellbore #1 - No Surveys	17,566.03	6,895.00	5,188.30	5,036.24	34.119	SF
HSR-LDS #3-8(SI) - Wellbore #1 - No Surveys	13,325.07	6,897.00	7,968.03	7,848.06	66.418	CC
HSR-LDS #3-8(SI) - Wellbore #1 - No Surveys	13,400.00	6,897.00	7,968.38	7,847.92	66.147	ES
HSR-LDS #3-8(SI) - Wellbore #1 - No Surveys	15,700.00	6,897.00	8,314.43	8,181.04	62.331	SF
HSR-LDS #4-8(SI) - Wellbore 1 - No Surveys	13,483.06	6,922.00	9,105.31	8,983.95	75.023	CC
HSR-LDS #4-8(SI) - Wellbore 1 - No Surveys	13,500.00	6,922.00	9,105.33	8,983.85	74.953	ES
HSR-LDS #4-8(SI) - Wellbore 1 - No Surveys	16,500.00	6,922.00	9,592.12	9,453.41	69.155	SF
HSR-LDS #5-8(SI) - Wellbore #1 - No Surveys	14,635.97	6,915.00	9,263.21	9,133.17	71.230	CC
HSR-LDS #5-8(SI) - Wellbore #1 - No Surveys	14,700.00	6,915.00	9,263.43	9,132.94	70.990	ES
HSR-LDS #5-8(SI) - Wellbore #1 - No Surveys	17,500.00	6,915.00	9,695.86	9,549.15	66.087	SF
HSR-LDS #6-8(SI) - Wellbore #1 - No Surveys	14,569.87	6,895.00	7,862.45	7,733.09	60.777	CC
HSR-LDS #6-8(SI) - Wellbore #1 - No Surveys	14,600.00	6,895.00	7,862.51	7,732.94	60.682	ES
HSR-LDS #6-8(SI) - Wellbore #1 - No Surveys	16,700.00	6,895.00	8,145.90	8,004.39	57.565	SF
HSR-LDS #9-8(SI) - Wellbore #1 - No Surveys	15,648.71	6,890.00	5,223.62	5,085.97	37.949	CC
HSR-LDS #9-8(SI) - Wellbore #1 - No Surveys	15,700.00	6,890.00	5,223.87	5,085.89	37.860	ES
HSR-LDS #9-8(SI) - Wellbore #1 - No Surveys	16,500.00	6,890.00	5,292.53	5,150.29	37.208	SF
HSR-LDS A #10-8(SI) - Wellbore #1 - No Surveys	15,931.70	6,894.00	6,454.56	6,314.68	46.141	CC
HSR-LDS A #10-8(SI) - Wellbore #1 - No Surveys	16,000.00	6,894.00	6,454.92	6,314.58	45.994	ES
HSR-LDS A #10-8(SI) - Wellbore #1 - No Surveys	17,200.00	6,894.00	6,577.99	6,430.96	44.740	SF
HSR-LDS A #11-8(SI) - Wellbore #1 - No Surveys	15,790.85	6,896.00	7,913.47	7,774.67	57.011	CC
HSR-LDS A #11-8(SI) - Wellbore #1 - No Surveys	15,800.00	6,896.00	7,913.48	7,774.61	56.985	ES
HSR-LDS A #11-8(SI) - Wellbore #1 - No Surveys	17,566.03	6,896.00	8,110.14	7,960.89	54.341	SF
LDS #18-8(SI) - Wellbore #1 - No Surveys	14,023.05	6,917.00	8,504.87	8,379.48	67.827	CC
LDS #18-8(SI) - Wellbore #1 - No Surveys	14,100.00	6,917.00	8,505.22	8,379.31	67.548	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 D09-721
Project:	Mustang	TVD Reference:	Well @ 4752.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4752.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Gutttersen D09-721	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Gutttersen D09-721	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	16,600.00	6,917.00	8,886.70	8,746.56	63.411	SF
LDS #20-8(SI) - Wellbore #1 - No Surveys	16,555.68	6,893.00	5,878.22	5,733.46	40.607	CC
LDS #20-8(SI) - Wellbore #1 - No Surveys	16,600.00	6,893.00	5,878.38	5,733.33	40.526	ES
LDS #20-8(SI) - Wellbore #1 - No Surveys	17,566.03	6,893.00	5,964.41	5,814.05	39.666	SF
LDS D #09-30(SI) - Wellbore #1 - No Surveys	12,719.33	6,884.00	4,758.96	4,643.58	41.247	CC, ES
LDS D #09-30(SI) - Wellbore #1 - No Surveys	13,600.00	6,884.00	4,839.76	4,719.86	40.365	SF
LDS D #09-31D(SI) - Wellbore #1 - No Surveys	12,743.76	6,884.00	4,760.93	4,645.37	41.200	CC
LDS D #09-31D(SI) - Wellbore #1 - No Surveys	12,800.00	6,884.00	4,761.26	4,645.37	41.084	ES
LDS D #09-31D(SI) - Wellbore #1 - No Surveys	13,600.00	6,884.00	4,837.31	4,717.33	40.318	SF
RUBY RED #D #8-1D(PA) - Wellbore #1 - Gyro Surveys	12,800.00	12,800.00	5,655.64	5,554.82	56.091	SF
RUBY RED #D #8-1D(PA) - Wellbore #1 - Gyro Surveys	13,547.25	6,852.62	5,606.06	5,520.89	65.824	CC
RUBY RED #D #8-1D(PA) - Wellbore #1 - Gyro Surveys	13,600.00	6,852.04	5,606.31	5,520.81	65.573	ES
RUBY RED #D 8-7(PR) - Wellbore #1 - Gyro Surveys	14,610.15	6,913.63	6,694.06	6,600.54	71.582	CC, ES
RUBY RED #D 8-7(PR) - Wellbore #1 - Gyro Surveys	16,400.00	6,895.78	6,929.19	6,826.09	67.211	SF
RUBY RED #D 8-8(PR) - Wellbore #1 - Gyro Surveys	14,607.58	6,850.00	5,046.56	4,953.39	54.162	CC, ES
RUBY RED #D 8-8(PR) - Wellbore #1 - Gyro Surveys	15,600.00	6,850.00	5,143.22	5,044.93	52.328	SF
RUBY RED D8-2(PA) - Wellbore #1 - Gyro Surveys	13,067.21	6,850.00	6,785.27	6,703.70	83.183	CC
RUBY RED D8-2(PA) - Wellbore #1 - Gyro Surveys	13,100.00	6,850.00	6,785.34	6,703.56	82.970	ES
RUBY RED D8-2(PA) - Wellbore #1 - Gyro Surveys	15,200.00	6,850.00	7,112.57	7,019.72	76.604	SF
TWO E RANCHES #1(PA) - Wellbore #1 - Gyro Surveys	16,227.74	6,800.00	8,819.77	8,714.27	83.603	CC
TWO E RANCHES #1(PA) - Wellbore #1 - Gyro Surveys	16,300.00	6,800.00	8,820.06	8,714.06	83.206	ES
TWO E RANCHES #1(PA) - Wellbore #1 - Gyro Surveys	17,566.03	6,800.00	8,920.72	8,806.66	78.208	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 D09-721
Project:	Mustang	TVD Reference:	Well @ 4752.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4752.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D09-721	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen D09-721	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 09						
ART RED #D 9-14(PR) - ART RED #D 9-14 - No Surveys	17,210.63	6,898.00	2,478.71	2,250.99	10.885	CC, ES
ART RED #D 9-14(PR) - ART RED #D 9-14 - No Surveys	17,300.00	6,898.00	2,480.32	2,252.19	10.873	SF
ART RED #D 9-3J(PA) - ART RED #D 9-3J - No Surveys	16,747.86	6,890.00	3,596.43	3,372.52	16.062	CC, ES
ART RED #D 9-3J(PA) - ART RED #D 9-3J - No Surveys	17,000.00	6,890.00	3,605.26	3,380.03	16.007	SF
ART RED #D 9-4J(PR) - ART RED #D 9-4J - No Surveys	16,056.48	6,888.00	370.10	151.64	1.694	CC, ES, SF
ART RED D #9-10(PR) - ART RED D #9-10 - No Surveys	15,706.72	6,894.00	1,222.17	1,006.32	5.662	CC, ES, SF
ART RED D #9-11(PR) - ART RED D #9-11 - No Surveys	15,776.53	6,886.00	2,595.02	2,378.79	12.001	CC
ART RED D #9-11(PR) - ART RED D #9-11 - No Surveys	15,800.00	6,886.00	2,595.13	2,378.77	11.995	ES
ART RED D #9-11(PR) - ART RED D #9-11 - No Surveys	15,900.00	6,886.00	2,597.96	2,381.16	11.983	SF
Art Red D 9-16 (PR) - Wellbore #1 - Gyro Surveys	17,157.96	6,907.67	242.24	129.18	2.143	CC, ES, SF
FRONT RANGE #D09-20D(PR) - FRONT RANGE #D09	15,215.52	7,267.32	3,229.43	3,120.78	29.723	CC, ES
FRONT RANGE #D09-20D(PR) - FRONT RANGE #D09	15,700.00	7,269.58	3,265.57	3,153.24	29.070	SF
FRONT RANGE #D09-25D(PR) - FRONT RANGE #D09	16,326.35	7,112.61	3,070.14	2,961.47	28.252	CC, ES
FRONT RANGE #D09-25D(PR) - FRONT RANGE #D09	16,700.00	7,111.82	3,092.80	2,982.02	27.918	SF
FRONT RANGE #D09-32D(PR) - FRONT RANGE #D09	15,198.62	7,151.99	4,472.17	4,364.79	41.647	CC
FRONT RANGE #D09-32D(PR) - FRONT RANGE #D09	15,200.00	7,152.00	4,472.17	4,364.78	41.644	ES
FRONT RANGE #D09-32D(PR) - FRONT RANGE #D09	15,800.00	7,153.30	4,512.42	4,402.12	40.909	SF
FRONT RANGE D #09-28(SI) - FRONT RANGE D #09-2	12,687.99	6,879.00	1,940.65	1,748.00	10.073	CC
FRONT RANGE D #09-28(SI) - FRONT RANGE D #09-2	12,700.00	6,879.00	1,940.69	1,747.99	10.071	ES
FRONT RANGE D #09-28(SI) - FRONT RANGE D #09-2	12,800.00	6,879.00	1,943.88	1,750.84	10.070	SF
FRONT RANGE D #09-33(PR) - FRONT RANGE D #09-	16,495.63	6,895.00	4,382.36	4,160.32	19.737	CC
FRONT RANGE D #09-33(PR) - FRONT RANGE D #09-	16,500.00	6,895.00	4,382.36	4,160.30	19.735	ES
FRONT RANGE D #09-33(PR) - FRONT RANGE D #09-	16,900.00	6,895.00	4,400.97	4,176.71	19.624	SF
FRONT RANGE D #16-29(SI) - FRONT RANGE D #16-2	17,566.03	6,800.01	3,337.64	3,231.50	31.446	CC, ES, SF
FRONT RANGE D #16-30(SI) - FRONT RANGE D #16-3	17,376.11	6,896.00	4,310.46	4,081.47	18.824	CC
FRONT RANGE D #16-30(SI) - FRONT RANGE D #16-3	17,400.00	6,896.00	4,310.52	4,081.39	18.812	ES
FRONT RANGE D #16-30(SI) - FRONT RANGE D #16-3	17,566.03	6,896.00	4,314.64	4,084.53	18.751	SF
GITTLEIN #18-9(PR) - GITTLEIN #18-9 - No Surveys	14,031.53	7,001.25	3,494.95	3,405.80	39.201	CC, ES
GITTLEIN #18-9(PR) - GITTLEIN #18-9 - No Surveys	14,500.00	7,001.25	3,526.21	3,434.78	38.566	SF
GITTLEIN #D 9-7(PR) - GITTLEIN #D 9-7 - No Survey	14,579.05	6,842.00	1,440.13	1,234.03	6.987	CC, ES
GITTLEIN #D 9-7(PR) - GITTLEIN #D 9-7 - No Survey	14,600.00	6,842.00	1,440.28	1,234.12	6.986	SF
GITTLEIN WHITE #D 9-2(SI) - GITTLEIN WHITE #D 9-2	13,126.68	6,876.00	1,155.82	960.00	5.902	CC, ES, SF
GITTLEIN-UPRC #9-12(PA) - GITTLEIN-UPRC #9-12 - V	15,805.18	6,883.01	3,720.95	3,629.71	40.785	CC, ES
GITTLEIN-UPRC #9-12(PA) - GITTLEIN-UPRC #9-12 - V	16,300.00	6,883.01	3,753.70	3,660.13	40.116	SF
GUTTERSEN #9-15(PR) - GUTTERSEN #9-15 - No Sur	17,080.61	6,889.00	1,262.79	1,036.28	5.575	CC, ES
GUTTERSEN #9-15(PR) - GUTTERSEN #9-15 - No Sur	17,100.00	6,889.00	1,262.94	1,036.39	5.575	SF
GUTTERSEN D #09-09(PR) - GUTTERSEN D #09-09 -	15,604.89	6,882.00	173.50	-41.32	0.808	Level 1, CC, ES, SF
GUTTERSEN D #09-21(PR) - GUTTERSEN D #09-21 -	15,227.31	6,886.00	1,882.73	1,670.75	8.882	CC, ES
GUTTERSEN D #09-21(PR) - GUTTERSEN D #09-21 -	15,300.00	6,886.00	1,884.13	1,671.90	8.878	SF
GUTTERSEN D #09-22(SI) - GUTTERSEN D #09-22 - N	15,136.94	6,889.00	630.46	419.13	2.983	CC, ES, SF
GUTTERSEN D #09-24(PR) - GUTTERSEN D #09-24 -	16,395.62	6,898.00	1,781.31	1,560.00	8.049	CC
GUTTERSEN D #09-24(PR) - GUTTERSEN D #09-24 -	16,400.00	6,898.00	1,781.32	1,559.99	8.048	ES, SF
GUTTERSEN D #16-28(PR) - GUTTERSEN D #16-28 -	17,566.03	6,893.00	2,008.00	1,777.30	8.704	CC, ES, SF
Guttersen D09-27D - Wellbore #1 - Wellbore #1- As Drill	12,300.00	7,003.07	636.00	553.11	7.673	SF
Guttersen D09-27D - Wellbore #1 - Wellbore #1- As Drill	12,370.96	7,003.10	632.03	549.96	7.701	CC, ES
Guttersen D10-30D - Wellbore #1 - Wellbore #1- As Drill	12,530.66	6,971.46	620.01	539.52	7.703	CC, ES, SF
HSR TIM GITTLEIN #3-9(SI) - HSR TIM GITTLEIN #3-9	13,146.33	6,879.00	2,604.46	2,408.43	13.286	CC, ES
HSR TIM GITTLEIN #3-9(SI) - HSR TIM GITTLEIN #3-9	13,300.00	6,879.00	2,608.99	2,412.28	13.263	SF
HSR TIM GITTLEIN #4-9(SI) - HSR TIM GITTLEIN #4-9	13,304.93	6,881.00	3,775.21	3,577.96	19.139	CC, ES
HSR TIM GITTLEIN #4-9(SI) - HSR TIM GITTLEIN #4-9	13,600.00	6,881.00	3,786.72	3,587.92	19.048	SF
HSR TIM GITTLEIN #5-9(SI) - HSR TIM GITTLEIN #5-9	14,341.32	6,883.00	3,769.14	3,564.03	18.376	CC, ES
HSR TIM GITTLEIN #5-9(SI) - HSR TIM GITTLEIN #5-9	14,700.00	6,883.00	3,786.17	3,579.21	18.294	SF
HSR TIM GITTLEIN #6-9(SI) - HSR TIM GITTLEIN #6-9	14,244.57	6,882.00	2,590.41	2,386.06	12.676	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 D09-721
Project:	Mustang	TVD Reference:	Well @ 4752.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4752.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D09-721	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen D09-721	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 09						
HSR TIM GITTLEIN #6-9(SI) - HSR TIM GITTLEIN #6-9	14,400.00	6,882.00	2,595.07	2,390.03	12.656	SF
KARCH WHITE #D 9-1(SI) - KARCH WHITE #D 9-1 - No	13,121.17	6,874.00	2.94	-192.80	0.015	Level 1, CC, ES, SF
KARCH WHITE #D 9-8(PR) - KARCH WHITE #D 9-8 - N	14,653.96	6,877.00	48.71	-158.67	0.235	Level 1, CC, ES, SF
ROADHOUSE D #9-17(SI) - ROADHOUSE D #9-17 - No	13,783.43	6,878.00	587.98	387.20	2.928	CC, ES, SF
D Section 10						
Duncan D 10-6 (SI) - Wellbore #1 - No Surveys	14,013.36	6,910.00	2,312.96	1,973.80	6.820	CC, ES
Duncan D 10-6 (SI) - Wellbore #1 - No Surveys	14,200.00	6,910.00	2,320.47	1,979.55	6.806	SF
Guttersen State D15-27 - Wellbore #1 - Wellbore #1 - As	17,513.60	6,921.49	4,735.00	4,618.76	40.733	CC
Guttersen State D15-27 - Wellbore #1 - Wellbore #1 - As	17,566.03	6,922.06	4,735.29	4,618.56	40.566	ES, SF
Karch Blue D 10-07 (SI) - Wellbore #1 - Gyro Surveys	14,488.39	6,919.11	3,866.27	3,773.74	41.783	CC
Karch Blue D 10-07 (SI) - Wellbore #1 - Gyro Surveys	14,500.00	6,919.05	3,866.29	3,773.65	41.734	ES
Karch Blue D 10-07 (SI) - Wellbore #1 - Gyro Surveys	15,400.00	6,914.68	3,972.29	3,872.94	39.984	SF
Karch Blue D 10-08 (SI) - Wellbore #1 - Gyro Surveys	14,686.59	6,898.12	5,167.89	4,884.36	18.227	CC
Karch Blue D 10-08 (SI) - Wellbore #1 - Gyro Surveys	14,700.00	6,898.22	5,167.91	4,884.25	18.219	ES
Karch Blue D 10-08 (SI) - Wellbore #1 - Gyro Surveys	15,400.00	6,903.49	5,216.90	4,927.30	18.014	SF
Karch State D 10-22 (SI) - Wellbore #1 - No Surveys	15,048.18	6,931.00	4,560.84	4,212.99	13.111	CC
Karch State D 10-22 (SI) - Wellbore #1 - No Surveys	15,100.00	6,931.00	4,561.14	4,212.81	13.095	ES
Karch State D 10-22 (SI) - Wellbore #1 - No Surveys	15,500.00	6,931.00	4,583.17	4,231.48	13.032	SF
Spike D 10-10 (SI) - Wellbore #1 - No Surveys	15,839.84	6,935.00	4,075.62	3,721.39	11.506	CC
Spike D 10-10 (SI) - Wellbore #1 - No Surveys	15,900.00	6,935.00	4,076.06	3,721.27	11.489	ES
Spike D 10-10 (SI) - Wellbore #1 - No Surveys	16,200.00	6,935.00	4,091.50	3,734.14	11.449	SF
Spike ST GWS D 10-12 (SI) - Wellbore #1 - No Surveys	15,762.62	6,921.00	1,285.60	932.76	3.644	CC, ES
Spike ST GWS D 10-12 (SI) - Wellbore #1 - No Surveys	15,800.00	6,921.00	1,286.15	932.84	3.640	SF
Spike ST GWS D 10-14 (PR) - Wellbore #1 - Gyro Surveys	17,240.39	6,946.99	2,680.03	2,566.38	23.582	CC, ES
Spike ST GWS D 10-14 (PR) - Wellbore #1 - Gyro Surveys	17,566.03	6,949.07	2,699.74	2,583.31	23.188	SF
Spike ST GWS D 10-16 (PA) - Wellbore #1 - No Surveys	17,065.71	6,935.00	5,270.51	5,043.19	23.186	CC
Spike ST GWS D 10-16 (PA) - Wellbore #1 - No Surveys	17,100.00	6,935.00	5,270.62	5,042.99	23.154	ES
Spike ST GWS D 10-16 (PA) - Wellbore #1 - No Surveys	17,566.03	6,935.00	5,294.21	5,062.66	22.865	SF
Spike State D 10-21D (SI) - Wellbore #1 - Wellbore #1	15,286.46	7,064.94	3,410.33	3,310.78	34.258	CC
Spike State D 10-21D (SI) - Wellbore #1 - Wellbore #1	15,300.00	7,064.91	3,410.36	3,310.69	34.219	ES
Spike State D 10-21D (SI) - Wellbore #1 - Wellbore #1	15,900.00	7,063.79	3,465.08	3,361.13	33.335	SF
Spike State D 10-23 (SI) - Wellbore #1 - No Surveys	16,390.57	6,940.00	4,729.58	4,370.87	13.185	CC
Spike State D 10-23 (SI) - Wellbore #1 - No Surveys	16,400.00	6,940.00	4,729.59	4,370.79	13.182	ES
Spike State D 10-23 (SI) - Wellbore #1 - No Surveys	16,900.00	6,940.00	4,756.94	4,393.94	13.105	SF
Spike State GWS D 10-13J (PR) - Wellbore #1 - No Surveys	16,287.22	6,929.00	1,936.42	1,579.01	5.418	CC
Spike State GWS D 10-13J (PR) - Wellbore #1 - No Surveys	16,300.00	6,929.00	1,936.46	1,578.91	5.416	ES
Spike State GWS D 10-13J (PR) - Wellbore #1 - No Surveys	16,400.00	6,929.00	1,939.70	1,581.14	5.410	SF
Spike State GWS D 10-15 (PA) - Wellbore #1 - No Surveys	16,932.04	7,106.00	4,611.26	4,396.08	21.430	CC
Spike State GWS D 10-15 (PA) - Wellbore #1 - No Surveys	17,000.00	7,106.00	4,611.76	4,395.97	21.372	ES
Spike State GWS D 10-15 (PA) - Wellbore #1 - No Surveys	17,566.03	7,106.00	4,654.64	4,434.17	21.113	SF
Two E Ranch 2-10 (PR) - Wellbore #1 - No Surveys	13,031.94	6,886.00	1,464.46	1,133.61	4.426	CC, ES
Two E Ranch 2-10 (PR) - Wellbore #1 - No Surveys	13,100.00	6,886.00	1,466.04	1,134.44	4.421	SF
Two E Ranch 4-10 (SI) - Wellbore #1 - No Surveys	14,494.69	6,903.00	1,460.44	1,117.92	4.264	CC
Two E Ranch 4-10 (SI) - Wellbore #1 - No Surveys	14,500.00	6,903.00	1,460.45	1,117.86	4.263	ES
Two E Ranch 4-10 (SI) - Wellbore #1 - No Surveys	14,600.00	6,903.00	1,464.23	1,120.58	4.261	SF
Volley State D 10-13 (PR) - Wellbore #1 - Gyro Surveys	17,192.73	6,883.84	1,258.17	1,144.63	11.081	CC
Volley State D 10-13 (PR) - Wellbore #1 - Gyro Surveys	17,200.00	6,883.90	1,258.19	1,144.55	11.072	ES
Volley State D 10-13 (PR) - Wellbore #1 - Gyro Surveys	17,300.00	6,884.81	1,262.73	1,148.07	11.012	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 D09-721
Project:	Mustang	TVD Reference:	Well @ 4752.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4752.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D09-721	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen D09-721	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						
Diggen State D16-23 (SI) - Wellbore #1 - Gyro Surveys	17,566.03	6,935.74	4,201.30	4,142.38	71.309	CC, ES, SF
Diggin State D 16-07 (SI) - Wellbore #1 - No Surveys	17,566.03	6,935.00	2,654.93	2,457.34	13.436	CC, ES, SF
Diggin State D 16-19J (PR) - Wellbore #1 - No Surveys	17,566.03	6,894.00	3,636.17	3,411.17	16.161	CC, ES, SF
Diggin State D16-13 (PR) - Wellbore #1 - Gyro Surveys	17,566.03	6,936.29	6,211.06	6,119.14	67.574	CC, ES, SF
Guttersen ST D 15-32 (SI) - Wellbore #1 - Gyro Surveys	17,566.03	6,929.09	2,996.45	2,940.57	53.621	CC, ES, SF
Guttersen ST D 16-21 (SI) - Wellbore #1 - Gyro Surveys	17,566.03	6,952.56	3,491.46	3,407.09	41.383	CC, ES, SF
Guttersen ST D 16-22D (SI) - Wellbore #1 - MWD Surve	17,566.03	7,039.56	2,864.69	2,799.04	43.632	CC, ES, SF
Guttersen ST D 16-33 (SI) - Wellbore #1 - No Surveys	17,566.03	6,909.00	6,073.02	5,858.87	28.359	CC, ES, SF
Guttersen State D 15-31 (PR) - Wellbore #1 - Gyro Surve	17,566.03	6,930.15	1,344.53	1,279.01	20.521	CC, ES, SF
Guttersen State D 15-33 (SI) - Wellbore #1 - Gyro Survey	17,566.03	6,895.39	4,219.62	4,164.82	76.995	CC, ES, SF
Guttersen State D 16-15X (PR) - Wellbore #1 - Gyro Sur	17,566.03	6,948.22	4,885.32	4,818.86	73.506	CC, ES, SF
Guttersen State D 16-18 (SI) - Wellbore #1 - No Surveys	17,566.03	6,909.00	2,412.43	2,193.85	11.037	CC, ES, SF
Guttersen State D 16-20 (SI) - Wellbore #1 - Gyro Survey	17,566.03	17,566.03	4,344.76	4,207.69	31.695	CC, ES, SF
Guttersen State D 16-24 (SI) - Wellbore #1 - Gyro Survey	17,566.03	6,940.01	4,489.73	4,413.13	58.617	CC, ES, SF
Guttersen State D 16-27 (PR) - Wellbore #1 - No Survey	17,566.03	6,905.00	772.11	551.31	3.497	CC, ES, SF
Guttersen State D 16-31 (PR) - Wellbore #1 - No Survey	17,566.03	6,905.00	4,630.66	4,402.59	20.304	CC, ES, SF
Guttersen State D 16-32D (SI) - Wellbore #1 - MWD Sur	17,566.03	7,100.45	5,235.82	5,122.19	46.078	CC, ES, SF
Guttersen State D16-63-1HN - Original Drilling - Original	17,566.03	7,151.01	4,540.16	4,483.33	79.886	CC, ES, SF
Guttersen State D16-65-1HN - Original Drilling - Original	17,566.03	7,180.27	3,216.17	3,158.93	56.187	CC, ES, SF
Spike ST GWS D 16-01 (SI) - Wellbore #1 - Gyro Survey	17,566.03	6,929.91	738.17	684.27	13.695	CC, ES, SF
Spike ST GWS D 16-02 (P&A) - Wellbore #1 - Gyro Surv	17,566.03	6,915.90	1,613.47	1,486.26	12.683	CC, ES, SF
Spike ST GWS D 16-03 (PR) - Wellbore #1 - No Surveys	17,566.03	6,903.00	2,725.02	2,496.55	11.927	CC, ES, SF
Spike ST GWS D 16-04 (SI) - Wellbore #1 - No Surveys	17,566.03	6,898.00	3,989.09	3,759.12	17.346	CC, ES, SF
Spike ST GWS D 16-05 (PR) - Wellbore #1 - Gyro Survey	17,566.03	6,899.17	4,524.87	4,416.27	41.666	CC, ES, SF
Spike ST GWS D 16-06 (SI) - Wellbore #1 - No Surveys	17,566.03	6,911.00	3,376.30	3,160.75	15.664	CC, ES, SF
Spike ST GWS D 16-08 (PR) - Wellbore #1 - Gyro Survey	17,566.03	6,926.40	2,233.97	2,180.31	41.631	CC, ES, SF
Spike ST GWS D 16-12 (PA) - Wellbore #1 - Gyro Survey	17,566.03	6,911.66	5,241.88	5,140.09	51.501	CC, ES, SF
Spike ST GWS D 16-14 (SI) - Wellbore #1 - No Surveys	17,566.03	6,944.00	5,639.45	5,446.48	29.225	CC, ES, SF
Spike ST GWS D 16-16 (SI) - Wellbore #1 - No Surveys	17,566.03	6,943.00	4,841.22	4,672.04	28.615	CC, ES, SF
Spike State D 16-10 (SI) - Wellbore #1 - Gyro Surveys	17,566.03	6,902.19	3,716.53	3,645.03	51.982	CC, ES, SF
Spike State D 16-11 (SI) - Wellbore #1 - Gyro Surveys	17,566.03	6,944.78	4,238.47	4,149.74	47.764	CC, ES, SF
Spike State D 16-9 (SI) - Wellbore #1 - Gyro Surveys	17,566.03	6,938.60	3,539.50	3,485.35	65.363	CC, ES, SF
Spike State D16-15 (P&A) - Wellbore #1 - Wellbore #1	17,566.03	7,058.79	4,960.11	4,881.74	63.292	CC, ES, SF
Spike State D16-99HZ - Original Drilling - Original Drilling	14,100.00	14,100.00	7,257.49	7,118.64	52.270	SF
Spike State D16-99HZ - Original Drilling - Original Drilling	17,566.03	7,117.40	3,795.37	3,737.79	65.907	CC, ES
Spike State GWS D 16-7J (PR) - Wellbore #1 - No Surve	17,566.03	6,928.00	1,557.92	1,368.79	8.237	CC, ES, SF
Spike State GWS D16-13J (PR) - Wellbore #1 - Gyro Su	17,566.03	6,925.68	5,362.54	5,272.01	59.229	CC, ES, SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersten D09-721
Project:	Mustang	TVD Reference:	Well @ 4752.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4752.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersten D09-721	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersten D09-721	Database:	EDMP
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to Well @ 4752.00ft

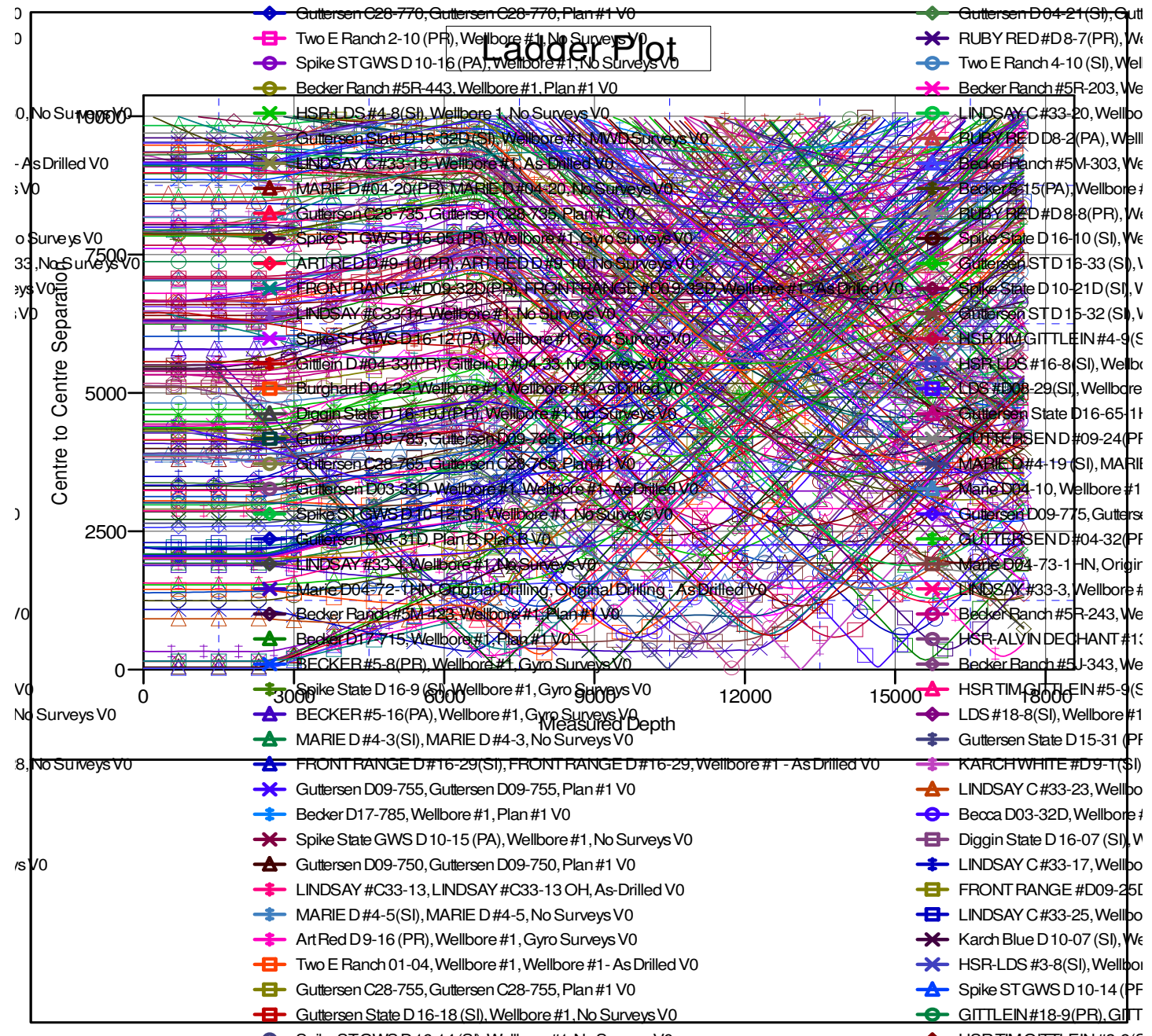
Coordinates are relative to: Guttersten D09-721

Offset Depths are relative to Offset Datum

Coordinate System is US State Plane 1983, Colorado Northern Zone

Central Meridian is -105.5000000

Grid Convergence at Surface is: 0.61°



Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersten D09-721
Project:	Mustang	TVD Reference:	Well @ 4752.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4752.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersten D09-721	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersten D09-721	Database:	EDMP
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to Well @ 4752.00ft
Offset Depths are relative to Offset Datum
Central Meridian is -105.5000000

Coordinates are relative to: Guttersten D09-721
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.61°

