

Project: Mustang
 Site: DD Section 30
 Well: Guttersen YY06-785
 Wellbore: Guttersen YY06-785
 Design: Plan #1

Northern Region - DJ Basin

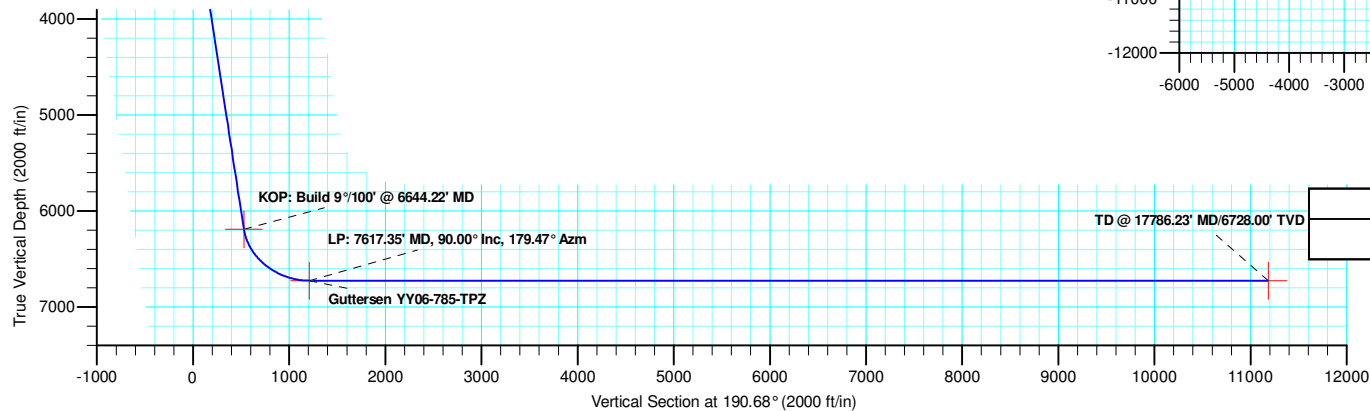
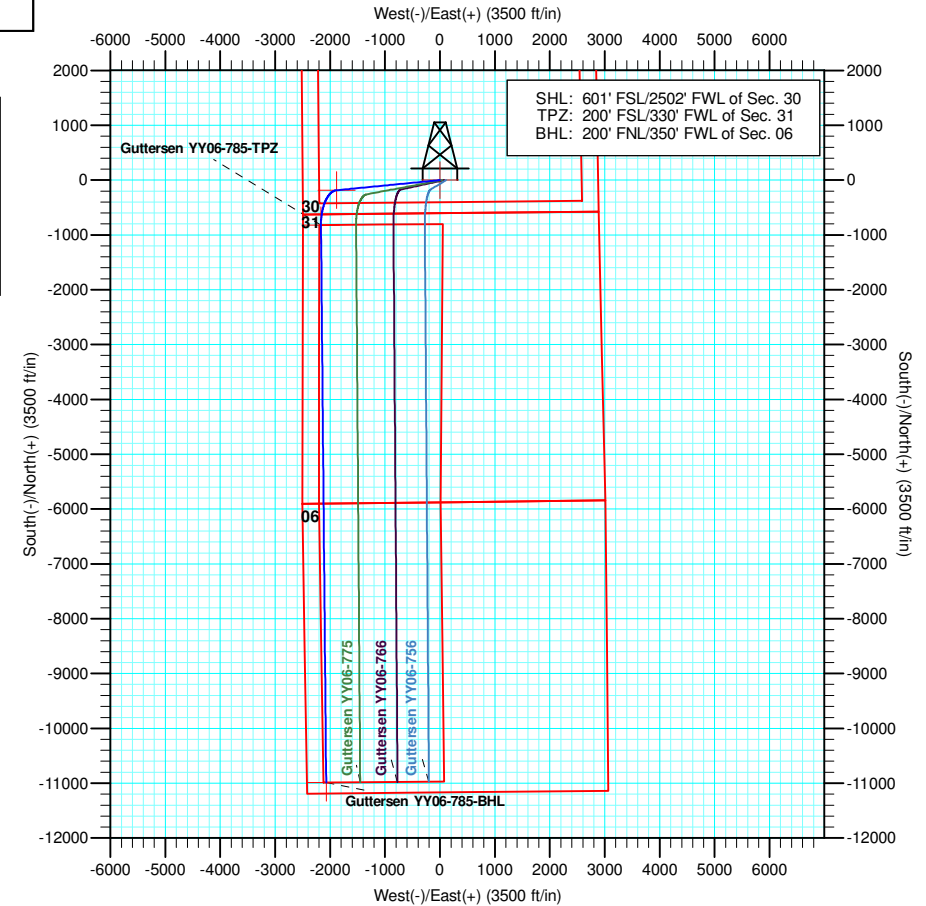
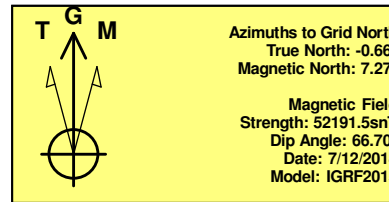
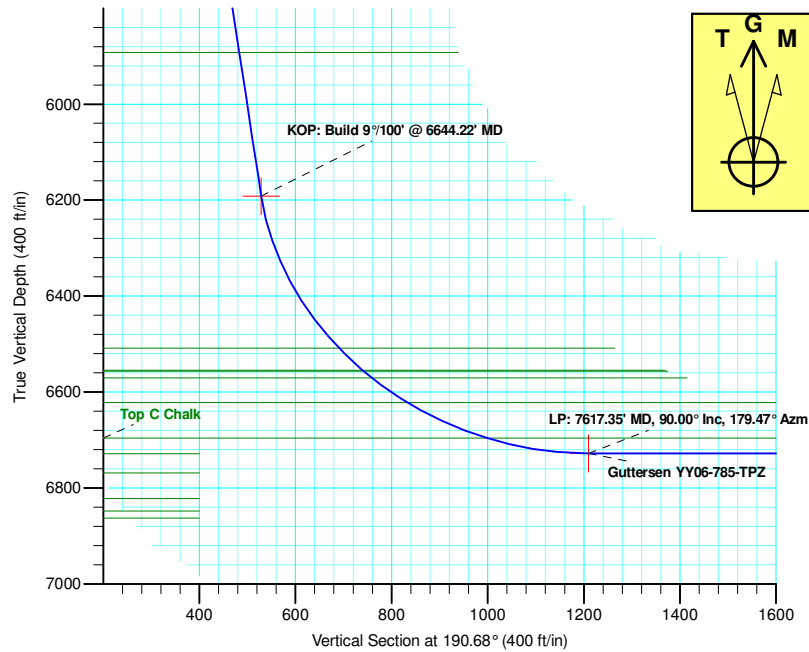
Geodetic System: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Zone: Colorado Northern Zone
 System Datum: Mean Sea Level

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	V Sect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	2000.00	0.00	0.00	2000.00	0.00	0.00	0.00	0.00	0.00	
3	3431.90	28.64	264.42	3373.02	-34.10	-348.80	2.00	264.42	98.13	
4	6644.22	28.64	264.42	6192.36	-183.89	-1881.08	0.00	0.00	529.20	
5	7617.35	90.00	179.47	6728.00	-822.62	-2166.53	9.00	-85.56	1209.75	Guttersen YY06-785-TPZ
6	17786.23	90.00	179.47	6728.00	-10991.07	-2072.07	0.00	0.00	11184.68	Guttersen YY06-785-BHL

WELL DETAILS: Guttersen YY06-785

+N/-S	+E/-W	Northing	Ground Level: Easting	4791.00 Latitude	Longitude	Slot
0.00	0.00	1313984.89	3284560.26	40.1907985	-104.4813984	



Plan: Plan #1 (Guttersen YY06-785/Guttersen YY06-785)

Created By: Keith Noack Date: 14:03, August 28 2018

Northern Region - DJ Basin

Mustang

DD Section 30

Guttersen YY06-785

Guttersen YY06-785

Plan: Plan #1

Standard Planning Report

28 August, 2018

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Guttersen YY06-785
Company:	Northern Region - DJ Basin	TVD Reference:	KB @ 4821.00ft
Project:	Mustang	MD Reference:	KB @ 4821.00ft
Site:	DD Section 30	North Reference:	Grid
Well:	Guttersen YY06-785	Survey Calculation Method:	Minimum Curvature
Wellbore:	Guttersen YY06-785		
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		DD Section 30			
Site Position:		Northing:	1,316,013.13 usft	Latitude:	40.1963600
From:	Lat/Long	Easting:	3,284,747.15 usft	Longitude:	-104.4806460
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.66 °

Well	Guttersen YY06-785					
Well Position	+N/-S	-2,028.24 ft	Northing:	1,313,984.89 usft	Latitude:	40.1907985
	+E/-W	-186.89 ft	Easting:	3,284,560.26 usft	Longitude:	-104.4813984
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	4,791.00 ft

Wellbore	Guttersen YY06-785				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	7/12/2018	7.93	66.70	52,191.54670572

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	190.68

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,431.90	28.64	264.42	3,373.02	-34.10	-348.80	2.00	2.00	0.00	264.42	
6,644.22	28.64	264.42	6,192.36	-183.89	-1,881.08	0.00	0.00	0.00	0.00	
7,617.35	90.00	179.47	6,728.00	-822.62	-2,166.53	9.00	6.31	-8.73	-85.56	Guttersen YY06-78
17,786.23	90.00	179.47	6,728.00	-10,991.07	-2,072.07	0.00	0.00	0.00	0.00	Guttersen YY06-78

Noble Energy, Inc.

Planning Report

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Company:	Northern Region - DJ Basin	TVD Reference:	KB @ 4821.00ft
Project:	Mustang	MD Reference:	KB @ 4821.00ft
Site:	DD Section 30	North Reference:	Grid
Well:	Guttersen YY06-785	Survey Calculation Method:	Minimum Curvature
Wellbore:	Guttersen YY06-785		
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
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
614.00	0.00	0.00	614.00	0.00	0.00	0.00	0.00	0.00	0.00
Pierre									
684.00	0.00	0.00	684.00	0.00	0.00	0.00	0.00	0.00	0.00
Upper Pierre Aquifer Top									
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,621.00	0.00	0.00	1,621.00	0.00	0.00	0.00	0.00	0.00	0.00
Upper Pierre Aquifer Base									
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
Build: 2°/100'									
2,100.00	2.00	264.42	2,099.98	-0.17	-1.74	0.49	2.00	2.00	0.00
2,200.00	4.00	264.42	2,199.84	-0.68	-6.95	1.95	2.00	2.00	0.00
2,300.00	6.00	264.42	2,299.45	-1.53	-15.62	4.39	2.00	2.00	0.00
2,400.00	8.00	264.42	2,398.70	-2.71	-27.75	7.81	2.00	2.00	0.00
2,500.00	10.00	264.42	2,497.47	-4.23	-43.32	12.19	2.00	2.00	0.00
2,600.00	12.00	264.42	2,595.62	-6.09	-62.31	17.53	2.00	2.00	0.00
2,700.00	14.00	264.42	2,693.06	-8.28	-84.69	23.83	2.00	2.00	0.00
2,800.00	16.00	264.42	2,789.64	-10.80	-110.45	31.07	2.00	2.00	0.00
2,900.00	18.00	264.42	2,885.27	-13.64	-139.55	39.26	2.00	2.00	0.00
3,000.00	20.00	264.42	2,979.82	-16.81	-171.95	48.37	2.00	2.00	0.00
3,100.00	22.00	264.42	3,073.17	-20.30	-207.61	58.41	2.00	2.00	0.00
3,200.00	24.00	264.42	3,165.21	-24.10	-246.50	69.35	2.00	2.00	0.00
3,300.00	26.00	264.42	3,255.84	-28.21	-288.56	81.18	2.00	2.00	0.00
3,400.00	28.00	264.42	3,344.94	-32.63	-333.74	93.89	2.00	2.00	0.00
3,431.90	28.64	264.42	3,373.02	-34.10	-348.80	98.13	2.00	2.00	0.00
Hold: 28.64° Inc, 264.42° Azm									
3,500.00	28.64	264.42	3,432.79	-37.27	-381.28	107.27	0.00	0.00	0.00
3,600.00	28.64	264.42	3,520.55	-41.94	-428.98	120.68	0.00	0.00	0.00
3,700.00	28.64	264.42	3,608.32	-46.60	-476.68	134.10	0.00	0.00	0.00
3,709.89	28.64	264.42	3,617.00	-47.06	-481.40	135.43	0.00	0.00	0.00
Parkman									
3,800.00	28.64	264.42	3,696.09	-51.26	-524.38	147.52	0.00	0.00	0.00
3,900.00	28.64	264.42	3,783.85	-55.93	-572.08	160.94	0.00	0.00	0.00
4,000.00	28.64	264.42	3,871.62	-60.59	-619.78	174.36	0.00	0.00	0.00
4,100.00	28.64	264.42	3,959.39	-65.25	-667.48	187.78	0.00	0.00	0.00

Noble Energy, Inc.

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Project:	Mustang	MD Reference:	KB @ 4821.00ft
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Well:	Guttersen YY06-785	Survey Calculation Method:	Minimum Curvature
Wellbore:	Guttersen YY06-785		
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)
4,190.71	28.64	264.42	4,039.00	-69.48	-710.75	199.95	0.00	0.00	0.00
Sussex									
4,200.00	28.64	264.42	4,047.15	-69.92	-715.18	201.20	0.00	0.00	0.00
4,300.00	28.64	264.42	4,134.92	-74.58	-762.88	214.62	0.00	0.00	0.00
4,400.00	28.64	264.42	4,222.69	-79.24	-810.58	228.04	0.00	0.00	0.00
4,401.50	28.64	264.42	4,224.00	-79.31	-811.30	228.24	0.00	0.00	0.00
Shannon									
4,500.00	28.64	264.42	4,310.45	-83.90	-858.28	241.46	0.00	0.00	0.00
4,600.00	28.64	264.42	4,398.22	-88.57	-905.99	254.88	0.00	0.00	0.00
4,700.00	28.64	264.42	4,485.99	-93.23	-953.69	268.30	0.00	0.00	0.00
4,800.00	28.64	264.42	4,573.75	-97.89	-1,001.39	281.72	0.00	0.00	0.00
4,900.00	28.64	264.42	4,661.52	-102.56	-1,049.09	295.13	0.00	0.00	0.00
5,000.00	28.64	264.42	4,749.29	-107.22	-1,096.79	308.55	0.00	0.00	0.00
5,100.00	28.64	264.42	4,837.05	-111.88	-1,144.49	321.97	0.00	0.00	0.00
5,200.00	28.64	264.42	4,924.82	-116.55	-1,192.19	335.39	0.00	0.00	0.00
5,300.00	28.64	264.42	5,012.59	-121.21	-1,239.89	348.81	0.00	0.00	0.00
5,400.00	28.64	264.42	5,100.35	-125.87	-1,287.59	362.23	0.00	0.00	0.00
5,500.00	28.64	264.42	5,188.12	-130.54	-1,335.29	375.65	0.00	0.00	0.00
5,600.00	28.64	264.42	5,275.88	-135.20	-1,382.99	389.07	0.00	0.00	0.00
5,700.00	28.64	264.42	5,363.65	-139.86	-1,430.69	402.49	0.00	0.00	0.00
5,800.00	28.64	264.42	5,451.42	-144.52	-1,478.39	415.91	0.00	0.00	0.00
5,900.00	28.64	264.42	5,539.18	-149.19	-1,526.09	429.33	0.00	0.00	0.00
6,000.00	28.64	264.42	5,626.95	-153.85	-1,573.79	442.75	0.00	0.00	0.00
6,100.00	28.64	264.42	5,714.72	-158.51	-1,621.49	456.17	0.00	0.00	0.00
6,200.00	28.64	264.42	5,802.48	-163.18	-1,669.19	469.59	0.00	0.00	0.00
6,300.00	28.64	264.42	5,890.25	-167.84	-1,716.89	483.00	0.00	0.00	0.00
6,301.99	28.64	264.42	5,892.00	-167.93	-1,717.84	483.27	0.00	0.00	0.00
Teepee Buttes									
6,400.00	28.64	264.42	5,978.02	-172.50	-1,764.59	496.42	0.00	0.00	0.00
6,500.00	28.64	264.42	6,065.78	-177.17	-1,812.29	509.84	0.00	0.00	0.00
6,600.00	28.64	264.42	6,153.55	-181.83	-1,859.99	523.26	0.00	0.00	0.00
6,644.22	28.64	264.42	6,192.36	-183.89	-1,881.08	529.20	0.00	0.00	0.00
KOP: Build 9°/100' @ 6644.22' MD									
6,650.00	28.68	263.34	6,197.43	-184.19	-1,883.84	530.00	9.00	0.77	-18.70
6,700.00	29.42	254.19	6,241.16	-188.93	-1,907.58	539.06	9.00	1.47	-18.30
6,750.00	30.75	245.60	6,284.45	-197.56	-1,931.05	551.88	9.00	2.65	-17.17
6,800.00	32.59	237.77	6,327.02	-210.03	-1,954.09	568.40	9.00	3.69	-15.65
6,850.00	34.87	230.78	6,368.62	-226.25	-1,976.57	588.51	9.00	4.56	-13.99
6,900.00	37.51	224.60	6,408.98	-246.14	-1,998.34	612.09	9.00	5.27	-12.37
6,950.00	40.43	219.15	6,447.86	-269.56	-2,019.27	638.98	9.00	5.84	-10.90
7,000.00	43.57	214.34	6,485.02	-296.38	-2,039.24	669.03	9.00	6.29	-9.62
7,033.72	45.80	211.40	6,509.00	-316.29	-2,052.10	690.99	9.00	6.60	-8.70
Sharon Springs									
7,050.00	46.90	210.07	6,520.24	-326.42	-2,058.11	702.05	9.00	6.76	-8.22
7,100.00	50.37	206.24	6,553.28	-359.50	-2,075.78	737.84	9.00	6.94	-7.65
7,102.70	50.56	206.05	6,555.00	-361.37	-2,076.70	739.85	9.00	7.06	-7.23
Top A Chalk									
7,105.86	50.78	205.82	6,557.00	-363.57	-2,077.77	742.20	9.00	7.08	-7.19
Top A Marl									
7,128.39	52.39	204.24	6,571.00	-379.56	-2,085.24	759.30	9.00	7.13	-7.01
Top B Chalk									
7,150.00	53.95	202.79	6,583.96	-395.42	-2,092.14	776.17	9.00	7.22	-6.71
7,200.00	57.62	199.64	6,612.07	-433.96	-2,107.07	816.81	9.00	7.34	-6.30

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Guttersen YY06-785
Company:	Northern Region - DJ Basin	TVD Reference:	KB @ 4821.00ft
Project:	Mustang	MD Reference:	KB @ 4821.00ft
Site:	DD Section 30	North Reference:	Grid
Well:	Guttersen YY06-785	Survey Calculation Method:	Minimum Curvature
Wellbore:	Guttersen YY06-785		
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)
7,218.91	59.03	198.52	6,622.00	-449.17	-2,112.33	832.73	9.00	7.45	-5.94
Top B Marl									
7,250.00	61.37	196.75	6,637.45	-474.88	-2,120.50	859.50	9.00	7.51	-5.71
7,300.00	65.17	194.05	6,659.94	-517.92	-2,132.33	903.99	9.00	7.60	-5.40
7,350.00	69.01	191.51	6,679.41	-562.83	-2,142.50	950.01	9.00	7.69	-5.07
7,400.00	72.90	189.10	6,695.72	-609.32	-2,150.95	997.25	9.00	7.76	-4.82
7,400.95	72.97	189.06	6,696.00	-610.21	-2,151.09	998.16	9.00	7.79	-4.71
Top C Chalk									
7,450.00	76.80	186.80	6,708.79	-657.10	-2,157.61	1,045.45	9.00	7.82	-4.62
7,500.00	80.73	184.56	6,718.53	-705.89	-2,162.46	1,094.29	9.00	7.86	-4.47
7,550.00	84.68	182.37	6,724.87	-755.39	-2,165.45	1,143.48	9.00	7.89	-4.37
7,600.00	88.63	180.21	6,727.79	-805.27	-2,166.57	1,192.71	9.00	7.90	-4.32
7,617.35	90.00	179.47	6,728.00	-822.62	-2,166.53	1,209.75	9.00	7.91	-4.30
LP: 7617.35' MD, 90.00° Inc, 179.47° Azm									
7,700.00	90.00	179.47	6,728.00	-905.27	-2,165.76	1,290.83	0.00	0.00	0.00
7,800.00	90.00	179.47	6,728.00	-1,005.26	-2,164.83	1,388.92	0.00	0.00	0.00
7,900.00	90.00	179.47	6,728.00	-1,105.26	-2,163.90	1,487.01	0.00	0.00	0.00
8,000.00	90.00	179.47	6,728.00	-1,205.26	-2,162.97	1,585.10	0.00	0.00	0.00
8,100.00	90.00	179.47	6,728.00	-1,305.25	-2,162.04	1,683.20	0.00	0.00	0.00
8,200.00	90.00	179.47	6,728.00	-1,405.25	-2,161.11	1,781.29	0.00	0.00	0.00
8,300.00	90.00	179.47	6,728.00	-1,505.24	-2,160.18	1,879.38	0.00	0.00	0.00
8,400.00	90.00	179.47	6,728.00	-1,605.24	-2,159.26	1,977.48	0.00	0.00	0.00
8,500.00	90.00	179.47	6,728.00	-1,705.23	-2,158.33	2,075.57	0.00	0.00	0.00
8,600.00	90.00	179.47	6,728.00	-1,805.23	-2,157.40	2,173.66	0.00	0.00	0.00
8,700.00	90.00	179.47	6,728.00	-1,905.23	-2,156.47	2,271.75	0.00	0.00	0.00
8,800.00	90.00	179.47	6,728.00	-2,005.22	-2,155.54	2,369.85	0.00	0.00	0.00
8,900.00	90.00	179.47	6,728.00	-2,105.22	-2,154.61	2,467.94	0.00	0.00	0.00
9,000.00	90.00	179.47	6,728.00	-2,205.21	-2,153.68	2,566.03	0.00	0.00	0.00
9,100.00	90.00	179.47	6,728.00	-2,305.21	-2,152.75	2,664.12	0.00	0.00	0.00
9,200.00	90.00	179.47	6,728.00	-2,405.20	-2,151.83	2,762.22	0.00	0.00	0.00
9,300.00	90.00	179.47	6,728.00	-2,505.20	-2,150.90	2,860.31	0.00	0.00	0.00
9,400.00	90.00	179.47	6,728.00	-2,605.20	-2,149.97	2,958.40	0.00	0.00	0.00
9,500.00	90.00	179.47	6,728.00	-2,705.19	-2,149.04	3,056.49	0.00	0.00	0.00
9,600.00	90.00	179.47	6,728.00	-2,805.19	-2,148.11	3,154.59	0.00	0.00	0.00
9,700.00	90.00	179.47	6,728.00	-2,905.18	-2,147.18	3,252.68	0.00	0.00	0.00
9,800.00	90.00	179.47	6,728.00	-3,005.18	-2,146.25	3,350.77	0.00	0.00	0.00
9,900.00	90.00	179.47	6,728.00	-3,105.17	-2,145.32	3,448.86	0.00	0.00	0.00
10,000.00	90.00	179.47	6,728.00	-3,205.17	-2,144.39	3,546.96	0.00	0.00	0.00
10,100.00	90.00	179.47	6,728.00	-3,305.17	-2,143.47	3,645.05	0.00	0.00	0.00
10,200.00	90.00	179.47	6,728.00	-3,405.16	-2,142.54	3,743.14	0.00	0.00	0.00
10,300.00	90.00	179.47	6,728.00	-3,505.16	-2,141.61	3,841.24	0.00	0.00	0.00
10,400.00	90.00	179.47	6,728.00	-3,605.15	-2,140.68	3,939.33	0.00	0.00	0.00
10,500.00	90.00	179.47	6,728.00	-3,705.15	-2,139.75	4,037.42	0.00	0.00	0.00
10,600.00	90.00	179.47	6,728.00	-3,805.14	-2,138.82	4,135.51	0.00	0.00	0.00
10,700.00	90.00	179.47	6,728.00	-3,905.14	-2,137.89	4,233.61	0.00	0.00	0.00
10,800.00	90.00	179.47	6,728.00	-4,005.14	-2,136.96	4,331.70	0.00	0.00	0.00
10,900.00	90.00	179.47	6,728.00	-4,105.13	-2,136.04	4,429.79	0.00	0.00	0.00
11,000.00	90.00	179.47	6,728.00	-4,205.13	-2,135.11	4,527.88	0.00	0.00	0.00
11,100.00	90.00	179.47	6,728.00	-4,305.12	-2,134.18	4,625.98	0.00	0.00	0.00
11,200.00	90.00	179.47	6,728.00	-4,405.12	-2,133.25	4,724.07	0.00	0.00	0.00
11,300.00	90.00	179.47	6,728.00	-4,505.11	-2,132.32	4,822.16	0.00	0.00	0.00
11,400.00	90.00	179.47	6,728.00	-4,605.11	-2,131.39	4,920.25	0.00	0.00	0.00
11,500.00	90.00	179.47	6,728.00	-4,705.11	-2,130.46	5,018.35	0.00	0.00	0.00

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Guttersen YY06-785
Company:	Northern Region - DJ Basin	TVD Reference:	KB @ 4821.00ft
Project:	Mustang	MD Reference:	KB @ 4821.00ft
Site:	DD Section 30	North Reference:	Grid
Well:	Guttersen YY06-785	Survey Calculation Method:	Minimum Curvature
Wellbore:	Guttersen YY06-785		
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)
11,600.00	90.00	179.47	6,728.00	-4,805.10	-2,129.53	5,116.44	0.00	0.00	0.00
11,700.00	90.00	179.47	6,728.00	-4,905.10	-2,128.60	5,214.53	0.00	0.00	0.00
11,800.00	90.00	179.47	6,728.00	-5,005.09	-2,127.68	5,312.62	0.00	0.00	0.00
11,900.00	90.00	179.47	6,728.00	-5,105.09	-2,126.75	5,410.72	0.00	0.00	0.00
12,000.00	90.00	179.47	6,728.00	-5,205.08	-2,125.82	5,508.81	0.00	0.00	0.00
12,100.00	90.00	179.47	6,728.00	-5,305.08	-2,124.89	5,606.90	0.00	0.00	0.00
12,200.00	90.00	179.47	6,728.00	-5,405.07	-2,123.96	5,705.00	0.00	0.00	0.00
12,300.00	90.00	179.47	6,728.00	-5,505.07	-2,123.03	5,803.09	0.00	0.00	0.00
12,400.00	90.00	179.47	6,728.00	-5,605.07	-2,122.10	5,901.18	0.00	0.00	0.00
12,500.00	90.00	179.47	6,728.00	-5,705.06	-2,121.17	5,999.27	0.00	0.00	0.00
12,600.00	90.00	179.47	6,728.00	-5,805.06	-2,120.25	6,097.37	0.00	0.00	0.00
12,700.00	90.00	179.47	6,728.00	-5,905.05	-2,119.32	6,195.46	0.00	0.00	0.00
12,800.00	90.00	179.47	6,728.00	-6,005.05	-2,118.39	6,293.55	0.00	0.00	0.00
12,900.00	90.00	179.47	6,728.00	-6,105.04	-2,117.46	6,391.64	0.00	0.00	0.00
13,000.00	90.00	179.47	6,728.00	-6,205.04	-2,116.53	6,489.74	0.00	0.00	0.00
13,100.00	90.00	179.47	6,728.00	-6,305.04	-2,115.60	6,587.83	0.00	0.00	0.00
13,200.00	90.00	179.47	6,728.00	-6,405.03	-2,114.67	6,685.92	0.00	0.00	0.00
13,300.00	90.00	179.47	6,728.00	-6,505.03	-2,113.74	6,784.01	0.00	0.00	0.00
13,400.00	90.00	179.47	6,728.00	-6,605.02	-2,112.81	6,882.11	0.00	0.00	0.00
13,500.00	90.00	179.47	6,728.00	-6,705.02	-2,111.89	6,980.20	0.00	0.00	0.00
13,600.00	90.00	179.47	6,728.00	-6,805.01	-2,110.96	7,078.29	0.00	0.00	0.00
13,700.00	90.00	179.47	6,728.00	-6,905.01	-2,110.03	7,176.39	0.00	0.00	0.00
13,800.00	90.00	179.47	6,728.00	-7,005.01	-2,109.10	7,274.48	0.00	0.00	0.00
13,900.00	90.00	179.47	6,728.00	-7,105.00	-2,108.17	7,372.57	0.00	0.00	0.00
14,000.00	90.00	179.47	6,728.00	-7,205.00	-2,107.24	7,470.66	0.00	0.00	0.00
14,100.00	90.00	179.47	6,728.00	-7,304.99	-2,106.31	7,568.76	0.00	0.00	0.00
14,200.00	90.00	179.47	6,728.00	-7,404.99	-2,105.38	7,666.85	0.00	0.00	0.00
14,300.00	90.00	179.47	6,728.00	-7,504.98	-2,104.46	7,764.94	0.00	0.00	0.00
14,400.00	90.00	179.47	6,728.00	-7,604.98	-2,103.53	7,863.03	0.00	0.00	0.00
14,500.00	90.00	179.47	6,728.00	-7,704.98	-2,102.60	7,961.13	0.00	0.00	0.00
14,600.00	90.00	179.47	6,728.00	-7,804.97	-2,101.67	8,059.22	0.00	0.00	0.00
14,700.00	90.00	179.47	6,728.00	-7,904.97	-2,100.74	8,157.31	0.00	0.00	0.00
14,800.00	90.00	179.47	6,728.00	-8,004.96	-2,099.81	8,255.40	0.00	0.00	0.00
14,900.00	90.00	179.47	6,728.00	-8,104.96	-2,098.88	8,353.50	0.00	0.00	0.00
15,000.00	90.00	179.47	6,728.00	-8,204.95	-2,097.95	8,451.59	0.00	0.00	0.00
15,100.00	90.00	179.47	6,728.00	-8,304.95	-2,097.02	8,549.68	0.00	0.00	0.00
15,200.00	90.00	179.47	6,728.00	-8,404.95	-2,096.10	8,647.77	0.00	0.00	0.00
15,300.00	90.00	179.47	6,728.00	-8,504.94	-2,095.17	8,745.87	0.00	0.00	0.00
15,400.00	90.00	179.47	6,728.00	-8,604.94	-2,094.24	8,843.96	0.00	0.00	0.00
15,500.00	90.00	179.47	6,728.00	-8,704.93	-2,093.31	8,942.05	0.00	0.00	0.00
15,600.00	90.00	179.47	6,728.00	-8,804.93	-2,092.38	9,040.15	0.00	0.00	0.00
15,700.00	90.00	179.47	6,728.00	-8,904.92	-2,091.45	9,138.24	0.00	0.00	0.00
15,800.00	90.00	179.47	6,728.00	-9,004.92	-2,090.52	9,236.33	0.00	0.00	0.00
15,900.00	90.00	179.47	6,728.00	-9,104.92	-2,089.59	9,334.42	0.00	0.00	0.00
16,000.00	90.00	179.47	6,728.00	-9,204.91	-2,088.67	9,432.52	0.00	0.00	0.00
16,100.00	90.00	179.47	6,728.00	-9,304.91	-2,087.74	9,530.61	0.00	0.00	0.00
16,200.00	90.00	179.47	6,728.00	-9,404.90	-2,086.81	9,628.70	0.00	0.00	0.00
16,300.00	90.00	179.47	6,728.00	-9,504.90	-2,085.88	9,726.79	0.00	0.00	0.00
16,400.00	90.00	179.47	6,728.00	-9,604.89	-2,084.95	9,824.89	0.00	0.00	0.00
16,500.00	90.00	179.47	6,728.00	-9,704.89	-2,084.02	9,922.98	0.00	0.00	0.00
16,600.00	90.00	179.47	6,728.00	-9,804.89	-2,083.09	10,021.07	0.00	0.00	0.00
16,700.00	90.00	179.47	6,728.00	-9,904.88	-2,082.16	10,119.16	0.00	0.00	0.00
16,800.00	90.00	179.47	6,728.00	-10,004.88	-2,081.23	10,217.26	0.00	0.00	0.00
16,900.00	90.00	179.47	6,728.00	-10,104.87	-2,080.31	10,315.35	0.00	0.00	0.00

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Guttersen YY06-785
Company:	Northern Region - DJ Basin	TVD Reference:	KB @ 4821.00ft
Project:	Mustang	MD Reference:	KB @ 4821.00ft
Site:	DD Section 30	North Reference:	Grid
Well:	Guttersen YY06-785	Survey Calculation Method:	Minimum Curvature
Wellbore:	Guttersen YY06-785		
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)
17,000.00	90.00	179.47	6,728.00	-10,204.87	-2,079.38	10,413.44	0.00	0.00	0.00
17,100.00	90.00	179.47	6,728.00	-10,304.86	-2,078.45	10,511.53	0.00	0.00	0.00
17,200.00	90.00	179.47	6,728.00	-10,404.86	-2,077.52	10,609.63	0.00	0.00	0.00
17,300.00	90.00	179.47	6,728.00	-10,504.86	-2,076.59	10,707.72	0.00	0.00	0.00
17,400.00	90.00	179.47	6,728.00	-10,604.85	-2,075.66	10,805.81	0.00	0.00	0.00
17,500.00	90.00	179.47	6,728.00	-10,704.85	-2,074.73	10,903.91	0.00	0.00	0.00
17,600.00	90.00	179.47	6,728.00	-10,804.84	-2,073.80	11,002.00	0.00	0.00	0.00
17,700.00	90.00	179.47	6,728.00	-10,904.84	-2,072.87	11,100.09	0.00	0.00	0.00
17,786.23	90.00	179.47	6,728.00	-10,991.07	-2,072.07	11,184.68	0.00	0.00	0.00
TD @ 17786.23' MD/6728.00' TVD									

Design Targets									
Target Name	- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	
	- Shape								Latitude Longitude
Guttersen YY06-785-I	- plan hits target center	0.00	0.01	0.00	0.00	0.00	1,313,984.89	3,284,560.26	40.1907985 -104.4813984
	- Point								
Guttersen YY06-785-I	- plan hits target center	0.00	0.00	6,192.36	-183.89	-1,881.08	1,313,801.00	3,282,679.19	40.1903529 -104.4881387
	- Point								
Guttersen YY06-785-I	- plan hits target center	0.00	0.00	6,728.00	-822.62	-2,166.53	1,313,162.27	3,282,393.74	40.1886085 -104.4891864
	- Point								
Guttersen YY06-785-I	- plan misses target center by 0.37ft at 17786.16ft MD (6728.00 TVD, -10990.99 N, -2072.07 E)	0.00	0.00	6,728.00	-10,991.00	-2,072.45	1,302,993.92	3,282,487.82	40.1606940 -104.4892646
	- Point								

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
614.00	614.00	Pierre				
684.00	684.00	Upper Pierre Aquifer Top				
1,621.00	1,621.00	Upper Pierre Aquifer Base				
3,709.89	3,617.00	Parkman				
4,190.71	4,039.00	Sussex				
4,401.50	4,224.00	Shannon				
6,301.99	5,892.00	Teepee Buttes				
7,033.72	6,509.00	Sharon Springs				
7,102.70	6,555.00	Top A Chalk				
7,105.86	6,557.00	Top A Marl				
7,128.39	6,571.00	Top B Chalk				
7,218.91	6,622.00	Top B Marl				
7,400.95	6,696.00	Top C Chalk				

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Guttersen YY06-785
Company:	Northern Region - DJ Basin	TVD Reference:	KB @ 4821.00ft
Project:	Mustang	MD Reference:	KB @ 4821.00ft
Site:	DD Section 30	North Reference:	Grid
Well:	Guttersen YY06-785	Survey Calculation Method:	Minimum Curvature
Wellbore:	Guttersen YY06-785		
Design:	Plan #1		

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
2,000.00	2,000.00	0.00	0.00	Build: 2°/100'
3,431.90	3,373.02	-34.10	-348.80	Hold: 28.64° Inc, 264.42° Azm
6,644.22	6,192.36	-183.89	-1,881.08	KOP: Build 9°/100' @ 6644.22' MD
7,617.35	6,728.00	-822.62	-2,166.53	LP: 7617.35' MD, 90.00° Inc, 179.47° Azm
17,786.23	6,728.00	-10,991.07	-2,072.07	TD @ 17786.23' MD/6728.00' TVD

Northern Region - DJ Basin

Mustang

DD Section 30

Guttersen YY06-785

Guttersen YY06-785

Plan #1

Anticollision Summary Report

28 August, 2018

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Gutttersen YY06-785
Project:	Mustang	TVD Reference:	KB @ 4821.00ft
Reference Site:	DD Section 30	MD Reference:	KB @ 4821.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Gutttersen YY06-785	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Gutttersen YY06-785	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	8/20/2018		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.00	17,786.23	Plan #1 (Gutttersen YY06-785)	2_MWD+IFR1+MS	A008Mb: IFR dec & multi-station analysis	

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
D Section 24						
Dalbey D 24-10 (PR) - Wellbore #1 - Gyro Surveys	6,729.06	6,312.05	6,810.55	6,760.18	135.190	CC, ES
Dalbey D 24-10 (PR) - Wellbore #1 - Gyro Surveys	7,200.00	6,611.48	6,977.39	6,923.83	130.272	SF
Dalbey D 24-15 (SI) - Wellbore #1 - Gyro Surveys	6,768.55	6,307.15	6,099.85	6,049.50	121.147	CC, ES
Dalbey D 24-15 (SI) - Wellbore #1 - Gyro Surveys	7,200.00	6,530.43	6,237.43	6,184.25	117.307	SF
Glazier 2-24 (SI) - Wellbore #1 - Gyro Surveys	6,674.95	6,196.76	8,789.33	8,739.54	176.552	CC, ES
Glazier 2-24 (SI) - Wellbore #1 - Gyro Surveys	7,250.00	6,624.28	9,033.04	8,979.34	168.237	SF
Gutttersen 11-24 (PR) - Wellbore #1 - Gyro Surveys						Out of range
Gutttersen 12-24 (PR) - Wellbore #1 - Gyro Surveys	6,801.12	6,198.39	9,685.05	9,635.09	193.855	CC, ES
Gutttersen 12-24 (PR) - Wellbore #1 - Gyro Surveys	7,400.00	6,697.57	9,918.95	9,864.78	183.093	SF
Gutttersen 21-24 (PR) - Wellbore #1 - Gyro Surveys						Out of range
Gutttersen 22-24 (PR) - Wellbore #1 - Gyro Surveys	6,755.39	6,193.54	9,083.50	9,033.55	181.840	CC, ES
Gutttersen 22-24 (PR) - Wellbore #1 - Gyro Surveys	7,350.00	6,599.18	9,327.94	9,274.07	173.164	SF
Gutttersen 24A (PR) - Wellbore #1 - Gyro Surveys	6,768.67	6,200.00	9,880.23	9,830.26	197.721	CC, ES
Gutttersen 24A (PR) - Wellbore #1 - Gyro Surveys	7,150.00	6,498.33	9,983.71	9,930.89	189.023	SF
Gutttersen 24J (PR) - Wellbore #1 - Gyro Surveys						Out of range
Gutttersen 24N (PR) - Wellbore #1 - MWD Surveys	6,732.54	6,243.86	9,416.19	9,367.13	191.941	CC, ES
Gutttersen 24N (PR) - Wellbore #1 - MWD Surveys	7,300.00	6,617.75	9,646.36	9,593.56	182.688	SF
Gutttersen 24S (PR) - Wellbore #1 - MWD Surveys	6,696.79	6,200.37	7,554.91	7,505.97	154.364	CC
Gutttersen 24S (PR) - Wellbore #1 - MWD Surveys	6,700.00	6,203.66	7,554.92	7,505.95	154.274	ES
Gutttersen 24S (PR) - Wellbore #1 - MWD Surveys	7,200.00	6,615.19	7,742.21	7,689.59	147.142	SF
Gutttersen 43-24 (PR) - Wellbore #1 - Gyro Surveys	6,679.71	6,195.06	6,823.28	6,773.41	136.840	CC, ES
Gutttersen 43-24 (PR) - Wellbore #1 - Gyro Surveys	7,150.00	6,548.13	6,990.34	6,937.13	131.369	SF
Gutttersen 44-24 (PR) - Wellbore #1 - Gyro Surveys	6,684.61	6,141.35	5,595.27	5,545.63	112.719	CC, ES
Gutttersen 44-24 (PR) - Wellbore #1 - Gyro Surveys	7,100.00	6,484.99	5,726.47	5,673.70	108.514	SF
Karch Blue D 24-12 (PA) - Wellbore #1 - Gyro Surveys	6,833.45	6,321.60	8,682.90	8,632.59	172.581	CC, ES
Karch Blue D 24-12 (PA) - Wellbore #1 - Gyro Surveys	7,400.00	7,400.00	8,892.86	8,836.36	157.397	SF
Karch Blue D 24-14 (PR) - Wellbore #1 - No Surveys	6,811.17	6,280.41	6,533.43	6,379.38	42.410	CC, ES
Karch Blue D 24-14 (PR) - Wellbore #1 - No Surveys	7,250.00	6,581.45	6,666.60	6,504.49	41.124	SF
Karch Blue D24-11 (PA) - Wellbore #1 - Gyro Surveys	6,769.74	6,127.37	7,911.77	7,857.04	144.558	CC, ES
Karch Blue D24-11 (PA) - Wellbore #1 - Gyro Surveys	7,350.00	6,503.61	8,142.87	8,083.24	136.572	SF
Koerner 31-24 (SI) - Wellbore #1 - Gyro Surveys	6,689.17	5,976.87	9,833.13	9,783.99	200.102	CC, ES
Koerner 31-24 (SI) - Wellbore #1 - Gyro Surveys	7,000.00	7,000.00	9,907.00	9,852.74	182.592	SF
Koerner 32-24 (SI) - Wellbore #1 - Gyro Surveys	6,717.46	6,234.86	8,470.28	8,420.20	169.153	CC, ES
Koerner 32-24 (SI) - Wellbore #1 - Gyro Surveys	7,250.00	6,676.56	8,675.58	8,621.65	160.881	SF
Koerner 42-24 (SI) - Wellbore #1 - Gyro Surveys	6,671.67	6,238.31	8,148.80	8,098.85	163.128	CC, ES
Koerner 42-24 (SI) - Wellbore #1 - Gyro Surveys	7,200.00	6,638.70	8,358.17	8,304.53	155.813	SF
LF Ranch 1-24 (SI) - Wellbore #1 - Gyro Surveys	6,856.24	6,367.33	7,601.14	7,550.72	150.767	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 YY06-785
Project:	Mustang	TVD Reference:	KB @ 4821.00ft
Reference Site:	DD Section 30	MD Reference:	KB @ 4821.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen YY06-785	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen YY06-785	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 24						
LF Ranch 1-24 (SI) - Wellbore #1 - Gyro Surveys	7,350.00	6,701.36	7,759.96	7,706.20	144.336	SF

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersten YY06-785
Project:	Mustang	TVD Reference:	KB @ 4821.00ft
Reference Site:	DD Section 30	MD Reference:	KB @ 4821.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersten YY06-785	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersten YY06-785	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 25						
Coors Energy 13-25D (PR) - Wellbore #1 - MWD Survey	7,200.15	6,717.45	5,299.14	5,243.71	95.599	CC, ES
Coors Energy 13-25D (PR) - Wellbore #1 - MWD Survey	11,600.00	11,600.00	7,881.50	7,797.01	93.284	SF
Coors Energy 14-25D (PR) - Wellbore #1 - MWD Survey	7,439.41	6,924.73	5,012.53	4,961.07	97.407	CC, ES
Coors Energy 14-25D (PR) - Wellbore #1 - MWD Survey	9,700.00	6,926.48	5,770.02	5,706.52	90.853	SF
Coors Energy 23-25D (PR) - Wellbore #1 - MWD Survey	7,125.40	6,724.48	4,073.69	4,016.45	71.174	CC, ES
Coors Energy 23-25D (PR) - Wellbore #1 - MWD Survey	7,400.00	6,841.97	4,116.08	4,057.35	70.079	SF
Coors Energy 24-25 (PR) - Wellbore #1 - Gyro Surveys	7,456.50	6,730.28	3,502.41	3,451.35	68.593	CC, ES
Coors Energy 24-25 (PR) - Wellbore #1 - Gyro Surveys	8,200.00	6,744.78	3,659.66	3,605.55	67.625	SF
Coors Energy 25HD (PR) - Wellbore #1 - MWD Surveys	7,336.41	6,932.46	5,581.35	5,528.13	104.865	CC, ES
Coors Energy 25HD (PR) - Wellbore #1 - MWD Surveys	9,700.00	6,997.52	6,499.49	6,435.17	101.057	SF
Coors Energy 25LD (PR) - Wellbore #1 - MWD Surveys	7,531.94	6,933.27	4,272.20	4,219.38	80.891	CC, ES
Coors Energy 25LD (PR) - Wellbore #1 - MWD Surveys	9,200.00	6,900.03	4,688.42	4,627.73	77.245	SF
Coors Energy 25TD (PR) - Wellbore #1 - MWD Surveys	7,493.28	6,735.36	1,567.03	1,515.37	30.331	CC, ES
Coors Energy 25TD (PR) - Wellbore #1 - MWD Surveys	7,600.00	6,744.98	1,574.91	1,522.80	30.223	SF
Coors Energy 25XD (PR) - Wellbore #1 - MWD Surveys	6,821.82	6,545.52	1,111.55	1,050.12	18.095	CC, ES
Coors Energy 25XD (PR) - Wellbore #1 - MWD Surveys	6,900.00	6,616.05	1,116.41	1,054.22	17.952	SF
Coors Energy 25YD (PR) - Wellbore #1 - MWD Surveys	7,399.71	6,877.09	431.88	379.19	8.196	CC, ES, SF
Coors Energy 33-25D (PR) - Wellbore #1 - MWD Survey	7,001.49	6,601.43	2,919.18	2,864.56	53.448	CC, ES
Coors Energy 33-25D (PR) - Wellbore #1 - MWD Survey	7,200.00	6,745.21	2,943.54	2,887.85	52.854	SF
Coors Energy 34-25 (PR) - Wellbore #1 - Gyro Surveys	7,418.35	6,675.90	2,513.08	2,462.14	49.336	CC, ES
Coors Energy 34-25 (PR) - Wellbore #1 - Gyro Surveys	7,600.00	6,701.33	2,532.11	2,480.34	48.916	SF
Coors Energy 43-25D (PR) - Wellbore #1 - MWD Survey	6,829.71	6,516.98	1,966.13	1,906.65	33.057	CC, ES
Coors Energy 43-25D (PR) - Wellbore #1 - MWD Survey	6,950.00	6,619.08	1,976.78	1,916.57	32.833	SF
Coors Energy 44-25D (PR) - Wellbore #1 - MWD Survey	7,163.70	6,644.16	1,140.33	1,089.67	22.509	CC, ES
Coors Energy 44-25D (PR) - Wellbore #1 - MWD Survey	7,300.00	6,712.98	1,154.87	1,102.81	22.186	SF
Dalbey D 25-03 (SI) - Wellbore #1 - Gyro Surveys	6,950.00	6,950.00	5,636.71	5,584.65	108.277	ES
Dalbey D 25-03 (SI) - Wellbore #1 - Gyro Surveys	6,957.27	6,813.15	5,636.68	5,585.08	109.252	CC
Dalbey D 25-03 (SI) - Wellbore #1 - Gyro Surveys	7,350.00	6,963.78	5,739.33	5,685.32	106.272	SF
Dalbey D 25-05 (SI) - Wellbore #1 - Gyro Surveys	7,109.34	7,097.12	6,039.95	5,986.83	113.696	CC, ES
Dalbey D 25-05 (SI) - Wellbore #1 - Gyro Surveys	7,500.00	7,070.00	6,132.76	6,077.91	111.803	SF
Guttersten 11-25 (PR) - Wellbore #1 - MWD Surveys	6,952.19	6,507.94	6,657.05	6,607.42	134.143	CC, ES
Guttersten 11-25 (PR) - Wellbore #1 - MWD Surveys	7,450.00	6,815.99	6,805.24	6,752.47	128.949	SF
Guttersten 22-25 (PR) - Wellbore #1 - MWD Surveys	6,972.89	6,616.58	4,755.41	4,705.61	95.491	CC, ES
Guttersten 22-25 (PR) - Wellbore #1 - MWD Surveys	7,350.00	6,820.81	4,846.14	4,793.87	92.712	SF
Guttersten 25E (PR) - Wellbore #1 - MWD Surveys	6,932.10	6,430.15	7,349.36	7,299.71	148.021	CC, ES
Guttersten 25E (PR) - Wellbore #1 - MWD Surveys	7,450.00	6,757.81	7,509.18	7,456.25	141.867	SF
Guttersten 25KD (PR) - Wellbore #1 - MWD Surveys	7,080.53	6,846.12	5,028.10	4,973.06	91.360	CC, ES
Guttersten 25KD (PR) - Wellbore #1 - MWD Surveys	7,500.00	6,964.04	5,129.98	5,072.10	88.637	SF
Guttersten 25O (PR) - Wellbore #1 - MWD Surveys	6,959.00	6,398.52	4,101.21	4,051.83	83.056	CC, ES
Guttersten 25O (PR) - Wellbore #1 - MWD Surveys	7,300.00	6,613.32	4,173.46	4,121.67	80.573	SF
Guttersten D 25-17 (SI) - Wellbore #1 - Gyro Surveys	6,787.58	6,267.85	4,110.49	4,060.27	81.850	CC, ES
Guttersten D 25-17 (SI) - Wellbore #1 - Gyro Surveys	7,150.00	6,528.29	4,206.87	4,153.95	79.502	SF
Guttersten D25-715 - Wellbore #1 - Plan #1	6,761.53	6,450.00	2,025.17	1,973.69	39.339	CC, ES
Guttersten D25-715 - Wellbore #1 - Plan #1	6,850.00	6,450.00	2,032.57	1,980.75	39.218	SF
Guttersten D25-724 - Wellbore #1 - Plan #1	6,805.09	6,300.00	2,349.57	2,298.83	46.302	CC, ES
Guttersten D25-724 - Wellbore #1 - Plan #1	6,950.00	6,325.23	2,366.40	2,314.95	46.000	SF
Guttersten D25-734 - Wellbore #1 - Plan #1	6,875.83	6,369.21	2,836.38	2,784.83	55.021	CC, ES
Guttersten D25-734 - Wellbore #1 - Plan #1	7,050.00	6,400.00	2,858.57	2,805.97	54.351	SF
Guttersten D25-743 - Wellbore #1 - Plan #1	6,899.26	6,271.97	3,141.40	3,089.13	60.093	CC
Guttersten D25-743 - Wellbore #1 - Plan #1	6,900.00	6,272.15	3,141.40	3,089.12	60.088	ES
Guttersten D25-743 - Wellbore #1 - Plan #1	7,150.00	6,323.65	3,180.29	3,126.57	59.196	SF
Guttersten D25-753 - Wellbore #1 - Plan #1	7,028.79	6,700.00	3,829.32	3,776.19	72.073	CC, ES
Guttersten D25-753 - Wellbore #1 - Plan #1	7,250.00	6,724.83	3,858.71	3,804.56	71.251	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 YY06-785
Project:	Mustang	TVD Reference:	KB @ 4821.00ft
Reference Site:	DD Section 30	MD Reference:	KB @ 4821.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen YY06-785	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen YY06-785	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 25						
Guttersen D25-762 - Wellbore #1 - Plan #1	7,048.20	6,527.99	4,304.17	4,251.13	81.143	CC
Guttersen D25-762 - Wellbore #1 - Plan #1	7,050.00	6,528.26	4,304.18	4,251.12	81.129	ES
Guttersen D25-762 - Wellbore #1 - Plan #1	7,350.00	6,550.00	4,353.31	4,298.91	80.022	SF
Guttersen D25-772 - Wellbore #1 - Plan #1	7,078.15	6,500.00	4,792.92	4,739.00	88.888	CC, ES
Guttersen D25-772 - Wellbore #1 - Plan #1	7,400.00	6,550.00	4,844.85	4,789.33	87.258	SF
Guttersen D25-781 - Wellbore #1 - Plan #1	7,077.79	6,386.05	5,295.16	5,240.54	96.941	CC, ES
Guttersen D25-781 - Wellbore #1 - Plan #1	7,500.00	6,450.00	5,376.00	5,319.20	94.661	SF
Guttersen State D36-714 - Wellbore #1 - Plan #1	7,608.62	9,809.30	629.30	563.11	9.508	CC
Guttersen State D36-714 - Wellbore #1 - Plan #1	12,500.00	14,700.56	663.84	536.48	5.212	ES, SF
Guttersen State D36-724 - Wellbore #1 - Plan #1	7,608.28	9,733.43	1,254.01	1,187.83	18.951	CC
Guttersen State D36-724 - Wellbore #1 - Plan #1	12,500.00	14,625.03	1,288.60	1,160.83	10.086	ES
Guttersen State D36-724 - Wellbore #1 - Plan #1	12,600.00	14,633.39	1,292.56	1,163.64	10.026	SF
Guttersen State D36-733 - Wellbore #1 - Plan #1	7,608.15	9,735.24	1,878.91	1,812.80	28.423	CC
Guttersen State D36-733 - Wellbore #1 - Plan #1	12,500.00	14,626.96	1,913.54	1,785.86	14.988	ES
Guttersen State D36-733 - Wellbore #1 - Plan #1	12,700.00	14,641.76	1,923.89	1,793.86	14.796	SF
Guttersen State D36-743 - Wellbore #1 - Plan #1	7,604.06	9,802.42	2,509.17	2,443.06	37.957	CC
Guttersen State D36-743 - Wellbore #1 - Plan #1	12,500.00	14,693.27	2,558.56	2,431.26	20.099	ES
Guttersen State D36-743 - Wellbore #1 - Plan #1	12,900.00	14,719.96	2,589.64	2,457.96	19.665	SF
Guttersen State D36-752 - Wellbore #1 - Plan #1	7,606.77	9,814.21	3,118.75	3,049.91	45.306	CC
Guttersen State D36-752 - Wellbore #1 - Plan #1	12,500.00	14,707.28	3,158.19	3,027.34	24.134	ES
Guttersen State D36-752 - Wellbore #1 - Plan #1	12,900.00	14,738.86	3,182.82	3,048.68	23.728	SF
Guttersen State D36-762 - Wellbore #1 - Plan #1	7,614.67	9,858.19	3,750.61	3,681.55	54.308	CC
Guttersen State D36-762 - Wellbore #1 - Plan #1	12,500.00	14,743.51	3,760.71	3,629.64	28.693	ES
Guttersen State D36-762 - Wellbore #1 - Plan #1	13,100.00	14,758.69	3,807.14	3,671.00	27.966	SF
Guttersen State D36-771 - Wellbore #1 - Plan #1	7,611.37	9,902.54	4,363.13	4,293.98	63.102	CC
Guttersen State D36-771 - Wellbore #1 - Plan #1	12,600.00	14,816.36	4,386.46	4,254.39	33.213	ES
Guttersen State D36-771 - Wellbore #1 - Plan #1	13,400.00	14,816.36	4,474.89	4,336.23	32.273	SF
Guttersen State D36-781 - Wellbore #1 - Plan #1	7,601.99	10,008.50	4,998.43	4,929.11	72.105	CC
Guttersen State D36-781 - Wellbore #1 - Plan #1	12,600.00	14,970.23	5,057.40	4,925.45	38.329	ES
Guttersen State D36-781 - Wellbore #1 - Plan #1	13,700.00	14,970.23	5,195.91	5,054.60	36.770	SF
Karch Blue D 25-02 (DA) - Wellbore #1 - No Surveys	6,796.42	6,264.00	4,873.25	4,719.50	31.696	CC
Karch Blue D 25-02 (DA) - Wellbore #1 - No Surveys	6,800.00	6,267.02	4,873.26	4,719.43	31.680	ES
Karch Blue D 25-02 (DA) - Wellbore #1 - No Surveys	7,150.00	6,523.96	4,963.22	4,802.54	30.888	SF
Karch Blue D 25-08 (SI) - Wellbore #1 - Gyro Surveys	6,749.95	6,250.67	3,153.36	3,103.21	62.874	CC
Karch Blue D 25-08 (SI) - Wellbore #1 - Gyro Surveys	6,750.00	6,250.71	3,153.36	3,103.21	62.874	ES
Karch Blue D 25-08 (SI) - Wellbore #1 - Gyro Surveys	7,050.00	6,556.02	3,220.08	3,167.40	61.119	SF
Karch Blue D25-07 (SI) - Wellbore #1 - Gyro Surveys	6,861.60	6,294.58	3,862.96	3,812.79	77.004	CC, ES
Karch Blue D25-07 (SI) - Wellbore #1 - Gyro Surveys	7,200.00	7,200.00	3,938.65	3,883.71	71.688	SF
L F Ranch 2-25 (PR) - Wellbore #1 - Gyro Surveys	6,717.43	6,248.51	4,315.46	4,265.35	86.124	CC, ES
L F Ranch 2-25 (PR) - Wellbore #1 - Gyro Surveys	7,100.00	6,577.80	4,427.71	4,374.64	83.435	SF
LF Ranches 1 (PA) - Wellbore #1 - No Surveys	6,739.69	6,219.57	4,132.49	3,979.61	27.030	CC
LF Ranches 1 (PA) - Wellbore #1 - No Surveys	6,750.00	6,228.45	4,132.57	3,979.46	26.990	ES
LF Ranches 1 (PA) - Wellbore #1 - No Surveys	7,050.00	6,464.24	4,205.97	4,046.65	26.398	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 YY06-785
Project:	Mustang	TVD Reference:	KB @ 4821.00ft
Reference Site:	DD Section 30	MD Reference:	KB @ 4821.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen YY06-785	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen YY06-785	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 36						
Kanga State D 36-1JI (SI) - Wellbore #1 - Gyro Surveys	8,159.49	6,689.00	975.64	923.48	18.704	CC, ES
Kanga State D 36-1JI (SI) - Wellbore #1 - Gyro Surveys	8,300.00	6,683.15	985.69	932.26	18.450	SF
Kanga State D 36-2JI - Wellbore #1 - Gyro Surveys	7,790.94	6,735.28	2,418.68	2,367.26	47.039	CC
Kanga State D 36-2JI - Wellbore #1 - Gyro Surveys	7,800.00	6,735.12	2,418.70	2,367.25	47.008	ES
Kanga State D 36-2JI - Wellbore #1 - Gyro Surveys	8,500.00	6,722.83	2,520.45	2,465.32	45.720	SF
Kanga State D36-11JI (PR) - Wellbore #1 - Gyro Surveys	10,807.32	6,679.77	3,575.63	3,466.85	32.871	CC, ES
Kanga State D36-11JI (PR) - Wellbore #1 - Gyro Surveys	11,700.00	6,682.21	3,685.37	3,569.13	31.702	SF
Rhoo State D36-07JI (SI) - Wellbore #1 - Gyro Surveys	9,232.19	6,684.40	2,415.95	2,359.46	42.771	CC, ES
Rhoo State D36-07JI (SI) - Wellbore #1 - Gyro Surveys	10,000.00	6,636.16	2,534.52	2,472.01	40.549	SF
Spike State D 36-04 (SI) - Gyro Surveys - Wellbore #1	8,041.63	6,813.18	4,976.57	4,924.56	95.692	CC, ES
Spike State D 36-04 (SI) - Gyro Surveys - Wellbore #1	10,500.00	6,827.18	5,550.51	5,484.77	84.429	SF
Spike State D 36-3 (SI) - Wellbore #1 - No Surveys	8,232.50	6,732.00	3,777.84	3,614.09	23.072	CC, ES
Spike State D 36-3 (SI) - Wellbore #1 - No Surveys	8,700.00	6,732.00	3,806.65	3,640.50	22.910	SF
Spike State D36-05 (SI) - Wellbore #1 - Gyro Surveys	9,394.43	6,824.88	5,086.68	5,029.35	88.726	CC
Spike State D36-05 (SI) - Wellbore #1 - Gyro Surveys	9,400.00	6,824.71	5,086.69	5,029.32	88.671	ES
Spike State D36-05 (SI) - Wellbore #1 - Gyro Surveys	13,400.00	13,400.00	6,473.47	6,369.46	62.240	SF
Spike State D36-06 (PA) - Wellbore #1 - Gyro Surveys	9,435.53	6,720.52	3,817.12	3,759.61	66.374	CC, ES
Spike State D36-06 (PA) - Wellbore #1 - Gyro Surveys	10,900.00	6,624.54	4,089.43	4,021.55	60.239	SF
State 09 (SI) - Wellbore #1 - Gyro Surveys	8,695.86	6,739.59	1,662.04	1,608.24	30.894	CC
State 09 (SI) - Wellbore #1 - Gyro Surveys	8,700.00	6,739.35	1,662.04	1,608.21	30.875	ES
State 09 (SI) - Wellbore #1 - Gyro Surveys	9,100.00	6,717.56	1,710.36	1,653.16	29.902	SF
State 30 (SI) - Wellbore #1 - Gyro Surveys	11,409.80	6,674.55	4,032.12	3,962.87	58.232	CC, ES
State 30 (SI) - Wellbore #1 - Gyro Surveys	12,800.00	6,663.58	4,265.03	4,184.80	53.160	SF
DD Section 18						
Guttersen 18D - Wellbore #1 - Wellbore #1 - As Drilled						Out of range
Guttersen 24-18 - Wellbore #1 - Wellbore #1 - As Drilled						Out of range
Guttersen 33-18 - Wellbore #1 - Wellbore #1 - As Drilled						Out of range
Guttersen 34-18 - Wellbore #1 - Wellbore #1 - As Drilled						Out of range
Guttersen 43-18 - Wellbore #1 - Wellbore #1 - As Drilled						Out of range
Guttersen 44-18 - Wellbore #1 - Wellbore #1 - As Drilled						Out of range
Karch Blue DD18-03J - Wellbore #1 - Wellbore #1 - As D						Out of range
Karch Blue DD18-12 - Original Drilling - Original Drilling -						Out of range
Karch Blue DD18-13 - Wellbore #1 - Wellbore #1 - As Dr						Out of range
DD Section 19						
Champlin 366 Amoco B1 (PR) - Wellbore #1 - Gyro Surv	2,000.51	2,000.00	8,471.18	8,457.42	615.829	CC, ES
Champlin 366 Amoco B1 (PR) - Wellbore #1 - Gyro Surv	7,450.00	7,450.00	9,709.44	9,654.04	175.257	SF
Champlin 366 Amoco D1 (PA) - Wellbore #1 - No Survey	3,416.40	3,323.40	5,689.39	5,610.80	72.393	CC
Champlin 366 Amoco D1 (PA) - Wellbore #1 - No Survey	4,000.00	3,835.62	5,696.26	5,604.84	62.304	ES
Champlin 366 Amoco D1 (PA) - Wellbore #1 - No Survey	7,000.00	6,449.02	6,034.87	5,876.54	38.117	SF
Guttersen 31-19 (PR) - Wellbore #1 - Gyro Surveys	0.00	0.00	9,256.66			
Guttersen 31-19 (PR) - Wellbore #1 - Gyro Surveys	2,100.00	2,101.26	9,263.00	9,248.55	640.870	ES
Guttersen 31-19 (PR) - Wellbore #1 - Gyro Surveys	6,850.00	6,850.00	9,865.54	9,813.28	188.779	SF
Guttersen 44-19 (SI) - Wellbore #1 - No Surveys	2,000.00	2,009.00	5,802.30	5,755.18	123.148	CC
Guttersen 44-19 (SI) - Wellbore #1 - No Surveys	2,100.00	2,108.98	5,803.10	5,753.63	117.317	ES
Guttersen 44-19 (SI) - Wellbore #1 - No Surveys	7,050.00	6,529.24	7,094.70	6,936.22	44.769	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 YY06-785
Project:	Mustang	TVD Reference:	KB @ 4821.00ft
Reference Site:	DD Section 30	MD Reference:	KB @ 4821.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen YY06-785	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen YY06-785	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						
DD Section 20						
Spike State DD 20-02J (PR) - Wellbore #1 - Gyro Survey	0.00	0.00	9,748.15			
Spike State DD 20-02J (PR) - Wellbore #1 - Gyro Survey	2,000.00	1,968.02	9,754.85	9,741.21	715.099	ES
Spike State DD 20-02J (PR) - Wellbore #1 - Gyro Survey	3,700.00	3,522.91	9,998.22	9,972.90	394.798	SF
Spike State DD 20-03J (PR) - Wellbore #1 - Gyro Survey	2,030.92	2,100.00	7,203.68	7,189.47	507.026	CC, ES
Spike State DD 20-03J (PR) - Wellbore #1 - Gyro Survey	7,100.00	6,498.75	8,828.54	8,778.62	176.857	SF
DD Section 29						
Champlin 366 Amoco C UT 1 (PR) - Wellbore #1 - Gyro	2,023.42	2,116.54	7,524.80	7,510.55	527.780	CC, ES
Champlin 366 Amoco C UT 1 (PR) - Wellbore #1 - Gyro	7,150.00	6,831.92	9,465.97	9,415.50	187.585	SF
Champlin Amoco 1 (PA) - Wellbore #1 - No Surveys	2,000.00	2,041.01	4,256.25	4,208.50	89.124	CC
Champlin Amoco 1 (PA) - Wellbore #1 - No Surveys	2,100.00	2,140.99	4,257.99	4,207.89	84.981	ES
Champlin Amoco 1 (PA) - Wellbore #1 - No Surveys	7,350.00	6,720.42	6,466.75	6,305.58	40.121	SF
Guttersen 42-29 (PR) - Wellbore #1 - Gyro Surveys	2,024.58	2,125.17	8,049.67	8,035.39	563.696	CC, ES
Guttersen 42-29 (PR) - Wellbore #1 - Gyro Surveys	7,150.00	7,088.40	9,993.94	9,911.34	120.989	SF

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen YY06-785
Project:	Mustang	TVD Reference:	KB @ 4821.00ft
Reference Site:	DD Section 30	MD Reference:	KB @ 4821.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen YY06-785	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen YY06-785	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						
DD Section 30						
Guttersen 11-30 (PR) - Wellbore #1 - Gyro Surveys	5,530.05	5,079.78	4,181.16	4,141.25	104.770	CC
Guttersen 11-30 (PR) - Wellbore #1 - Gyro Surveys	5,600.00	5,133.85	4,181.35	4,140.89	103.355	ES
Guttersen 11-30 (PR) - Wellbore #1 - Gyro Surveys	6,950.00	6,474.47	4,290.33	4,238.38	82.572	SF
Guttersen 12-30 (PR) - Wellbore #1 - Gyro Surveys	6,650.38	6,281.23	2,803.10	2,753.25	56.223	CC, ES
Guttersen 12-30 (PR) - Wellbore #1 - Gyro Surveys	6,900.00	6,487.84	2,854.19	2,802.40	55.109	SF
Guttersen 22-30 (PR) - Wellbore #1 - Gyro Surveys	589.82	558.84	2,756.03	2,752.36	752.160	CC
Guttersen 22-30 (PR) - Wellbore #1 - Gyro Surveys	3,400.00	3,323.63	2,762.10	2,738.61	117.592	ES
Guttersen 22-30 (PR) - Wellbore #1 - Gyro Surveys	7,000.00	7,000.00	3,330.85	3,278.03	63.066	SF
Guttersen 30 A (PR) - Wellbore #1 - Gyro Surveys	4,560.91	4,334.62	3,427.43	3,395.03	105.792	CC
Guttersen 30 A (PR) - Wellbore #1 - Gyro Surveys	4,700.00	4,460.57	3,428.06	3,394.54	102.270	ES
Guttersen 30 A (PR) - Wellbore #1 - Gyro Surveys	6,850.00	6,323.56	3,621.04	3,570.46	71.585	SF
Guttersen State DD30-715 - Guttersen State DD30-715 -	2,000.00	2,032.00	2,064.31	2,050.32	147.582	CC, ES
Guttersen State DD30-715 - Guttersen State DD30-715 -	7,300.00	6,489.10	4,680.81	4,630.77	93.531	SF
Guttersen State DD30-725 - Guttersen State DD30-725 -	2,000.00	2,032.00	2,027.37	2,013.38	144.941	CC, ES
Guttersen State DD30-725 - Guttersen State DD30-725 -	6,400.00	7,373.05	3,709.75	3,661.11	76.274	SF
Guttersen State DD30-735 - Guttersen State DD30-735 -	2,000.00	2,032.00	1,989.37	1,975.38	142.224	CC, ES
Guttersen State DD30-735 - Guttersen State DD30-735 -	6,400.00	7,544.60	3,087.34	3,037.27	61.662	SF
Guttersen State DD30-745 - Guttersen State DD30-745 -	2,000.00	2,032.00	1,952.44	1,938.45	139.584	CC, ES
Guttersen State DD30-745 - Guttersen State DD30-745 -	6,400.00	7,701.09	2,451.75	2,399.86	47.245	SF
Guttersen State DD30-755 - Guttersen State DD30-755 -	2,000.00	2,002.00	187.40	173.52	13.501	CC, ES
Guttersen State DD30-755 - Guttersen State DD30-755 -	2,200.00	2,193.96	195.20	180.00	12.844	SF
Guttersen State DD30-766 - Guttersen State DD30-766 -	2,000.00	2,002.00	168.15	154.27	12.115	CC
Guttersen State DD30-766 - Guttersen State DD30-766 -	2,100.00	2,101.98	168.79	154.20	11.571	ES
Guttersen State DD30-766 - Guttersen State DD30-766 -	2,400.00	2,396.57	183.26	166.66	11.040	SF
Guttersen State DD30-775 - Guttersen State DD30-775 -	2,000.00	2,003.00	155.23	141.34	11.181	CC, ES
Guttersen State DD30-775 - Guttersen State DD30-775 -	2,400.00	2,394.36	169.80	153.23	10.248	SF
Guttersen State DD30-785 - Guttersen State DD30-785 -	7,381.04	7,510.59	64.98	6.75	1.116	Level 2, CC, ES, SF
Guttersen YY06-756 - Guttersen YY06-756 - Plan #1	2,000.00	2,001.00	113.01	99.13	8.144	CC, ES
Guttersen YY06-756 - Guttersen YY06-756 - Plan #1	2,200.00	2,201.16	119.95	104.67	7.849	SF
Guttersen YY06-766 - Guttersen YY06-766 - Plan #1	2,000.00	2,001.00	75.01	61.13	5.405	CC, ES
Guttersen YY06-766 - Guttersen YY06-766 - Plan #1	2,100.00	2,101.02	76.74	62.16	5.262	SF
Guttersen YY06-775 - Guttersen YY06-775 - Plan #1	2,000.00	2,000.00	38.00	24.13	2.739	CC, ES
Guttersen YY06-775 - Guttersen YY06-775 - Plan #1	2,100.00	2,099.98	39.74	25.16	2.726	SF
Karch Blue DD 30-12 (PA) - Wellbore #1 - No Surveys	6,562.89	6,075.98	1,662.15	1,512.92	11.138	CC
Karch Blue DD 30-12 (PA) - Wellbore #1 - No Surveys	6,650.00	6,152.43	1,662.70	1,511.49	10.996	ES
Karch Blue DD 30-12 (PA) - Wellbore #1 - No Surveys	6,800.00	6,282.02	1,684.93	1,530.39	10.903	SF
Karch Blue DD 30-14 (PA) - Wellbore #1 - No Surveys	3,690.09	3,560.62	34.09	-50.43	0.403	Level 1, CC, ES, SF
Karch Blue DD 30-3 J (PA) - Wellbore #1 - No Surveys	4,234.68	4,037.59	1,007.24	910.66	10.429	CC
Karch Blue DD 30-3 J (PA) - Wellbore #1 - No Surveys	4,300.00	4,094.92	1,007.73	909.69	10.279	ES
Karch Blue DD 30-3 J (PA) - Wellbore #1 - No Surveys	5,200.00	4,884.82	1,108.42	990.55	9.404	SF
L F Ranch 2-30 (PR) - Wellbore #1 - Gyro Surveys	3,433.00	3,425.73	3,720.68	3,696.71	155.215	CC
L F Ranch 2-30 (PR) - Wellbore #1 - Gyro Surveys	3,500.00	3,470.09	3,720.93	3,696.52	152.429	ES
L F Ranch 2-30 (PR) - Wellbore #1 - Gyro Surveys	6,900.00	6,496.03	4,181.58	4,130.51	81.887	SF
State 19 (PA) - Wellbore #1 - NO Surveys	2,000.00	2,011.00	3,727.66	3,680.50	79.049	CC
State 19 (PA) - Wellbore #1 - NO Surveys	2,100.00	2,110.98	3,728.58	3,679.07	75.317	ES
State 19 (PA) - Wellbore #1 - NO Surveys	6,900.00	6,419.98	5,115.84	4,960.64	32.963	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 YY06-785
Project:	Mustang	TVD Reference:	KB @ 4821.00ft
Reference Site:	DD Section 30	MD Reference:	KB @ 4821.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Gutttersen YY06-785	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Gutttersen YY06-785	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
DD Section 31						
Gutttersen 31Q-221 (PR) - Wellbore #1 - MWD Surveys	5,792.77	10,956.00	2,715.32	2,619.38	28.302	CC
Gutttersen 31Q-221 (PR) - Wellbore #1 - MWD Surveys	5,800.00	10,956.00	2,715.33	2,619.26	28.264	ES
Gutttersen 31Q-221 (PR) - Wellbore #1 - MWD Surveys	7,800.00	10,956.00	2,948.16	2,834.36	25.906	SF
Gutttersen 31Q-401 (PR) - Wellbore #1 - MWD Surveys	6,122.92	11,132.00	2,571.88	2,475.06	26.563	CC
Gutttersen 31Q-401 (PR) - Wellbore #1 - MWD Surveys	6,200.00	11,132.00	2,573.03	2,474.84	26.203	ES
Gutttersen 31Q-401 (PR) - Wellbore #1 - MWD Surveys	8,000.00	11,147.81	2,660.97	2,545.39	23.023	SF
Gutttersen 31T-301 (PR) - Wellbore #1 - MWD Surveys	5,558.63	11,048.00	3,297.52	3,200.40	33.951	CC
Gutttersen 31T-301 (PR) - Wellbore #1 - MWD Surveys	5,600.00	11,048.00	3,297.78	3,200.00	33.725	ES
Gutttersen 31T-301 (PR) - Wellbore #1 - MWD Surveys	7,900.00	11,048.00	3,593.71	3,479.07	31.348	SF
Gutttersen 31T-441 (PR) - Wellbore #1 - MWD Surveys	5,819.47	11,127.00	3,065.48	2,968.02	31.453	CC
Gutttersen 31T-441 (PR) - Wellbore #1 - MWD Surveys	5,900.00	11,127.00	3,066.54	2,967.75	31.044	ES
Gutttersen 31T-441 (PR) - Wellbore #1 - MWD Surveys	7,918.43	11,127.00	3,259.74	3,144.91	28.386	SF
Gutttersen 33-31 (PR) - Wellbore #1 - Gyro Surveys	10,630.18	6,694.21	3,045.05	2,981.21	47.700	CC, ES
Gutttersen 33-31 (PR) - Wellbore #1 - Gyro Surveys	11,000.00	6,697.54	3,067.42	3,002.59	47.312	SF
YY Section 6						
Gutttersen 6M-303 (PR) - Wellbore #1 - Wellbore #1	14,600.00	14,600.00	2,617.51	2,415.56	12.961	SF
Gutttersen 6M-303 (PR) - Wellbore #1 - Wellbore #1	17,160.30	10,792.98	2,557.30	2,387.74	15.082	CC
Gutttersen 6M-303 (PR) - Wellbore #1 - Wellbore #1	17,300.00	10,877.27	2,558.88	2,387.22	14.906	ES
Gutttersen 6M-423 (PR) - Wellbore #1 - MWD Surveys	17,105.32	10,824.84	2,932.31	2,763.14	17.334	CC
Gutttersen 6M-423 (PR) - Wellbore #1 - MWD Surveys	17,473.45	11,193.00	2,932.56	2,754.26	16.447	ES
Gutttersen 6M-423 (PR) - Wellbore #1 - MWD Surveys	17,600.00	11,193.00	2,935.29	2,756.67	16.433	SF
Gutttersen 6R-243 (PR) - Wellbore #1 - Gyro Surveys	17,235.80	10,835.00	3,241.08	3,070.06	18.952	CC, ES
Gutttersen 6R-243 (PR) - Wellbore #1 - Gyro Surveys	17,700.00	11,073.00	3,260.04	3,082.28	18.339	SF
Gutttersen 6R-403 (PR) - Wellbore #1 - MWD Surveys	15,900.00	15,900.00	3,587.11	3,346.28	14.895	ES, SF
Gutttersen 6R-403 (PR) - Wellbore #1 - MWD Surveys	17,478.73	11,233.00	3,559.46	3,381.13	19.960	CC
Gutterson 31-6 (SI) - Wellbore #1 - Gyro Surveys	13,393.52	6,778.90	3,126.29	3,042.96	37.517	CC
Gutterson 31-6 (SI) - Wellbore #1 - Gyro Surveys	13,400.00	6,778.89	3,126.29	3,042.94	37.507	ES
Gutterson 31-6 (SI) - Wellbore #1 - Gyro Surveys	13,700.00	6,778.63	3,141.27	3,057.00	37.273	SF
Gutterson 32-6 (SI) - Wellbore #1 - Gyro Surveys	14,667.19	6,643.30	3,128.04	3,036.44	34.152	CC, ES
Gutterson 32-6 (SI) - Wellbore #1 - Gyro Surveys	14,900.00	6,638.57	3,136.68	3,044.38	33.983	SF
J.H. Cuykendall John 1 (PA) - Wellbore #1 - Gyro Survey	16,968.08	6,740.87	713.35	603.52	6.495	CC, ES, SF

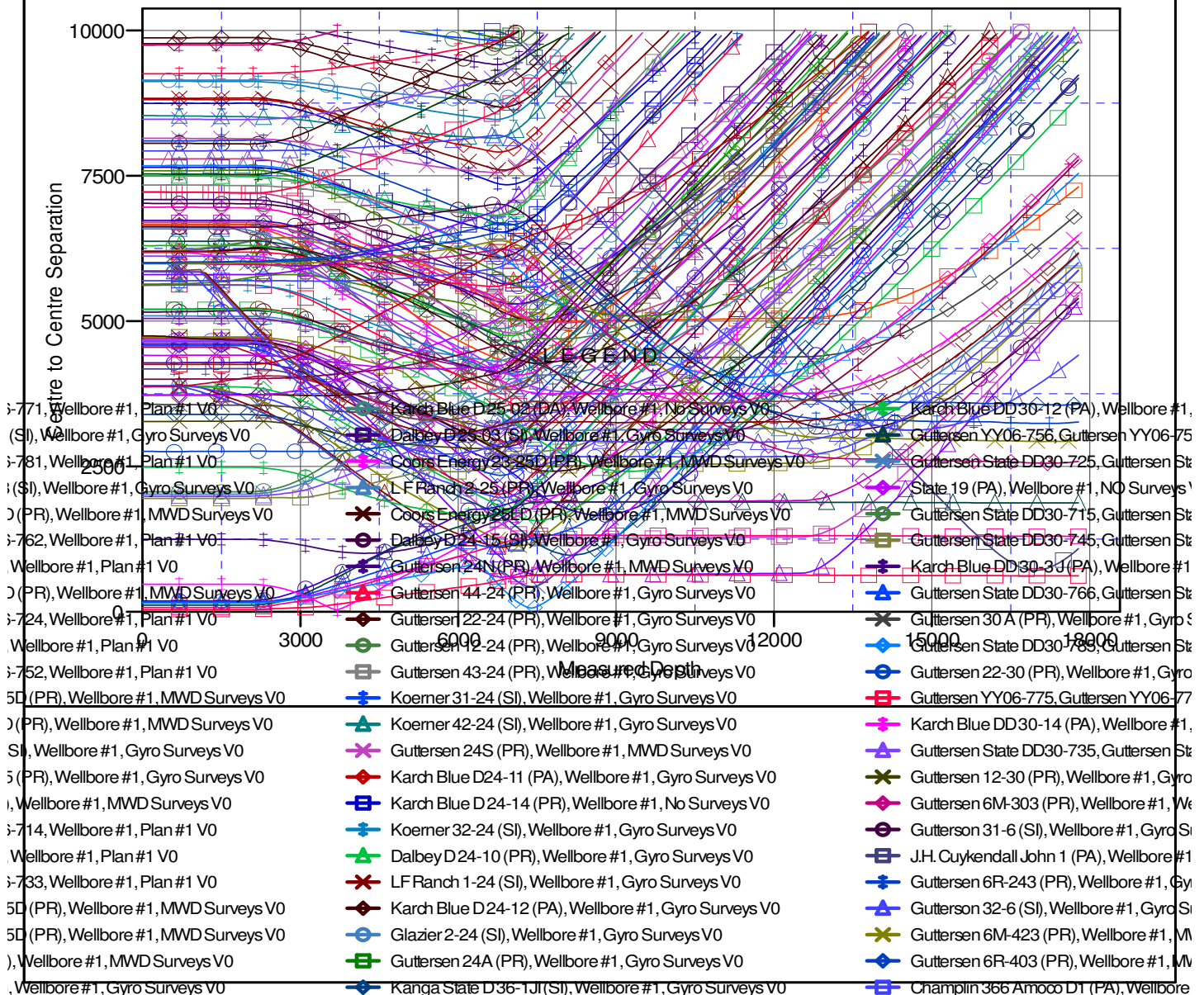
Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen YY06-785
Project:	Mustang	TVD Reference:	KB @ 4821.00ft
Reference Site:	DD Section 30	MD Reference:	KB @ 4821.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen YY06-785	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen YY06-785	Database:	EDMP
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to KB @ 4821.00ft
Offset Depths are relative to Offset Datum
Central Meridian is -105.5000000

Coordinates are relative to: Guttersen YY06-785
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.66°

Ladder Plot



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

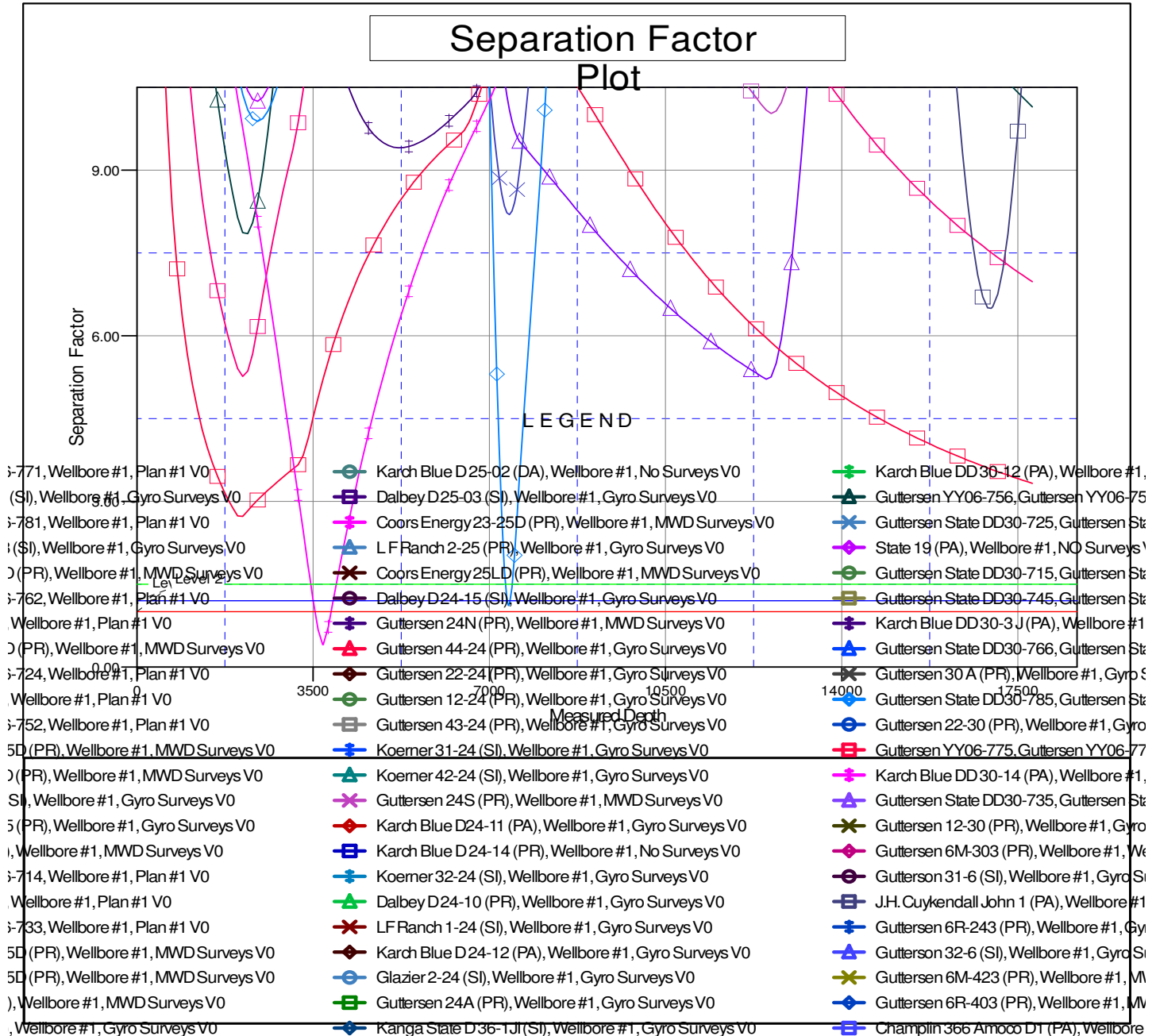
Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Gutttersen YY06-785
Project:	Mustang	TVD Reference:	KB @ 4821.00ft
Reference Site:	DD Section 30	MD Reference:	KB @ 4821.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Gutttersen YY06-785	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Gutttersen YY06-785	Database:	EDMP
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to KB @ 4821.00ft
Offset Depths are relative to Offset Datum
Central Meridian is -105.5000000

Coordinates are relative to: Gutttersen YY06-785
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.66°



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