

Project: Mustang
 Site: D Section 25
 Well: Gutteresen D25-762
 Wellbore: Wellbore #1
 Design: Plan #3

Northern Region - DJ Basin

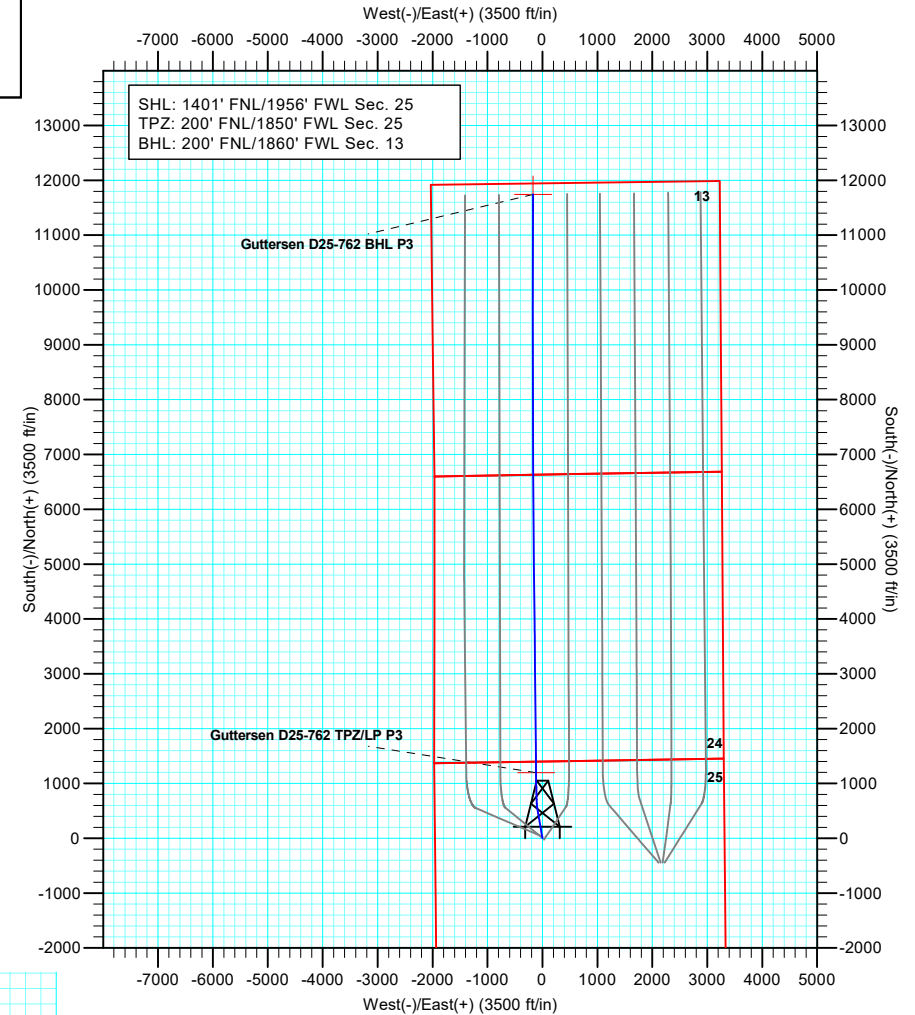
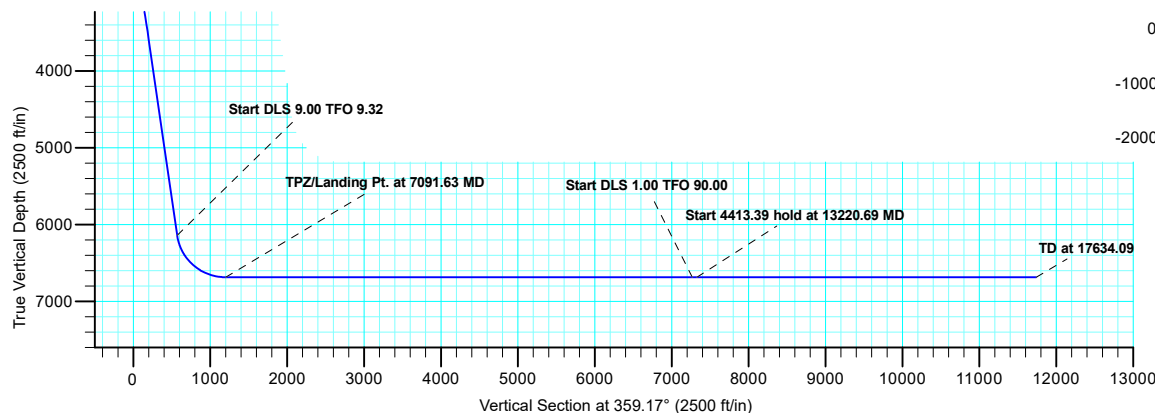
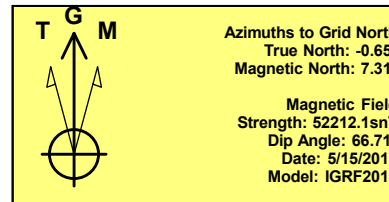
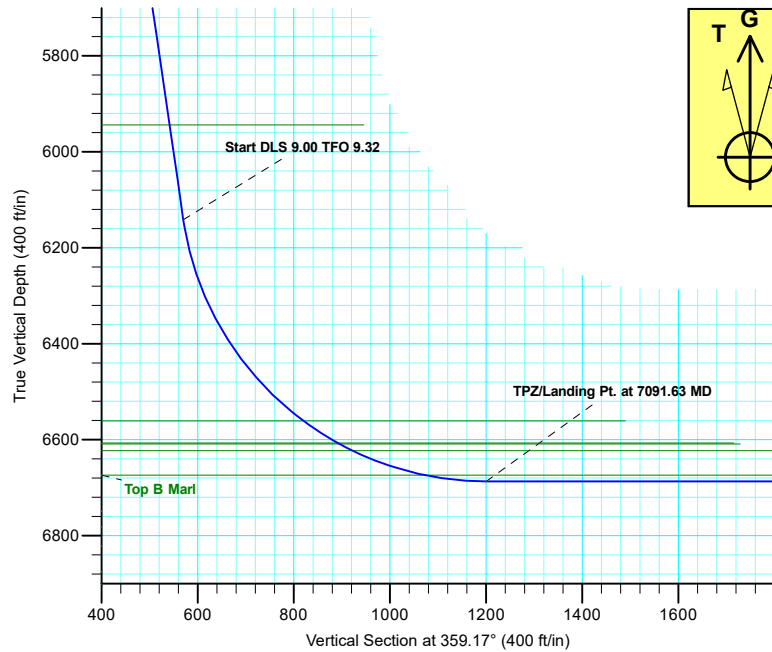
Geodetic System: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Zone: Colorado Northern Zone
 System Datum: Mean Sea Level

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec
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	2417.60	8.35	350.22	2416.13	29.94	-5.16	2.00	350.22	30.01
4	6183.22	8.35	350.22	6141.81	568.98	-98.05	0.00	0.00	570.34
5	7091.63	90.00	359.45	6687.00	1198.86	-116.97	9.00	9.32	1200.44
6	13159.07	90.00	359.45	6687.00	7266.02	-175.63	0.00	0.00	7267.81
7	13220.69	90.00	0.06	6687.00	7327.64	-175.90	1.00	90.00	7329.43
8	17634.09	90.00	0.06	6687.00	11741.03	-171.10	0.00	0.00	11742.28

WELL DETAILS: Gutteresen D25-762

+N/-S	+E/-W	Northing	Ground Level: Easting	4787.00 Latitude	Longitude	Slot
0.00	0.00	1317184.86	3278713.82	40.1997647	-104.5021954	



Plan: Plan #3 (Gutteresen D25-762/Wellbore #1)

Created By: Shelly C. Peterkin Date: 11:31, June 24 2019

Northern Region - DJ Basin

Mustang

D Section 25

Guttersen D25-762

Wellbore #1

Plan: Plan #3

Standard Planning Report

24 June, 2019

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Guttersen D25-762
Company:	Northern Region - DJ Basin	TVD Reference:	KB @ 4817.00ft
Project:	Mustang	MD Reference:	KB @ 4817.00ft
Site:	D Section 25	North Reference:	Grid
Well:	Guttersen D25-762	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #3		

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

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

Well	Guttersen D25-762					
Well Position	+N/-S	1,155.42 ft	Northing:	1,317,184.86 usft	Latitude:	40.1997647
	+E/-W	-651.74 ft	Easting:	3,278,713.82 usft	Longitude:	-104.5021954
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	4,787.00 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	5/15/2018	7.96	66.71	52,212.11369576

Design	Plan #3			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	359.17

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,417.61	8.35	350.22	2,416.13	29.94	-5.16	2.00	2.00	0.00	350.22	
6,183.22	8.35	350.22	6,141.81	568.98	-98.05	0.00	0.00	0.00	0.00	
7,091.63	90.00	359.45	6,687.00	1,198.86	-116.97	9.00	8.99	1.02	9.32	Guttersen D25-762 TI
13,159.07	90.00	359.45	6,687.00	7,266.02	-175.63	0.00	0.00	0.00	0.00	Guttersen D25-762 IF
13,220.69	90.00	0.06	6,687.00	7,327.64	-175.90	1.00	0.00	1.00	90.00	
17,634.09	90.00	0.06	6,687.00	11,741.03	-171.10	0.00	0.00	0.00	0.00	Guttersen D25-762 BI

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Guttersen D25-762
Company:	Northern Region - DJ Basin	TVD Reference:	KB @ 4817.00ft
Project:	Mustang	MD Reference:	KB @ 4817.00ft
Site:	D Section 25	North Reference:	Grid
Well:	Guttersen D25-762	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #3		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
680.00	0.00	0.00	680.00	0.00	0.00	0.00	0.00	0.00	0.00
Upper Pierre Aquifer Top									
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
718.00	0.00	0.00	718.00	0.00	0.00	0.00	0.00	0.00	0.00
Pierre									
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,617.00	0.00	0.00	1,617.00	0.00	0.00	0.00	0.00	0.00	0.00
Upper Pierre Aquifer Base									
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
2,100.00	2.00	350.22	2,099.98	1.72	-0.30	1.72	2.00	2.00	0.00
2,200.00	4.00	350.22	2,199.84	6.88	-1.19	6.89	2.00	2.00	0.00
2,300.00	6.00	350.22	2,299.45	15.47	-2.67	15.50	2.00	2.00	0.00
2,400.00	8.00	350.22	2,398.70	27.47	-4.73	27.54	2.00	2.00	0.00
2,417.61	8.35	350.22	2,416.13	29.94	-5.16	30.01	2.00	2.00	0.00
Start 3765.62 hold at 2417.60 MD									
2,500.00	8.35	350.22	2,497.65	41.74	-7.19	41.84	0.00	0.00	0.00
2,600.00	8.35	350.22	2,596.59	56.05	-9.66	56.19	0.00	0.00	0.00
2,700.00	8.35	350.22	2,695.53	70.37	-12.13	70.54	0.00	0.00	0.00
2,800.00	8.35	350.22	2,794.47	84.68	-14.59	84.88	0.00	0.00	0.00
2,900.00	8.35	350.22	2,893.41	99.00	-17.06	99.23	0.00	0.00	0.00
3,000.00	8.35	350.22	2,992.35	113.31	-19.53	113.58	0.00	0.00	0.00
3,100.00	8.35	350.22	3,091.29	127.62	-21.99	127.93	0.00	0.00	0.00
3,200.00	8.35	350.22	3,190.22	141.94	-24.46	142.28	0.00	0.00	0.00
3,300.00	8.35	350.22	3,289.16	156.25	-26.93	156.63	0.00	0.00	0.00
3,400.00	8.35	350.22	3,388.10	170.57	-29.39	170.98	0.00	0.00	0.00
3,500.00	8.35	350.22	3,487.04	184.88	-31.86	185.33	0.00	0.00	0.00
3,600.00	8.35	350.22	3,585.98	199.20	-34.33	199.68	0.00	0.00	0.00
3,683.91	8.35	350.22	3,669.00	211.21	-36.40	211.72	0.00	0.00	0.00
Parkman									
3,700.00	8.35	350.22	3,684.92	213.51	-36.79	214.03	0.00	0.00	0.00
3,800.00	8.35	350.22	3,783.86	227.83	-39.26	228.37	0.00	0.00	0.00
3,900.00	8.35	350.22	3,882.80	242.14	-41.73	242.72	0.00	0.00	0.00
4,000.00	8.35	350.22	3,981.74	256.46	-44.19	257.07	0.00	0.00	0.00
4,100.00	8.35	350.22	4,080.68	270.77	-46.66	271.42	0.00	0.00	0.00

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Guttersen D25-762
Company:	Northern Region - DJ Basin	TVD Reference:	KB @ 4817.00ft
Project:	Mustang	MD Reference:	KB @ 4817.00ft
Site:	D Section 25	North Reference:	Grid
Well:	Guttersen D25-762	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #3		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,110.43	8.35	350.22	4,091.00	272.26	-46.92	272.92	0.00	0.00	0.00
Sussex									
4,200.00	8.35	350.22	4,179.62	285.09	-49.13	285.77	0.00	0.00	0.00
4,297.41	8.35	350.22	4,276.00	299.03	-51.53	299.75	0.00	0.00	0.00
Shannon									
4,300.00	8.35	350.22	4,278.56	299.40	-51.59	300.12	0.00	0.00	0.00
4,400.00	8.35	350.22	4,377.50	313.71	-54.06	314.47	0.00	0.00	0.00
4,500.00	8.35	350.22	4,476.44	328.03	-56.53	328.82	0.00	0.00	0.00
4,600.00	8.35	350.22	4,575.38	342.34	-58.99	343.17	0.00	0.00	0.00
4,700.00	8.35	350.22	4,674.32	356.66	-61.46	357.52	0.00	0.00	0.00
4,800.00	8.35	350.22	4,773.26	370.97	-63.93	371.86	0.00	0.00	0.00
4,900.00	8.35	350.22	4,872.19	385.29	-66.39	386.21	0.00	0.00	0.00
5,000.00	8.35	350.22	4,971.13	399.60	-68.86	400.56	0.00	0.00	0.00
5,100.00	8.35	350.22	5,070.07	413.92	-71.33	414.91	0.00	0.00	0.00
5,200.00	8.35	350.22	5,169.01	428.23	-73.80	429.26	0.00	0.00	0.00
5,300.00	8.35	350.22	5,267.95	442.55	-76.26	443.61	0.00	0.00	0.00
5,400.00	8.35	350.22	5,366.89	456.86	-78.73	457.96	0.00	0.00	0.00
5,500.00	8.35	350.22	5,465.83	471.17	-81.20	472.31	0.00	0.00	0.00
5,600.00	8.35	350.22	5,564.77	485.49	-83.66	486.66	0.00	0.00	0.00
5,700.00	8.35	350.22	5,663.71	499.80	-86.13	501.01	0.00	0.00	0.00
5,800.00	8.35	350.22	5,762.65	514.12	-88.60	515.36	0.00	0.00	0.00
5,900.00	8.35	350.22	5,861.59	528.43	-91.06	529.70	0.00	0.00	0.00
5,983.29	8.35	350.22	5,944.00	540.36	-93.12	541.66	0.00	0.00	0.00
Teepee Buttes									
6,000.00	8.35	350.22	5,960.53	542.75	-93.53	544.05	0.00	0.00	0.00
6,100.00	8.35	350.22	6,059.47	557.06	-96.00	558.40	0.00	0.00	0.00
6,183.22	8.35	350.22	6,141.81	568.98	-98.05	570.34	0.00	0.00	0.00
Start DLS 9.00 TFO 9.32									
6,200.00	9.85	351.65	6,158.37	571.60	-98.46	572.97	9.00	8.90	8.52
6,250.00	14.32	354.15	6,207.25	581.98	-99.72	583.37	9.00	8.94	5.00
6,300.00	18.80	355.48	6,255.17	596.17	-100.98	597.58	9.00	8.97	2.65
6,350.00	23.29	356.31	6,301.82	614.07	-102.25	615.50	9.00	8.98	1.66
6,400.00	27.78	356.89	6,346.93	635.58	-103.52	637.03	9.00	8.99	1.15
6,450.00	32.28	357.31	6,390.20	660.57	-104.78	662.03	9.00	8.99	0.85
6,500.00	36.77	357.64	6,431.39	688.87	-106.02	690.35	9.00	8.99	0.66
6,550.00	41.27	357.91	6,470.22	720.32	-107.24	721.81	9.00	8.99	0.54
6,600.00	45.77	358.13	6,506.47	754.72	-108.43	756.22	9.00	8.99	0.45
6,650.00	50.27	358.33	6,539.90	791.87	-109.57	793.38	9.00	9.00	0.38
6,684.12	53.34	358.44	6,561.00	818.66	-110.33	820.18	9.00	9.00	0.34
Sharon Springs									
6,700.00	54.76	358.49	6,570.32	831.52	-110.67	833.04	9.00	9.00	0.32
6,750.00	59.26	358.64	6,597.54	873.43	-111.72	874.97	9.00	9.00	0.30
6,768.99	60.97	358.70	6,607.00	889.89	-112.10	891.43	9.00	9.00	0.28
Top A Chalk									
6,773.14	61.34	358.71	6,609.00	893.52	-112.18	895.06	9.00	9.00	0.28
Top A Marl									
6,800.00	63.76	358.78	6,621.38	917.36	-112.70	918.90	9.00	9.00	0.27
6,803.68	64.09	358.79	6,623.00	920.66	-112.77	922.21	9.00	9.00	0.26
Top B Chalk									
6,850.00	68.26	358.91	6,641.70	963.02	-113.62	964.57	9.00	9.00	0.25
6,900.00	72.76	359.03	6,658.38	1,010.13	-114.47	1,011.69	9.00	9.00	0.24
6,950.00	77.26	359.14	6,671.31	1,058.41	-115.24	1,059.98	9.00	9.00	0.23
6,962.74	78.40	359.17	6,674.00	1,070.86	-115.43	1,072.43	9.00	9.00	0.22

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Guttersten D25-762
Company:	Northern Region - DJ Basin	TVD Reference:	KB @ 4817.00ft
Project:	Mustang	MD Reference:	KB @ 4817.00ft
Site:	D Section 25	North Reference:	Grid
Well:	Guttersten D25-762	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #3		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
Top B Marl									
7,000.00	81.76	359.25	6,680.42	1,107.56	-115.93	1,109.13	9.00	9.00	0.22
7,050.00	86.25	359.36	6,685.64	1,157.27	-116.54	1,158.84	9.00	9.00	0.21
7,091.63	90.00	359.45	6,687.00	1,198.86	-116.97	1,200.44	9.00	9.00	0.21
TPZ/Landing Pt. at 7091.63 MD									
7,100.00	90.00	359.45	6,687.00	1,207.23	-117.05	1,208.81	0.00	0.00	0.00
7,200.00	90.00	359.45	6,687.00	1,307.23	-118.02	1,308.81	0.00	0.00	0.00
7,300.00	90.00	359.45	6,687.00	1,407.22	-118.98	1,408.81	0.00	0.00	0.00
7,400.00	90.00	359.45	6,687.00	1,507.22	-119.95	1,508.81	0.00	0.00	0.00
7,500.00	90.00	359.45	6,687.00	1,607.21	-120.92	1,608.81	0.00	0.00	0.00
7,600.00	90.00	359.45	6,687.00	1,707.21	-121.88	1,708.80	0.00	0.00	0.00
7,700.00	90.00	359.45	6,687.00	1,807.21	-122.85	1,808.80	0.00	0.00	0.00
7,800.00	90.00	359.45	6,687.00	1,907.20	-123.82	1,908.80	0.00	0.00	0.00
7,900.00	90.00	359.45	6,687.00	2,007.20	-124.79	2,008.80	0.00	0.00	0.00
8,000.00	90.00	359.45	6,687.00	2,107.19	-125.75	2,108.80	0.00	0.00	0.00
8,100.00	90.00	359.45	6,687.00	2,207.19	-126.72	2,208.80	0.00	0.00	0.00
8,200.00	90.00	359.45	6,687.00	2,307.18	-127.69	2,308.80	0.00	0.00	0.00
8,300.00	90.00	359.45	6,687.00	2,407.18	-128.65	2,408.80	0.00	0.00	0.00
8,400.00	90.00	359.45	6,687.00	2,507.17	-129.62	2,508.80	0.00	0.00	0.00
8,500.00	90.00	359.45	6,687.00	2,607.17	-130.59	2,608.79	0.00	0.00	0.00
8,600.00	90.00	359.45	6,687.00	2,707.16	-131.55	2,708.79	0.00	0.00	0.00
8,700.00	90.00	359.45	6,687.00	2,807.16	-132.52	2,808.79	0.00	0.00	0.00
8,800.00	90.00	359.45	6,687.00	2,907.15	-133.49	2,908.79	0.00	0.00	0.00
8,900.00	90.00	359.45	6,687.00	3,007.15	-134.45	3,008.79	0.00	0.00	0.00
9,000.00	90.00	359.45	6,687.00	3,107.14	-135.42	3,108.79	0.00	0.00	0.00
9,100.00	90.00	359.45	6,687.00	3,207.14	-136.39	3,208.79	0.00	0.00	0.00
9,200.00	90.00	359.45	6,687.00	3,307.14	-137.35	3,308.79	0.00	0.00	0.00
9,300.00	90.00	359.45	6,687.00	3,407.13	-138.32	3,408.78	0.00	0.00	0.00
9,400.00	90.00	359.45	6,687.00	3,507.13	-139.29	3,508.78	0.00	0.00	0.00
9,500.00	90.00	359.45	6,687.00	3,607.12	-140.25	3,608.78	0.00	0.00	0.00
9,600.00	90.00	359.45	6,687.00	3,707.12	-141.22	3,708.78	0.00	0.00	0.00
9,700.00	90.00	359.45	6,687.00	3,807.11	-142.19	3,808.78	0.00	0.00	0.00
9,800.00	90.00	359.45	6,687.00	3,907.11	-143.15	3,908.78	0.00	0.00	0.00
9,900.00	90.00	359.45	6,687.00	4,007.10	-144.12	4,008.78	0.00	0.00	0.00
10,000.00	90.00	359.45	6,687.00	4,107.10	-145.09	4,108.78	0.00	0.00	0.00
10,100.00	90.00	359.45	6,687.00	4,207.09	-146.06	4,208.77	0.00	0.00	0.00
10,200.00	90.00	359.45	6,687.00	4,307.09	-147.02	4,308.77	0.00	0.00	0.00
10,300.00	90.00	359.45	6,687.00	4,407.08	-147.99	4,408.77	0.00	0.00	0.00
10,400.00	90.00	359.45	6,687.00	4,507.08	-148.96	4,508.77	0.00	0.00	0.00
10,500.00	90.00	359.45	6,687.00	4,607.07	-149.92	4,608.77	0.00	0.00	0.00
10,600.00	90.00	359.45	6,687.00	4,707.07	-150.89	4,708.77	0.00	0.00	0.00
10,700.00	90.00	359.45	6,687.00	4,807.07	-151.86	4,808.77	0.00	0.00	0.00
10,800.00	90.00	359.45	6,687.00	4,907.06	-152.82	4,908.77	0.00	0.00	0.00
10,900.00	90.00	359.45	6,687.00	5,007.06	-153.79	5,008.77	0.00	0.00	0.00
11,000.00	90.00	359.45	6,687.00	5,107.05	-154.76	5,108.76	0.00	0.00	0.00
11,100.00	90.00	359.45	6,687.00	5,207.05	-155.72	5,208.76	0.00	0.00	0.00
11,200.00	90.00	359.45	6,687.00	5,307.04	-156.69	5,308.76	0.00	0.00	0.00
11,300.00	90.00	359.45	6,687.00	5,407.04	-157.66	5,408.76	0.00	0.00	0.00
11,400.00	90.00	359.45	6,687.00	5,507.03	-158.62	5,508.76	0.00	0.00	0.00
11,500.00	90.00	359.45	6,687.00	5,607.03	-159.59	5,608.76	0.00	0.00	0.00
11,600.00	90.00	359.45	6,687.00	5,707.02	-160.56	5,708.76	0.00	0.00	0.00
11,700.00	90.00	359.45	6,687.00	5,807.02	-161.52	5,808.76	0.00	0.00	0.00
11,800.00	90.00	359.45	6,687.00	5,907.01	-162.49	5,908.75	0.00	0.00	0.00
11,900.00	90.00	359.45	6,687.00	6,007.01	-163.46	6,008.75	0.00	0.00	0.00

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Guttersen D25-762
Company:	Northern Region - DJ Basin	TVD Reference:	KB @ 4817.00ft
Project:	Mustang	MD Reference:	KB @ 4817.00ft
Site:	D Section 25	North Reference:	Grid
Well:	Guttersen D25-762	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #3		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
12,000.00	90.00	359.45	6,687.00	6,107.00	-164.42	6,108.75	0.00	0.00	0.00
12,100.00	90.00	359.45	6,687.00	6,207.00	-165.39	6,208.75	0.00	0.00	0.00
12,200.00	90.00	359.45	6,687.00	6,307.00	-166.36	6,308.75	0.00	0.00	0.00
12,300.00	90.00	359.45	6,687.00	6,406.99	-167.33	6,408.75	0.00	0.00	0.00
12,400.00	90.00	359.45	6,687.00	6,506.99	-168.29	6,508.75	0.00	0.00	0.00
12,500.00	90.00	359.45	6,687.00	6,606.98	-169.26	6,608.75	0.00	0.00	0.00
12,600.00	90.00	359.45	6,687.00	6,706.98	-170.23	6,708.74	0.00	0.00	0.00
12,700.00	90.00	359.45	6,687.00	6,806.97	-171.19	6,808.74	0.00	0.00	0.00
12,800.00	90.00	359.45	6,687.00	6,906.97	-172.16	6,908.74	0.00	0.00	0.00
12,900.00	90.00	359.45	6,687.00	7,006.96	-173.13	7,008.74	0.00	0.00	0.00
13,000.00	90.00	359.45	6,687.00	7,106.96	-174.09	7,108.74	0.00	0.00	0.00
13,100.00	90.00	359.45	6,687.00	7,206.95	-175.06	7,208.74	0.00	0.00	0.00
13,159.07	90.00	359.45	6,687.00	7,266.02	-175.63	7,267.81	0.00	0.00	0.00
Start DLS 1.00 TFO 90.00									
13,200.00	90.00	359.86	6,687.00	7,306.95	-175.88	7,308.74	1.00	0.00	1.00
13,220.69	90.00	0.06	6,687.00	7,327.64	-175.90	7,329.43	1.00	0.00	1.00
Start 4413.39 hold at 13220.69 MD									
13,300.00	90.00	0.06	6,687.00	7,406.95	-175.81	7,408.72	0.00	0.00	0.00
13,400.00	90.00	0.06	6,687.00	7,506.95	-175.70	7,508.71	0.00	0.00	0.00
13,500.00	90.00	0.06	6,687.00	7,606.95	-175.59	7,608.70	0.00	0.00	0.00
13,600.00	90.00	0.06	6,687.00	7,706.95	-175.48	7,708.69	0.00	0.00	0.00
13,700.00	90.00	0.06	6,687.00	7,806.95	-175.37	7,808.68	0.00	0.00	0.00
13,800.00	90.00	0.06	6,687.00	7,906.95	-175.27	7,908.66	0.00	0.00	0.00
13,900.00	90.00	0.06	6,687.00	8,006.95	-175.16	8,008.65	0.00	0.00	0.00
14,000.00	90.00	0.06	6,687.00	8,106.95	-175.05	8,108.64	0.00	0.00	0.00
14,100.00	90.00	0.06	6,687.00	8,206.95	-174.94	8,208.63	0.00	0.00	0.00
14,200.00	90.00	0.06	6,687.00	8,306.95	-174.83	8,308.61	0.00	0.00	0.00
14,300.00	90.00	0.06	6,687.00	8,406.95	-174.72	8,408.60	0.00	0.00	0.00
14,400.00	90.00	0.06	6,687.00	8,506.95	-174.61	8,508.59	0.00	0.00	0.00
14,500.00	90.00	0.06	6,687.00	8,606.95	-174.51	8,608.58	0.00	0.00	0.00
14,600.00	90.00	0.06	6,687.00	8,706.95	-174.40	8,708.57	0.00	0.00	0.00
14,700.00	90.00	0.06	6,687.00	8,806.95	-174.29	8,808.55	0.00	0.00	0.00
14,800.00	90.00	0.06	6,687.00	8,906.95	-174.18	8,908.54	0.00	0.00	0.00
14,900.00	90.00	0.06	6,687.00	9,006.95	-174.07	9,008.53	0.00	0.00	0.00
15,000.00	90.00	0.06	6,687.00	9,106.95	-173.96	9,108.52	0.00	0.00	0.00
15,100.00	90.00	0.06	6,687.00	9,206.95	-173.85	9,208.50	0.00	0.00	0.00
15,200.00	90.00	0.06	6,687.00	9,306.95	-173.75	9,308.49	0.00	0.00	0.00
15,300.00	90.00	0.06	6,687.00	9,406.95	-173.64	9,408.48	0.00	0.00	0.00
15,400.00	90.00	0.06	6,687.00	9,506.95	-173.53	9,508.47	0.00	0.00	0.00
15,500.00	90.00	0.06	6,687.00	9,606.95	-173.42	9,608.46	0.00	0.00	0.00
15,600.00	90.00	0.06	6,687.00	9,706.95	-173.31	9,708.44	0.00	0.00	0.00
15,700.00	90.00	0.06	6,687.00	9,806.95	-173.20	9,808.43	0.00	0.00	0.00
15,800.00	90.00	0.06	6,687.00	9,906.95	-173.09	9,908.42	0.00	0.00	0.00
15,900.00	90.00	0.06	6,687.00	10,006.95	-172.99	10,008.41	0.00	0.00	0.00
16,000.00	90.00	0.06	6,687.00	10,106.95	-172.88	10,108.39	0.00	0.00	0.00
16,100.00	90.00	0.06	6,687.00	10,206.95	-172.77	10,208.38	0.00	0.00	0.00
16,200.00	90.00	0.06	6,687.00	10,306.95	-172.66	10,308.37	0.00	0.00	0.00
16,300.00	90.00	0.06	6,687.00	10,406.95	-172.55	10,408.36	0.00	0.00	0.00
16,400.00	90.00	0.06	6,687.00	10,506.95	-172.44	10,508.34	0.00	0.00	0.00
16,500.00	90.00	0.06	6,687.00	10,606.95	-172.33	10,608.33	0.00	0.00	0.00
16,600.00	90.00	0.06	6,687.00	10,706.95	-172.23	10,708.32	0.00	0.00	0.00
16,700.00	90.00	0.06	6,687.00	10,806.95	-172.12	10,808.31	0.00	0.00	0.00
16,800.00	90.00	0.06	6,687.00	10,906.95	-172.01	10,908.30	0.00	0.00	0.00

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Guttersen D25-762
Company:	Northern Region - DJ Basin	TVD Reference:	KB @ 4817.00ft
Project:	Mustang	MD Reference:	KB @ 4817.00ft
Site:	D Section 25	North Reference:	Grid
Well:	Guttersen D25-762	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #3		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
16,900.00	90.00	0.06	6,687.00	11,006.95	-171.90	11,008.28	0.00	0.00	0.00
17,000.00	90.00	0.06	6,687.00	11,106.95	-171.79	11,108.27	0.00	0.00	0.00
17,100.00	90.00	0.06	6,687.00	11,206.95	-171.68	11,208.26	0.00	0.00	0.00
17,200.00	90.00	0.06	6,687.00	11,306.95	-171.57	11,308.25	0.00	0.00	0.00
17,300.00	90.00	0.06	6,687.00	11,406.95	-171.47	11,408.23	0.00	0.00	0.00
17,400.00	90.00	0.06	6,687.00	11,506.95	-171.36	11,508.22	0.00	0.00	0.00
17,500.00	90.00	0.06	6,687.00	11,606.95	-171.25	11,608.21	0.00	0.00	0.00
17,600.00	90.00	0.06	6,687.00	11,706.95	-171.14	11,708.20	0.00	0.00	0.00
17,634.09	90.00	0.06	6,687.00	11,741.03	-171.10	11,742.28	0.00	0.00	0.00
TD at 17634.09									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
Guttersen D25-762 TPZ	0.00	0.00	6,687.00	1,198.86	-116.97	1,318,383.72	3,278,596.85	40.2030591	-104.5025658
- plan hits target center									
- Point									
Guttersen D25-762 BHL	0.00	0.00	6,687.00	11,741.03	-171.10	1,328,925.87	3,278,542.72	40.2319983	-104.5023350
- plan hits target center									
- Point									

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
680.00	680.00	Upper Pierre Aquifer Top				
718.00	718.00	Pierre				
1,617.00	1,617.00	Upper Pierre Aquifer Base				
3,683.91	3,669.00	Parkman				
4,110.43	4,091.00	Sussex				
4,297.41	4,276.00	Shannon				
5,983.29	5,944.00	Teepee Buttes				
6,684.12	6,561.00	Sharon Springs				
6,768.99	6,607.00	Top A Chalk				
6,773.14	6,609.00	Top A Marl				
6,803.68	6,623.00	Top B Chalk				
6,962.74	6,674.00	Top B Marl				

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Guttersen D25-762
Company:	Northern Region - DJ Basin	TVD Reference:	KB @ 4817.00ft
Project:	Mustang	MD Reference:	KB @ 4817.00ft
Site:	D Section 25	North Reference:	Grid
Well:	Guttersen D25-762	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #3		

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
2,000.00	2,000.00	0.00	0.00	Start Build 2.00
2,417.61	2,416.13	29.94	-5.16	Start 3765.62 hold at 2417.60 MD
6,183.22	6,141.81	568.98	-98.05	Start DLS 9.00 TFO 9.32
7,091.63	6,687.00	1,198.86	-116.97	TPZ/Landing Pt. at 7091.63 MD
13,159.07	6,687.00	7,266.02	-175.63	Start DLS 1.00 TFO 90.00
13,220.69	6,687.00	7,327.64	-175.90	Start 4413.39 hold at 13220.69 MD
17,634.09	6,687.00	11,741.03	-171.10	TD at 17634.09

Northern Region - DJ Basin

Mustang

D Section 25

Guttersen D25-762

Wellbore #1

Plan #3

Anticollision Summary Report

24 June, 2019

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersten D25-762
Project:	Mustang	TVD Reference:	KB @ 4817.00ft
Reference Site:	D Section 25	MD Reference:	KB @ 4817.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersten D25-762	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

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

Survey Tool Program		Date	6/24/2019		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.00	17,634.09	Plan #3 (Wellbore #1)	2_MWD+IFR1+MS	A008Mb: IFR dec & multi-station analysis	

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
D Section 01						
Guttersten D12-715 - Wellbore #1 - Plan #1	17,634.09	17,394.65	3,077.70	2,861.60	14.242	CC, ES, SF
Guttersten D12-725 - Wellbore #1 - Plan #1	17,634.09	17,354.05	2,432.58	2,217.66	11.319	CC, ES, SF
Guttersten D12-735 - Wellbore #1 - Plan #1	17,634.09	17,566.38	1,794.62	1,582.15	8.446	CC, ES, SF
Guttersten D12-745 - Wellbore #1 - Plan #1	17,634.09	17,749.15	1,169.47	963.97	5.691	CC, ES, SF
Guttersten D12-750 - Wellbore #1 - Plan #1	17,634.09	17,957.30	888.49	692.49	4.533	CC, ES, SF
Guttersten D12-755 - Wellbore #1 - Plan #1	17,634.09	17,362.69	598.59	431.89	3.591	CC, ES, SF
Guttersten D12-765 - Wellbore #1 - Plan #1	17,634.09	17,427.57	461.38	347.17	4.040	CC, ES, SF
Guttersten D12-770 - Wellbore #1 - Plan #1	17,634.09	17,530.79	695.40	519.17	3.946	CC, ES, SF
Guttersten D12-775 - Wellbore #1 - Plan #1	17,634.09	17,387.70	946.40	746.63	4.737	CC, ES, SF
Guttersten D12-785 - Wellbore #1 - Plan #1	17,634.09	17,570.64	1,563.62	1,352.55	7.408	CC, ES, SF
D Section 02						
Booth D11-715 - Booth D11-715 - Plan #1	17,634.09	17,531.72	2,245.55	2,062.49	12.267	CC, ES, SF
Booth D11-725 - Booth D11-725 - Plan #1	17,634.09	17,473.90	2,891.88	2,707.10	15.650	CC, ES, SF
Booth D11-730 - Booth D11-730 - Plan #1	17,634.09	17,544.11	3,221.32	3,036.01	17.383	CC, ES, SF
Booth D11-735 - Booth D11-735 - Plan #1	17,634.09	17,341.28	3,536.67	3,351.22	19.070	CC, ES, SF
Booth D11-745 - Booth D11-745 - Plan #1	17,634.09	17,438.95	4,186.62	4,000.69	22.517	CC, ES, SF
Booth D11-755 - Booth D11-755 - Plan #1	17,634.09	17,399.56	4,835.43	4,649.53	26.012	CC, ES, SF
Booth D11-765 - Booth D11-765 - Plan #1	17,634.09	17,474.67	5,485.05	5,298.91	29.468	CC, ES, SF
Booth D11-770 - Booth D11-770 - Plan #1	17,634.09	17,651.37	5,814.02	5,627.85	31.230	CC, ES, SF
Booth D11-775 - Booth D11-775 - Plan #1	17,634.09	17,638.00	6,135.16	5,948.73	32.910	CC, ES, SF
Booth D11-785 - Booth D11-785 - Plan #1	17,634.09	17,818.48	6,783.91	6,597.02	36.300	CC, ES, SF

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D25-762
Project:	Mustang	TVD Reference:	KB @ 4817.00ft
Reference Site:	D Section 25	MD Reference:	KB @ 4817.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D25-762	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
D Section 12						
GUTTERERSEN STATE D #12-7J(SI) - Wellbore #1 - No	17,634.09	6,626.00	3,876.46	3,775.43	38.369	CC, ES, SF
GUTTERSEN #12D(PR) - Wellbore #1 - No Surveys	17,634.09	6,620.00	2,592.70	2,453.90	18.679	CC, ES, SF
Guttersen #33-12(PR) - Wellbore #1 - No Surveys	17,634.09	6,610.00	2,606.82	2,490.10	22.333	CC, ES, SF
GUTTERSEN #34-12(PR) - Wellbore #1 - No Surveys	17,634.09	6,610.00	1,691.99	1,549.03	11.836	CC, ES, SF
Guttersen #43-12(PR) - Wellbore #1 - Gyro	17,634.09	6,574.35	3,569.13	3,468.67	35.530	CC, ES, SF
GUTTERSEN #44-12(PR) - Wellbore #1 - Gyro	17,634.09	6,483.46	2,878.07	2,762.33	24.867	CC, ES, SF
GUTTERSEN D #12-20(PR) - Wellbore #1 - No Surveys	17,634.09	6,610.00	2,953.08	2,859.05	31.405	CC, ES, SF
GUTTERSEN D #12-25(PR) - Wellbore #1 - No Surveys	17,634.09	6,617.00	1,700.79	1,603.14	17.418	CC, ES, SF
GUTTERSEN STATE D #12-19(PR) - Wellbore #1 - No S	17,634.09	6,617.00	4,270.40	4,180.54	47.520	CC, ES, SF
GUTTERSEN STATE D #12-2J(SI) - Wellbore #1 - No Su	17,634.09	6,650.00	5,069.27	4,970.87	51.515	CC, ES, SF
Guttersen State D12-01JL - Wellbore #1 - Wellbore #1 - A	17,634.09	7,070.01	5,504.78	5,424.47	68.541	CC, ES, SF
Guttersen State D12-08JL - Wellbore #1 - Wellbore #1 - A	17,634.09	6,707.44	4,371.38	4,280.45	48.070	CC, ES, SF
KARCH BLUE D #12-11(PR) - Wellbore #1 - No Surveys	17,634.09	6,601.00	2,258.62	2,169.45	25.331	CC, ES, SF
KARCH BLUE D #12-12(PR) - Wellbore #1 - No Surveys	17,634.09	6,598.00	2,494.18	2,385.43	22.937	CC, ES, SF
KARCH BLUE D #12-14(PR) - Wellbore #1 - No Surveys	17,634.09	6,604.00	873.51	783.17	9.670	CC, ES, SF
L F RANCH #2-12(SI) - Wellbore #1 - No Surveys	17,634.09	6,595.00	1,482.31	1,362.93	12.417	CC, ES, SF
SPIKE STATE #D 12-3(PR) - Wellbore #1 - No Surveys	17,634.09	6,609.00	4,851.07	4,763.03	55.101	CC, ES, SF
SPIKE STATE #D 12-4(PR) - Wellbore #1 - No Surveys	17,634.09	6,600.00	4,920.45	4,824.02	51.029	CC, ES, SF
SPIKE STATE #D 12-5(PR) - Wellbore #1 - No Surveys	17,634.09	6,597.00	3,724.14	3,624.33	37.313	CC, ES, SF
SPIKE STATE #D 12-6(PA) - Wellbore #1 - Gyro	17,634.09	6,648.63	3,490.28	3,437.00	65.498	CC, ES, SF
STATE #10(TA) - Wellbore #1 - No Surveys	17,634.09	6,664.00	4,798.41	4,688.84	43.791	CC, ES, SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersten D25-762
Project:	Mustang	TVD Reference:	KB @ 4817.00ft
Reference Site:	D Section 25	MD Reference:	KB @ 4817.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersten D25-762	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
D Section 13						
Offset Well - Wellbore - Design						
Dalbey D 13-11 (SI) - Wellbore #1 - Gyro Surveys	14,557.39	6,607.61	250.66	154.29	2.601	CC, ES, SF
Dalbey D 13-12 (PR) - Wellbore #1 - Gyro Surveys	14,070.01	6,620.60	894.96	802.27	9.656	CC, ES
Dalbey D 13-12 (PR) - Wellbore #1 - Gyro Surveys	14,100.00	6,620.86	895.47	802.54	9.636	SF
Dalbey D 13-13 (SI) - Wellbore #1 - As-Drilled	13,168.09	6,637.82	1,142.55	1,056.69	13.308	CC, ES
Dalbey D 13-13 (SI) - Wellbore #1 - As-Drilled	13,220.69	6,637.39	1,144.00	1,057.77	13.267	SF
Dalbey D 13-14 (PA) - Wellbore #1 - Gyro Surveys	13,159.07	6,613.96	30.94	-54.76	0.361	Level 1, ES, SF
Dalbey D 13-14 (PA) - Wellbore #1 - Gyro Surveys	13,159.22	6,613.96	30.94	-54.76	0.361	Level 1, CC
Guttersten 12-13 (SI) - Wellbore #1 - Gyro Surveys	15,745.48	6,653.59	1,278.45	1,172.65	12.084	CC, ES
Guttersten 12-13 (SI) - Wellbore #1 - Gyro Surveys	15,800.00	6,652.84	1,279.61	1,173.40	12.047	SF
Guttersten 13C (PR) - Wellbore #1 - Gyro Surveys	16,539.27	6,576.45	2,121.50	2,009.69	18.974	CC, ES
Guttersten 13C (PR) - Wellbore #1 - Gyro Surveys	16,700.00	6,575.36	2,127.58	2,014.82	18.869	SF
Guttersten 13D (PR) - Wellbore #1 - Gyro Surveys	13,935.85	6,597.24	2,123.04	2,031.48	23.188	CC, ES
Guttersten 13D (PR) - Wellbore #1 - Gyro Surveys	14,200.00	6,599.02	2,139.41	2,046.41	23.005	SF
Guttersten 13N (PR) - Wellbore #1 - Gyro Surveys	16,511.62	6,604.19	561.21	449.52	5.025	CC, ES, SF
Guttersten 13S (PR) - Wellbore #1 - Gyro Surveys	15,279.32	6,574.50	2,113.31	2,011.42	20.742	CC
Guttersten 13S (PR) - Wellbore #1 - Gyro Surveys	15,300.00	6,574.65	2,113.41	2,011.38	20.713	ES
Guttersten 13S (PR) - Wellbore #1 - Gyro Surveys	15,500.00	6,576.10	2,124.80	2,021.69	20.608	SF
Guttersten 13T (PR) - Wellbore #1 - Gyro Surveys	12,691.34	6,610.74	2,019.63	1,937.45	24.576	CC
Guttersten 13T (PR) - Wellbore #1 - Gyro Surveys	12,700.00	6,610.73	2,019.65	1,937.41	24.557	ES
Guttersten 13T (PR) - Wellbore #1 - Gyro Surveys	12,900.00	6,610.49	2,030.38	1,946.95	24.335	SF
Guttersten 21-13 (SI) - Wellbore #1 - Gyro Surveys	17,118.59	6,612.23	7.42	-109.13	0.064	Level 1, CC, ES, SF
Guttersten 22-13 (SI) - Wellbore #1 - Gyro Surveys	15,860.32	6,607.76	150.54	43.98	1.413	Level 3, CC, ES, SF
Guttersten 31-13 (PR) - Wellbore #1 - Gyro Surveys	17,165.37	6,636.60	1,380.20	1,263.15	11.791	CC, ES
Guttersten 31-13 (PR) - Wellbore #1 - Gyro Surveys	17,200.00	6,636.20	1,380.64	1,263.36	11.773	SF
Guttersten 32-13 (PR) - Wellbore #1 - Gyro Surveys	15,979.02	6,610.18	1,482.99	1,375.43	13.787	CC, ES
Guttersten 32-13 (PR) - Wellbore #1 - Gyro Surveys	16,100.00	6,609.52	1,487.92	1,379.75	13.756	SF
Guttersten 34-13 (PR) - Wellbore #1 - Gyro Surveys	13,215.62	6,618.03	1,385.32	1,299.22	16.090	CC
Guttersten 34-13 (PR) - Wellbore #1 - Gyro Surveys	13,220.69	6,618.07	1,385.33	1,299.19	16.083	ES
Guttersten 34-13 (PR) - Wellbore #1 - Gyro Surveys	13,300.00	6,618.62	1,387.81	1,301.23	16.029	SF
Guttersten 41-13 (PR) - Wellbore #1 - Gyro Surveys	17,109.20	6,479.24	2,768.36	2,652.41	23.875	CC, ES
Guttersten 41-13 (PR) - Wellbore #1 - Gyro Surveys	17,400.00	6,478.19	2,783.59	2,665.95	23.661	SF
Guttersten 42-13 (PR) - Wellbore #1 - Gyro Surveys	15,840.68	6,508.07	2,870.24	2,764.16	27.057	CC, ES
Guttersten 42-13 (PR) - Wellbore #1 - Gyro Surveys	16,200.00	6,515.98	2,892.63	2,784.44	26.736	SF
Guttersten 43-13 - Wellbore #1 - Wellbore #1 - As Drilled	14,569.97	6,632.35	2,778.47	2,681.94	28.782	CC
Guttersten 43-13 - Wellbore #1 - Wellbore #1 - As Drilled	14,600.00	6,632.67	2,778.64	2,681.88	28.719	ES
Guttersten 43-13 - Wellbore #1 - Wellbore #1 - As Drilled	14,900.00	6,636.01	2,798.00	2,699.48	28.401	SF
Guttersten 44-13 - Wellbore #1 - Wellbore #1 - As Drilled	13,219.18	6,655.29	2,726.65	2,636.88	30.372	CC
Guttersten 44-13 - Wellbore #1 - Wellbore #1 - As Drilled	13,220.69	6,655.29	2,726.65	2,636.87	30.368	ES
Guttersten 44-13 - Wellbore #1 - Wellbore #1 - As Drilled	13,600.00	6,654.90	2,753.02	2,661.03	29.927	SF
L F Ranch 1-13 (PR) - Wellbore #1 - Gyro Surveys	14,255.90	6,616.55	1,353.09	1,258.87	14.361	CC, ES
L F Ranch 1-13 (PR) - Wellbore #1 - Gyro Surveys	14,300.00	6,616.81	1,353.81	1,259.32	14.328	SF
L. F. Ranch 13-4 (SI) - Wellbore #1 - Gyro Surveys	16,775.55	6,666.76	893.88	779.98	7.847	CC, ES
L. F. Ranch 13-4 (SI) - Wellbore #1 - Gyro Surveys	16,800.00	6,665.85	894.22	780.10	7.836	SF

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersten D25-762
Project:	Mustang	TVD Reference:	KB @ 4817.00ft
Reference Site:	D Section 25	MD Reference:	KB @ 4817.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersten D25-762	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
D Section 14						
Dalbey D 14-1 (SI) - Wellbore #1 - Gyro Surveys	17,109.00	6,649.57	2,603.50	2,486.89	22.326	CC, ES
Dalbey D 14-1 (SI) - Wellbore #1 - Gyro Surveys	17,400.00	6,649.27	2,619.71	2,501.18	22.102	SF
Dalbey D 14-2 (SI) - Wellbore #1 - Gyro Surveys	16,859.04	6,660.59	3,518.23	3,403.58	30.686	CC
Dalbey D 14-2 (SI) - Wellbore #1 - Gyro Surveys	16,900.00	6,660.94	3,518.47	3,403.48	30.599	ES
Dalbey D 14-2 (SI) - Wellbore #1 - Gyro Surveys	17,400.00	6,665.17	3,559.57	3,441.43	30.128	SF
Dalbey D 14-3 (SI) - Wellbore #1 - Gyro Surveys	17,070.22	6,738.25	4,953.74	4,837.14	42.486	CC
Dalbey D 14-3 (SI) - Wellbore #1 - Gyro Surveys	17,100.00	6,738.38	4,953.83	4,836.99	42.398	ES
Dalbey D 14-3 (SI) - Wellbore #1 - Gyro Surveys	17,634.09	6,740.64	4,985.73	4,865.06	41.318	SF
Dalbey D 14-6 (SI) - Wellbore #1 - Gyro Surveys	15,904.76	6,669.42	5,156.25	5,049.11	48.126	CC, ES
Dalbey D 14-6 (SI) - Wellbore #1 - Gyro Surveys	17,000.00	6,674.38	5,271.29	5,157.03	46.136	SF
Dalbey D 14-7 (SI) - Wellbore #1 - Gyro Surveys	15,777.41	6,703.76	3,898.50	3,792.24	36.690	CC
Dalbey D 14-7 (SI) - Wellbore #1 - Gyro Surveys	15,800.00	6,703.84	3,898.56	3,792.12	36.628	ES
Dalbey D 14-7 (SI) - Wellbore #1 - Gyro Surveys	16,500.00	6,706.36	3,964.90	3,854.03	35.762	SF
Dalbey D 14-8 (SI) - Wellbore #1 - Gyro Surveys	15,822.03	6,657.26	2,646.24	2,539.78	24.859	CC, ES
Dalbey D 14-8 (SI) - Wellbore #1 - Gyro Surveys	16,100.00	6,658.46	2,660.79	2,552.43	24.555	SF
Guttersten State D 14-23 (SI) - Wellbore #1 - Gyro Survey	13,743.58	6,766.48	3,091.74	3,001.14	34.126	CC, ES
Guttersten State D 14-23 (SI) - Wellbore #1 - Gyro Survey	14,300.00	6,765.13	3,141.41	3,047.24	33.361	SF
Guttersten State D 14-24 (PR) - Wellbore #1 - Gyro Survey	13,853.65	6,700.00	4,553.56	4,462.28	49.887	CC
Guttersten State D 14-24 (PR) - Wellbore #1 - Gyro Survey	13,900.00	6,700.00	4,553.79	4,462.15	49.690	ES
Guttersten State D 14-24 (PR) - Wellbore #1 - Gyro Survey	14,900.00	6,700.00	4,672.23	4,574.25	47.687	SF
Guttersten State D 14-33 (PR) - Wellbore #1 - Gyro Survey	13,913.50	6,849.77	6,815.47	6,723.23	73.894	CC
Guttersten State D 14-33 (PR) - Wellbore #1 - Gyro Survey	14,000.00	6,849.53	6,816.02	6,723.11	73.361	ES
Guttersten State D 14-33 (PR) - Wellbore #1 - Gyro Survey	16,100.00	6,844.56	7,157.61	7,051.55	67.488	SF
HSR-Guttersten State 4-14 (PA) - Wellbore #1 - Gyro Survey	17,080.34	6,718.72	6,486.37	6,370.10	55.788	CC
HSR-Guttersten State 4-14 (PA) - Wellbore #1 - Gyro Survey	17,100.00	6,718.64	6,486.40	6,369.97	55.712	ES
HSR-Guttersten State 4-14 (PA) - Wellbore #1 - Gyro Survey	17,634.09	6,716.58	6,509.96	6,389.50	54.043	SF
HSR-Guttersten State 5-14 (PA) - Wellbore #1 - Gyro Survey	15,910.12	6,665.97	6,443.24	6,336.34	60.276	CC
HSR-Guttersten State 5-14 (PA) - Wellbore #1 - Gyro Survey	16,000.00	6,665.74	6,443.86	6,336.25	59.880	ES
HSR-Guttersten State 5-14 (PA) - Wellbore #1 - Gyro Survey	17,634.09	6,661.70	6,669.88	6,552.01	56.585	SF
Spike D 14-09 (SI) - Wellbore #1 - Gyro Surveys	14,686.90	6,639.35	2,307.86	2,210.35	23.668	CC
Spike D 14-09 (SI) - Wellbore #1 - Gyro Surveys	14,700.00	6,639.49	2,307.90	2,210.28	23.642	ES
Spike D 14-09 (SI) - Wellbore #1 - Gyro Surveys	15,000.00	6,642.55	2,329.00	2,229.49	23.403	SF
Spike D 14-16 (SI) - Wellbore #1 - Gyro Surveys	13,080.02	6,698.89	2,357.46	2,272.11	27.622	CC
Spike D 14-16 (SI) - Wellbore #1 - Gyro Surveys	13,100.00	6,698.84	2,357.54	2,272.04	27.573	ES
Spike D 14-16 (SI) - Wellbore #1 - Gyro Surveys	13,400.00	6,698.24	2,381.31	2,293.93	27.250	SF
Spike State D 14-11 (PR) - Wellbore #1 - Gyro Surveys	14,681.35	6,712.69	4,925.55	4,827.83	50.406	CC
Spike State D 14-11 (PR) - Wellbore #1 - Gyro Surveys	14,700.00	6,712.61	4,925.59	4,827.72	50.329	ES
Spike State D 14-11 (PR) - Wellbore #1 - Gyro Surveys	15,800.00	6,711.35	5,050.98	4,946.05	48.139	SF
Spike State D 14-12 (PR) - Wellbore #1 - Gyro Surveys	14,635.68	6,699.40	6,455.41	6,358.07	66.316	CC
Spike State D 14-12 (PR) - Wellbore #1 - Gyro Surveys	14,700.00	6,699.21	6,455.73	6,357.88	65.975	ES
Spike State D 14-12 (PR) - Wellbore #1 - Gyro Surveys	16,500.00	6,693.96	6,719.22	6,610.03	61.535	SF
Spike State D 14-13 (SI) - Wellbore #1 - Gyro Surveys	13,128.07	6,759.29	6,451.57	6,365.65	75.089	CC
Spike State D 14-13 (SI) - Wellbore #1 - Gyro Surveys	13,159.07	6,759.31	6,451.64	6,365.48	74.882	ES
Spike State D 14-13 (SI) - Wellbore #1 - Gyro Surveys	15,200.00	6,761.09	6,796.66	6,697.82	68.768	SF
Spike State D 14-14 (SI) - Wellbore #1 - Gyro Surveys	13,039.46	6,695.61	4,955.16	4,870.13	58.270	CC
Spike State D 14-14 (SI) - Wellbore #1 - Gyro Surveys	13,100.00	6,695.95	4,955.53	4,870.03	57.958	ES
Spike State D 14-14 (SI) - Wellbore #1 - Gyro Surveys	14,300.00	6,703.01	5,124.53	5,031.55	55.112	SF
Spike State D 14-15 (SI) - Wellbore #1 - Gyro Surveys	13,138.98	6,837.95	3,631.18	3,545.03	42.147	CC
Spike State D 14-15 (SI) - Wellbore #1 - Gyro Surveys	13,159.07	6,837.63	3,631.24	3,544.93	42.071	ES
Spike State D 14-15 (SI) - Wellbore #1 - Gyro Surveys	13,800.00	6,827.85	3,697.29	3,606.86	40.889	SF
Spike State D14-13J (SI) - Wellbore #1 - Gyro Surveys	13,849.28	6,712.29	5,998.26	5,906.91	65.658	CC
Spike State D14-13J (SI) - Wellbore #1 - Gyro Surveys	13,900.00	6,712.24	5,998.48	5,906.72	65.375	ES
Spike State D14-13J (SI) - Wellbore #1 - Gyro Surveys	15,600.00	6,710.71	6,248.53	6,146.09	60.995	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 Gutteresen D25-762
Project:	Mustang	TVD Reference:	KB @ 4817.00ft
Reference Site:	D Section 25	MD Reference:	KB @ 4817.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Gutteresen D25-762	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
D Section 14						
Spike State GWS D 14-10 (SI) - Wellbore #1 - Gyro Surv	14,343.57	6,700.00	3,746.51	3,651.46	39.419	CC
Spike State GWS D 14-10 (SI) - Wellbore #1 - Gyro Surv	14,400.00	6,700.00	3,746.93	3,651.44	39.238	ES
Spike State GWS D 14-10 (SI) - Wellbore #1 - Gyro Surv	15,000.00	6,689.64	3,803.56	3,704.23	38.292	SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersten D25-762
Project:	Mustang	TVD Reference:	KB @ 4817.00ft
Reference Site:	D Section 25	MD Reference:	KB @ 4817.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersten D25-762	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
D Section 23						
Guttersten 23-20 (SI) - Wellbore #1 - Gyro Surveys	10,063.89	6,751.08	5,792.41	5,728.67	90.878	CC
Guttersten 23-20 (SI) - Wellbore #1 - Gyro Surveys	10,100.00	6,750.83	5,792.52	5,728.54	90.537	ES
Guttersten 23-20 (SI) - Wellbore #1 - Gyro Surveys	12,300.00	6,734.55	6,209.02	6,132.15	80.773	SF
Guttersten 23-32 (SI) - Wellbore #1 - Gyro Surveys	10,563.10	6,775.48	3,635.31	3,568.12	54.107	CC
Guttersten 23-32 (SI) - Wellbore #1 - Gyro Surveys	10,600.00	6,775.27	3,635.50	3,568.05	53.901	ES
Guttersten 23-32 (SI) - Wellbore #1 - Gyro Surveys	11,500.00	6,769.69	3,754.09	3,681.27	51.553	SF
Guttersten 31-23 (PR) - Wellbore #1 - Gyro Surveys	11,865.78	6,716.40	2,470.20	2,393.92	32.383	CC
Guttersten 23-41 (PR) - Wellbore #1 - Gyro Surveys	11,900.00	6,715.65	2,470.43	2,393.90	32.278	ES
Guttersten 23-41 (PR) - Wellbore #1 - Gyro Surveys	12,300.00	6,705.61	2,508.06	2,429.13	31.778	SF
Guttersten 31-23 (PR) - Wellbore #1 - Gyro Surveys	11,861.45	6,786.45	3,810.59	3,734.07	49.799	CC
Guttersten 31-23 (PR) - Wellbore #1 - Gyro Surveys	11,900.00	6,785.80	3,810.78	3,733.97	49.616	ES
Guttersten 31-23 (PR) - Wellbore #1 - Gyro Surveys	12,700.00	6,772.20	3,901.73	3,819.97	47.721	SF
Guttersten 42-23 (PR) - Wellbore #1 - Gyro Surveys	10,529.64	6,711.71	2,502.22	2,435.47	37.489	CC, ES
Guttersten 42-23 (PR) - Wellbore #1 - Gyro Surveys	11,000.00	6,707.22	2,546.04	2,476.48	36.601	SF
Guttersten D23-711 - Wellbore #1 - Plan #1	13,198.84	13,307.59	1,844.98	1,727.00	15.638	CC
Guttersten D23-711 - Wellbore #1 - Plan #1	17,634.09	17,723.12	1,861.95	1,675.80	10.003	ES, SF
Guttersten D35-720 - Wellbore #1 - Plan #1	7,150.49	7,191.44	2,511.04	2,459.94	49.146	CC, ES
Guttersten D35-720 - Wellbore #1 - Plan #1	7,800.00	6,850.00	2,549.73	2,497.50	48.822	SF
Guttersten D35-730 - Wellbore #1 - Plan #1	7,263.19	7,015.60	3,170.88	3,120.50	62.939	CC, ES
Guttersten D35-730 - Wellbore #1 - Plan #1	8,400.00	6,500.00	3,277.05	3,224.17	61.975	SF
Guttersten D35-740 - Wellbore #1 - Plan #1	7,702.44	6,361.25	3,765.72	3,716.10	75.901	CC, ES
Guttersten D35-740 - Wellbore #1 - Plan #1	8,800.00	6,242.78	3,919.97	3,866.12	72.796	SF
Guttersten D35-750 - Wellbore #1 - Plan #1	7,114.77	7,230.57	4,465.44	4,414.78	88.141	CC, ES
Guttersten D35-750 - Wellbore #1 - Plan #1	9,300.00	6,550.00	4,798.76	4,741.10	83.228	SF
Guttersten D35-760 - Wellbore #1 - Plan #1	7,665.57	6,500.00	5,064.03	5,014.31	101.865	CC
Guttersten D35-760 - Wellbore #1 - Plan #1	7,700.00	6,500.00	5,064.14	5,014.30	101.592	ES
Guttersten D35-760 - Wellbore #1 - Plan #1	9,900.00	6,350.00	5,521.95	5,462.41	92.746	SF
Guttersten D35-770 - Wellbore #1 - Plan #1	3,128.83	2,741.64	5,565.26	5,544.83	272.376	CC
Guttersten D35-770 - Wellbore #1 - Plan #1	3,200.00	2,772.68	5,565.52	5,544.74	267.786	ES
Guttersten D35-770 - Wellbore #1 - Plan #1	10,500.00	5,453.60	6,312.37	6,253.20	106.668	SF
Guttersten D35-780 - Wellbore #1 - Plan #1	2,891.47	2,500.00	5,617.05	5,598.32	299.824	CC
Guttersten D35-780 - Wellbore #1 - Plan #1	2,900.00	2,500.00	5,617.06	5,598.30	299.364	ES
Guttersten D35-780 - Wellbore #1 - Plan #1	10,800.00	4,821.28	6,713.11	6,655.10	115.736	SF
Guttersten State D23-721 - Wellbore #1 - Plan #2	13,207.07	13,146.50	2,510.85	2,392.82	21.273	CC
Guttersten State D23-721 - Wellbore #1 - Plan #2	17,634.09	17,550.58	2,521.49	2,335.22	13.537	ES, SF
Guttersten State D23-731 - Wellbore #1 - Plan #2	13,209.77	13,129.22	3,172.45	3,054.30	26.850	CC
Guttersten State D23-731 - Wellbore #1 - Plan #2	17,634.09	17,527.71	3,181.89	2,995.44	17.066	ES, SF
Guttersten State D23-741 - Guttersten State D23-741 OH	5,582.22	5,562.21	3,759.08	3,719.39	94.711	CC
Guttersten State D23-741 - Guttersten State D23-741 OH	17,634.09	17,639.86	3,841.88	3,656.07	20.676	ES, SF
Guttersten State D23-751 - Wellbore #1 - BHI-Rev A.0	13,204.07	13,138.12	4,468.16	4,350.00	37.816	CC
Guttersten State D23-751 - Wellbore #1 - BHI-Rev A.0	17,634.09	17,545.49	4,481.04	4,294.49	24.020	ES, SF
Guttersten State D23-761 - Wellbore #1 - BHI-Rev A.0	13,203.13	13,095.33	5,128.28	5,010.39	43.503	CC
Guttersten State D23-761 - Wellbore #1 - BHI-Rev A.0	17,634.09	17,501.89	5,141.89	4,955.51	27.588	ES, SF
Guttersten State D23-771 - Wellbore #1 - BHI Rev-B.0	3,535.17	3,192.10	5,492.64	5,469.27	235.089	CC
Guttersten State D23-771 - Wellbore #1 - BHI Rev-B.0	3,600.00	3,230.01	5,492.80	5,469.08	231.548	ES
Guttersten State D23-771 - Wellbore #1 - BHI Rev-B.0	17,634.09	17,627.82	5,800.65	5,614.90	31.229	SF
Guttersten State D23-781 - Wellbore #1 - BHI Rev-A.0	2,830.98	2,463.66	5,571.07	5,552.75	304.118	CC
Guttersten State D23-781 - Wellbore #1 - BHI Rev-A.0	2,900.00	2,500.00	5,571.29	5,552.60	298.214	ES
Guttersten State D23-781 - Wellbore #1 - BHI Rev-A.0	17,634.09	17,587.59	6,409.25	6,223.60	34.524	SF
Guttersten State D35-790 - Wellbore #1 - Plan #1	7,162.19	7,350.00	1,851.25	1,798.84	35.326	CC, ES
Guttersten State D35-790 - Wellbore #1 - Plan #1	7,400.00	7,225.16	1,858.54	1,805.68	35.163	SF
Guttersten USX D 23-17 (PR) - Wellbore #1 - Gyro Survey	11,212.35	6,741.50	3,220.39	3,148.73	44.938	CC, ES
Guttersten USX D 23-17 (PR) - Wellbore #1 - Gyro Survey	11,900.00	6,739.43	3,292.99	3,217.10	43.390	SF

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D25-762
Project:	Mustang	TVD Reference:	KB @ 4817.00ft
Reference Site:	D Section 25	MD Reference:	KB @ 4817.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D25-762	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
D Section 23						
Parker Blue D 23-09 (SI) - Wellbore #1 - Gyro Surveys	8,891.32	6,652.67	2,248.59	2,192.49	40.080	CC
Parker Blue D 23-09 (SI) - Wellbore #1 - Gyro Surveys	8,900.00	6,652.53	2,248.61	2,192.46	40.044	ES
Parker Blue D 23-09 (SI) - Wellbore #1 - Gyro Surveys	9,300.00	6,646.42	2,285.42	2,227.13	39.206	SF
Parker Blue D 23-10 (SI) - Wellbore #1 - Gyro Surveys	9,068.20	6,677.72	3,510.60	3,453.37	61.346	CC
Parker Blue D 23-10 (SI) - Wellbore #1 - Gyro Surveys	9,100.00	6,677.58	3,510.74	3,453.32	61.146	ES
Parker Blue D 23-10 (SI) - Wellbore #1 - Gyro Surveys	10,100.00	6,673.12	3,659.08	3,596.22	58.211	SF
Parker Blue D 23-11 (SI) - Wellbore #1 - Gyro Surveys	9,489.21	6,737.93	4,979.90	4,919.89	82.989	CC
Parker Blue D 23-11 (SI) - Wellbore #1 - Gyro Surveys	9,500.00	6,737.88	4,979.91	4,919.83	82.895	ES
Parker Blue D 23-11 (SI) - Wellbore #1 - Gyro Surveys	11,300.00	6,728.51	5,298.89	5,228.55	75.328	SF
Parker Blue D 23-13 (SI) - Wellbore #1 - Gyro Surveys	8,307.94	6,628.62	6,521.00	6,468.12	123.332	CC, ES
Parker Blue D 23-13 (SI) - Wellbore #1 - Gyro Surveys	10,900.00	10,900.00	7,017.24	6,935.34	85.683	SF
Parker Blue D 23-14 (SI) - Wellbore #1 - Gyro Surveys	8,206.32	6,722.82	5,024.89	4,972.18	95.342	CC, ES
Parker Blue D 23-14 (SI) - Wellbore #1 - Gyro Surveys	10,300.00	6,713.45	5,443.61	5,380.24	85.908	SF
Parker Blue D 23-15 (SI) - Wellbore #1 - Gyro Surveys	7,768.14	6,669.01	3,740.87	3,690.33	74.014	CC, ES
Parker Blue D 23-15 (SI) - Wellbore #1 - Gyro Surveys	9,000.00	6,652.13	3,938.44	3,882.36	70.225	SF
Parker Blue D 23-3J (SI) - Wellbore #1 - Gyro Surveys	9,324.28	6,782.24	5,996.11	5,933.78	96.202	CC, ES
Parker Blue D 23-3J (SI) - Wellbore #1 - Gyro Surveys	11,900.00	6,793.06	6,525.92	6,448.86	84.689	SF
Parker Red D 23-05 (PR) - Wellbore #1 - Gyro Surveys	10,539.96	6,639.75	6,432.34	6,365.76	96.607	CC
Parker Red D 23-05 (PR) - Wellbore #1 - Gyro Surveys	10,600.00	6,639.80	6,432.62	6,365.62	96.009	ES
Parker Red D 23-05 (PR) - Wellbore #1 - Gyro Surveys	13,159.07	6,641.70	6,945.13	6,862.93	84.494	SF
Parker Red D 23-2J (SI) - Wellbore #1 - Gyro Surveys	10,892.91	6,573.07	5,596.99	5,528.16	81.321	CC
Parker Red D 23-2J (SI) - Wellbore #1 - Gyro Surveys	10,900.00	6,573.17	5,596.99	5,528.12	81.262	ES
Parker Red D 23-2J (SI) - Wellbore #1 - Gyro Surveys	12,900.00	6,605.72	5,945.89	5,864.91	73.432	SF
Parker Red D 23-3 (PR) - Wellbore #1 - Gyro Surveys	11,884.90	6,578.95	5,114.77	5,038.79	67.317	CC
Parker Red D 23-3 (PR) - Wellbore #1 - Gyro Surveys	11,900.00	6,578.79	5,114.79	5,038.70	67.218	ES
Parker Red D 23-3 (PR) - Wellbore #1 - Gyro Surveys	13,400.00	6,563.51	5,336.58	5,251.32	62.592	SF
Parker Red D 23-4 (SI) - Wellbore #1 - Gyro Surveys	11,797.57	6,684.52	6,452.22	6,376.48	85.181	CC
Parker Red D 23-4 (SI) - Wellbore #1 - Gyro Surveys	11,800.00	6,684.54	6,452.22	6,376.46	85.160	ES
Parker Red D 23-4 (SI) - Wellbore #1 - Gyro Surveys	14,100.00	6,700.32	6,859.91	6,769.94	76.246	SF
Two E Ranch 1-23 (SI) - Wellbore #1 - Gyro Surveys	8,396.35	6,691.94	2,747.70	2,694.15	51.319	CC
Two E Ranch 1-23 (SI) - Wellbore #1 - Gyro Surveys	8,400.00	6,691.92	2,747.70	2,694.14	51.301	ES
Two E Ranch 1-23 (SI) - Wellbore #1 - Gyro Surveys	9,000.00	6,688.15	2,813.22	2,756.64	49.724	SF

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D25-762
Project:	Mustang	TVD Reference:	KB @ 4817.00ft
Reference Site:	D Section 25	MD Reference:	KB @ 4817.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D25-762	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
D Section 24						
Dalbey D 24-10 (PR) - Wellbore #1 - Gyro Surveys	8,904.62	6,618.47	1,804.67	1,748.62	32.197	CC, ES
Dalbey D 24-10 (PR) - Wellbore #1 - Gyro Surveys	9,200.00	6,616.89	1,828.68	1,771.19	31.808	SF
Dalbey D 24-15 (SI) - Wellbore #1 - Gyro Surveys	7,946.21	6,630.29	1,331.15	1,279.98	26.017	CC, ES
Dalbey D 24-15 (SI) - Wellbore #1 - Gyro Surveys	8,100.00	6,631.01	1,340.00	1,288.22	25.877	SF
Glazier 2-24 (PR) - Wellbore #1 - Gyro Surveys	11,114.66	6,614.81	2,460.11	2,389.56	34.869	CC, ES
Glazier 2-24 (PR) - Wellbore #1 - Gyro Surveys	11,500.00	6,613.12	2,490.10	2,417.33	34.215	SF
Guttersen 11-24 (SI) - Wellbore #1 - Gyro Surveys	11,909.57	6,652.06	1,216.78	1,140.36	15.921	CC, ES
Guttersen 11-24 (SI) - Wellbore #1 - Gyro Surveys	12,000.00	6,652.24	1,220.14	1,143.11	15.840	SF
Guttersen 12-24 (SI) - Wellbore #1 - Gyro Surveys	10,612.90	6,644.78	1,237.26	1,170.16	18.439	CC, ES
Guttersen 12-24 (SI) - Wellbore #1 - Gyro Surveys	10,700.00	6,644.68	1,240.32	1,172.65	18.328	SF
Guttersen 21-24 (SI) - Wellbore #1 - Gyro Surveys	11,917.13	6,621.89	103.08	26.68	1.349	Level 3, CC, ES, SF
Guttersen 22-24 (PR) - Wellbore #1 - Gyro Surveys	10,688.20	6,619.96	148.20	80.65	2.194	CC, ES, SF
Guttersen 24A (SI) - Wellbore #1 - Gyro Surveys	11,245.36	6,626.02	527.96	456.48	7.386	CC, ES, SF
Guttersen 24J (PR) - Wellbore #1 - Gyro Surveys	12,545.65	6,623.88	432.81	351.75	5.339	CC, ES, SF
Guttersen 24N (SI) - Wellbore #1 - MWD Surveys	11,278.80	6,626.79	701.55	630.87	9.925	CC, ES
Guttersen 24N (SI) - Wellbore #1 - MWD Surveys	11,300.00	6,626.68	701.87	631.07	9.912	SF
Guttersen 24S (PR) - Wellbore #1 - MWD Surveys	9,785.31	6,593.83	2,156.59	2,096.13	35.669	CC
Guttersen 24S (PR) - Wellbore #1 - MWD Surveys	9,800.00	6,593.73	2,156.64	2,096.09	35.617	ES
Guttersen 24S (PR) - Wellbore #1 - MWD Surveys	10,100.00	6,591.50	2,179.42	2,117.24	35.049	SF
Guttersen 43-24 (PR) - Wellbore #1 - Gyro Surveys	9,158.69	6,651.25	2,697.27	2,639.57	46.741	CC, ES
Guttersen 43-24 (PR) - Wellbore #1 - Gyro Surveys	9,700.00	6,649.41	2,751.05	2,690.49	45.428	SF
Guttersen 44-24 (PR) - Wellbore #1 - Gyro Surveys	7,920.23	6,605.51	2,764.41	2,713.45	54.250	CC, ES
Guttersen 44-24 (PR) - Wellbore #1 - Gyro Surveys	8,500.00	6,605.92	2,824.55	2,771.10	52.842	SF
Karch Blue D 24-12 (PA) - Wellbore #1 - Gyro Surveys	9,434.17	6,643.09	1,186.95	1,127.65	20.016	CC, ES
Karch Blue D 24-12 (PA) - Wellbore #1 - Gyro Surveys	9,600.00	6,643.22	1,198.48	1,138.27	19.905	SF
Karch Blue D 24-14 (PR) - Wellbore #1 - No Surveys	7,901.24	6,635.00	371.84	211.16	2.314	CC, ES, SF
Karch Blue D24-11 (PA) - Wellbore #1 - Gyro Surveys	9,426.03	6,621.35	230.12	164.48	3.506	CC, ES, SF
Koerner 31-24 (SI) - Wellbore #1 - Gyro Surveys	11,961.63	6,631.98	1,426.57	1,349.81	18.584	CC, ES
Koerner 31-24 (SI) - Wellbore #1 - Gyro Surveys	12,100.00	6,633.19	1,433.26	1,355.72	18.482	SF
Koerner 32-24 (SI) - Wellbore #1 - Gyro Surveys	10,527.74	6,564.85	1,428.74	1,362.55	21.585	CC, ES
Koerner 32-24 (SI) - Wellbore #1 - Gyro Surveys	10,700.00	6,564.84	1,439.08	1,372.00	21.451	SF
Koerner 42-24 (SI) - Wellbore #1 - Gyro Surveys	10,510.62	6,630.99	2,738.09	2,671.75	41.268	CC, ES
Koerner 42-24 (SI) - Wellbore #1 - Gyro Surveys	11,000.00	6,626.15	2,781.48	2,712.33	40.226	SF
LF Ranch 1-24 (SI) - Wellbore #1 - Gyro Surveys	8,324.71	6,677.92	852.00	798.91	16.048	CC, ES
LF Ranch 1-24 (SI) - Wellbore #1 - Gyro Surveys	8,400.00	6,678.89	855.32	801.84	15.994	SF

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersten D25-762
Project:	Mustang	TVD Reference:	KB @ 4817.00ft
Reference Site:	D Section 25	MD Reference:	KB @ 4817.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersten D25-762	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
D Section 25						
Coors Energy 13-25D (PR) - Wellbore #1 - MWD Surveys	4,503.36	4,969.21	2,609.58	2,567.30	61.720	CC
Coors Energy 13-25D (PR) - Wellbore #1 - MWD Surveys	4,600.00	5,034.02	2,610.19	2,567.17	60.669	ES
Coors Energy 13-25D (PR) - Wellbore #1 - MWD Surveys	6,350.00	6,463.02	2,773.05	2,718.57	50.907	SF
Coors Energy 14-25D (PR) - Wellbore #1 - MWD Surveys	1,001.52	999.02	3,062.63	3,057.13	556.949	CC
Coors Energy 14-25D (PR) - Wellbore #1 - MWD Surveys	1,100.00	1,065.41	3,063.16	3,057.07	502.806	ES
Coors Energy 14-25D (PR) - Wellbore #1 - MWD Surveys	6,450.00	6,558.44	4,027.55	3,977.91	81.128	SF
Coors Energy 23-25D (PR) - Wellbore #1 - MWD Surveys	4,944.16	5,410.42	2,352.40	2,314.32	61.775	CC
Coors Energy 23-25D (PR) - Wellbore #1 - MWD Surveys	5,000.00	5,444.39	2,352.66	2,314.25	61.239	ES
Coors Energy 23-25D (PR) - Wellbore #1 - MWD Surveys	6,300.00	6,415.75	2,491.50	2,445.50	54.167	SF
Coors Energy 24-25 (PR) - Wellbore #1 - Gyro Surveys	2,041.84	2,089.23	3,365.97	3,351.74	236.617	CC, ES
Coors Energy 24-25 (PR) - Wellbore #1 - Gyro Surveys	6,450.00	6,392.72	4,134.81	4,089.52	91.307	SF
Coors Energy 25HD (PR) - Wellbore #1 - MWD Surveys	2,017.66	2,098.44	2,983.91	2,966.02	166.824	CC, ES
Coors Energy 25HD (PR) - Wellbore #1 - MWD Surveys	6,350.00	6,523.65	3,569.66	3,512.06	61.971	SF
Coors Energy 25LD (PR) - Wellbore #1 - MWD Surveys	0.00	0.00	3,074.49			
Coors Energy 25LD (PR) - Wellbore #1 - MWD Surveys	800.00	781.00	3,076.70	3,072.66	762.509	ES
Coors Energy 25LD (PR) - Wellbore #1 - MWD Surveys	6,550.00	6,625.93	4,439.54	4,393.82	97.120	SF
Coors Energy 25TD (PR) - Wellbore #1 - MWD Surveys	1,243.77	1,216.79	3,781.22	3,774.09	530.134	CC
Coors Energy 25TD (PR) - Wellbore #1 - MWD Surveys	1,300.00	1,252.06	3,781.37	3,773.92	507.481	ES
Coors Energy 25TD (PR) - Wellbore #1 - MWD Surveys	6,600.00	6,595.81	5,044.94	4,999.49	111.007	SF
Coors Energy 25XD (PR) - Wellbore #1 - MWD Surveys	843.76	830.72	3,716.56	3,712.28	868.084	CC
Coors Energy 25XD (PR) - Wellbore #1 - MWD Surveys	1,500.00	1,460.09	3,717.68	3,708.74	415.800	ES
Coors Energy 25XD (PR) - Wellbore #1 - MWD Surveys	6,500.00	6,640.03	4,626.02	4,570.39	83.155	SF
Coors Energy 25YD (PR) - Wellbore #1 - MWD Surveys	870.66	901.86	3,750.21	3,745.70	832.346	CC, ES
Coors Energy 25YD (PR) - Wellbore #1 - MWD Surveys	6,650.00	6,945.71	5,655.97	5,605.32	111.675	SF
Coors Energy 33-25D (PR) - Wellbore #1 - MWD Surveys	4,860.44	5,365.76	2,766.68	2,728.61	72.679	CC
Coors Energy 33-25D (PR) - Wellbore #1 - MWD Surveys	4,900.00	5,386.26	2,766.82	2,728.54	72.289	ES
Coors Energy 33-25D (PR) - Wellbore #1 - MWD Surveys	6,400.00	6,560.88	2,927.49	2,880.24	61.950	SF
Coors Energy 34-25 (PR) - Wellbore #1 - Gyro Surveys	0.00	0.00	3,575.81			
Coors Energy 34-25 (PR) - Wellbore #1 - Gyro Surveys	2,002.66	1,989.04	3,588.82	3,575.09	261.369	ES
Coors Energy 34-25 (PR) - Wellbore #1 - Gyro Surveys	6,500.00	6,397.13	4,357.79	4,312.31	95.800	SF
Coors Energy 43-25D (PR) - Wellbore #1 - MWD Surveys	2,753.17	3,268.00	3,532.44	3,508.53	147.736	CC
Coors Energy 43-25D (PR) - Wellbore #1 - MWD Surveys	4,121.46	4,691.00	3,545.43	3,506.66	91.439	ES
Coors Energy 43-25D (PR) - Wellbore #1 - MWD Surveys	6,450.00	6,656.66	3,751.14	3,695.94	67.956	SF
Coors Energy 44-25D (PR) - Wellbore #1 - MWD Surveys	100.00	70.13	3,741.17	3,740.92	10,000.000	CC
Coors Energy 44-25D (PR) - Wellbore #1 - MWD Surveys	500.00	454.42	3,742.31	3,739.94	1,576.192	ES
Coors Energy 44-25D (PR) - Wellbore #1 - MWD Surveys	6,550.00	6,510.48	4,798.69	4,751.32	101.317	SF
Dalbey D 25-03 (SI) - Wellbore #1 - Gyro Surveys	4,867.88	4,807.39	229.89	196.06	6.795	CC
Dalbey D 25-03 (SI) - Wellbore #1 - Gyro Surveys	5,000.00	4,939.77	230.22	195.44	6.619	ES
Dalbey D 25-03 (SI) - Wellbore #1 - Gyro Surveys	5,600.00	5,534.95	244.20	205.13	6.251	SF
Dalbey D 25-05 (SI) - Wellbore #1 - Gyro Surveys	1,777.07	1,773.10	1,597.45	1,585.29	131.402	CC
Dalbey D 25-05 (SI) - Wellbore #1 - Gyro Surveys	2,100.00	2,089.79	1,598.55	1,584.13	110.883	ES
Dalbey D 25-05 (SI) - Wellbore #1 - Gyro Surveys	6,400.00	6,343.38	1,823.02	1,778.14	40.621	SF
Guttersten 11-25 (PR) - Wellbore #1 - MWD Surveys	6,693.53	6,568.24	1,184.00	1,138.46	25.999	CC
Guttersten 11-25 (PR) - Wellbore #1 - MWD Surveys	6,700.00	6,572.00	1,184.02	1,138.44	25.979	ES
Guttersten 11-25 (PR) - Wellbore #1 - MWD Surveys	6,850.00	6,642.79	1,192.81	1,146.48	25.750	SF
Guttersten 22-25 (PA) - Wellbore #1 - MWD Surveys	1,276.10	1,249.11	495.80	488.43	67.305	CC
Guttersten 22-25 (PA) - Wellbore #1 - MWD Surveys	1,400.00	1,369.32	496.15	487.93	60.353	ES
Guttersten 22-25 (PA) - Wellbore #1 - MWD Surveys	6,183.22	6,109.94	1,050.45	1,008.29	24.918	SF
Guttersten 25E (PR) - Wellbore #1 - MWD Surveys	7,282.63	6,668.49	1,579.82	1,531.90	32.962	CC, ES
Guttersten 25E (PR) - Wellbore #1 - MWD Surveys	7,500.00	6,665.62	1,594.71	1,546.06	32.782	SF
Guttersten 25KD (PR) - Wellbore #1 - MWD Surveys	2,186.15	2,273.13	1,037.79	1,020.77	60.958	CC
Guttersten 25KD (PR) - Wellbore #1 - MWD Surveys	2,200.00	2,285.26	1,037.84	1,020.68	60.496	ES
Guttersten 25KD (PR) - Wellbore #1 - MWD Surveys	6,250.00	6,397.61	1,765.94	1,713.22	33.493	SF

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersten D25-762
Project:	Mustang	TVD Reference:	KB @ 4817.00ft
Reference Site:	D Section 25	MD Reference:	KB @ 4817.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersten D25-762	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
D Section 25						
Guttersten 250 (PR) - Wellbore #1 - MWD Surveys	1,045.07	1,013.07	1,193.44	1,187.64	205.811	CC
Guttersten 250 (PR) - Wellbore #1 - MWD Surveys	2,016.72	1,991.02	1,193.87	1,181.22	94.406	ES
Guttersten 250 (PR) - Wellbore #1 - MWD Surveys	6,300.00	6,227.36	1,697.65	1,654.44	39.285	SF
Guttersten D 25-17 (SI) - Wellbore #1 - Gyro Surveys	2,216.47	2,183.69	1,887.44	1,872.26	124.293	CC
Guttersten D 25-17 (SI) - Wellbore #1 - Gyro Surveys	2,300.00	2,266.93	1,887.60	1,871.83	119.674	ES
Guttersten D 25-17 (SI) - Wellbore #1 - Gyro Surveys	6,650.00	6,538.94	2,033.65	1,987.23	43.807	SF
Guttersten D25-715 - Wellbore #1 - Plan #3	2,000.00	1,986.00	2,269.65	2,255.82	164.197	CC, ES
Guttersten D25-715 - Wellbore #1 - Plan #3	17,634.09	17,815.92	3,049.01	2,850.38	15.350	SF
Guttersten D25-724 - Wellbore #1 - Plan #3	2,000.00	1,985.00	2,232.99	2,219.17	161.587	CC
Guttersten D25-724 - Wellbore #1 - Plan #3	2,100.00	2,089.60	2,233.53	2,218.98	153.499	ES
Guttersten D25-724 - Wellbore #1 - Plan #3	17,634.09	17,688.22	2,458.67	2,259.88	12.368	SF
Guttersten D25-734 - Wellbore #1 - Plan #5	17,634.09	17,702.85	1,839.16	1,640.11	9.240	CC, ES, SF
Guttersten D25-743 - Wellbore #1 - Plan #3	7,085.14	7,273.33	1,215.90	1,163.41	23.162	CC
Guttersten D25-743 - Wellbore #1 - Plan #3	17,634.09	17,816.00	1,218.77	1,019.66	6.121	ES, SF
Guttersten D25-753 - Wellbore #1 - Plan #3	2,000.00	2,000.00	37.50	23.63	2.703	CC, ES
Guttersten D25-753 - Wellbore #1 - Plan #3	2,100.00	2,100.23	38.60	24.01	2.646	SF
Guttersten D25-772 - Wellbore #1 - Plan #3	2,000.00	1,999.00	37.50	23.63	2.704	CC
Guttersten D25-772 - Wellbore #1 - Plan #3	2,100.00	2,097.71	37.78	23.21	2.593	ES
Guttersten D25-772 - Wellbore #1 - Plan #3	2,200.00	2,196.33	38.91	23.66	2.551	SF
Guttersten D25-781 - Wellbore #1 - Plan #3	2,000.00	2,000.00	75.00	61.13	5.406	CC
Guttersten D25-781 - Wellbore #1 - Plan #3	2,100.00	2,097.59	75.19	60.62	5.161	ES
Guttersten D25-781 - Wellbore #1 - Plan #3	2,300.00	2,292.16	77.91	62.01	4.900	SF
Guttersten State D36-714 - Wellbore #1 - Plan #1	2,000.00	1,985.00	2,243.21	2,229.39	162.327	CC
Guttersten State D36-714 - Wellbore #1 - Plan #1	2,100.00	2,084.98	2,243.73	2,229.19	154.367	ES
Guttersten State D36-714 - Wellbore #1 - Plan #1	6,450.00	5,703.87	3,326.52	3,284.05	78.333	SF
Guttersten State D36-724 - Wellbore #1 - Plan #1	2,000.00	1,986.00	2,206.10	2,192.28	159.600	CC
Guttersten State D36-724 - Wellbore #1 - Plan #1	2,100.00	2,085.98	2,206.62	2,192.09	151.777	ES
Guttersten State D36-724 - Wellbore #1 - Plan #1	6,500.00	6,122.63	2,914.81	2,870.41	65.647	SF
Guttersten State D36-733 - Wellbore #1 - Plan #1	2,000.00	1,985.00	2,169.02	2,155.20	156.958	CC
Guttersten State D36-733 - Wellbore #1 - Plan #1	2,900.00	3,008.08	2,174.59	2,154.13	106.282	ES
Guttersten State D36-733 - Wellbore #1 - Plan #1	6,300.00	6,237.76	2,395.41	2,350.89	53.805	SF
Guttersten State D36-743 - Wellbore #1 - Plan #1	5,161.56	5,405.74	1,925.01	1,887.19	50.890	CC
Guttersten State D36-743 - Wellbore #1 - Plan #1	5,300.00	5,536.15	1,925.57	1,886.71	49.543	ES
Guttersten State D36-743 - Wellbore #1 - Plan #1	6,250.00	6,350.00	1,964.34	1,918.69	43.032	SF
Guttersten State D36-752 - Wellbore #1 - Plan #1	2,448.87	2,445.59	146.47	129.48	8.618	CC, ES
Guttersten State D36-752 - Wellbore #1 - Plan #1	2,600.00	2,589.84	151.86	133.88	8.447	SF
Guttersten State D36-762 - Wellbore #1 - Plan #1	2,675.63	2,676.22	111.42	92.88	6.009	CC, ES
Guttersten State D36-762 - Wellbore #1 - Plan #1	2,700.00	2,699.52	111.66	92.95	5.969	SF
Guttersten State D36-771 - Wellbore #1 - Plan #1	2,840.35	2,843.51	55.96	36.28	2.844	CC, ES, SF
Guttersten State D36-781 - Wellbore #1 - Plan #1	2,781.17	2,783.74	19.36	0.12	1.006	Level 2, CC, ES, SF
Karch Blue D 25-02 (DA) - Wellbore #1 - No Surveys	5,653.03	5,561.24	1,439.66	1,308.35	10.963	CC
Karch Blue D 25-02 (DA) - Wellbore #1 - No Surveys	6,550.00	6,414.22	1,441.12	1,289.47	9.503	ES
Karch Blue D 25-02 (DA) - Wellbore #1 - No Surveys	6,800.00	6,565.38	1,457.61	1,302.09	9.372	SF
Karch Blue D 25-08 (SI) - Wellbore #1 - Gyro Surveys	2,025.76	1,984.08	2,712.98	2,699.19	196.782	CC
Karch Blue D 25-08 (SI) - Wellbore #1 - Gyro Surveys	2,100.00	2,058.14	2,713.34	2,699.03	189.598	ES
Karch Blue D 25-08 (SI) - Wellbore #1 - Gyro Surveys	6,650.00	6,500.00	3,042.51	2,996.28	65.804	SF
Karch Blue D25-07 (SI) - Wellbore #1 - Gyro Surveys	2,070.11	2,040.69	1,455.78	1,441.63	102.852	CC
Karch Blue D25-07 (SI) - Wellbore #1 - Gyro Surveys	2,100.00	2,070.78	1,455.86	1,441.49	101.338	ES
Karch Blue D25-07 (SI) - Wellbore #1 - Gyro Surveys	6,350.00	6,277.77	1,820.01	1,775.56	40.949	SF
L F Ranch 2-25 (PR) - Wellbore #1 - Gyro Surveys	4,547.27	4,480.71	2,708.17	2,676.62	85.817	CC
L F Ranch 2-25 (PR) - Wellbore #1 - Gyro Surveys	6,000.00	5,931.95	2,715.69	2,673.80	64.828	ES
L F Ranch 2-25 (PR) - Wellbore #1 - Gyro Surveys	7,050.00	6,655.52	2,764.48	2,716.46	57.572	SF
LF Ranches 1 (PA) - Wellbore #1 - No Surveys	2,304.54	2,251.97	2,363.36	2,310.31	44.541	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 Gutteresen D25-762
Project:	Mustang	TVD Reference:	KB @ 4817.00ft
Reference Site:	D Section 25	MD Reference:	KB @ 4817.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Gutteresen D25-762	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
D Section 25						
LF Ranches 1 (PA) - Wellbore #1 - No Surveys	5,000.00	4,919.13	2,395.22	2,279.13	20.632	ES
LF Ranches 1 (PA) - Wellbore #1 - No Surveys	6,800.00	6,569.38	2,489.73	2,334.14	16.002	SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersten D25-762
Project:	Mustang	TVD Reference:	KB @ 4817.00ft
Reference Site:	D Section 25	MD Reference:	KB @ 4817.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersten D25-762	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
D Section 26						
Adam Red D 26-11 (PR) - Wellbore #1 - Gyro Surveys	1,684.52	1,727.54	5,710.57	5,698.90	489.536	CC
Adam Red D 26-11 (PR) - Wellbore #1 - Gyro Surveys	2,000.00	2,000.00	5,711.41	5,697.67	415.502	ES
Adam Red D 26-11 (PR) - Wellbore #1 - Gyro Surveys	6,850.00	6,800.00	6,025.53	5,977.57	125.629	SF
Adam Red D 26-12 (PR) - Wellbore #1 - Gyro Surveys	1,427.26	1,477.29	6,851.81	6,841.93	694.093	CC
Adam Red D 26-12 (PR) - Wellbore #1 - Gyro Surveys	2,900.00	3,036.77	6,859.52	6,838.95	333.545	ES
Adam Red D 26-12 (PR) - Wellbore #1 - Gyro Surveys	7,000.00	6,703.19	7,158.47	7,103.62	130.513	SF
Adam Red D 26-13 (PR) - Wellbore #1 - Gyro Surveys	2,047.80	2,149.84	7,060.89	7,046.44	488.649	CC
Adam Red D 26-13 (PR) - Wellbore #1 - Gyro Surveys	2,200.00	2,356.30	7,061.48	7,045.76	449.340	ES
Adam Red D 26-13 (PR) - Wellbore #1 - Gyro Surveys	10,000.00	10,000.00	9,536.18	9,468.58	141.059	SF
Adam Red D 26-14 (PR) - Wellbore #1 - Gyro Surveys	1,194.17	1,244.19	5,894.34	5,886.11	716.791	CC
Adam Red D 26-14 (PR) - Wellbore #1 - Gyro Surveys	2,000.00	2,014.34	5,898.08	5,884.29	427.578	ES
Adam Red D 26-14 (PR) - Wellbore #1 - Gyro Surveys	6,850.00	6,688.74	6,382.40	6,330.43	122.801	SF
Coors Energy 14-25H (PR) - Wellbore #1 - MWD Surveys	0.00	0.00	3,203.00			
Coors Energy 14-25H (PR) - Wellbore #1 - MWD Surveys	6,300.00	8,405.09	3,348.20	3,269.83	42.726	SF
Heyde 1-26 (PR) - Wellbore #1 - Gyro Surveys	6,283.88	6,216.92	2,825.72	2,781.79	64.316	CC
Heyde 1-26 (PR) - Wellbore #1 - Gyro Surveys	6,350.00	6,274.59	2,826.06	2,781.68	63.676	ES
Heyde 1-26 (PR) - Wellbore #1 - Gyro Surveys	6,950.00	6,654.99	2,881.90	2,834.13	60.320	SF
Heyde 26ND (PR) - Wellbore #1 - MWD Surveys	6,331.20	6,565.34	4,429.66	4,381.52	92.009	CC
Heyde 26ND (PR) - Wellbore #1 - MWD Surveys	6,350.00	6,591.55	4,429.69	4,381.38	91.691	ES
Heyde 26ND (PR) - Wellbore #1 - MWD Surveys	7,800.00	6,933.55	4,748.56	4,692.80	85.174	SF
Heyde 26RD (PR) - Wellbore #1 - MWD Surveys	1,000.56	998.92	3,008.99	3,002.52	464.527	CC, ES
Heyde 26RD (PR) - Wellbore #1 - MWD Surveys	8,000.00	6,773.36	3,201.31	3,147.04	58.989	SF
Heyde 26VD (PR) - Wellbore #1 - MWD Surveys	5,737.81	5,862.88	1,966.14	1,921.25	43.809	CC
Heyde 26VD (PR) - Wellbore #1 - MWD Surveys	5,800.00	5,905.44	1,966.51	1,921.25	43.452	ES
Heyde 26VD (PR) - Wellbore #1 - MWD Surveys	6,650.00	6,658.27	2,030.94	1,979.45	39.444	SF
Heyde 31-26 (PR) - Wellbore #1 - No Surveys	6,673.43	6,582.80	4,074.95	4,028.31	87.362	CC
Heyde 31-26 (PR) - Wellbore #1 - No Surveys	6,700.00	6,599.45	4,075.03	4,028.23	87.084	ES
Heyde 31-26 (PR) - Wellbore #1 - No Surveys	7,900.00	6,715.85	4,269.50	4,218.44	83.608	SF
Heyde 32-26 (SI) - Wellbore #1 - Gyro Surveys	382.75	407.84	4,029.87	4,027.48	1,685.724	CC
Heyde 32-26 (SI) - Wellbore #1 - Gyro Surveys	600.00	592.19	4,030.77	4,026.96	1,057.615	ES
Heyde 32-26 (SI) - Wellbore #1 - Gyro Surveys	6,900.00	6,754.70	4,224.83	4,176.86	88.070	SF
Heyde 41-26 (PR) - Wellbore #1 - Gyro Surveys	6,841.26	6,658.88	2,436.35	2,388.86	51.303	CC
Heyde 41-26 (PR) - Wellbore #1 - Gyro Surveys	6,850.00	6,661.47	2,436.37	2,388.84	51.263	ES
Heyde 41-26 (PR) - Wellbore #1 - Gyro Surveys	7,100.00	6,693.94	2,451.45	2,403.07	50.669	SF
Heyde 42-26 (PR) - Wellbore #1 - Gyro Surveys	0.00	0.00	2,657.48			
Heyde 42-26 (PR) - Wellbore #1 - Gyro Surveys	2,400.00	2,404.41	2,668.09	2,651.50	160.786	ES
Heyde 42-26 (PR) - Wellbore #1 - Gyro Surveys	6,650.00	6,526.12	2,842.54	2,796.16	61.298	SF
HSR-Waste Services 10-26 (SI) - Wellbore #1 - No Surve	2,000.00	2,029.00	4,261.53	4,214.02	89.685	CC
HSR-Waste Services 10-26 (SI) - Wellbore #1 - No Surve	2,200.00	2,228.84	4,263.97	4,211.74	81.642	ES
HSR-Waste Services 10-26 (SI) - Wellbore #1 - No Surve	6,650.00	6,568.90	4,624.24	4,469.09	29.805	SF
HSR-Waste Services 15-26 (SI) - Wellbore #1 - No Surve	2,000.00	2,045.00	5,027.63	4,979.80	105.100	CC
HSR-Waste Services 15-26 (SI) - Wellbore #1 - No Surve	2,100.00	2,144.98	5,028.47	4,978.28	100.181	ES
HSR-Waste Services 15-26 (SI) - Wellbore #1 - No Surve	6,650.00	6,584.90	5,479.60	5,324.13	35.245	SF
HSR-Waste Services 16-26 (SI) - Wellbore #1 - Gyro Sur	0.00	0.00	4,075.30			
HSR-Waste Services 16-26 (SI) - Wellbore #1 - Gyro Sur	6,600.00	6,555.95	4,667.70	4,621.26	100.529	SF
HSR-Waste Services 9-26 (PA) - Wellbore #1 - Gyro Sur	2,037.25	2,067.44	3,167.52	3,153.38	224.070	CC
HSR-Waste Services 9-26 (PA) - Wellbore #1 - Gyro Sur	2,100.00	2,132.51	3,167.83	3,153.24	217.138	ES
HSR-Waste Services 9-26 (PA) - Wellbore #1 - Gyro Sur	6,550.00	6,512.97	3,544.95	3,498.85	76.896	SF
Waste Management 11-26 (PR) - Wellbore #1 - Gyro Sur	6,014.43	5,843.84	6,484.31	6,442.69	155.788	CC
Waste Management 11-26 (PR) - Wellbore #1 - Gyro Sur	6,200.00	5,989.01	6,484.81	6,442.01	151.508	ES
Waste Management 11-26 (PR) - Wellbore #1 - Gyro Sur	10,400.00	6,440.39	7,552.85	7,491.58	123.265	SF
Waste Management 12-26 (PR) - Wellbore #1 - Gyro Sur	4,324.83	4,329.72	6,653.46	6,623.25	220.268	CC
Waste Management 12-26 (PR) - Wellbore #1 - Gyro Sur	4,900.00	4,885.79	6,655.20	6,620.97	194.407	ES

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersten D25-762
Project:	Mustang	TVD Reference:	KB @ 4817.00ft
Reference Site:	D Section 25	MD Reference:	KB @ 4817.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersten D25-762	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
D Section 26						
Waste Management 12-26 (PR) - Wellbore #1 - Gyro Sur	9,300.00	6,509.97	7,709.03	7,653.49	138.806	SF
Waste Management 12-26A (PR) - Wellbore #1 - Gyro Su	5,568.84	5,507.01	5,944.22	5,905.39	153.078	CC
Waste Management 12-26A (PR) - Wellbore #1 - Gyro Su	6,183.22	6,090.91	5,946.43	5,903.32	137.938	ES
Waste Management 12-26A (PR) - Wellbore #1 - Gyro Su	9,000.00	6,476.94	6,718.18	6,663.77	123.492	SF
Waste Management 21-26 (PR) - Wellbore #1 - Gyro Sur	6,813.70	6,704.24	5,028.96	4,981.46	105.868	CC
Waste Management 21-26 (PR) - Wellbore #1 - Gyro Sur	6,850.00	6,724.11	5,029.10	4,981.41	105.456	ES
Waste Management 21-26 (PR) - Wellbore #1 - Gyro Sur	9,000.00	6,757.49	5,510.17	5,454.25	98.526	SF
Waste Management 22-26 (PR) - Wellbore #1 - Gyro Sur	1,213.25	1,246.27	5,274.74	5,266.44	635.917	CC
Waste Management 22-26 (PR) - Wellbore #1 - Gyro Sur	5,800.00	5,803.41	5,291.59	5,250.87	129.929	ES
Waste Management 22-26 (PR) - Wellbore #1 - Gyro Sur	7,000.00	6,787.06	5,427.38	5,379.04	112.276	SF
Waste Management 26FD (PR) - Wellbore #1 - MWD Su	837.47	876.03	6,064.72	6,059.26	1,111.156	CC
Waste Management 26FD (PR) - Wellbore #1 - MWD Su	1,047.90	1,104.55	6,064.79	6,057.77	863.433	ES
Waste Management 26FD (PR) - Wellbore #1 - MWD Su	10,900.00	6,912.62	8,611.60	8,543.44	126.341	SF
Waste Management 26KD (PR) - Wellbore #1 - MWD Su	3,666.89	3,775.00	6,001.31	5,971.25	199.619	CC
Waste Management 26KD (PR) - Wellbore #1 - MWD Su	3,700.00	3,775.00	6,001.41	5,971.22	198.836	ES
Waste Management 26KD (PR) - Wellbore #1 - MWD Su	6,900.00	6,656.76	6,224.34	6,170.24	115.053	SF
Waste Management D 26-25 (SI) - Wellbore #1 - Gyro Su	2,028.47	2,100.00	6,280.14	6,265.92	441.668	CC
Waste Management D 26-25 (SI) - Wellbore #1 - Gyro Su	2,100.00	2,145.50	6,280.48	6,265.85	429.194	ES
Waste Management D 26-25 (SI) - Wellbore #1 - Gyro Su	6,800.00	6,801.93	6,619.17	6,571.33	138.359	SF
Waste Management 26JD (PR) - Wellbore #1 - MWD Surv	966.90	990.00	5,555.46	5,549.52	934.636	CC
Waste Management 26JD (PR) - Wellbore #1 - MWD Surv	1,000.00	990.00	5,555.56	5,549.50	916.379	ES
Waste Management 26JD (PR) - Wellbore #1 - MWD Surv	10,000.00	6,759.12	6,408.95	6,343.92	98.550	SF
DD Section 06						
Guttersten DD18-715 - Guttersten DD18-715 - Plan #1	17,600.00	12,608.04	8,373.89	8,221.21	54.845	SF
Guttersten DD18-715 - Guttersten DD18-715 - Plan #1	17,634.09	12,557.88	8,373.39	8,220.80	54.878	CC, ES
Guttersten DD18-725 - Guttersten DD18-725 - Plan #1	17,634.09	12,401.37	7,712.75	7,560.89	50.789	CC, ES, SF
Guttersten DD18-730 - Guttersten DD18-730 - Plan #1	17,634.09	12,609.10	7,383.71	7,231.72	48.580	CC, ES, SF
Guttersten DD18-735 - Guttersten DD18-735 - Plan #1	17,634.09	12,517.17	7,051.99	6,899.97	46.391	CC, ES, SF
Guttersten DD18-746 - Guttersten DD18-746 - Plan #1	17,634.09	12,515.64	6,391.03	6,238.62	41.935	CC, ES, SF
Guttersten DD18-750 - Guttersten DD18-750 - Plan #1	17,634.09	12,779.36	6,062.75	5,909.55	39.572	CC, ES, SF
Guttersten DD18-754 - Guttersten DD18-754 - Plan #1	17,634.09	12,609.62	5,730.46	5,577.54	37.474	CC, ES, SF
Guttersten DD18-765 - Guttersten DD18-765 - Plan #1	17,634.09	12,414.11	5,069.47	4,917.36	33.326	CC, ES, SF
Guttersten DD18-770 - Guttersten DD18-770 - Plan #1	17,634.09	12,600.53	4,741.60	4,589.54	31.183	CC, ES, SF
Guttersten DD18-775 - Guttersten DD18-775 - Plan #1	17,634.09	12,504.83	4,408.99	4,256.84	28.976	CC, ES, SF
Guttersten DD18-785 - Guttersten DD18-785 - Plan #1	17,634.09	12,482.60	3,747.97	3,595.52	24.585	CC, ES, SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersten D25-762
Project:	Mustang	TVD Reference:	KB @ 4817.00ft
Reference Site:	D Section 25	MD Reference:	KB @ 4817.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersten D25-762	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
DD Section 18						
Guttersten 18D - Wellbore #1 - Wellbore #1 - As Drilled	13,921.05	6,534.41	7,369.35	7,279.18	81.732	CC
Guttersten 18D - Wellbore #1 - Wellbore #1 - As Drilled	14,000.00	6,533.39	7,369.77	7,279.02	81.207	ES
Guttersten 18D - Wellbore #1 - Wellbore #1 - As Drilled	16,400.00	6,502.47	7,775.05	7,670.09	74.074	SF
Guttersten 24-18 - Wellbore #1 - Wellbore #1 - As Drilled	13,253.96	6,615.15	5,496.61	5,411.04	64.231	CC
Guttersten 24-18 - Wellbore #1 - Wellbore #1 - As Drilled	13,300.00	6,615.20	5,496.80	5,410.89	63.980	ES
Guttersten 24-18 - Wellbore #1 - Wellbore #1 - As Drilled	14,800.00	6,616.85	5,709.90	5,615.16	60.269	SF
Guttersten 33-18 - Wellbore #1 - Wellbore #1 - As Drilled	14,678.78	6,648.89	6,768.61	6,671.16	69.456	CC
Guttersten 33-18 - Wellbore #1 - Wellbore #1 - As Drilled	14,700.00	6,648.74	6,768.64	6,671.03	69.342	ES
Guttersten 33-18 - Wellbore #1 - Wellbore #1 - As Drilled	16,700.00	6,634.67	7,063.94	6,954.37	64.470	SF
Guttersten 34-18 - Wellbore #1 - Wellbore #1 - As Drilled	13,235.85	6,641.49	6,709.19	6,623.98	78.735	CC
Guttersten 34-18 - Wellbore #1 - Wellbore #1 - As Drilled	13,300.00	6,642.48	6,709.50	6,623.81	78.299	ES
Guttersten 34-18 - Wellbore #1 - Wellbore #1 - As Drilled	15,500.00	6,672.20	7,080.87	6,982.09	71.682	SF
Guttersten 43-18 - Wellbore #1 - Wellbore #1 - As Drilled	14,688.73	6,659.32	7,965.75	7,866.09	79.930	CC
Guttersten 43-18 - Wellbore #1 - Wellbore #1 - As Drilled	14,700.00	6,659.27	7,965.76	7,866.02	79.861	ES
Guttersten 43-18 - Wellbore #1 - Wellbore #1 - As Drilled	17,300.00	6,648.37	8,382.83	8,267.32	72.569	SF
Guttersten 44-18 - Wellbore #1 - Wellbore #1 - As Drilled	13,320.60	6,627.38	8,051.02	7,965.28	93.899	CC
Guttersten 44-18 - Wellbore #1 - Wellbore #1 - As Drilled	13,400.00	6,627.47	8,051.41	7,965.08	93.260	ES
Guttersten 44-18 - Wellbore #1 - Wellbore #1 - As Drilled	16,400.00	6,631.33	8,619.84	8,515.67	82.751	SF
Karch Blue DD18-03J - Wellbore #1 - Wellbore #1 - As D	14,306.19	6,729.42	5,090.83	4,995.86	53.605	CC, ES
Karch Blue DD18-03J - Wellbore #1 - Wellbore #1 - As D	15,500.00	6,729.86	5,228.93	5,126.77	51.182	SF
Karch Blue DD18-12 - Original Drilling - Original Drilling -	14,674.13	6,607.73	3,949.40	3,848.10	38.987	CC
Karch Blue DD18-12 - Original Drilling - Original Drilling -	14,700.00	6,607.84	3,949.49	3,848.00	38.914	ES
Karch Blue DD18-12 - Original Drilling - Original Drilling -	15,400.00	6,610.84	4,015.55	3,909.92	38.014	SF
Karch Blue DD18-13 - Wellbore #1 - Wellbore #1 - As Dri	13,141.11	6,587.45	3,913.55	3,828.16	45.834	CC
Karch Blue DD18-13 - Wellbore #1 - Wellbore #1 - As Dri	13,200.00	6,588.62	3,913.85	3,828.02	45.604	ES
Karch Blue DD18-13 - Wellbore #1 - Wellbore #1 - As Dri	14,700.00	14,700.00	4,197.43	4,076.54	34.723	SF
SPIKE STATE GWS DD #18-1J(PA) - SPIKE STATE GW	16,626.40	6,687.00	7,363.29	7,139.82	32.949	CC
SPIKE STATE GWS DD #18-1J(PA) - SPIKE STATE GW	16,700.00	6,687.00	7,363.66	7,139.62	32.867	ES
SPIKE STATE GWS DD #18-1J(PA) - SPIKE STATE GW	17,634.09	6,687.00	7,431.93	7,201.43	32.242	SF
DD Section 19						
Champlin 366 Amoco B1 (PR) - Wellbore #1 - Gyro Surv	10,878.34	6,551.63	7,705.51	7,636.89	112.295	CC
Champlin 366 Amoco B1 (PR) - Wellbore #1 - Gyro Surv	10,900.00	6,551.30	7,705.54	7,636.78	112.052	ES
Champlin 366 Amoco B1 (PR) - Wellbore #1 - Gyro Surv	14,200.00	14,200.00	8,380.60	8,265.62	72.892	SF
Champlin 366 Amoco D1 (PA) - Wellbore #1 - No Survey	8,272.75	6,655.00	5,080.09	4,917.27	31.201	CC
Champlin 366 Amoco D1 (PA) - Wellbore #1 - No Survey	8,300.00	6,655.00	5,080.16	4,917.21	31.177	ES
Champlin 366 Amoco D1 (PA) - Wellbore #1 - No Survey	9,100.00	6,655.00	5,147.00	4,979.93	30.808	SF
Guttersten 31-19 (PR) - Wellbore #1 - Gyro Surveys	11,871.85	6,618.05	6,785.37	6,709.34	89.240	CC
Guttersten 31-19 (PR) - Wellbore #1 - Gyro Surveys	12,100.00	12,100.00	6,789.20	6,692.44	70.163	ES
Guttersten 31-19 (PR) - Wellbore #1 - Gyro Surveys	12,300.00	12,300.00	6,798.84	6,699.98	68.772	SF
Guttersten 44-19 (SI) - Wellbore #1 - No Surveys	8,008.06	6,700.00	8,111.63	7,949.18	49.931	CC, ES
Guttersten 44-19 (SI) - Wellbore #1 - No Surveys	10,300.00	6,700.00	8,429.21	8,254.42	48.224	SF

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D25-762
Project:	Mustang	TVD Reference:	KB @ 4817.00ft
Reference Site:	D Section 25	MD Reference:	KB @ 4817.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D25-762	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Summary

Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
DD Section 30						
Guttersen 11-30 (PR) - Wellbore #1 - Gyro Surveys	5,009.99	4,975.40	4,027.94	3,992.98	115.227	CC
Guttersen 11-30 (PR) - Wellbore #1 - Gyro Surveys	5,400.00	5,332.93	4,029.70	3,992.07	107.099	ES
Guttersen 11-30 (PR) - Wellbore #1 - Gyro Surveys	7,900.00	6,600.76	4,243.35	4,192.86	84.052	SF
Guttersen 12-30 (PR) - Wellbore #1 - Gyro Surveys	1,386.33	1,339.35	3,959.13	3,949.88	428.283	CC
Guttersen 12-30 (PR) - Wellbore #1 - Gyro Surveys	2,000.00	1,927.42	3,960.68	3,947.18	293.512	ES
Guttersen 12-30 (PR) - Wellbore #1 - Gyro Surveys	6,850.00	6,514.37	4,286.42	4,239.54	91.423	SF
Guttersen 22-30 (PR) - Wellbore #1 - Gyro Surveys	2,033.78	2,023.16	5,334.98	5,321.02	382.267	CC
Guttersen 22-30 (PR) - Wellbore #1 - Gyro Surveys	2,100.00	2,087.31	5,335.19	5,320.77	370.061	ES
Guttersen 22-30 (PR) - Wellbore #1 - Gyro Surveys	7,000.00	6,539.06	5,640.85	5,593.44	118.993	SF
Guttersen 30 A (PR) - Wellbore #1 - Gyro Surveys	100.00	37.18	4,642.61	4,642.42	10,000.000	CC
Guttersen 30 A (PR) - Wellbore #1 - Gyro Surveys	2,100.00	2,042.07	4,653.13	4,638.86	326.182	ES
Guttersen 30 A (PR) - Wellbore #1 - Gyro Surveys	7,500.00	6,610.74	5,032.87	4,983.79	102.543	SF
Guttersen State DD30-715 - Guttersen State DD30-715 -	12,385.10	17,403.77	8,441.39	8,295.37	57.810	CC
Guttersen State DD30-715 - Guttersen State DD30-715 -	12,400.00	17,403.77	8,441.40	8,295.27	57.765	ES
Guttersen State DD30-715 - Guttersen State DD30-715 -	14,400.00	17,403.77	8,665.85	8,508.21	54.970	SF
Guttersen State DD30-725 - Guttersen State DD30-725 -	12,379.13	17,276.43	7,800.84	7,654.84	53.432	CC
Guttersen State DD30-725 - Guttersen State DD30-725 -	12,400.00	17,269.51	7,800.86	7,654.77	53.396	ES
Guttersen State DD30-725 - Guttersen State DD30-725 -	14,000.00	17,269.51	7,958.73	7,803.56	51.289	SF
Guttersen State DD30-735 - Guttersen State DD30-735 -	12,374.82	17,436.50	7,141.41	6,995.78	49.038	CC
Guttersen State DD30-735 - Guttersen State DD30-735 -	12,400.00	17,436.50	7,141.46	6,995.65	48.978	ES
Guttersen State DD30-735 - Guttersen State DD30-735 -	13,700.00	17,436.50	7,257.93	7,105.07	47.481	SF
Guttersen State DD30-745 - Guttersen State DD30-745 -	12,371.46	17,596.82	6,480.39	6,335.11	44.606	CC
Guttersen State DD30-745 - Guttersen State DD30-745 -	12,400.00	17,588.29	6,480.46	6,335.07	44.573	ES
Guttersen State DD30-745 - Guttersen State DD30-745 -	13,400.00	17,588.29	6,559.59	6,409.16	43.605	SF
Guttersen State DD30-755 - Guttersen State DD30-755 -	6,800.14	11,820.83	5,736.02	5,664.84	80.582	CC
Guttersen State DD30-755 - Guttersen State DD30-755 -	12,400.00	17,383.05	5,744.72	5,598.52	39.292	ES
Guttersen State DD30-755 - Guttersen State DD30-755 -	13,300.00	17,383.05	5,819.23	5,668.15	38.515	SF
Guttersen State DD30-766 - Guttersen State DD30-766 -	6,748.72	11,728.55	5,025.09	4,955.09	71.784	CC
Guttersen State DD30-766 - Guttersen State DD30-766 -	12,400.00	17,329.34	5,034.43	4,889.35	34.701	ES
Guttersen State DD30-766 - Guttersen State DD30-766 -	13,000.00	17,329.34	5,075.01	4,926.88	34.260	SF
Guttersen State DD30-775 - Guttersen State DD30-775 -	12,353.40	17,481.59	4,424.92	4,280.09	30.553	CC
Guttersen State DD30-775 - Guttersen State DD30-775 -	12,400.00	17,481.59	4,425.16	4,280.06	30.498	ES
Guttersen State DD30-775 - Guttersen State DD30-775 -	12,800.00	17,481.59	4,447.40	4,300.53	30.282	SF
Guttersen State DD30-785 - Guttersen State DD30-785 -	12,346.62	17,805.82	3,784.70	3,639.50	26.066	CC, ES
Guttersen State DD30-785 - Guttersen State DD30-785 -	12,600.00	17,796.63	3,793.07	3,646.99	25.966	SF
Karch Blue DD 30-12 (PA) - Wellbore #1 - No Surveys	2,000.00	1,959.00	4,212.22	4,166.11	91.339	CC
Karch Blue DD 30-12 (PA) - Wellbore #1 - No Surveys	2,100.00	2,058.98	4,213.20	4,164.72	86.917	ES
Karch Blue DD 30-12 (PA) - Wellbore #1 - No Surveys	6,700.00	6,529.32	4,708.19	4,553.75	30.486	SF
Karch Blue DD 30-14 (PA) - Wellbore #1 - No Surveys	2,000.00	1,965.00	6,258.41	6,212.17	135.356	CC
Karch Blue DD 30-14 (PA) - Wellbore #1 - No Surveys	2,100.00	2,064.98	6,259.54	6,210.95	128.813	ES
Karch Blue DD 30-14 (PA) - Wellbore #1 - No Surveys	6,750.00	6,562.54	6,837.72	6,682.47	44.044	SF
Karch Blue DD 30-3 J (PA) - Wellbore #1 - No Surveys	2,000.00	1,964.00	5,506.01	5,459.79	119.135	CC
Karch Blue DD 30-3 J (PA) - Wellbore #1 - No Surveys	2,100.00	2,063.98	5,506.98	5,458.41	113.373	ES
Karch Blue DD 30-3 J (PA) - Wellbore #1 - No Surveys	6,800.00	6,585.38	6,038.56	5,882.70	38.745	SF
L F Ranch 2-30 (PR) - Wellbore #1 - Gyro Surveys	2,101.53	2,093.14	5,303.25	5,288.79	366.830	CC
L F Ranch 2-30 (PR) - Wellbore #1 - Gyro Surveys	4,800.00	4,836.28	5,321.15	5,287.42	157.751	ES
L F Ranch 2-30 (PR) - Wellbore #1 - Gyro Surveys	8,800.00	6,829.32	5,916.91	5,862.08	107.901	SF
State 19 (PA) - Wellbore #1 - NO Surveys	2,000.00	2,015.00	7,493.19	7,445.95	158.631	CC
State 19 (PA) - Wellbore #1 - NO Surveys	2,700.00	2,710.53	7,504.28	7,440.65	117.940	ES
State 19 (PA) - Wellbore #1 - NO Surveys	7,091.63	6,702.00	7,681.40	7,522.30	48.280	SF

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