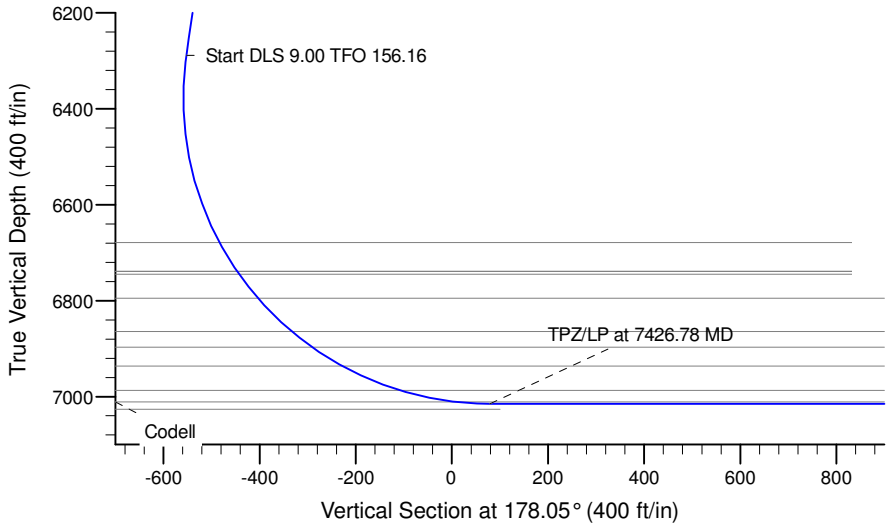
Project: Mustang
Site: D Section 29
Well: Guttersen Y05-779
Wellbore: Guttersen Y05- 779
Design: Prelim - Rev 1

Northern Region - DJ Basin

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

SECTION DETAILS

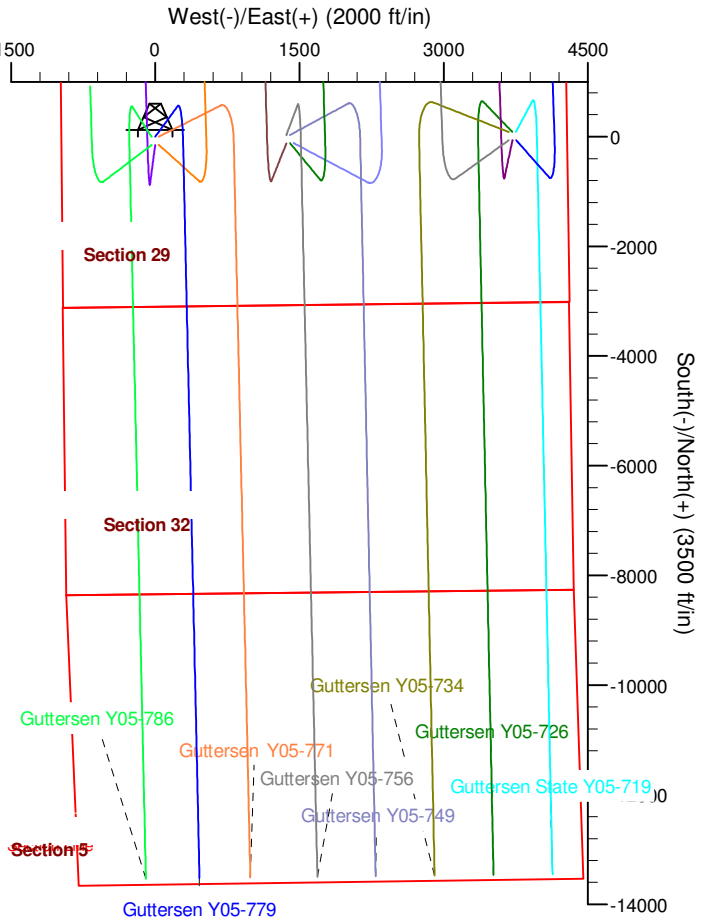
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	2200.00	0.00	0.00	2200.00	0.00	0.00	0.00	0.00	0.00	
3	2647.16	8.94	22.85	2645.35	32.10	13.52	2.00	22.85	-31.62	
4	6335.77	8.94	22.85	6289.11	560.52	236.19	0.00	0.00	-552.14	
5	7426.78	90.00	179.27	7015.00	-68.98	289.91	9.00	156.16	78.82	GUTTERSEN Y05-779 TPZ
6	20880.28	90.00	179.27	7015.00	-13521.38	461.33	0.00	0.00	13529.24	GUTTERSEN Y05-779 BHL

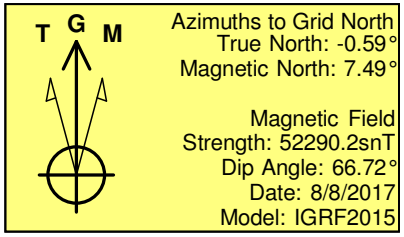


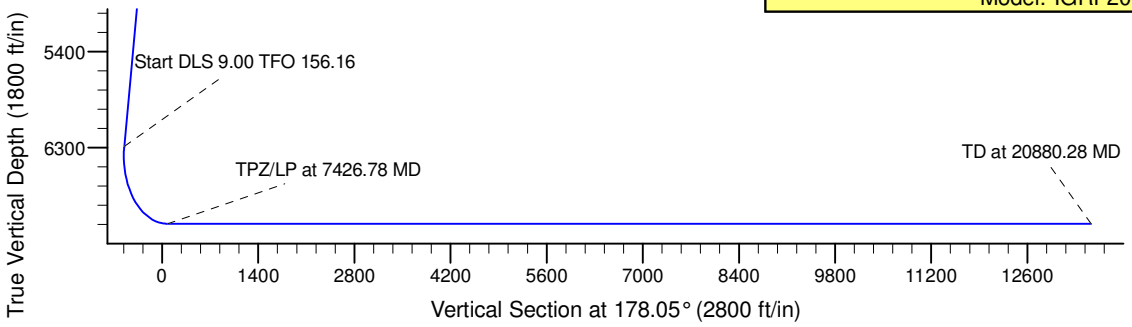
Surface: 2206' FNL,973' FWL, Sec.29

TPZ: 2280' FNL, 1269' FWL, Sec.29

BHL: 75' FSL, 1326' FWL, Sec.05







WELL DETAILS: Guttersen Y05-779

	Northing	Easting	Latitude	Longitude
4780.00	1316098.15	3256685.41	40.1974352	-104.5810923

0.00 0.00

Plan: Prelim - Rev 1 (Guttersen Y05-779/Guttersen Y05- 779)

Created By: Colby Baxter Date: 9:32, April 10 2018

Checked: _____ Date: _____

Reviewed: _____ Date: _____

Approved: _____ Date: _____

Northern Region - DJ Basin

Mustang
D Section 29
Guttersen Y05-779

Guttersen Y05- 779

Plan: Prelim - Rev 1

Standard Survey Report

10 April, 2018

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Guttersen Y05-779
Project:	Mustang	**TVD Reference:**	Well @ 4810.00ft
Site:	D Section 29	**MD Reference:**	Well @ 4810.00ft
Well:	Guttersen Y05-779	**North Reference:**	Grid
Wellbore:	Guttersen Y05- 779	**Survey Calculation Method:**	Minimum Curvature
Design:	Prelim - Rev 1	**Database:**	EDMP

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 29

Site Position:		**Northing:**	1,313,628.85 usft	**Latitude:**	40.1907138
From:	Map	**Easting:**	3,254,683.41 usft	**Longitude:**	-104.5883496
Position Uncertainty:	0.00 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	0.59 °

Well Guttersen Y05-779

Well Position	**+N/-S**	0.00 ft	**Northing:**	1,316,098.15 usft	**Latitude:**	40.1974353
	+E/-W	0.00 ft	**Easting:**	3,256,685.41 usft	**Longitude:**	-104.5810923
Position Uncertainty		0.00 ft	**Wellhead Elevation:**	ft	**Ground Level:**	4,780.00 ft

Wellbore Guttersen Y05- 779

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	8/8/2017	8.08	66.72	52,290.19631262

Design Prelim - Rev 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	178.05

Survey Tool Program **Date** 4/10/2018

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	20,880.28	Prelim - Rev 1 (Guttersen Y05- 779)	2_MWD+IFR1+MS	A008Mb: IFR dec & multi-station analysis

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
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

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Guttersen Y05-779
Project:	Mustang	**TVD Reference:**	Well @ 4810.00ft
Site:	D Section 29	**MD Reference:**	Well @ 4810.00ft
Well:	Guttersen Y05-779	**North Reference:**	Grid
Wellbore:	Guttersen Y05- 779	**Survey Calculation Method:**	Minimum Curvature
Design:	Prelim - Rev 1	**Database:**	EDMP

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)
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
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	2.00	22.85	2,299.98	1.61	0.68	-1.58	2.00	2.00	0.00
2,400.00	4.00	22.85	2,399.84	6.43	2.71	-6.33	2.00	2.00	0.00
2,500.00	6.00	22.85	2,499.45	14.46	6.09	-14.25	2.00	2.00	0.00
2,600.00	8.00	22.85	2,598.70	25.69	10.83	-25.31	2.00	2.00	0.00
2,647.16	8.94	22.85	2,645.35	32.10	13.52	-31.62	2.00	2.00	0.00
2,700.00	8.94	22.85	2,697.54	39.66	16.71	-39.07	0.00	0.00	0.00
2,800.00	8.94	22.85	2,796.33	53.99	22.75	-53.18	0.00	0.00	0.00
2,900.00	8.94	22.85	2,895.11	68.32	28.79	-67.29	0.00	0.00	0.00
3,000.00	8.94	22.85	2,993.90	82.64	34.82	-81.41	0.00	0.00	0.00
3,100.00	8.94	22.85	3,092.68	96.97	40.86	-95.52	0.00	0.00	0.00
3,200.00	8.94	22.85	3,191.47	111.29	46.90	-109.63	0.00	0.00	0.00
3,300.00	8.94	22.85	3,290.25	125.62	52.93	-123.74	0.00	0.00	0.00
3,400.00	8.94	22.85	3,389.03	139.94	58.97	-137.85	0.00	0.00	0.00
3,500.00	8.94	22.85	3,487.82	154.27	65.01	-151.96	0.00	0.00	0.00
3,600.00	8.94	22.85	3,586.60	168.60	71.04	-166.08	0.00	0.00	0.00
3,700.00	8.94	22.85	3,685.39	182.92	77.08	-180.19	0.00	0.00	0.00
3,800.00	8.94	22.85	3,784.17	197.25	83.12	-194.30	0.00	0.00	0.00
3,900.00	8.94	22.85	3,882.96	211.57	89.15	-208.41	0.00	0.00	0.00
4,000.00	8.94	22.85	3,981.74	225.90	95.19	-222.52	0.00	0.00	0.00
4,100.00	8.94	22.85	4,080.52	240.22	101.23	-236.63	0.00	0.00	0.00
4,200.00	8.94	22.85	4,179.31	254.55	107.26	-250.75	0.00	0.00	0.00
4,300.00	8.94	22.85	4,278.09	268.88	113.30	-264.86	0.00	0.00	0.00
4,400.00	8.94	22.85	4,376.88	283.20	119.34	-278.97	0.00	0.00	0.00
4,500.00	8.94	22.85	4,475.66	297.53	125.37	-293.08	0.00	0.00	0.00
4,600.00	8.94	22.85	4,574.45	311.85	131.41	-307.19	0.00	0.00	0.00
4,700.00	8.94	22.85	4,673.23	326.18	137.45	-321.30	0.00	0.00	0.00
4,800.00	8.94	22.85	4,772.01	340.51	143.48	-335.41	0.00	0.00	0.00
4,900.00	8.94	22.85	4,870.80	354.83	149.52	-349.53	0.00	0.00	0.00
5,000.00	8.94	22.85	4,969.58	369.16	155.55	-363.64	0.00	0.00	0.00
5,100.00	8.94	22.85	5,068.37	383.48	161.59	-377.75	0.00	0.00	0.00
5,200.00	8.94	22.85	5,167.15	397.81	167.63	-391.86	0.00	0.00	0.00

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Guttersen Y05-779
Project:	Mustang	**TVD Reference:**	Well @ 4810.00ft
Site:	D Section 29	**MD Reference:**	Well @ 4810.00ft
Well:	Guttersen Y05-779	**North Reference:**	Grid
Wellbore:	Guttersen Y05- 779	**Survey Calculation Method:**	Minimum Curvature
Design:	Prelim - Rev 1	**Database:**	EDMP

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)
5,300.00	8.94	22.85	5,265.94	412.13	173.66	-405.97	0.00	0.00	0.00
5,400.00	8.94	22.85	5,364.72	426.46	179.70	-420.08	0.00	0.00	0.00
5,500.00	8.94	22.85	5,463.50	440.79	185.74	-434.20	0.00	0.00	0.00
5,600.00	8.94	22.85	5,562.29	455.11	191.77	-448.31	0.00	0.00	0.00
5,700.00	8.94	22.85	5,661.07	469.44	197.81	-462.42	0.00	0.00	0.00
5,800.00	8.94	22.85	5,759.86	483.76	203.85	-476.53	0.00	0.00	0.00
5,900.00	8.94	22.85	5,858.64	498.09	209.88	-490.64	0.00	0.00	0.00
6,000.00	8.94	22.85	5,957.43	512.41	215.92	-504.75	0.00	0.00	0.00
6,100.00	8.94	22.85	6,056.21	526.74	221.96	-518.87	0.00	0.00	0.00
6,200.00	8.94	22.85	6,154.99	541.07	227.99	-532.98	0.00	0.00	0.00
6,300.00	8.94	22.85	6,253.78	555.39	234.03	-547.09	0.00	0.00	0.00
6,335.77	8.94	22.85	6,289.11	560.52	236.19	-552.14	0.00	0.00	0.00
6,400.00	4.33	55.45	6,352.91	566.50	240.13	-557.98	9.00	-7.18	50.75
6,500.00	7.51	150.73	6,452.55	562.94	246.45	-554.21	9.00	3.17	95.28
6,600.00	15.99	166.58	6,550.39	543.80	252.85	-534.86	9.00	8.48	15.85
6,700.00	24.84	171.45	6,644.02	509.57	259.18	-500.43	9.00	8.85	4.87
6,800.00	33.76	173.87	6,731.14	461.07	265.29	-451.76	9.00	8.92	2.41
6,900.00	42.71	175.36	6,809.61	399.51	271.01	-390.04	9.00	8.95	1.49
7,000.00	51.68	176.42	6,877.49	326.41	276.22	-316.80	9.00	8.97	1.06
7,100.00	60.65	177.24	6,933.12	243.55	280.77	-233.84	9.00	8.97	0.82
7,200.00	69.63	177.93	6,975.11	152.99	284.57	-143.20	9.00	8.98	0.69
7,300.00	78.61	178.54	7,002.44	56.95	287.52	-47.11	9.00	8.98	0.61
7,400.00	87.59	179.12	7,014.44	-42.20	289.53	52.05	9.00	8.98	0.57
7,426.78	90.00	179.27	7,015.00	-68.98	289.91	78.82	9.00	8.98	0.57
7,500.00	90.00	179.27	7,015.00	-142.19	290.84	152.02	0.00	0.00	0.00
7,600.00	90.00	179.27	7,015.00	-242.18	292.12	252.00	0.00	0.00	0.00
7,700.00	90.00	179.27	7,015.00	-342.17	293.39	351.98	0.00	0.00	0.00
7,800.00	90.00	179.27	7,015.00	-442.16	294.67	451.95	0.00	0.00	0.00
7,900.00	90.00	179.27	7,015.00	-542.15	295.94	551.93	0.00	0.00	0.00
8,000.00	90.00	179.27	7,015.00	-642.15	297.21	651.91	0.00	0.00	0.00
8,100.00	90.00	179.27	7,015.00	-742.14	298.49	751.88	0.00	0.00	0.00
8,200.00	90.00	179.27	7,015.00	-842.13	299.76	851.86	0.00	0.00	0.00
8,300.00	90.00	179.27	7,015.00	-942.12	301.04	951.84	0.00	0.00	0.00
8,400.00	90.00	179.27	7,015.00	-1,042.11	302.31	1,051.82	0.00	0.00	0.00
8,500.00	90.00	179.27	7,015.00	-1,142.10	303.59	1,151.79	0.00	0.00	0.00
8,600.00	90.00	179.27	7,015.00	-1,242.10	304.86	1,251.77	0.00	0.00	0.00
8,700.00	90.00	179.27	7,015.00	-1,342.09	306.13	1,351.75	0.00	0.00	0.00
8,800.00	90.00	179.27	7,015.00	-1,442.08	307.41	1,451.72	0.00	0.00	0.00
8,900.00	90.00	179.27	7,015.00	-1,542.07	308.68	1,551.70	0.00	0.00	0.00
9,000.00	90.00	179.27	7,015.00	-1,642.06	309.96	1,651.68	0.00	0.00	0.00
9,100.00	90.00	179.27	7,015.00	-1,742.06	311.23	1,751.66	0.00	0.00	0.00
9,200.00	90.00	179.27	7,015.00	-1,842.05	312.50	1,851.63	0.00	0.00	0.00
9,300.00	90.00	179.27	7,015.00	-1,942.04	313.78	1,951.61	0.00	0.00	0.00

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Guttersen Y05-779
Project:	Mustang	**TVD Reference:**	Well @ 4810.00ft
Site:	D Section 29	**MD Reference:**	Well @ 4810.00ft
Well:	Guttersen Y05-779	**North Reference:**	Grid
Wellbore:	Guttersen Y05- 779	**Survey Calculation Method:**	Minimum Curvature
Design:	Prelim - Rev 1	**Database:**	EDMP

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)
9,400.00	90.00	179.27	7,015.00	-2,042.03	315.05	2,051.59	0.00	0.00	0.00
9,500.00	90.00	179.27	7,015.00	-2,142.02	316.33	2,151.56	0.00	0.00	0.00
9,600.00	90.00	179.27	7,015.00	-2,242.02	317.60	2,251.54	0.00	0.00	0.00
9,700.00	90.00	179.27	7,015.00	-2,342.01	318.88	2,351.52	0.00	0.00	0.00
9,800.00	90.00	179.27	7,015.00	-2,442.00	320.15	2,451.50	0.00	0.00	0.00
9,900.00	90.00	179.27	7,015.00	-2,541.99	321.42	2,551.47	0.00	0.00	0.00
10,000.00	90.00	179.27	7,015.00	-2,641.98	322.70	2,651.45	0.00	0.00	0.00
10,100.00	90.00	179.27	7,015.00	-2,741.97	323.97	2,751.43	0.00	0.00	0.00
10,200.00	90.00	179.27	7,015.00	-2,841.97	325.25	2,851.40	0.00	0.00	0.00
10,300.00	90.00	179.27	7,015.00	-2,941.96	326.52	2,951.38	0.00	0.00	0.00
10,400.00	90.00	179.27	7,015.00	-3,041.95	327.79	3,051.36	0.00	0.00	0.00
10,500.00	90.00	179.27	7,015.00	-3,141.94	329.07	3,151.34	0.00	0.00	0.00
10,600.00	90.00	179.27	7,015.00	-3,241.93	330.34	3,251.31	0.00	0.00	0.00
10,700.00	90.00	179.27	7,015.00	-3,341.93	331.62	3,351.29	0.00	0.00	0.00
10,800.00	90.00	179.27	7,015.00	-3,441.92	332.89	3,451.27	0.00	0.00	0.00
10,900.00	90.00	179.27	7,015.00	-3,541.91	334.17	3,551.24	0.00	0.00	0.00
11,000.00	90.00	179.27	7,015.00	-3,641.90	335.44	3,651.22	0.00	0.00	0.00
11,100.00	90.00	179.27	7,015.00	-3,741.89	336.71	3,751.20	0.00	0.00	0.00
11,200.00	90.00	179.27	7,015.00	-3,841.89	337.99	3,851.18	0.00	0.00	0.00
11,300.00	90.00	179.27	7,015.00	-3,941.88	339.26	3,951.15	0.00	0.00	0.00
11,400.00	90.00	179.27	7,015.00	-4,041.87	340.54	4,051.13	0.00	0.00	0.00
11,500.00	90.00	179.27	7,015.00	-4,141.86	341.81	4,151.11	0.00	0.00	0.00
11,600.00	90.00	179.27	7,015.00	-4,241.85	343.09	4,251.09	0.00	0.00	0.00
11,700.00	90.00	179.27	7,015.00	-4,341.85	344.36	4,351.06	0.00	0.00	0.00
11,800.00	90.00	179.27	7,015.00	-4,441.84	345.63	4,451.04	0.00	0.00	0.00
11,900.00	90.00	179.27	7,015.00	-4,541.83	346.91	4,551.02	0.00	0.00	0.00
12,000.00	90.00	179.27	7,015.00	-4,641.82	348.18	4,650.99	0.00	0.00	0.00
12,100.00	90.00	179.27	7,015.00	-4,741.81	349.46	4,750.97	0.00	0.00	0.00
12,200.00	90.00	179.27	7,015.00	-4,841.80	350.73	4,850.95	0.00	0.00	0.00
12,300.00	90.00	179.27	7,015.00	-4,941.80	352.00	4,950.93	0.00	0.00	0.00
12,400.00	90.00	179.27	7,015.00	-5,041.79	353.28	5,050.90	0.00	0.00	0.00
12,500.00	90.00	179.27	7,015.00	-5,141.78	354.55	5,150.88	0.00	0.00	0.00
12,600.00	90.00	179.27	7,015.00	-5,241.77	355.83	5,250.86	0.00	0.00	0.00
12,700.00	90.00	179.27	7,015.00	-5,341.76	357.10	5,350.83	0.00	0.00	0.00
12,800.00	90.00	179.27	7,015.00	-5,441.76	358.38	5,450.81	0.00	0.00	0.00
12,900.00	90.00	179.27	7,015.00	-5,541.75	359.65	5,550.79	0.00	0.00	0.00
13,000.00	90.00	179.27	7,015.00	-5,641.74	360.92	5,650.77	0.00	0.00	0.00
13,100.00	90.00	179.27	7,015.00	-5,741.73	362.20	5,750.74	0.00	0.00	0.00
13,200.00	90.00	179.27	7,015.00	-5,841.72	363.47	5,850.72	0.00	0.00	0.00
13,300.00	90.00	179.27	7,015.00	-5,941.72	364.75	5,950.70	0.00	0.00	0.00
13,400.00	90.00	179.27	7,015.00	-6,041.71	366.02	6,050.67	0.00	0.00	0.00
13,500.00	90.00	179.27	7,015.00	-6,141.70	367.29	6,150.65	0.00	0.00	0.00
13,600.00	90.00	179.27	7,015.00	-6,241.69	368.57	6,250.63	0.00	0.00	0.00

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Guttersen Y05-779
Project:	Mustang	**TVD Reference:**	Well @ 4810.00ft
Site:	D Section 29	**MD Reference:**	Well @ 4810.00ft
Well:	Guttersen Y05-779	**North Reference:**	Grid
Wellbore:	Guttersen Y05- 779	**Survey Calculation Method:**	Minimum Curvature
Design:	Prelim - Rev 1	**Database:**	EDMP

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)
13,700.00	90.00	179.27	7,015.00	-6,341.68	369.84	6,350.61	0.00	0.00	0.00
13,800.00	90.00	179.27	7,015.00	-6,441.67	371.12	6,450.58	0.00	0.00	0.00
13,900.00	90.00	179.27	7,015.00	-6,541.67	372.39	6,550.56	0.00	0.00	0.00
14,000.00	90.00	179.27	7,015.00	-6,641.66	373.67	6,650.54	0.00	0.00	0.00
14,100.00	90.00	179.27	7,015.00	-6,741.65	374.94	6,750.51	0.00	0.00	0.00
14,200.00	90.00	179.27	7,015.00	-6,841.64	376.21	6,850.49	0.00	0.00	0.00
14,300.00	90.00	179.27	7,015.00	-6,941.63	377.49	6,950.47	0.00	0.00	0.00
14,400.00	90.00	179.27	7,015.00	-7,041.63	378.76	7,050.45	0.00	0.00	0.00
14,500.00	90.00	179.27	7,015.00	-7,141.62	380.04	7,150.42	0.00	0.00	0.00
14,600.00	90.00	179.27	7,015.00	-7,241.61	381.31	7,250.40	0.00	0.00	0.00
14,700.00	90.00	179.27	7,015.00	-7,341.60	382.59	7,350.38	0.00	0.00	0.00
14,800.00	90.00	179.27	7,015.00	-7,441.59	383.86	7,450.36	0.00	0.00	0.00
14,900.00	90.00	179.27	7,015.00	-7,541.59	385.13	7,550.33	0.00	0.00	0.00
15,000.00	90.00	179.27	7,015.00	-7,641.58	386.41	7,650.31	0.00	0.00	0.00
15,100.00	90.00	179.27	7,015.00	-7,741.57	387.68	7,750.29	0.00	0.00	0.00
15,200.00	90.00	179.27	7,015.00	-7,841.56	388.96	7,850.26	0.00	0.00	0.00
15,300.00	90.00	179.27	7,015.00	-7,941.55	390.23	7,950.24	0.00	0.00	0.00
15,400.00	90.00	179.27	7,015.00	-8,041.54	391.50	8,050.22	0.00	0.00	0.00
15,500.00	90.00	179.27	7,015.00	-8,141.54	392.78	8,150.20	0.00	0.00	0.00
15,600.00	90.00	179.27	7,015.00	-8,241.53	394.05	8,250.17	0.00	0.00	0.00
15,700.00	90.00	179.27	7,015.00	-8,341.52	395.33	8,350.15	0.00	0.00	0.00
15,800.00	90.00	179.27	7,015.00	-8,441.51	396.60	8,450.13	0.00	0.00	0.00
15,900.00	90.00	179.27	7,015.00	-8,541.50	397.88	8,550.10	0.00	0.00	0.00
16,000.00	90.00	179.27	7,015.00	-8,641.50	399.15	8,650.08	0.00	0.00	0.00
16,100.00	90.00	179.27	7,015.00	-8,741.49	400.42	8,750.06	0.00	0.00	0.00
16,200.00	90.00	179.27	7,015.00	-8,841.48	401.70	8,850.04	0.00	0.00	0.00
16,300.00	90.00	179.27	7,015.00	-8,941.47	402.97	8,950.01	0.00	0.00	0.00
16,400.00	90.00	179.27	7,015.00	-9,041.46	404.25	9,049.99	0.00	0.00	0.00
16,500.00	90.00	179.27	7,015.00	-9,141.46	405.52	9,149.97	0.00	0.00	0.00
16,600.00	90.00	179.27	7,015.00	-9,241.45	406.79	9,249.94	0.00	0.00	0.00
16,700.00	90.00	179.27	7,015.00	-9,341.44	408.07	9,349.92	0.00	0.00	0.00
16,800.00	90.00	179.27	7,015.00	-9,441.43	409.34	9,449.90	0.00	0.00	0.00
16,900.00	90.00	179.27	7,015.00	-9,541.42	410.62	9,549.88	0.00	0.00	0.00
17,000.00	90.00	179.27	7,015.00	-9,641.41	411.89	9,649.85	0.00	0.00	0.00
17,100.00	90.00	179.27	7,015.00	-9,741.41	413.17	9,749.83	0.00	0.00	0.00
17,200.00	90.00	179.27	7,015.00	-9,841.40	414.44	9,849.81	0.00	0.00	0.00
17,300.00	90.00	179.27	7,015.00	-9,941.39	415.71	9,949.78	0.00	0.00	0.00
17,400.00	90.00	179.27	7,015.00	-10,041.38	416.99	10,049.76	0.00	0.00	0.00
17,500.00	90.00	179.27	7,015.00	-10,141.37	418.26	10,149.74	0.00	0.00	0.00
17,600.00	90.00	179.27	7,015.00	-10,241.37	419.54	10,249.72	0.00	0.00	0.00
17,700.00	90.00	179.27	7,015.00	-10,341.36	420.81	10,349.69	0.00	0.00	0.00
17,800.00	90.00	179.27	7,015.00	-10,441.35	422.09	10,449.67	0.00	0.00	0.00
17,900.00	90.00	179.27	7,015.00	-10,541.34	423.36	10,549.65	0.00	0.00	0.00
18,000.00	90.00	179.27	7,015.00	-10,641.33	424.63	10,649.62	0.00	0.00	0.00

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Guttersen Y05-779
Project:	Mustang	**TVD Reference:**	Well @ 4810.00ft
Site:	D Section 29	**MD Reference:**	Well @ 4810.00ft
Well:	Guttersen Y05-779	**North Reference:**	Grid
Wellbore:	Guttersen Y05- 779	**Survey Calculation Method:**	Minimum Curvature
Design:	Prelim - Rev 1	**Database:**	EDMP

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)
18,100.00	90.00	179.27	7,015.00	-10,741.33	425.91	10,749.60	0.00	0.00	0.00
18,200.00	90.00	179.27	7,015.00	-10,841.32	427.18	10,849.58	0.00	0.00	0.00
18,300.00	90.00	179.27	7,015.00	-10,941.31	428.46	10,949.56	0.00	0.00	0.00
18,400.00	90.00	179.27	7,015.00	-11,041.30	429.73	11,049.53	0.00	0.00	0.00
18,500.00	90.00	179.27	7,015.00	-11,141.29	431.00	11,149.51	0.00	0.00	0.00
18,600.00	90.00	179.27	7,015.00	-11,241.29	432.28	11,249.49	0.00	0.00	0.00
18,700.00	90.00	179.27	7,015.00	-11,341.28	433.55	11,349.47	0.00	0.00	0.00
18,800.00	90.00	179.27	7,015.00	-11,441.27	434.83	11,449.44	0.00	0.00	0.00
18,900.00	90.00	179.27	7,015.00	-11,541.26	436.10	11,549.42	0.00	0.00	0.00
19,000.00	90.00	179.27	7,015.00	-11,641.25	437.38	11,649.40	0.00	0.00	0.00
19,100.00	90.00	179.27	7,015.00	-11,741.24	438.65	11,749.37	0.00	0.00	0.00
19,200.00	90.00	179.27	7,015.00	-11,841.24	439.92	11,849.35	0.00	0.00	0.00
19,300.00	90.00	179.27	7,015.00	-11,941.23	441.20	11,949.33	0.00	0.00	0.00
19,400.00	90.00	179.27	7,015.00	-12,041.22	442.47	12,049.31	0.00	0.00	0.00
19,500.00	90.00	179.27	7,015.00	-12,141.21	443.75	12,149.28	0.00	0.00	0.00
19,600.00	90.00	179.27	7,015.00	-12,241.20	445.02	12,249.26	0.00	0.00	0.00
19,700.00	90.00	179.27	7,015.00	-12,341.20	446.29	12,349.24	0.00	0.00	0.00
19,800.00	90.00	179.27	7,015.00	-12,441.19	447.57	12,449.21	0.00	0.00	0.00
19,900.00	90.00	179.27	7,015.00	-12,541.18	448.84	12,549.19	0.00	0.00	0.00
20,000.00	90.00	179.27	7,015.00	-12,641.17	450.12	12,649.17	0.00	0.00	0.00
20,100.00	90.00	179.27	7,015.00	-12,741.16	451.39	12,749.15	0.00	0.00	0.00
20,200.00	90.00	179.27	7,015.00	-12,841.16	452.67	12,849.12	0.00	0.00	0.00
20,300.00	90.00	179.27	7,015.00	-12,941.15	453.94	12,949.10	0.00	0.00	0.00
20,400.00	90.00	179.27	7,015.00	-13,041.14	455.21	13,049.08	0.00	0.00	0.00
20,500.00	90.00	179.27	7,015.00	-13,141.13	456.49	13,149.05	0.00	0.00	0.00
20,600.00	90.00	179.27	7,015.00	-13,241.12	457.76	13,249.03	0.00	0.00	0.00
20,700.00	90.00	179.27	7,015.00	-13,341.11	459.04	13,349.01	0.00	0.00	0.00
20,800.00	90.00	179.27	7,015.00	-13,441.11	460.31	13,448.99	0.00	0.00	0.00
20,880.28	90.00	179.27	7,015.00	-13,521.38	461.33	13,529.24	0.00	0.00	0.00

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
GUTTERSEN Y05-779 E - plan hits target center - Point	0.00	0.00	7,015.00	-13,521.38	461.33	1,302,576.80	3,257,146.74	40.1603063	-104.5799431
GUTTERSEN Y05-779 T - plan hits target center - Point	0.00	0.00	7,015.00	-68.98	289.91	1,316,029.17	3,256,975.32	40.1972377	-104.5800570

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Guttersen Y05-779
Project:	Mustang	**TVD Reference:**	Well @ 4810.00ft
Site:	D Section 29	**MD Reference:**	Well @ 4810.00ft
Well:	Guttersen Y05-779	**North Reference:**	Grid
Wellbore:	Guttersen Y05- 779	**Survey Calculation Method:**	Minimum Curvature
Design:	Prelim - Rev 1	**Database:**	EDMP

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
569.00	569.00	Pierre			
669.00	669.00	Upper Pierre Aquifer Top			
1,567.00	1,567.00	Upper Pierre Aquifer Base			
3,780.59	3,765.00	Parkman			
4,143.00	4,123.00	Sussex			
4,928.55	4,899.00	Shannon			
5,971.23	5,929.00	Teepee Buttes			
6,739.12	6,679.00	Sharon Springs			
6,809.50	6,739.00	Top A Chalk			
6,809.50	6,739.00	Top A Marl			
6,816.82	6,745.00	Top B Chalk			
6,880.39	6,795.00	Top B Marl			
6,978.68	6,864.00	Top C Chalk			
7,032.52	6,897.00	Top C Marl			
7,105.93	6,936.00	Top D Chalk			
7,237.08	6,987.00	Top Ft. Hayes			
7,355.31	7,011.00	Codell			

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
2200	2200	0	0	Start Build 2.00
6336	6289	32	14	Start DLS 9.00 TFO 156.16
7427	7015	561	236	TPZ/LP at 7426.78 MD
20,880	7015	-69	290	TD at 20880.28 MD

Checked By: _____ Approved By: _____ Date: _____

Northern Region - DJ Basin

Mustang
D Section 29
Guttersen Y05-779

Guttersen Y05- 779
Prelim - Rev 1

Anticollision Summary Report

10 April, 2018

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Guttersen Y05-779
Project:	Mustang	**TVD Reference:**	Well @ 4810.00ft
Reference Site:	D Section 29	**MD Reference:**	Well @ 4810.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Guttersen Y05-779	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Guttersen Y05- 779	**Database:**	EDMP
Reference Design:	Prelim - Rev 1	**Offset TVD Reference:**	Offset Datum

Reference	Prelim - Rev 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** 4/10/2018

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	20,880.28	Prelim - Rev 1 (Guttersen Y05- 779)	2_MWD+IFR1+MS	A008Mb: IFR dec & multi-station analysis

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 16						
Diggin State D 16-07 (SI) - Wellbore #1 - No Surveys						Out of range
Diggin State D 16-19J (PR) - Wellbore #1 - No Surveys						Out of range
Guttersen ST D 15-32 (SI) - Wellbore #1 - Gyro Surveys						Out of range
Guttersen ST D 16-21 (SI) - Wellbore #1 - Gyro Surveys						Out of range
Guttersen ST D 16-22D (SI) - Wellbore #1 - MWD Surve						Out of range
Guttersen ST D 16-33 (SI) - Wellbore #1 - No Surveys	6,446.26	6,341.08	9,396.90	9,247.03	62.700	CC
Guttersen ST D 16-33 (SI) - Wellbore #1 - No Surveys	6,450.00	6,344.80	9,396.91	9,246.95	62.663	ES
Guttersen ST D 16-33 (SI) - Wellbore #1 - No Surveys	7,050.00	6,848.93	9,636.85	9,475.53	59.737	SF
Guttersen State D 15-31 (PR) - Wellbore #1 - Gyro Surve						Out of range
Guttersen State D 16-18 (SI) - Wellbore #1 - No Surveys						Out of range
Guttersen State D 16-20 (SI) - Wellbore #1 - Gyro Survey						Out of range
Guttersen State D 16-27 (PR) - Wellbore #1 - No Survey						Out of range
Guttersen State D 16-31 (PR) - Wellbore #1 - No Survey						Out of range
Guttersen State D 16-32D (SI) - Wellbore #1 - MWD Sur						Out of range
Guttersen State D16-63-1HN - Original Drilling - Original	6,483.55	11,243.02	9,214.34	9,089.71	73.934	CC, ES
Guttersen State D16-63-1HN - Original Drilling - Original	6,700.00	11,243.02	9,248.41	9,122.82	73.640	SF
Guttersen State D16-65-1HN - Original Drilling - Original						Out of range
Spike ST GWS D 16-01 (SI) - Wellbore #1 - Gyro Survey						Out of range
Spike ST GWS D 16-02 (P&A) - Wellbore #1 - Gyro Surv						Out of range
Spike ST GWS D 16-03 (PR) - Wellbore #1 - No Surveys						Out of range
Spike ST GWS D 16-04 (SI) - Wellbore #1 - No Surveys						Out of range
Spike ST GWS D 16-05 (PR) - Wellbore #1 - Gyro Surve						Out of range
Spike ST GWS D 16-06 (SI) - Wellbore #1 - No Surveys						Out of range
Spike ST GWS D 16-08 (PR) - Wellbore #1 - Gyro Surve						Out of range
Spike ST GWS D 16-12 (PA) - Wellbore #1 - Gyro Surve						Out of range
Spike State D16-99HZ - Original Drilling - Original Drilling	6,477.46	11,150.02	9,665.87	9,542.36	78.261	CC, ES
Spike State D16-99HZ - Original Drilling - Original Drilling	6,700.00	11,150.02	9,702.08	9,577.63	77.955	SF
Spike State GWS D 16-7J (PR) - Wellbore #1 - No Surve						Out of range

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Guttersen Y05-779
Project:	Mustang	**TVD Reference:**	Well @ 4810.00ft
Reference Site:	D Section 29	**MD Reference:**	Well @ 4810.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Guttersen Y05-779	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Guttersen Y05- 779	**Database:**	EDMP
Reference Design:	Prelim - Rev 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 17						
Butterball D19-27D - Wellbore #1 - Gyro Surveys	6,423.60	6,692.90	7,519.97	7,439.12	93.016	CC, ES
Butterball D19-27D - Wellbore #1 - Gyro Surveys	6,650.00	6,909.29	7,557.57	7,475.76	92.387	SF
Guttersen State D16-33 (SI) - Wellbore #1 - No Surveys	6,446.26	6,341.08	9,396.90	9,318.51	119.879	CC
Guttersen State D16-33 (SI) - Wellbore #1 - No Surveys	6,450.00	6,344.80	9,396.91	9,318.48	119.810	ES
Guttersen State D16-33 (SI) - Wellbore #1 - No Surveys	7,000.00	6,819.49	9,601.10	9,517.30	114.571	SF
HSR LDS 6-17 (SI) - Wellbore #1 - No Surveys						Out of range
HSR LDS B5-17 (SI) - Wellbore #1 - No Surveys						Out of range
HSR Mike Gutteresen 16-17X (SI) - Wellbore #1 - No Su	6,444.93	6,344.74	8,271.77	8,193.35	105.485	CC
HSR Mike Gutteresen 16-17X (SI) - Wellbore #1 - No Su	6,450.00	6,349.80	8,271.79	8,193.31	105.402	ES
HSR Mike Gutteresen 16-17X (SI) - Wellbore #1 - No Su	7,000.00	6,824.49	8,479.56	8,395.72	101.137	SF
HSR Weeks 10-17 - Wellbore #1 - Gyro Surveys	6,438.03	6,357.07	9,179.54	9,134.47	203.676	CC, ES
HSR Weeks 10-17 - Wellbore #1 - Gyro Surveys	6,750.00	6,700.00	9,251.58	9,204.47	196.410	SF
HSR Weeks 15-17 (SI) - Wellbore #1 - No Surveys	6,437.95	6,335.78	7,924.05	7,845.72	101.165	CC
HSR Weeks 15-17 (SI) - Wellbore #1 - No Surveys	6,450.00	6,347.80	7,924.16	7,845.69	100.978	ES
HSR Weeks 15-17 (SI) - Wellbore #1 - No Surveys	6,950.00	6,789.99	8,112.38	8,028.91	97.187	SF
HSR Weeks 9-17 - Wellbore #1 - Gyro Surveys	6,442.40	6,351.80	9,552.14	9,507.09	212.017	CC
HSR Weeks 9-17 - Wellbore #1 - Gyro Surveys	6,450.00	6,359.79	9,552.19	9,507.08	211.765	ES
HSR Weeks 9-17 - Wellbore #1 - Gyro Surveys	6,800.00	6,687.24	9,644.32	9,597.27	204.976	SF
HSR-LDS 3-17 (SI) - Wellbore #1 - No Surveys						Out of range
HSR-LDS 4-17 (SI) - Wellbore #1 - No Surveys						Out of range
LDS 18-17 (SI) - Wellbore #1 - No Surveys						Out of range
LDS D17-13 - Wellbore #1 - Gyro Surveys	6,426.16	6,381.38	7,349.87	7,304.66	162.561	CC, ES
LDS D17-13 - Wellbore #1 - Gyro Surveys	6,850.00	6,650.72	7,488.07	7,440.84	158.549	SF
LDS D17-18 (SI) - Wellbore #1 - No Surveys						Out of range
LDS D17-20 - Wellbore #1 - No Surveys	6,427.49	6,326.34	9,448.81	9,370.59	120.798	CC, ES
LDS D17-20 - Wellbore #1 - No Surveys	7,000.00	6,823.49	9,689.38	9,605.57	115.615	SF
LDS D17-21 - Wellbore #1 - No Surveys	6,432.36	6,327.21	9,484.70	9,406.46	121.223	CC, ES
LDS D17-21 - Wellbore #1 - No Surveys	7,000.00	6,819.49	9,719.38	9,635.60	116.013	SF
LDS D17-22 (SI) - Wellbore #1 - No Surveys						Out of range
LDS D17-24D - Wellbore #1 - LDS D17-24D - As Drilled	6,441.70	6,591.59	8,478.69	8,431.81	180.881	CC
LDS D17-24D - Wellbore #1 - LDS D17-24D - As Drilled	6,450.00	6,605.87	8,478.74	8,431.79	180.586	ES
LDS D17-24D - Wellbore #1 - LDS D17-24D - As Drilled	6,900.00	6,962.79	8,634.51	8,585.30	175.464	SF
LDS D17-25D - Wellbore #1 - LDS D17-25D - As Drilled	6,424.33	6,521.79	8,617.36	8,563.55	160.138	CC, ES
LDS D17-25D - Wellbore #1 - LDS D17-25D - As Drilled	6,850.00	6,967.49	8,754.48	8,698.47	156.298	SF
LDS D17-31D - LDS D17-31D - LDS D17-31D - As Drille						Out of range
LDS D17-32D - LDS D17-32D - LDS D17-32D - As Drille	6,422.12	6,370.19	9,865.26	9,819.72	216.640	CC, ES
LDS D17-32D - LDS D17-32D - LDS D17-32D - As Drille	6,800.00	6,729.90	9,972.99	9,925.30	209.141	SF
LDS D17-33 - LDS D17-33 - LDS D17-33 - As Drilled	6,398.75	6,000.00	8,427.88	8,384.12	192.577	CC
LDS D17-33 - LDS D17-33 - LDS D17-33 - As Drilled	6,400.00	6,000.00	8,427.88	8,384.11	192.558	ES
LDS D17-33 - LDS D17-33 - LDS D17-33 - As Drilled	6,950.00	6,893.33	8,641.50	8,593.36	179.514	SF
LDS D17-7 - Wellbore #1 - No Surveys						Out of range
LDS D20-29D - Wellbore #1 - LDS D20-29D - As Drilled	6,426.27	6,498.68	6,793.92	6,742.51	132.138	CC, ES
LDS D20-29D - Wellbore #1 - LDS D20-29D - As Drilled	6,750.00	6,806.13	6,874.00	6,820.89	129.435	SF
LDS D20-30D - Wellbore #1 - LDS D20-30D - As Drilled	6,429.58	6,524.89	6,957.93	6,911.79	150.794	CC, ES
LDS D20-30D - Wellbore #1 - LDS D20-30D - As Drilled	6,900.00	6,884.04	7,124.59	7,076.10	146.934	SF
LDS RED D17-11 (SI) - Wellbore #1 - No Surveys	6,431.13	6,326.98	8,998.04	8,919.80	115.011	CC, ES
LDS RED D17-11 (SI) - Wellbore #1 - No Surveys	6,950.00	6,787.99	9,197.01	9,113.56	110.213	SF
LDS Red D17-12 - Wellbore #1 - No Surveys	6,423.80	6,322.66	9,166.95	9,088.78	117.263	CC, ES
LDS Red D17-12 - Wellbore #1 - No Surveys	6,950.00	6,790.99	9,371.76	9,288.29	112.280	SF
LDS Red D17-14X (SI) - Wellbore #1 - No Surveys	6,431.97	6,331.82	7,836.30	7,758.02	100.105	CC, ES
LDS Red D17-14X (SI) - Wellbore #1 - No Surveys	6,950.00	6,791.99	8,034.22	7,950.74	96.237	SF
LDS Red D17-3J - Wellbore #1 - Gyro Surveys	6,426.68	6,348.81	7,994.14	7,949.10	177.504	CC, ES
LDS Red D17-3J - Wellbore #1 - Gyro Surveys	6,900.00	6,737.09	8,162.15	8,114.62	171.725	SF

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

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Guttersen Y05-779
Project:	Mustang	**TVD Reference:**	Well @ 4810.00ft
Reference Site:	D Section 29	**MD Reference:**	Well @ 4810.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Guttersen Y05-779	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Guttersen Y05- 779	**Database:**	EDMP
Reference Design:	Prelim - Rev 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 17						
LDS White D17-1 - Wellbore #1 - Gyro Surveys						Out of range
LDS White D17-2 - Wellbore #1 - No Surveys						Out of range
LDS White D17-8 - Wellbore #1 - No Surveys						Out of range
Thomson D20-31D - Wellbore #1 - Gyro Surveys	6,458.48	7,022.31	5,697.39	5,644.48	107.675	CC, ES
Thomson D20-31D - Wellbore #1 - Gyro Surveys	6,750.00	7,200.00	5,763.86	5,709.66	106.352	SF
Weeks 20-17 (SI) - Wellbore #1 - Gyro Surveys	6,441.72	6,348.72	8,614.47	8,569.39	191.085	CC
Weeks 20-17 (SI) - Wellbore #1 - Gyro Surveys	6,450.00	6,356.67	8,614.52	8,569.38	190.848	ES
Weeks 20-17 (SI) - Wellbore #1 - Gyro Surveys	6,950.00	6,803.00	8,798.80	8,750.96	183.937	SF

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Guttersen Y05-779
Project:	Mustang	**TVD Reference:**	Well @ 4810.00ft
Reference Site:	D Section 29	**MD Reference:**	Well @ 4810.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Guttersen Y05-779	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Guttersen Y05- 779	**Database:**	EDMP
Reference Design:	Prelim - Rev 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 18						
Horton D18-20D - Horton D18-20D - Horton D18-20D - A	643.74	608.75	9,779.77	9,775.74	2,428.012	CC
Horton D18-20D - Horton D18-20D - Horton D18-20D - A	1,000.00	900.00	9,781.08	9,774.76	1,547.467	ES
Horton D18-20D - Horton D18-20D - Horton D18-20D - A	4,900.00	2,337.60	9,996.46	9,969.18	366.407	SF
Horton D18-22D - Horton D18-22D - Horton D18-22D - A	6,411.57	6,375.77	9,758.66	9,705.65	184.103	CC, ES
Horton D18-22D - Horton D18-22D - Horton D18-22D - A	6,850.00	6,917.19	9,896.06	9,840.59	178.420	SF
LSWD 1 - LSWD 1 - LSWD 1 - As Drilled						Out of range
Mick D18-03 - Mick D18-03 - Mick D18-03 - As Drilled						Out of range
Mick D18-04 - Wellbore #1 - Wellbore #1- As Drilled						Out of range
Mick D18-05 - Wellbore #1 - Wellbore #1- As Drilled						Out of range
Mick D18-06 - Mick D18-06 - Mick D18-06 - As Drilled						Out of range
Mick D18-11 - Mick D18-11 - Mick D18-11 - As Drilled	6,395.26	6,175.09	9,755.53	9,711.25	220.330	CC
Mick D18-11 - Mick D18-11 - Mick D18-11 - As Drilled	6,400.00	6,177.65	9,755.54	9,711.24	220.201	ES
Mick D18-11 - Mick D18-11 - Mick D18-11 - As Drilled	6,900.00	6,547.91	9,926.75	9,879.92	211.955	SF
Mick D18-12 - Wellbore #1 - Wellbore #1- As Drilled						Out of range
Mick D18-13 - Wellbore #1 - Wellbore #1- As Drilled	6,406.15	6,459.15	9,501.45	9,456.15	209.712	CC, ES
Mick D18-13 - Wellbore #1 - Wellbore #1- As Drilled	7,000.00	7,038.33	9,708.59	9,659.90	199.399	SF
Mick D18-14 - Mick D18-14 - Mick D18-14 - As Drilled	6,411.89	6,411.89	8,750.00	8,704.82	193.678	CC, ES
Mick D18-14 - Mick D18-14 - Mick D18-14 - As Drilled	7,000.00	7,035.42	8,978.03	8,929.36	184.478	SF
Mick D18-19 - Mick D18-19 - Mick D18-19 - As Drilled						Out of range
Mick D18-25 - Mick D18-25 - Mick D18-25 - As Drilled	6,392.19	6,152.00	9,551.74	9,507.51	215.954	CC
Mick D18-25 - Mick D18-25 - Mick D18-25 - As Drilled	6,400.00	6,158.84	9,551.78	9,507.50	215.702	ES
Mick D18-25 - Mick D18-25 - Mick D18-25 - As Drilled	6,950.00	6,887.33	9,747.55	9,699.44	202.586	SF
Scooter D18-02 - Scooter D18-02 - Scooter D18-02 - As						Out of range
Scooter D18-07 - Scooter D18-07 - Scooter D18-07 - As						Out of range
Scooter D18-10 - Scooter D18-10 - Scooter D18-10 - As	6,398.97	6,138.13	9,270.09	9,225.90	209.806	CC
Scooter D18-10 - Scooter D18-10 - Scooter D18-10 - As	6,400.00	6,138.63	9,270.09	9,225.90	209.779	ES
Scooter D18-10 - Scooter D18-10 - Scooter D18-10 - As	6,800.00	6,817.42	9,380.75	9,333.16	197.109	SF
Scooter D18-15 - Scooter D18-15 - Scooter D18-15 - As	6,426.88	6,543.13	8,172.44	8,126.82	179.130	CC, ES
Scooter D18-15 - Scooter D18-15 - Scooter D18-15 - As	6,950.00	7,156.44	8,357.16	8,308.21	170.737	SF
Scooter D18-16 - Scooter D18-16 - Scooter D18-16 - As	6,417.29	6,321.17	7,822.35	7,744.21	100.116	CC, ES
Scooter D18-16 - Scooter D18-16 - Scooter D18-16 - As	6,950.00	6,795.99	8,026.88	7,943.38	96.120	SF
Scooter D18-17 JI - Scooter D18-17 JI - Scooter D18-17						Out of range
Scooter D18-1JI - Scooter D18-1JI - Scooter D18-1JI - A						Out of range
Scooter D18-4J - Scooter D18-4J - Scooter D18-4J - As	6,419.67	6,370.90	8,737.56	8,692.53	194.014	CC, ES
Scooter D18-4J - Scooter D18-4J - Scooter D18-4J - As	6,900.00	6,791.70	8,905.44	8,857.77	186.805	SF
Scooter D18-78-1HN - Original Drilling - Original Drilling -						Out of range
Scooter D18-78-1HN - Original Drilling - ST01 - Original D	6,444.69	11,297.00	9,149.37	9,078.46	129.028	CC
Scooter D18-78-1HN - Original Drilling - ST01 - Original D	6,450.00	11,297.00	9,149.39	9,078.46	128.990	ES
Scooter D18-78-1HN - Original Drilling - ST01 - Original D	6,650.00	11,297.00	9,178.40	9,106.90	128.368	SF
Scooter D18-79-1HN - Original Drilling - Original Drilling -	6,432.25	11,265.00	9,533.22	9,452.77	118.502	CC, ES
Scooter D18-79-1HN - Original Drilling - Original Drilling -	6,650.00	11,265.00	9,564.50	9,483.41	117.954	SF
Scooter D18-79HN - Original Drilling - Original Drilling - A	6,440.77	11,410.00	9,806.56	9,720.58	114.057	CC, ES
Scooter D18-79HN - Original Drilling - Original Drilling - A	6,650.00	11,410.00	9,834.67	9,748.05	113.541	SF
Scooter D18-8JI - Scooter D18-8JI - Scooter D18-8JI - A	469.14	376.14	9,329.29	9,326.70	3,604.441	CC
Scooter D18-8JI - Scooter D18-8JI - Scooter D18-8JI - A	700.00	549.90	9,329.88	9,325.86	2,319.591	ES
Scooter D18-8JI - Scooter D18-8JI - Scooter D18-8JI - A	6,400.00	2,666.73	9,998.80	9,966.29	307.595	SF
Scooter D18-9JI - Scooter D18-9JI - Scooter D18-9JI - A	6,416.31	6,296.41	9,218.04	9,171.19	196.743	CC, ES
Scooter D18-9JI - Scooter D18-9JI - Scooter D18-9JI - A	6,950.00	6,854.00	9,423.70	9,373.87	189.133	SF
Shianne D18-29D - Shianne D18-29D - Shianne D18-29D						Out of range

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

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Guttersen Y05-779
Project:	Mustang	**TVD Reference:**	Well @ 4810.00ft
Reference Site:	D Section 29	**MD Reference:**	Well @ 4810.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Guttersen Y05-779	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Guttersen Y05- 779	**Database:**	EDMP
Reference Design:	Prelim - Rev 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 19						
Butterball 13-19 - Butterball 13-19 - Butterball 13-19 - As	6,393.25	6,479.76	6,674.11	6,628.85	147.475	CC
Butterball 13-19 - Butterball 13-19 - Butterball 13-19 - As	6,400.00	6,485.76	6,674.13	6,628.82	147.328	ES
Butterball 13-19 - Butterball 13-19 - Butterball 13-19 - As	6,950.00	6,840.80	6,806.73	6,758.77	141.938	SF
Butterball 14-19 - Butterball 14-19 - Butterball 14-19 - As	6,388.48	6,521.80	5,967.52	5,922.10	131.379	CC
Butterball 14-19 - Butterball 14-19 - Butterball 14-19 - As	6,400.00	6,532.93	5,967.56	5,922.06	131.148	ES
Butterball 14-19 - Butterball 14-19 - Butterball 14-19 - As	7,100.00	7,075.08	6,116.88	6,067.84	124.744	SF
Butterball 23-19 - Butterball 23-19 - Butterball 23-19 - As	6,381.70	6,324.41	5,705.35	5,660.66	127.670	CC, ES
Butterball 23-19 - Butterball 23-19 - Butterball 23-19 - As	6,950.00	6,822.34	5,857.59	5,809.72	122.367	SF
Butterball B04-19 - Butterball B04-19 - Butterball B04-19	6,389.14	6,518.62	6,736.66	6,691.32	148.590	CC
Butterball B04-19 - Butterball B04-19 - Butterball B04-19	6,400.00	6,532.41	6,736.70	6,691.27	148.307	ES
Butterball B04-19 - Butterball B04-19 - Butterball B04-19	7,100.00	6,987.95	6,907.07	6,858.41	141.946	SF
Butterball D18-75HN - Original Drilling - Original Drilling -	3,341.59	2,482.00	7,776.34	7,757.21	406.326	CC, ES
Butterball D18-75HN - Original Drilling - Original Drilling -	6,700.00	6,279.00	7,889.99	7,844.23	172.431	SF
Butterball D19-17D - Butterball D19-17D - Butterball D19	6,406.35	6,878.41	6,306.85	6,155.89	41.777	CC, ES
Butterball D19-17D - Butterball D19-17D - Butterball D19	6,500.00	6,954.44	6,313.37	6,162.07	41.728	SF
Butterball D19-18D - Butterball D19-18D - Butterball D19	6,396.68	6,385.57	7,148.11	7,097.28	140.618	CC
Butterball D19-18D - Butterball D19-18D - Butterball D19	6,400.00	6,389.25	7,148.12	7,097.26	140.558	ES
Butterball D19-18D - Butterball D19-18D - Butterball D19	6,850.00	6,822.02	7,276.31	7,223.04	136.609	SF
Butterball D19-19D - Butterball D19-19D - Butterball D19	6,389.84	6,394.93	7,343.02	7,295.34	154.022	CC
Butterball D19-19D - Butterball D19-19D - Butterball D19	6,400.00	6,405.09	7,343.08	7,295.34	153.805	ES
Butterball D19-19D - Butterball D19-19D - Butterball D19	6,900.00	6,878.61	7,484.29	7,433.81	148.274	SF
Butterball D19-20D - Butterball D19-20D - Butterball D19	6,389.02	6,477.74	6,580.11	6,532.48	138.158	CC
Butterball D19-20D - Butterball D19-20D - Butterball D19	6,400.00	6,490.06	6,580.17	6,532.47	137.936	ES
Butterball D19-20D - Butterball D19-20D - Butterball D19	6,950.00	6,990.31	6,734.63	6,683.82	132.540	SF
Butterball D19-22D - Wellbore #1 - Wellbore #1 - As Drill	6,400.57	6,377.62	5,052.83	5,001.53	98.494	CC, ES
Butterball D19-22D - Wellbore #1 - Wellbore #1 - As Drill	6,700.00	6,685.30	5,111.87	5,058.87	96.458	SF
Butterball D19-75HN - Original Drilling - Original Drilling -	6,514.68	11,767.00	4,032.25	3,921.53	36.418	CC, ES
Butterball D19-75HN - Original Drilling - Original Drilling -	6,650.00	11,767.00	4,039.85	3,928.62	36.319	SF
Butterball D24-19 - Butterball D24-19 - Butterball D24-19	221.67	190.67	5,023.99	5,022.94	4,770.118	CC
Butterball D24-19 - Butterball D24-19 - Butterball D24-19	6,369.74	6,361.16	5,029.38	4,984.60	112.316	ES
Butterball D24-19 - Butterball D24-19 - Butterball D24-19	6,950.00	6,864.04	5,149.21	5,101.16	107.166	SF
Butterball H24-69HN - Original Drilling - Original Drilling -	6,396.97	6,237.69	7,635.69	7,591.60	173.182	CC
Butterball H24-69HN - Original Drilling - Original Drilling -	6,400.00	6,238.28	7,635.70	7,591.59	173.130	ES
Butterball H24-69HN - Original Drilling - Original Drilling -	6,750.00	6,300.18	7,729.39	7,684.09	170.654	SF
Champlin 366 Amoco F 1 - Wellbore #1 - Wellbore #1 - A	6,393.90	6,303.16	4,142.59	4,097.89	92.683	CC
Champlin 366 Amoco F 1 - Wellbore #1 - Wellbore #1 - A	6,400.00	6,309.54	4,142.61	4,097.87	92.592	ES
Champlin 366 Amoco F 1 - Wellbore #1 - Wellbore #1 - A	6,750.00	6,655.43	4,218.75	4,171.81	89.885	SF
Dechant D19-32D - Dechant D19-32D - Dechant D19-32	6,368.66	6,857.14	7,660.03	7,545.27	66.744	CC, ES
Dechant D19-32D - Dechant D19-32D - Dechant D19-32	6,700.00	7,208.92	7,706.73	7,590.58	66.351	SF
Graznak 01-19 - Graznak 01-19 - Graznak 01-19 - As Dr	6,355.22	6,281.36	6,039.20	5,961.73	77.957	CC, ES
Graznak 01-19 - Graznak 01-19 - Graznak 01-19 - As Dr	7,050.00	6,879.93	6,211.08	6,126.67	73.587	SF
Higgins D19-720 - Original Drilling - Original Drilling - As	6,420.86	6,444.76	7,091.07	7,048.61	167.004	CC, ES
Higgins D19-720 - Original Drilling - Original Drilling - As	6,700.00	6,670.37	7,150.14	7,106.84	165.123	SF
Higgins D19-720 - Sidetrack Curve/Horizontal - ST01 - A	6,624.26	11,660.02	3,036.78	2,980.94	54.387	CC, ES
Higgins D19-720 - Sidetrack Curve/Horizontal - ST01 - A	6,700.00	11,660.02	3,041.16	2,985.06	54.209	SF
Independence D18-712 - Independence D18-712 - Plan 1	6,423.83	6,500.00	6,538.30	6,491.96	141.105	CC, ES
Independence D18-712 - Independence D18-712 - Plan 1	6,650.00	6,500.00	6,580.79	6,533.78	139.979	SF
Independence D18-717 - Independence D18-717 - Plan 1	6,403.33	6,250.00	6,622.20	6,577.24	147.286	CC, ES
Independence D18-717 - Independence D18-717 - Plan 1	6,650.00	6,300.00	6,671.37	6,625.51	145.475	SF
Independence D18-725 - Independence D18-725 - Plan 1	6,413.45	6,272.31	6,759.34	6,714.55	150.925	CC, ES
Independence D18-725 - Independence D18-725 - Plan 1	6,650.00	6,300.00	6,807.27	6,761.69	149.348	SF
Independence D18-732 - Independence D18-732 - Plan 1	6,394.56	6,200.00	6,890.39	6,845.63	153.948	CC, ES
Independence D18-732 - Independence D18-732 - Plan 1	6,650.00	6,250.00	6,941.11	6,895.41	151.877	SF

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Guttersen Y05-779
Project:	Mustang	**TVD Reference:**	Well @ 4810.00ft
Reference Site:	D Section 29	**MD Reference:**	Well @ 4810.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Guttersen Y05-779	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Guttersen Y05- 779	**Database:**	EDMP
Reference Design:	Prelim - Rev 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 19						
Independence D18-739 - Independence D18-739 - Plan 1	6,384.67	6,132.63	6,994.79	6,949.99	156.112	CC, ES
Independence D18-739 - Independence D18-739 - Plan 1	6,700.00	6,342.49	7,065.41	7,018.90	151.902	SF
Independence D18-744 - Independence D18-744 - Plan 1	6,356.20	5,906.39	7,102.78	7,058.35	159.870	CC, ES
Independence D18-744 - Independence D18-744 - Plan 1	6,800.00	6,281.20	7,236.72	7,189.57	153.485	SF
Independence D18-759 - Independence D18-759 - Plan 1	6,392.67	6,300.00	7,593.46	7,548.41	168.550	CC, ES
Independence D18-759 - Independence D18-759 - Plan 1	6,650.00	6,350.00	7,639.54	7,593.56	166.138	SF
Independence D18-767 - Independence D18-767 - Plan 1	6,387.39	6,250.00	7,877.62	7,832.99	176.506	CC, ES
Independence D18-767 - Independence D18-767 - Plan 1	6,850.00	6,300.00	8,019.05	7,973.05	174.340	SF
Independence D30-711 - Independence D30-711 - Plan 1	7,085.12	14,766.97	1,312.02	1,221.78	14.540	CC
Independence D30-711 - Independence D30-711 - Plan 1	10,400.00	18,065.61	1,332.14	1,204.98	10.476	ES, SF
Independence D30-718 - Independence D30-718 - Plan 1	6,885.43	14,445.03	1,738.90	1,650.78	19.733	CC
Independence D30-718 - Independence D30-718 - Plan 1	6,900.00	14,454.76	1,738.94	1,650.74	19.716	ES
Independence D30-718 - Independence D30-718 - Plan 1	10,500.00	17,906.67	1,798.72	1,671.97	14.191	SF
Independence D30-724 - Independence D30-724 - Plan 1	6,767.18	14,258.54	2,176.58	2,089.61	25.026	CC
Independence D30-724 - Independence D30-724 - Plan 1	6,800.00	14,275.97	2,176.77	2,089.60	24.971	ES
Independence D30-724 - Independence D30-724 - Plan 1	10,500.00	17,790.74	2,240.32	2,113.34	17.644	SF
Independence D30-731 - Independence D30-731 - Plan 1	6,724.16	14,207.60	2,591.26	2,505.02	30.046	CC
Independence D30-731 - Independence D30-731 - Plan 1	6,750.00	14,219.67	2,591.38	2,504.96	29.987	ES
Independence D30-731 - Independence D30-731 - Plan 1	10,600.00	17,787.32	2,692.07	2,564.45	21.094	SF
Independence D30-737 - Independence D30-737 - Plan 1	6,712.02	14,267.59	2,996.65	2,910.30	34.705	CC
Independence D30-737 - Independence D30-737 - Plan 1	6,750.00	14,285.03	2,996.85	2,910.22	34.592	ES
Independence D30-737 - Independence D30-737 - Plan 1	10,700.00	17,823.24	3,062.44	2,933.85	23.816	SF
Independence D30-743 - Independence D30-743 - Plan 1	6,676.90	14,306.23	3,399.82	3,313.85	39.544	CC
Independence D30-743 - Independence D30-743 - Plan 1	6,700.00	14,302.98	3,399.90	3,313.83	39.505	ES
Independence D30-743 - Independence D30-743 - Plan 1	10,800.00	17,886.63	3,492.01	3,362.61	26.986	SF
Independence D30-758 - Independence D30-758 - Plan 1	6,633.94	14,254.87	4,200.99	4,114.70	48.686	CC
Independence D30-758 - Independence D30-758 - Plan 1	6,650.00	14,260.19	4,201.01	4,114.65	48.645	ES
Independence D30-758 - Independence D30-758 - Plan 1	10,800.00	17,840.49	4,263.72	4,135.50	33.253	SF
Independence D30-765 - Independence D30-765 - Plan 1	6,780.15	14,430.82	4,662.52	4,575.60	53.640	CC
Independence D30-765 - Independence D30-765 - Plan 1	6,800.00	14,441.53	4,662.55	4,575.50	53.561	ES
Independence D30-765 - Independence D30-765 - Plan 1	11,000.00	17,973.12	4,744.47	4,614.89	36.616	SF
Independence D30-770 - Independence D30-770 - Plan 1	6,567.40	14,208.74	5,009.83	4,924.09	58.434	CC
Independence D30-770 - Independence D30-770 - Plan 1	10,400.00	17,785.48	5,048.14	4,921.41	39.834	ES
Independence D30-770 - Independence D30-770 - Plan 1	11,100.00	17,787.74	5,098.86	4,968.66	39.161	SF
Independence D30-777 - Independence D30-777 - Plan 1	6,552.65	14,221.91	5,446.09	5,360.86	63.901	CC
Independence D30-777 - Independence D30-777 - Plan 1	6,600.00	14,232.91	5,446.30	5,360.80	63.700	ES
Independence D30-777 - Independence D30-777 - Plan 1	11,300.00	17,842.76	5,573.38	5,441.88	42.383	SF
Independence State D30-784 - Independence State D30	6,596.67	14,478.24	5,965.64	5,879.87	69.558	CC
Independence State D30-784 - Independence State D30	10,400.00	18,065.36	6,001.10	5,873.99	47.213	ES
Independence State D30-784 - Independence State D30	11,500.00	18,074.89	6,104.71	5,971.51	45.830	SF
LDS White D19-10 - LDS White D19-10 - LDS White D19	6,393.23	6,327.58	5,004.64	4,959.85	111.734	CC
LDS White D19-10 - LDS White D19-10 - LDS White D19	6,400.00	6,333.65	5,004.66	4,959.83	111.621	ES
LDS White D19-10 - LDS White D19-10 - LDS White D19	6,850.00	6,755.47	5,121.68	5,074.18	107.838	SF
LDS White D19-15 - LDS White D19-15 - LDS White D19	6,360.40	6,248.67	4,016.37	3,972.04	90.592	CC, ES
LDS White D19-15 - LDS White D19-15 - LDS White D19	6,850.00	6,716.75	4,119.54	4,072.21	87.041	SF
LDS White D19-16 - Wellbore #1 - Wellbore #1 - As Drill	6,393.78	6,321.19	3,071.85	3,027.11	68.658	CC
LDS White D19-16 - Wellbore #1 - Wellbore #1 - As Drill	6,400.00	6,327.84	3,071.88	3,027.09	68.589	ES
LDS White D19-16 - Wellbore #1 - Wellbore #1 - As Drill	6,700.00	6,608.74	3,126.98	3,080.33	67.036	SF
Mile High 02-19 - Wellbore #1 - Wellbore #1 - As Drilled	6,405.40	6,323.63	6,005.18	5,960.36	133.986	CC, ES
Mile High 02-19 - Wellbore #1 - Wellbore #1 - As Drilled	6,850.00	6,754.42	6,135.90	6,088.44	129.265	SF
Sean D19-09 - Wellbore #1 - Wellbore #1 - As Drilled	6,408.98	6,324.87	4,145.89	3,996.47	27.746	CC, ES
Sean D19-09 - Wellbore #1 - Wellbore #1 - As Drilled	6,800.00	6,694.14	4,252.29	4,094.43	26.938	SF
Turk Blue D19-02J - Turk Blue D19-02J - Turk Blue D19-	6,388.01	6,258.33	7,688.94	7,644.42	172.704	CC, ES

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

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Guttersen Y05-779
Project:	Mustang	**TVD Reference:**	Well @ 4810.00ft
Reference Site:	D Section 29	**MD Reference:**	Well @ 4810.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Guttersen Y05-779	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Guttersen Y05- 779	**Database:**	EDMP
Reference Design:	Prelim - Rev 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 19						
Turk Blue D19-02J - Turk Blue D19-02J - Turk Blue D19-	6,900.00	6,877.15	7,835.02	7,787.06	163.333	SF
Turk Blue D19-04 - Turk Blue D19-04 - Turk Blue D19-04	6,389.66	6,323.64	8,573.96	8,529.21	191.595	CC, ES
Turk Blue D19-04 - Turk Blue D19-04 - Turk Blue D19-04	6,950.00	6,800.00	8,748.71	8,700.91	183.040	SF
Turk Blue D19-05 - Turk Blue D19-05 - Turk Blue D19-05	6,395.21	6,453.29	7,418.57	7,373.33	163.982	CC
Turk Blue D19-05 - Turk Blue D19-05 - Turk Blue D19-05	6,400.00	6,457.76	7,418.58	7,373.31	163.863	ES
Turk Blue D19-05 - Turk Blue D19-05 - Turk Blue D19-05	7,000.00	6,911.12	7,594.67	7,546.35	157.178	SF
Turk Blue D19-06 - Turk Blue D19-06 - Turk Blue D19-06	6,393.93	6,340.77	6,553.44	6,508.64	146.283	CC
Turk Blue D19-06 - Turk Blue D19-06 - Turk Blue D19-06	6,400.00	6,346.02	6,553.47	6,508.63	146.152	ES
Turk Blue D19-06 - Turk Blue D19-06 - Turk Blue D19-06	6,900.00	6,812.75	6,696.03	6,648.28	140.243	SF
Turk White D19-01 - Wellbore #1 - Wellbore #1 - As Drill	6,417.70	6,349.77	6,534.28	6,489.29	145.236	CC, ES
Turk White D19-01 - Wellbore #1 - Wellbore #1 - As Drill	6,850.00	6,783.70	6,670.30	6,622.72	140.174	SF
Turk White D19-02 - Wellbore #1 - Wellbore #1 - As Drill	6,418.21	6,437.59	7,145.04	7,099.80	157.928	CC, ES
Turk White D19-02 - Wellbore #1 - Wellbore #1 - As Drill	6,900.00	6,785.74	7,305.61	7,257.95	153.288	SF
Turk White D19-08 - Wellbore #1 - Wellbore #1 - As Drill	6,406.68	6,282.77	5,155.40	5,110.71	115.351	CC, ES
Turk White D19-08 - Wellbore #1 - Wellbore #1 - As Drill	6,800.00	6,661.85	5,264.48	5,217.41	111.859	SF

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

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Guttersen Y05-779
Project:	Mustang	**TVD Reference:**	Well @ 4810.00ft
Reference Site:	D Section 29	**MD Reference:**	Well @ 4810.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Guttersen Y05-779	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Guttersen Y05- 779	**Database:**	EDMP
Reference Design:	Prelim - Rev 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 20						
Bohlender D20-2J - Wellbore #1 - No Surveys	6,425.34	6,336.20	5,310.08	5,231.79	67.818	CC, ES
Bohlender D20-2J - Wellbore #1 - No Surveys	6,800.00	6,689.14	5,417.15	5,334.79	65.775	SF
Bohlender D20-3 - Wellbore #1 - Gyro Surveys	6,427.35	6,304.47	6,362.91	6,318.04	141.796	CC, ES
Bohlender D20-3 - Wellbore #1 - Gyro Surveys	6,850.00	6,742.37	6,496.01	6,448.56	136.899	SF
Bohlender D20-4 (P&A) - Wellbore #1 - No Surveys	6,422.95	6,335.81	6,477.38	6,327.67	43.266	CC
Bohlender D20-4 (P&A) - Wellbore #1 - No Surveys	6,450.00	6,362.80	6,477.95	6,327.61	43.088	ES
Bohlender D20-4 (P&A) - Wellbore #1 - No Surveys	6,900.00	6,769.61	6,647.14	6,487.61	41.666	SF
Bohlender D20-6 - Wellbore#1 - Gyro Surveys	6,424.49	6,267.90	5,028.71	4,983.97	112.399	CC, ES
Bohlender D20-6 - Wellbore#1 - Gyro Surveys	6,800.00	6,655.09	5,134.04	5,086.97	109.077	SF
Butterball D19-27D - Butterball D19-27D - Butterball D19	6,423.60	6,692.90	7,519.97	7,439.13	93.022	CC, ES
Butterball D19-27D - Butterball D19-27D - Butterball D19	6,650.00	6,909.29	7,557.57	7,475.77	92.392	SF
Duncan D20-1 (P&A) - Wellbore #1 - No Surveys	6,448.96	6,360.77	7,320.64	7,170.37	48.717	CC
Duncan D20-1 (P&A) - Wellbore #1 - No Surveys	6,450.00	6,361.80	7,320.64	7,170.35	48.709	ES
Duncan D20-1 (P&A) - Wellbore #1 - No Surveys	7,000.00	6,836.49	7,517.97	7,356.94	46.689	SF
Duncan D20-10 - Wellbore #1 - Gyro Surveys	6,460.04	6,404.41	4,062.38	4,017.10	89.721	CC, ES
Duncan D20-10 - Wellbore #1 - Gyro Surveys	6,800.00	6,706.93	4,135.49	4,088.25	87.534	SF
Duncan D20-11 (SI) - Wellbore #1 - No Surveys	6,435.90	6,353.74	3,788.52	3,710.03	48.273	CC
Duncan D20-11 (SI) - Wellbore #1 - No Surveys	6,450.00	6,367.80	3,788.67	3,710.02	48.170	ES
Duncan D20-11 (SI) - Wellbore #1 - No Surveys	6,750.00	6,653.53	3,862.72	3,780.77	47.135	SF
Duncan D20-12 (SI) - Wellbore #1 - No Surveys	6,420.93	6,336.80	3,688.47	3,610.18	47.115	CC, ES
Duncan D20-12 (SI) - Wellbore #1 - No Surveys	6,750.00	6,651.53	3,770.78	3,688.85	46.024	SF
Duncan D20-13 (SI) - Wellbore #1 - No Surveys	6,416.01	6,336.89	2,188.88	2,110.62	27.968	CC, ES
Duncan D20-13 (SI) - Wellbore #1 - No Surveys	6,600.00	6,518.39	2,214.38	2,133.98	27.539	SF
Duncan D20-14 (SI) - Wellbore #1 - Gyro Surveys	6,434.96	6,356.53	2,688.13	2,643.08	59.670	CC, ES
Duncan D20-14 (SI) - Wellbore #1 - Gyro Surveys	6,650.00	6,558.48	2,723.69	2,677.30	58.715	SF
Duncan D20-15 (P&A) - Wellbore #1 - Gyro Surveys	6,456.25	6,362.38	2,991.17	2,946.05	66.301	CC, ES
Duncan D20-15 (P&A) - Wellbore #1 - Gyro Surveys	6,750.00	6,628.56	3,043.15	2,996.29	64.942	SF
Duncan D20-16 (SI) - Wellbore #1 - Gyro Surveys	6,485.02	6,400.00	4,224.59	4,179.31	93.296	CC, ES
Duncan D20-16 (SI) - Wellbore #1 - Gyro Surveys	6,950.00	6,814.17	4,318.71	4,270.85	90.225	SF
Duncan D20-2 - Wellbore #1 - Gyro Surveys	6,448.02	6,428.63	6,661.04	6,615.71	146.952	CC
Duncan D20-2 - Wellbore #1 - Gyro Surveys	6,450.00	6,429.84	6,661.04	6,615.70	146.916	ES
Duncan D20-2 - Wellbore #1 - Gyro Surveys	7,050.00	7,050.00	6,916.40	6,867.62	141.809	SF
Duncan D20-7 - Wellbore #1 - Gyro Surveys	6,444.73	6,346.80	5,814.18	5,769.11	128.998	CC
Duncan D20-7 - Wellbore #1 - Gyro Surveys	6,450.00	6,353.48	5,814.20	5,769.08	128.881	ES
Duncan D20-7 - Wellbore #1 - Gyro Surveys	6,850.00	6,731.17	5,927.97	5,880.54	124.970	SF
Duncan D20-8 - Wellbore #1 - Gyro Surveys	6,453.94	6,376.75	6,013.15	5,968.00	133.188	CC, ES
Duncan D20-8 - Wellbore #1 - Gyro Surveys	6,900.00	6,819.00	6,135.97	6,088.20	128.422	SF
Duncan D20-9 (P&A) - Wellbore #1 - Gyro Surveys	6,471.48	6,421.11	5,082.66	5,037.33	112.138	CC, ES
Duncan D20-9 (P&A) - Wellbore #1 - Gyro Surveys	6,900.00	6,801.75	5,184.51	5,136.79	108.637	SF
E Ranches (P&A) - Wellbore #1 - No Surveys	6,425.64	6,338.49	2,322.69	2,172.92	15.508	CC
E Ranches (P&A) - Wellbore #1 - No Surveys	6,450.00	6,362.80	2,323.16	2,172.81	15.452	ES
E Ranches (P&A) - Wellbore #1 - No Surveys	6,650.00	6,557.88	2,361.84	2,207.02	15.255	SF
Guttersen 10-20 - Wellbore #1 - Gyro Surveys	6,450.72	6,383.21	4,277.53	4,232.35	94.683	CC, ES
Guttersen 10-20 - Wellbore #1 - Gyro Surveys	6,650.00	6,652.09	4,305.62	4,259.06	92.482	SF
LDS D20-30D - LDS D20-30D - LDS D20-30D - As Drille	6,432.12	6,540.59	6,963.46	6,915.52	145.243	CC, ES
LDS D20-30D - LDS D20-30D - LDS D20-30D - As Drille	6,850.00	6,823.76	7,096.54	7,046.64	142.210	SF

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Guttersen Y05-779
Project:	Mustang	**TVD Reference:**	Well @ 4810.00ft
Reference Site:	D Section 29	**MD Reference:**	Well @ 4810.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Guttersen Y05-779	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Guttersen Y05- 779	**Database:**	EDMP
Reference Design:	Prelim - Rev 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 28						
O'SH D 28-7 (P&A) - Wellbore #1 - No Surveys	7,218.84	6,981.41	7,279.77	7,115.49	44.312	CC
O'SH D 28-7 (P&A) - Wellbore #1 - No Surveys	7,250.00	6,990.66	7,279.89	7,115.38	44.252	ES
O'SH D 28-7 (P&A) - Wellbore #1 - No Surveys	7,426.78	7,015.00	7,284.87	7,119.71	44.108	SF
Spike ST GWS D 28-12 (SI) - Wellbore #1 - Gyro Surve	8,420.85	7,028.48	4,530.59	4,479.96	89.489	CC, ES
Spike ST GWS D 28-12 (SI) - Wellbore #1 - Gyro Surve	10,200.00	7,042.25	4,867.38	4,809.24	83.710	SF
Guttersen D State 28-29D (PR) - Wellbore #1 - MWD Su	941.42	917.44	5,335.57	5,330.47	1,046.181	CC
Guttersen D State 28-29D (PR) - Wellbore #1 - MWD Su	1,000.00	941.17	5,335.76	5,330.37	989.721	ES
Guttersen D State 28-29D (PR) - Wellbore #1 - MWD Su	7,100.00	6,976.85	5,768.57	5,720.04	118.867	SF
Guttersen D State 28-30D - Wellbore #1 - Guttersen D S	6,565.52	6,727.00	4,281.84	4,233.11	87.869	CC, ES
Guttersen D State 28-30D - Wellbore #1 - Guttersen D S	7,000.00	6,955.17	4,349.72	4,299.10	85.934	SF
Guttersen State D28-18D (PR) - Wellbore #1 - MWD Sur	6,782.54	6,777.00	6,515.13	6,464.49	128.654	CC
Guttersen State D28-18D (PR) - Wellbore #1 - MWD Sur	6,800.00	6,791.54	6,515.17	6,464.44	128.434	ES
Guttersen State D28-18D (PR) - Wellbore #1 - MWD Sur	9,700.00	7,056.80	7,332.10	7,272.81	123.665	SF
Guttersen State D28-28D (PR) - Wellbore #1 - MWD Sur	0.00	0.00	6,630.30			
Guttersen State D28-28D (PR) - Wellbore #1 - MWD Sur	300.00	233.24	6,631.26	6,629.78	4,493.301	ES
Guttersen State D28-28D (PR) - Wellbore #1 - MWD Sur	7,200.00	6,979.13	6,923.89	6,873.56	137.571	SF
Guttersen State D28-79HN - Wellbore #1 - Actual	6,800.00	9,983.00	4,124.36	4,035.29	46.304	SF
Guttersen State D28-79HN - Wellbore #1 - Actual	6,978.34	9,906.09	4,120.10	4,031.92	46.720	CC, ES
HSR Guttersen State 7-28 (PR) - Wellbore #1 - Gyro Sur	7,077.35	6,600.00	7,069.12	7,021.78	149.333	CC, ES
HSR Guttersen State 7-28 (PR) - Wellbore #1 - Gyro Sur	11,600.00	6,600.00	8,426.38	8,363.17	133.299	SF
O'SH D 28-1 (SI) - Wellbore #1 - Gyro Surveys	6,805.71	6,769.17	8,334.12	8,286.71	175.808	CC, ES
O'SH D 28-1 (SI) - Wellbore #1 - Gyro Surveys	11,700.00	6,991.31	9,992.05	9,927.41	154.571	SF
O'SH D 28-2 (SI) - Wellbore #1 - Gyro Surveys	6,656.98	6,568.24	7,408.62	7,362.28	159.857	CC, ES
O'SH D 28-2 (SI) - Wellbore #1 - Gyro Surveys	10,900.00	7,026.67	8,946.80	8,887.09	149.841	SF
O'SH D 28-8 (SI) - Wellbore #1 - Gyro Surveys	7,249.45	6,851.66	8,632.36	8,583.99	178.484	CC
O'SH D 28-8 (SI) - Wellbore #1 - Gyro Surveys	7,250.00	6,851.83	8,632.36	8,583.99	178.480	ES
O'SH D 28-8 (SI) - Wellbore #1 - Gyro Surveys	12,100.00	7,073.18	9,950.36	9,882.24	146.068	SF
Spike ST GWS D 28-4 (SI) - Wellbore #1 - Gyro Surveys	6,584.57	6,539.70	4,880.70	4,834.67	106.031	CC
Spike ST GWS D 28-4 (SI) - Wellbore #1 - Gyro Surveys	6,600.00	6,550.37	4,880.76	4,834.64	105.839	ES
Spike ST GWS D 28-4 (SI) - Wellbore #1 - Gyro Surveys	7,150.00	6,921.72	4,960.05	4,911.49	102.159	SF
Spike State D28-05 (PR) - Wellbore #1 - Gyro Surveys	7,040.45	6,874.16	4,541.94	4,493.82	94.381	CC, ES
Spike State D28-05 (PR) - Wellbore #1 - Gyro Surveys	7,300.00	6,977.09	4,551.87	4,503.49	94.103	SF
Spike State D28-06 (SI) - Wellbore #1 - Gyro Surveys	7,088.17	6,826.84	6,230.00	6,181.84	129.360	CC
Spike State D28-06 (SI) - Wellbore #1 - Gyro Surveys	7,100.00	6,832.24	6,230.02	6,181.82	129.260	ES
Spike State D28-06 (SI) - Wellbore #1 - Gyro Surveys	10,500.00	6,931.25	7,176.45	7,117.51	121.747	SF

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

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Guttersen Y05-779
Project:	Mustang	**TVD Reference:**	Well @ 4810.00ft
Reference Site:	D Section 29	**MD Reference:**	Well @ 4810.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Guttersen Y05-779	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Guttersen Y05- 779	**Database:**	EDMP
Reference Design:	Prelim - Rev 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 29						
Guttersen D29-30D - Wellbore #1 - Design #1	800.54	802.55	1,147.55	1,142.26	216.871	CC
Guttersen D29-30D - Wellbore #1 - Design #1	900.00	887.60	1,147.88	1,141.93	192.840	ES
Guttersen D29-30D - Wellbore #1 - Design #1	6,600.00	6,707.65	1,956.79	1,907.94	40.058	SF
Guttersen D29-31D - Wellbore #1 - Guttersen D29-31D	100.00	73.64	416.29	416.03	1,614.184	CC
Guttersen D29-31D - Wellbore #1 - Guttersen D29-31D	500.00	471.68	417.58	415.17	173.524	ES
Guttersen D29-31D - Wellbore #1 - Guttersen D29-31D	6,550.00	6,555.01	1,126.63	1,079.82	24.069	SF
Guttersen D29-33D - Wellbore #1 - Guttersen D29-33D -	872.44	872.91	895.81	891.21	194.883	CC
Guttersen D29-33D - Wellbore #1 - Guttersen D29-33D -	900.00	894.03	895.87	891.10	187.975	ES
Guttersen D29-33D - Wellbore #1 - Guttersen D29-33D -	9,200.00	7,226.98	1,104.94	1,043.31	17.929	SF
Guttersen D29-65HN - Original Drilling - Original Drilling	7,855.39	7,578.94	222.69	196.57	8.526	CC, ES
Guttersen D29-65HN - Original Drilling - Original Drilling	8,000.00	7,572.76	265.45	225.12	6.582	SF
Guttersen D29-67HN - Original Drilling - Original Drilling	6,737.58	7,409.16	473.92	426.56	10.007	CC
Guttersen D29-67HN - Original Drilling - Original Drilling	6,750.00	7,410.06	474.21	426.25	9.889	ES
Guttersen D29-67HN - Original Drilling - Original Drilling	6,800.00	7,413.50	481.02	430.96	9.609	SF
Guttersen D29-69HN - Original Drilling - Original Drilling	948.40	939.41	1,128.70	1,123.73	227.037	CC
Guttersen D29-69HN - Original Drilling - Original Drilling	1,000.00	983.79	1,128.87	1,123.56	212.583	ES
Guttersen D29-69HN - Original Drilling - Original Drilling	6,700.00	7,507.98	1,653.77	1,601.08	31.389	SF
Guttersen D29-722 - Guttersen D29-722 - Prelim - Rev 1	7,331.23	7,588.69	3,311.52	3,261.65	66.406	CC, ES
Guttersen D29-722 - Guttersen D29-722 - Prelim - Rev 1	8,800.00	6,750.00	3,423.58	3,371.70	65.988	SF
Guttersen D29-730 - Guttersen D29-730 - Prelim - Rev 1	6,950.00	7,843.46	2,706.19	2,656.45	54.405	SF
Guttersen D29-730 - Guttersen D29-730 - Prelim - Rev 1	7,100.00	7,722.61	2,704.37	2,654.76	54.512	ES
Guttersen D29-730 - Guttersen D29-730 - Prelim - Rev 1	7,109.61	7,714.20	2,704.36	2,654.76	54.524	CC
Guttersen D29-738 - Guttersen D29-738 - Prelim - Rev 1	2,200.00	2,208.00	1,445.57	1,430.24	94.264	CC, ES
Guttersen D29-738 - Guttersen D29-738 - Prelim - Rev 1	8,400.00	6,684.09	2,056.19	2,005.07	40.223	SF
Guttersen D29-746 - Guttersen D29-746 - Prelim - Rev 1	2,200.00	2,196.00	1,407.79	1,392.50	92.058	CC
Guttersen D29-746 - Guttersen D29-746 - Prelim - Rev 1	2,400.00	2,356.77	1,408.37	1,391.83	85.160	ES
Guttersen D29-746 - Guttersen D29-746 - Prelim - Rev 1	7,000.00	7,740.69	1,487.06	1,437.40	29.942	SF
Guttersen D29-754 - Guttersen D29-754 - Prelim - Rev 1	7,300.00	7,708.75	875.21	825.05	17.450	SF
Guttersen D29-754 - Guttersen D29-754 - Prelim - Rev 1	7,389.69	7,602.37	874.70	824.62	17.468	CC
Guttersen D29-754 - Guttersen D29-754 - Prelim - Rev 1	7,400.00	7,607.93	874.70	824.61	17.462	ES
Guttersen D29-770 - Guttersen D29-770 - Prelim - Rev 1	2,200.00	2,200.00	153.82	138.51	10.049	CC, ES
Guttersen D29-770 - Guttersen D29-770 - Prelim - Rev 1	6,925.32	7,833.80	252.25	202.39	5.060	SF
Guttersen D29-778 - Guttersen D29-778 - Prelim - Rev 1	2,200.00	2,200.00	150.03	134.72	9.802	CC, ES
Guttersen D29-778 - Guttersen D29-778 - Prelim - Rev 1	7,050.00	7,870.90	365.59	315.56	7.306	SF
Guttersen D29-786 - Guttersen D29-786 - Prelim - Rev 1	2,200.00	2,200.00	155.49	140.18	10.158	CC, ES
Guttersen D29-786 - Guttersen D29-786 - Prelim - Rev 1	2,300.00	2,295.14	158.74	142.76	9.931	SF
Guttersen D29-99HZ - Wellbore #1 - MWD Surveys	9,180.53	7,440.02	139.39	105.38	4.098	CC
Guttersen D29-99HZ - Wellbore #1 - MWD Surveys	9,200.00	7,439.79	140.75	104.68	3.903	ES
Guttersen D29-99HZ - Wellbore #1 - MWD Surveys	9,300.00	7,438.71	183.58	134.87	3.769	SF
Guttersen D30-68-1HN - Original Drilling - Original Drillin	1,030.44	1,020.45	1,088.53	1,082.97	195.769	CC, ES
Guttersen D30-68-1HN - Original Drilling - Original Drillin	6,400.00	6,257.67	1,316.90	1,273.66	30.453	SF
Guttersen D30-69-1HN - Original Drilling - Original Drillin	1,128.13	1,118.15	1,106.72	1,100.48	177.386	CC
Guttersen D30-69-1HN - Original Drilling - Original Drillin	1,200.00	1,181.54	1,106.99	1,100.27	164.710	ES
Guttersen D30-69-1HN - Original Drilling - Original Drillin	6,500.00	6,410.01	1,902.13	1,856.21	41.424	SF
Guttersen State D29-714 - Guttersen D29-714 - Prelim -	2,726.38	2,533.37	3,751.49	3,733.24	205.604	CC
Guttersen State D29-714 - Guttersen D29-714 - Prelim -	2,800.00	2,576.90	3,751.80	3,733.16	201.264	ES
Guttersen State D29-714 - Guttersen D29-714 - Prelim -	9,400.00	6,573.68	4,054.64	4,000.36	74.696	SF
Guttersen State Y05-719 - Guttersen Y05-719 - Prelim -	20,858.41	20,810.66	3,673.18	3,441.83	15.878	CC
Guttersen State Y05-719 - Guttersen Y05-719 - Prelim -	20,880.28	20,810.66	3,673.24	3,441.71	15.865	ES, SF
Guttersen Y05-726 - Guttersen Y05-726 - Prelim - Rev 1	20,862.08	20,831.82	3,059.80	2,828.57	13.233	CC
Guttersen Y05-726 - Guttersen Y05-726 - Prelim - Rev 1	20,880.28	20,829.50	3,059.85	2,828.50	13.226	ES, SF
Guttersen Y05-734 - Guttersen Y05-734 - Prelim - Rev 1	20,871.84	20,906.82	2,447.20	2,215.97	10.583	CC, ES, SF
Guttersen Y05-749 - Guttersen Y05-749 - Prelim - Rev 1	2,200.00	2,202.00	1,402.18	1,386.87	91.563	CC

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

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Guttersen Y05-779
Project:	Mustang	**TVD Reference:**	Well @ 4810.00ft
Reference Site:	D Section 29	**MD Reference:**	Well @ 4810.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Guttersen Y05-779	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Guttersen Y05- 779	**Database:**	EDMP
Reference Design:	Prelim - Rev 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 29						
Guttersen Y05-749 - Guttersen Y05-749 - Prelim - Rev 1	2,300.00	2,274.84	1,402.46	1,386.53	88.055	ES
Guttersen Y05-749 - Guttersen Y05-749 - Prelim - Rev 1	20,880.28	20,847.99	1,834.80	1,603.06	7.918	SF
Guttersen Y05-756 - Guttersen Y05-756 - Prelim - Rev 1	7,410.11	7,340.35	1,228.32	1,178.95	24.881	CC
Guttersen Y05-756 - Guttersen Y05-756 - Prelim - Rev 1	20,880.28	20,797.27	1,229.24	997.71	5.309	ES, SF
Guttersen Y05-771 - Guttersen Y05-771 - Prelim - Rev 1	2,200.00	2,200.00	37.01	21.70	2.418	CC
Guttersen Y05-771 - Guttersen Y05-771 - Prelim - Rev 1	2,300.00	2,299.01	37.62	21.61	2.349	ES
Guttersen Y05-771 - Guttersen Y05-771 - Prelim - Rev 1	20,880.28	20,851.44	535.79	303.26	2.304	SF
Guttersen Y05-786 - Guttersen Y05-786 - Prelim - Rev 1	2,200.00	2,204.00	38.01	22.69	2.481	CC, ES
Guttersen Y05-786 - Guttersen Y05-786 - Prelim - Rev 1	20,880.28	20,782.12	565.87	335.18	2.453	SF
Jessie D29-1J - Wellbore #1 - Gyro Surveys	6,553.59	6,473.04	2,492.18	2,446.45	54.506	CC, ES
Jessie D29-1J - Wellbore #1 - Gyro Surveys	6,950.00	6,808.55	2,534.47	2,486.62	52.961	SF
Jessie D29-4J - Wellbore #1 - Gyro Surveys	8,770.85	6,946.08	2,409.47	2,357.23	46.128	CC, ES
Jessie D29-4J - Wellbore #1 - Gyro Surveys	9,300.00	6,969.81	2,466.77	2,412.17	45.180	SF
Kate Red D29-03J - Kate Red D29-03J - Kate Red D29-0	8,771.63	7,002.42	356.97	304.61	6.817	CC, ES, SF
Kate Red D29-11 - Wellbore #1 - Gyro Surveys	8,408.33	7,000.47	615.70	564.74	12.082	CC, ES, SF
Kate Red D29-13 - Wellbore #1 - Gyro Surveys	9,847.08	7,017.05	711.26	654.16	12.455	CC, ES
Kate Red D29-13 - Wellbore #1 - Gyro Surveys	9,900.00	7,017.32	713.23	655.96	12.454	SF
Kate Red D29-14 - Wellbore #1 - Gyro Surveys	9,743.58	7,014.09	654.36	597.81	11.571	CC, ES
Kate Red D29-14 - Wellbore #1 - Gyro Surveys	9,800.00	7,014.76	656.79	599.90	11.545	SF
Kate Red D29-2J - Wellbore #1 - Kate Red D29-2J	6,430.88	6,361.38	630.00	584.96	13.987	CC, ES
Kate Red D29-2J - Wellbore #1 - Kate Red D29-2J	6,500.00	6,427.80	633.93	588.43	13.932	SF
Kate Red D29-3 - Wellbore #1 - Kate Red D29-3	6,462.30	6,387.13	1,305.78	1,260.58	28.889	CC, ES
Kate Red D29-3 - Wellbore #1 - Kate Red D29-3	6,600.00	6,520.86	1,317.66	1,271.57	28.592	SF
Kate Red D29-5 - Wellbore #1 - Gyro Surveys	100.00	69.98	384.14	383.89	1,537.324	CC
Kate Red D29-5 - Wellbore #1 - Gyro Surveys	800.00	768.43	386.62	381.47	75.086	ES
Kate Red D29-5 - Wellbore #1 - Gyro Surveys	7,050.00	6,887.64	594.35	546.05	12.305	SF
Kate Red D29-6 - Wellbore #1 - Gyro Surveys	7,134.15	6,915.30	759.59	711.11	15.670	CC, ES
Kate Red D29-6 - Wellbore #1 - Gyro Surveys	7,150.00	6,922.18	759.74	711.24	15.666	SF
Kate White D29-1 - Wellbore #1 - Gyro Surveys	6,559.93	6,504.84	3,641.52	3,595.68	79.431	CC, ES
Kate White D29-1 - Wellbore #1 - Gyro Surveys	7,050.00	6,892.38	3,705.69	3,657.38	76.707	SF
Kate White D29-15 - Wellbore #1 - Gyro Surveys	9,638.86	6,920.37	1,909.99	1,853.85	34.027	CC, ES
Kate White D29-15 - Wellbore #1 - Gyro Surveys	10,000.00	6,918.69	1,943.83	1,885.77	33.480	SF
Kate White D29-16 - Wellbore #1 - Gyro Surveys	9,725.45	6,980.50	3,312.35	3,255.84	58.613	CC, ES
Kate White D29-16 - Wellbore #1 - Gyro Surveys	10,600.00	6,980.81	3,425.86	3,364.66	55.973	SF
Kate White D29-7 - Wellbore #1 - Gyro Surveys	7,164.22	6,907.52	2,244.95	2,196.40	46.238	CC, ES
Kate White D29-7 - Wellbore #1 - Gyro Surveys	7,250.00	6,936.94	2,246.70	2,198.04	46.170	SF
Kate White D29-8 - Wellbore #1 - Gyro Surveys	7,192.44	6,983.14	3,376.36	3,327.75	69.447	CC
Kate White D29-8 - Wellbore #1 - Gyro Surveys	7,200.00	6,985.96	3,376.38	3,327.75	69.431	ES
Kate White D29-8 - Wellbore #1 - Gyro Surveys	7,350.00	7,024.35	3,381.29	3,332.47	69.267	SF
Kate White D29-9 (SI) - Wellbore #1 - Gyro Surveys	8,499.78	6,900.00	3,339.32	3,288.26	65.403	CC
Kate White D29-9 (SI) - Wellbore #1 - Gyro Surveys	8,500.00	6,900.00	3,339.32	3,288.26	65.402	ES
Kate White D29-9 (SI) - Wellbore #1 - Gyro Surveys	9,400.00	6,900.00	3,458.53	3,403.81	63.197	SF

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Guttersen Y05-779
Project:	Mustang	**TVD Reference:**	Well @ 4810.00ft
Reference Site:	D Section 29	**MD Reference:**	Well @ 4810.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Guttersen Y05-779	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Guttersen Y05- 779	**Database:**	EDMP
Reference Design:	Prelim - Rev 1	**Offset TVD Reference:**	Offset Datum

Summary

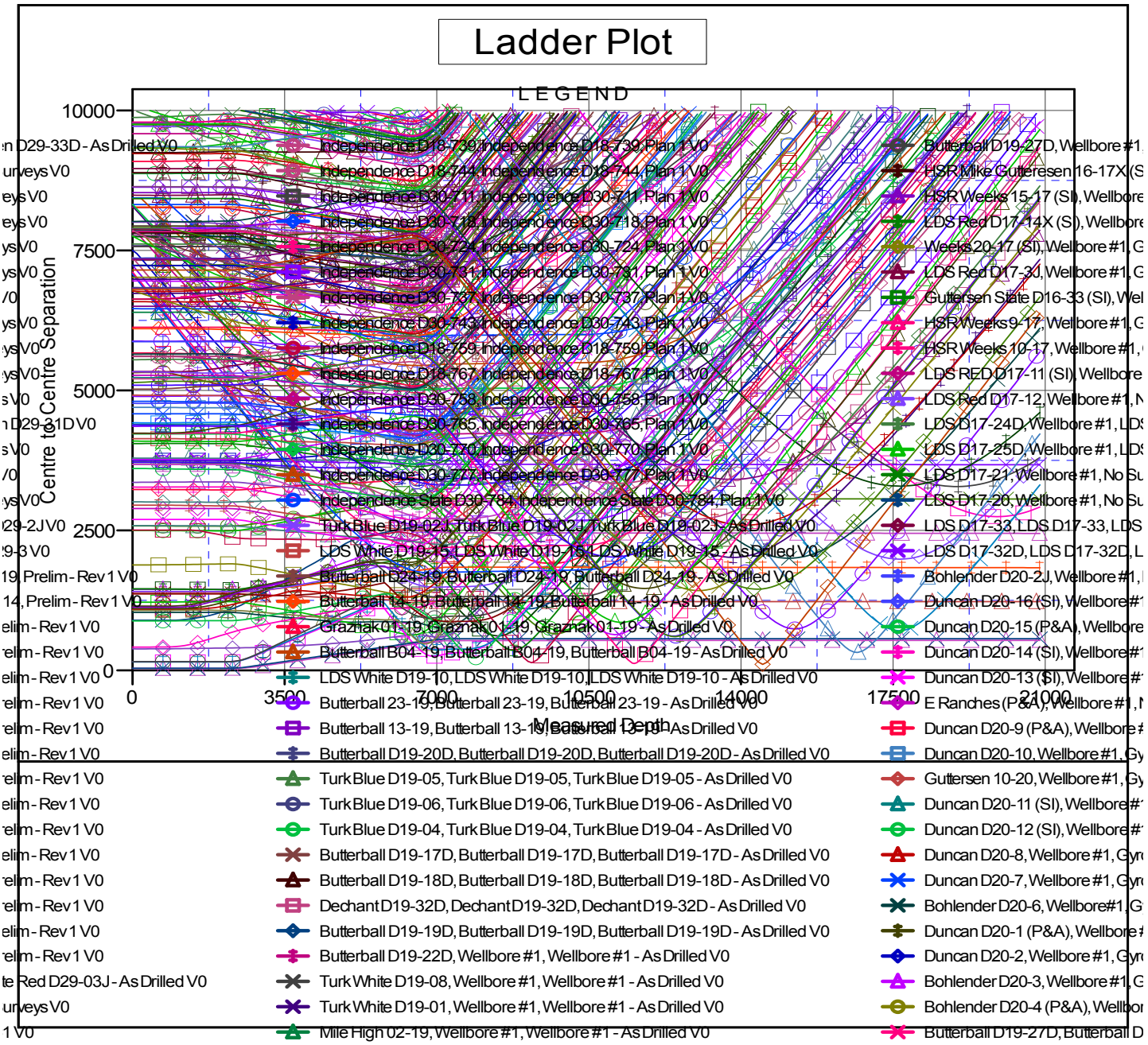
Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
D Section 32						
HP D32-21D - Wellbore #1 - MWD Surveys	13,025.65	7,139.61	1,425.05	1,342.97	17.362	CC, ES
HP D32-21D - Wellbore #1 - MWD Surveys	13,200.00	7,146.34	1,435.66	1,351.98	17.157	SF
HP D32-23D - Wellbore #1 - MWD Surveys	14,104.87	7,097.47	2,594.67	2,506.31	29.364	CC, ES
HP D32-23D - Wellbore #1 - MWD Surveys	14,500.00	7,094.06	2,624.58	2,533.21	28.725	SF
HP Farms D 32-22D - Wellbore #1 - MWD Surveys	12,954.33	7,304.90	2,702.91	2,613.11	30.100	CC
HP Farms D 32-22D - Wellbore #1 - MWD Surveys	13,000.00	7,305.53	2,703.29	2,613.11	29.974	ES
HP Farms D 32-22D - Wellbore #1 - MWD Surveys	13,400.00	7,311.14	2,739.40	2,646.54	29.502	SF
HP Farms D32-03 - Wellbore #1 - Gyro Surveys	11,253.54	7,015.84	858.08	791.99	12.983	CC, ES
HP Farms D32-03 - Wellbore #1 - Gyro Surveys	11,300.00	7,016.91	859.34	792.91	12.936	SF
HP Farms D32-18D - Wellbore #1 - MWD Surveys	11,771.79	7,232.48	1,463.39	1,391.50	20.356	CC
HP Farms D32-18D - Wellbore #1 - MWD Surveys	11,800.00	7,232.60	1,463.66	1,391.49	20.280	ES
HP Farms D32-18D - Wellbore #1 - MWD Surveys	12,000.00	7,233.48	1,481.08	1,407.09	20.017	SF
HP Farms D32-24D - Wellbore #1 - MWD Surveys	14,369.32	7,289.34	1,451.20	1,360.15	15.939	CC, ES
HP Farms D32-24D - Wellbore #1 - MWD Surveys	14,600.00	7,288.15	1,469.42	1,376.30	15.781	SF
Norris 14-32 - Wellbore #1 - Projection Survey	15,239.16	7,032.00	741.93	609.61	5.607	CC, ES, SF
Norris A Unit 2 - Wellbore #1 - Projection Survey	14,503.00	7,037.00	109.79	-16.93	0.866	Level 1, CC, ES, SF
Norris D32-1 (SI) - Wellbore #1 - Gyro Surveys	11,141.32	7,011.74	3,340.09	3,274.70	51.078	CC, ES
Norris D32-1 (SI) - Wellbore #1 - Gyro Surveys	12,000.00	6,996.48	3,448.67	3,378.18	48.925	SF
Norris D32-10 - Wellbore #1 - Gyro Surveys	13,820.82	6,750.00	2,018.24	1,934.52	24.109	CC, ES
Norris D32-10 - Wellbore #1 - Gyro Surveys	14,100.00	6,750.00	2,037.45	1,951.86	23.803	SF
Norris D32-15 - Wellbore #1 - Gyro Surveys	15,106.76	6,800.00	2,003.71	1,910.00	21.383	CC, ES
Norris D32-15 - Wellbore #1 - Gyro Surveys	15,300.00	6,800.00	2,013.00	1,917.91	21.168	SF
Norris D32-1J - Wellbore #1 - Gyro Surveys	11,932.27	7,058.50	2,909.78	2,838.71	40.943	CC, ES
Norris D32-1J - Wellbore #1 - Gyro Surveys	12,500.00	7,041.01	2,964.59	2,889.99	39.740	SF
Norris D32-2 - Wellbore #1 - Gyro Surveys	11,063.19	7,052.01	2,026.48	1,961.66	31.262	CC, ES
Norris D32-2 - Wellbore #1 - Gyro Surveys	11,400.00	7,049.90	2,054.28	1,987.39	30.712	SF
Norris D32-2J - Wellbore #1 - Gyro Surveys	11,544.25	7,031.50	123.68	55.78	1.821	CC, ES, SF
Norris D32-4 (P&A) - Wellbore #1 - No Surveys	11,104.43	7,015.00	639.27	458.15	3.530	CC, ES, SF
Norris D32-5 - Wellbore #1 - Gyro Surveys	12,448.03	7,024.29	612.76	538.46	8.246	CC, ES, SF
Norris D32-6 - Wellbore #1 - Gyro Surveys	12,473.82	7,049.53	604.05	529.69	8.123	CC, ES
Norris D32-6 - Wellbore #1 - Gyro Surveys	12,500.00	7,049.60	604.62	530.04	8.107	SF
Norris D32-7 - Wellbore #1 - Gyro Surveys	12,446.68	6,960.72	1,951.36	1,877.09	26.274	CC, ES
Norris D32-7 - Wellbore #1 - Gyro Surveys	12,700.00	6,978.45	1,967.62	1,891.62	25.888	SF
Norris D32-9 (SI) - Wellbore #1 - Gyro Surveys	13,798.63	6,950.00	3,411.49	3,327.35	40.546	CC
Norris D32-9 (SI) - Wellbore #1 - Gyro Surveys	13,800.00	6,950.00	3,411.49	3,327.34	40.541	ES
Norris D32-9 (SI) - Wellbore #1 - Gyro Surveys	14,500.00	6,950.00	3,482.84	3,394.20	39.290	SF
Y Section 05						
Olsen Red Y05-02D - Olsen Red Y05-02D - Olsen Red Y	16,667.08	7,044.61	321.57	215.32	3.027	CC, ES, SF
Olsen Y5-05JI - Olsen Y5-05JI - Olsen Y5-05JI - As Drille	17,642.41	7,035.00	709.69	607.64	6.955	CC, ES, SF
Perkins 32-05 - Perkins 32-05 - Perkins 32-05 - As Drille	17,652.38	7,087.00	1,987.08	1,835.39	13.099	CC, ES
Perkins 32-05 - Perkins 32-05 - Perkins 32-05 - As Drille	17,800.00	7,087.00	1,992.55	1,839.80	13.045	SF
Perkins 42-05 - Perkins 42-05 - Perkins 42-05 - As Drille	17,658.97	7,104.00	3,292.14	3,140.25	21.674	CC
Perkins 42-05 - Perkins 42-05 - Perkins 42-05 - As Drille	17,700.00	7,104.00	3,292.40	3,140.17	21.628	ES
Perkins 42-05 - Perkins 42-05 - Perkins 42-05 - As Drille	18,000.00	7,104.00	3,309.76	3,155.45	21.449	SF
Perkins 43-05 - Perkins 43-05 - Perkins 43-05 - As Drille	18,966.72	7,109.00	3,283.63	3,121.30	20.228	CC
Perkins 43-05 - Perkins 43-05 - Perkins 43-05 - As Drille	19,000.00	7,109.00	3,283.80	3,121.19	20.195	ES
Perkins 43-05 - Perkins 43-05 - Perkins 43-05 - As Drille	19,300.00	7,109.00	3,300.50	3,135.83	20.043	SF
Perkins USX Y05-16 - Perkins USX Y05-16 - Perkins US	19,891.09	7,076.44	2,746.22	2,613.97	20.764	CC
Perkins USX Y05-16 - Perkins USX Y05-16 - Perkins US	19,900.00	7,076.53	2,746.24	2,613.90	20.753	ES
Perkins USX Y05-16 - Perkins USX Y05-16 - Perkins US	20,200.00	7,079.60	2,763.54	2,629.26	20.580	SF

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Guttersen Y05-779
Project:	Mustang	**TVD Reference:**	Well @ 4810.00ft
Reference Site:	D Section 29	**MD Reference:**	Well @ 4810.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Guttersen Y05-779	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Guttersen Y05- 779	**Database:**	EDMP
Reference Design:	Prelim - Rev 1	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to Well @ 4810.00ft	Coordinates are relative to: Guttersen Y05-779
Offset Depths are relative to Offset Datum	Coordinate System is US State Plane 1983, Colorado Northern Zone
Central Meridian is -105.5000000	Grid Convergence at Surface is: 0.59°



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Anticollision Summary Report

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Reference Depths are relative to Well @ 4810.00ft	Coordinates are relative to: Guttersen Y05-779
Offset Depths are relative to Offset Datum	Coordinate System is US State Plane 1983, Colorado Northern Zone
Central Meridian is -105.5000000	Grid Convergence at Surface is: 0.59°