Project: Mustang
Site: D Section 29
Well: Guttersen Y05-779
Wellbore: Guttersen Y05- 779
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

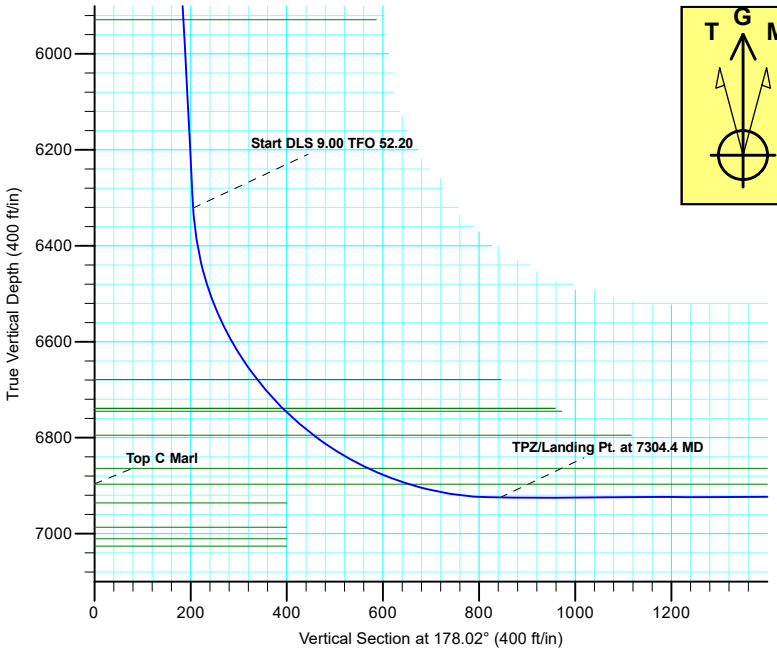
SECTION DETAILS

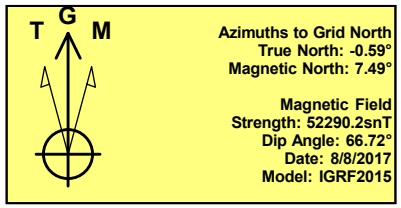
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	2200.00	0.00	0.00	2200.00	0.00	0.00	0.00	0.00	0.00
3	2432.16	4.64	127.15	2431.91	-5.68	7.49	2.00	127.15	5.93
4	6334.39	4.64	127.15	6321.33	-196.44	259.28	0.00	0.00	205.29
5	7304.40	90.15	179.27	6925.06	-833.39	306.20	9.00	52.20	843.48
6	19990.85	90.15	179.27	6891.85	-13518.77	467.85	0.00	0.00	13526.86

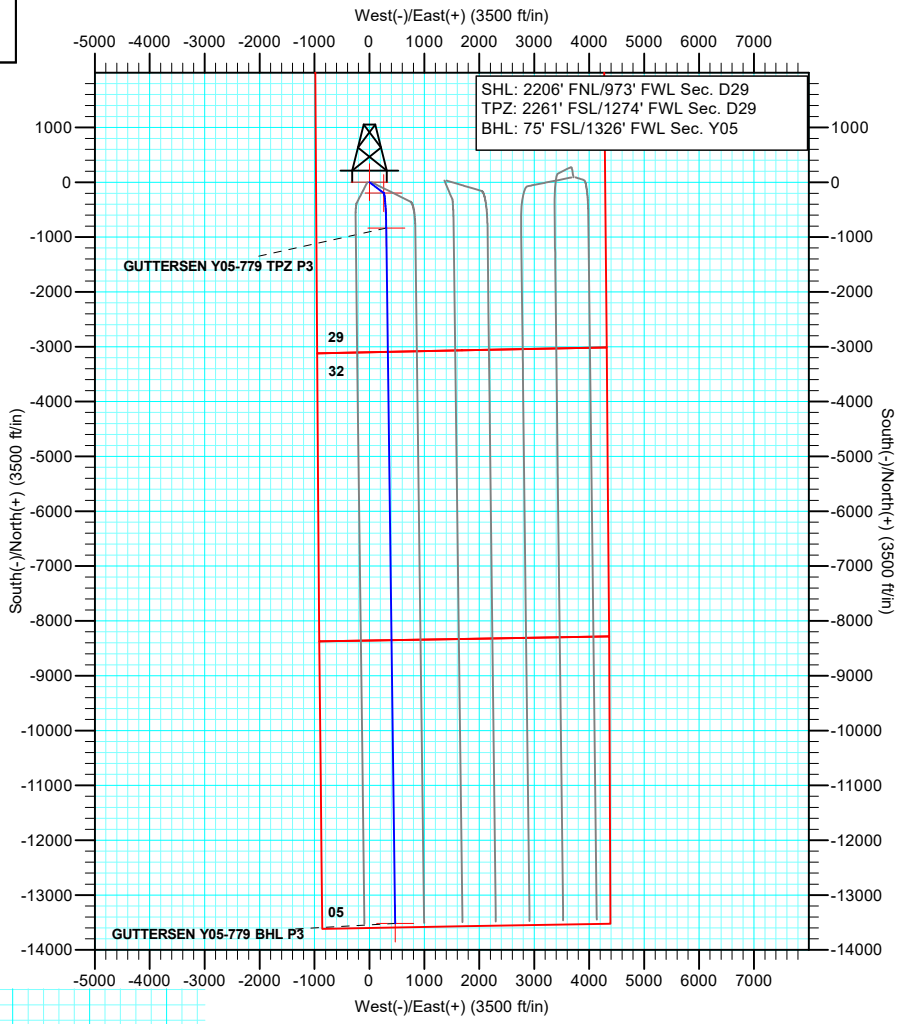
WELL DETAILS: Guttersen Y05-779

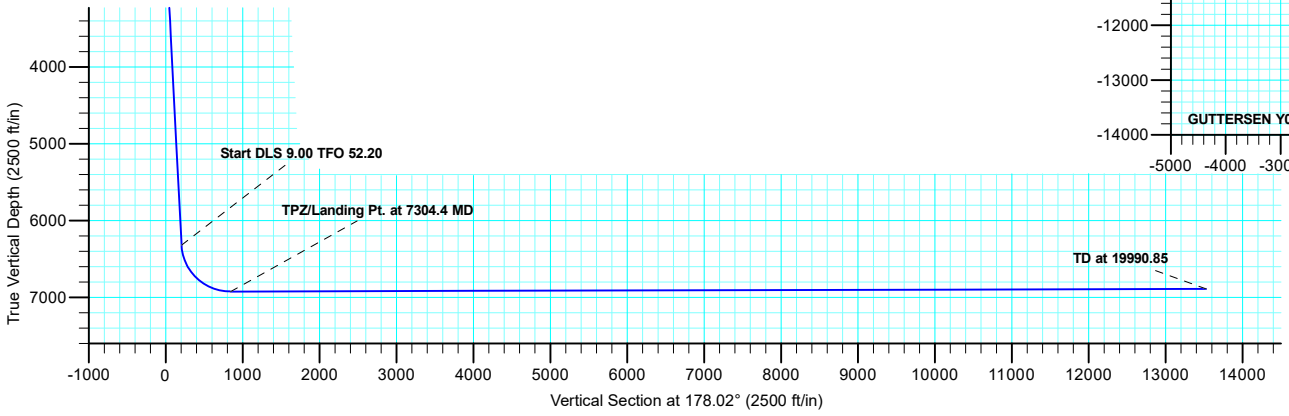
Ground Level: 4780.00

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1316098.15	3256685.41	40.1974352	-104.5810923	









Plan: Plan #3 (Guttersen Y05-779/Guttersen Y05- 779)

Created By: Shelly C. Peterkin Date: 12:09, October 15 2019

Northern Region - DJ Basin

Mustang
D Section 29
Guttersen Y05-779

Guttersen Y05- 779

Plan: Plan #3

Standard Planning Report

15 October, 2019

Database:	EDMP	**Local Co-ordinate Reference:**	Well Guttersen Y05-779
Company:	Northern Region - DJ Basin	**TVD Reference:**	Well @ 4810.00ft
Project:	Mustang	**MD Reference:**	Well @ 4810.00ft
Site:	D Section 29	**North Reference:**	Grid
Well:	Guttersen Y05-779	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Guttersen Y05- 779		
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 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**	2,469.31 ft	**Northing:**	1,316,098.15 usft	**Latitude:**	40.1974353
	+E/-W	2,002.01 ft	**Easting:**	3,256,685.41 usft	**Longitude:**	-104.5810923
Position Uncertainty		0.00 ft	**Wellhead Elevation:**		**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 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	178.02

Plan Sections

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,432.16	4.64	127.15	2,431.91	-5.68	7.49	2.00	2.00	0.00	127.15	
6,334.39	4.64	127.15	6,321.33	-196.44	259.28	0.00	0.00	0.00	0.00	
7,304.40	90.15	179.27	6,925.06	-833.39	306.20	9.00	8.82	5.37	52.20	GUTTERSEN Y05-77
19,990.85	90.15	179.27	6,891.85	-13,518.77	467.85	0.00	0.00	0.00	0.00	GUTTERSEN Y05-77

Database:	EDMP	**Local Co-ordinate Reference:**	Well Guttersen Y05-779
Company:	Northern Region - DJ Basin	**TVD Reference:**	Well @ 4810.00ft
Project:	Mustang	**MD Reference:**	Well @ 4810.00ft
Site:	D Section 29	**North Reference:**	Grid
Well:	Guttersen Y05-779	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Guttersen Y05- 779		
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
569.00	0.00	0.00	569.00	0.00	0.00	0.00	0.00	0.00	0.00
Pierre									
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
669.00	0.00	0.00	669.00	0.00	0.00	0.00	0.00	0.00	0.00
Upper Pierre Aquifer Top									
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,567.00	0.00	0.00	1,567.00	0.00	0.00	0.00	0.00	0.00	0.00
Upper Pierre Aquifer Base									
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
2,300.00	2.00	127.15	2,299.98	-1.05	1.39	1.10	2.00	2.00	0.00
2,400.00	4.00	127.15	2,399.84	-4.21	5.56	4.40	2.00	2.00	0.00
2,432.16	4.64	127.15	2,431.91	-5.68	7.49	5.93	2.00	2.00	0.00
Start 3902.23 hold at 2432.16 MD									
2,500.00	4.64	127.15	2,499.52	-8.99	11.87	9.40	0.00	0.00	0.00
2,600.00	4.64	127.15	2,599.20	-13.88	18.32	14.51	0.00	0.00	0.00
2,700.00	4.64	127.15	2,698.87	-18.77	24.78	19.62	0.00	0.00	0.00
2,800.00	4.64	127.15	2,798.54	-23.66	31.23	24.73	0.00	0.00	0.00
2,900.00	4.64	127.15	2,898.21	-28.55	37.68	29.83	0.00	0.00	0.00
3,000.00	4.64	127.15	2,997.88	-33.44	44.13	34.94	0.00	0.00	0.00
3,100.00	4.64	127.15	3,097.55	-38.33	50.58	40.05	0.00	0.00	0.00
3,200.00	4.64	127.15	3,197.23	-43.21	57.04	45.16	0.00	0.00	0.00
3,300.00	4.64	127.15	3,296.90	-48.10	63.49	50.27	0.00	0.00	0.00
3,400.00	4.64	127.15	3,396.57	-52.99	69.94	55.38	0.00	0.00	0.00
3,500.00	4.64	127.15	3,496.24	-57.88	76.39	60.49	0.00	0.00	0.00
3,600.00	4.64	127.15	3,595.91	-62.77	82.85	65.60	0.00	0.00	0.00
3,700.00	4.64	127.15	3,695.59	-67.66	89.30	70.70	0.00	0.00	0.00
3,769.64	4.64	127.15	3,765.00	-71.06	93.79	74.26	0.00	0.00	0.00
Parkman									
3,800.00	4.64	127.15	3,795.26	-72.55	95.75	75.81	0.00	0.00	0.00
3,900.00	4.64	127.15	3,894.93	-77.43	102.20	80.92	0.00	0.00	0.00
4,000.00	4.64	127.15	3,994.60	-82.32	108.65	86.03	0.00	0.00	0.00
4,100.00	4.64	127.15	4,094.27	-87.21	115.11	91.14	0.00	0.00	0.00

Database:	EDMP	**Local Co-ordinate Reference:**	Well Guttersen Y05-779
Company:	Northern Region - DJ Basin	**TVD Reference:**	Well @ 4810.00ft
Project:	Mustang	**MD Reference:**	Well @ 4810.00ft
Site:	D Section 29	**North Reference:**	Grid
Well:	Guttersen Y05-779	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Guttersen Y05- 779		
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)
4,128.82	4.64	127.15	4,123.00	-88.62	116.97	92.61	0.00	0.00	0.00
Sussex									
4,200.00	4.64	127.15	4,193.94	-92.10	121.56	96.25	0.00	0.00	0.00
4,300.00	4.64	127.15	4,293.62	-96.99	128.01	101.36	0.00	0.00	0.00
4,400.00	4.64	127.15	4,393.29	-101.88	134.46	106.47	0.00	0.00	0.00
4,500.00	4.64	127.15	4,492.96	-106.77	140.92	111.58	0.00	0.00	0.00
4,600.00	4.64	127.15	4,592.63	-111.65	147.37	116.68	0.00	0.00	0.00
4,700.00	4.64	127.15	4,692.30	-116.54	153.82	121.79	0.00	0.00	0.00
4,800.00	4.64	127.15	4,791.98	-121.43	160.27	126.90	0.00	0.00	0.00
4,900.00	4.64	127.15	4,891.65	-126.32	166.72	132.01	0.00	0.00	0.00
4,907.38	4.64	127.15	4,899.00	-126.68	167.20	132.39	0.00	0.00	0.00
Shannon									
5,000.00	4.64	127.15	4,991.32	-131.21	173.18	137.12	0.00	0.00	0.00
5,100.00	4.64	127.15	5,090.99	-136.10	179.63	142.23	0.00	0.00	0.00
5,200.00	4.64	127.15	5,190.66	-140.99	186.08	147.34	0.00	0.00	0.00
5,300.00	4.64	127.15	5,290.33	-145.87	192.53	152.45	0.00	0.00	0.00
5,400.00	4.64	127.15	5,390.01	-150.76	198.99	157.55	0.00	0.00	0.00
5,500.00	4.64	127.15	5,489.68	-155.65	205.44	162.66	0.00	0.00	0.00
5,600.00	4.64	127.15	5,589.35	-160.54	211.89	167.77	0.00	0.00	0.00
5,700.00	4.64	127.15	5,689.02	-165.43	218.34	172.88	0.00	0.00	0.00
5,800.00	4.64	127.15	5,788.69	-170.32	224.79	177.99	0.00	0.00	0.00
5,900.00	4.64	127.15	5,888.37	-175.21	231.25	183.10	0.00	0.00	0.00
5,940.77	4.64	127.15	5,929.00	-177.20	233.88	185.18	0.00	0.00	0.00
Teepee Buttes									
6,000.00	4.64	127.15	5,988.04	-180.09	237.70	188.21	0.00	0.00	0.00
6,100.00	4.64	127.15	6,087.71	-184.98	244.15	193.32	0.00	0.00	0.00
6,200.00	4.64	127.15	6,187.38	-189.87	250.60	198.42	0.00	0.00	0.00
6,300.00	4.64	127.15	6,287.05	-194.76	257.06	203.53	0.00	0.00	0.00
6,334.39	4.64	127.15	6,321.33	-196.44	259.28	205.29	0.00	0.00	0.00
Start DLS 9.00 TFO 52.20									
6,350.00	5.61	138.57	6,336.88	-197.39	260.28	206.28	9.00	6.22	73.16
6,400.00	9.49	156.70	6,386.44	-203.02	263.53	212.01	9.00	7.74	36.27
6,450.00	13.74	164.07	6,435.41	-212.52	266.80	221.62	9.00	8.52	14.73
6,500.00	18.12	167.96	6,483.48	-225.84	270.05	235.04	9.00	8.75	7.79
6,550.00	22.54	170.38	6,530.35	-242.90	273.27	252.20	9.00	8.84	4.83
6,600.00	26.99	172.03	6,575.74	-263.59	276.45	272.99	9.00	8.89	3.31
6,650.00	31.45	173.24	6,619.37	-287.79	279.56	297.29	9.00	8.92	2.43
6,700.00	35.92	174.18	6,660.97	-315.35	282.58	324.93	9.00	8.94	1.88
6,722.56	37.94	174.54	6,679.00	-328.83	283.91	338.46	9.00	8.95	1.60
Sharon Springs									
6,750.00	40.39	174.94	6,700.28	-346.09	285.50	355.76	9.00	8.95	1.44
6,800.00	44.87	175.57	6,737.05	-379.83	288.29	389.57	9.00	8.96	1.26
6,802.75	45.12	175.60	6,739.00	-381.77	288.44	391.52	9.00	8.96	1.15
Top A Chalk - Top A Marl									
6,811.31	45.89	175.70	6,745.00	-387.86	288.90	397.62	9.00	8.96	1.13
Top B Chalk									
6,850.00	49.36	176.11	6,771.07	-416.36	290.94	426.17	9.00	8.97	1.06
6,888.08	52.77	176.47	6,795.00	-445.91	292.86	455.78	9.00	8.97	0.95
Top B Marl									
6,900.00	53.84	176.58	6,802.12	-455.45	293.44	465.33	9.00	8.97	0.90
6,950.00	58.33	176.99	6,830.01	-496.87	295.76	506.80	9.00	8.97	0.84
7,000.00	62.81	177.37	6,854.58	-540.36	297.90	550.34	9.00	8.98	0.76
7,021.33	64.73	177.53	6,864.00	-559.47	298.75	569.46	9.00	8.98	0.72

Database:	EDMP	**Local Co-ordinate Reference:**	Well Guttersen Y05-779
Company:	Northern Region - DJ Basin	**TVD Reference:**	Well @ 4810.00ft
Project:	Mustang	**MD Reference:**	Well @ 4810.00ft
Site:	D Section 29	**North Reference:**	Grid
Well:	Guttersen Y05-779	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Guttersen Y05- 779		
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 C Chalk									
7,050.00	67.30	177.72	6,875.65	-585.64	299.83	595.66	9.00	8.98	0.69
7,100.00	71.79	178.05	6,893.12	-632.44	301.56	642.50	9.00	8.98	0.66
7,112.81	72.94	178.13	6,897.00	-644.64	301.96	654.70	9.00	8.98	0.63
Top C Marl									
7,150.00	76.28	178.36	6,906.87	-680.48	303.06	690.56	9.00	8.98	0.62
7,200.00	80.77	178.66	6,916.81	-729.45	304.33	739.54	9.00	8.98	0.60
7,250.00	85.26	178.96	6,922.88	-779.06	305.36	789.15	9.00	8.98	0.58
7,304.40	90.15	179.27	6,925.06	-833.39	306.20	843.48	9.00	8.98	0.58
TPZ/Landing Pt. at 7304.4 MD									
7,400.00	90.15	179.27	6,924.81	-928.98	307.42	939.06	0.00	0.00	0.00
7,500.00	90.15	179.27	6,924.55	-1,028.98	308.69	1,039.04	0.00	0.00	0.00
7,600.00	90.15	179.27	6,924.29	-1,128.97	309.97	1,139.01	0.00	0.00	0.00
7,700.00	90.15	179.27	6,924.02	-1,228.96	311.24	1,238.99	0.00	0.00	0.00
7,800.00	90.15	179.27	6,923.76	-1,328.95	312.51	1,338.96	0.00	0.00	0.00
7,900.00	90.15	179.27	6,923.50	-1,428.94	313.79	1,438.94	0.00	0.00	0.00
8,000.00	90.15	179.27	6,923.24	-1,528.93	315.06	1,538.92	0.00	0.00	0.00
8,100.00	90.15	179.27	6,922.98	-1,628.92	316.34	1,638.89	0.00	0.00	0.00
8,200.00	90.15	179.27	6,922.72	-1,728.92	317.61	1,738.87	0.00	0.00	0.00
8,300.00	90.15	179.27	6,922.45	-1,828.91	318.88	1,838.84	0.00	0.00	0.00
8,400.00	90.15	179.27	6,922.19	-1,928.90	320.16	1,938.82	0.00	0.00	0.00
8,500.00	90.15	179.27	6,921.93	-2,028.89	321.43	2,038.79	0.00	0.00	0.00
8,600.00	90.15	179.27	6,921.67	-2,128.88	322.71	2,138.77	0.00	0.00	0.00
8,700.00	90.15	179.27	6,921.41	-2,228.87	323.98	2,238.75	0.00	0.00	0.00
8,800.00	90.15	179.27	6,921.14	-2,328.87	325.26	2,338.72	0.00	0.00	0.00
8,900.00	90.15	179.27	6,920.88	-2,428.86	326.53	2,438.70	0.00	0.00	0.00
9,000.00	90.15	179.27	6,920.62	-2,528.85	327.80	2,538.67	0.00	0.00	0.00
9,100.00	90.15	179.27	6,920.36	-2,628.84	329.08	2,638.65	0.00	0.00	0.00
9,200.00	90.15	179.27	6,920.10	-2,728.83	330.35	2,738.62	0.00	0.00	0.00
9,300.00	90.15	179.27	6,919.84	-2,828.82	331.63	2,838.60	0.00	0.00	0.00
9,400.00	90.15	179.27	6,919.57	-2,928.81	332.90	2,938.58	0.00	0.00	0.00
9,500.00	90.15	179.27	6,919.31	-3,028.81	334.17	3,038.55	0.00	0.00	0.00
9,600.00	90.15	179.27	6,919.05	-3,128.80	335.45	3,138.53	0.00	0.00	0.00
9,700.00	90.15	179.27	6,918.79	-3,228.79	336.72	3,238.50	0.00	0.00	0.00
9,800.00	90.15	179.27	6,918.53	-3,328.78	338.00	3,338.48	0.00	0.00	0.00
9,900.00	90.15	179.27	6,918.26	-3,428.77	339.27	3,438.46	0.00	0.00	0.00
10,000.00	90.15	179.27	6,918.00	-3,528.76	340.55	3,538.43	0.00	0.00	0.00
10,100.00	90.15	179.27	6,917.74	-3,628.76	341.82	3,638.41	0.00	0.00	0.00
10,200.00	90.15	179.27	6,917.48	-3,728.75	343.09	3,738.38	0.00	0.00	0.00
10,300.00	90.15	179.27	6,917.22	-3,828.74	344.37	3,838.36	0.00	0.00	0.00
10,400.00	90.15	179.27	6,916.96	-3,928.73	345.64	3,938.33	0.00	0.00	0.00
10,500.00	90.15	179.27	6,916.69	-4,028.72	346.92	4,038.31	0.00	0.00	0.00
10,600.00	90.15	179.27	6,916.43	-4,128.71	348.19	4,138.29	0.00	0.00	0.00
10,700.00	90.15	179.27	6,916.17	-4,228.70	349.46	4,238.26	0.00	0.00	0.00
10,800.00	90.15	179.27	6,915.91	-4,328.70	350.74	4,338.24	0.00	0.00	0.00
10,900.00	90.15	179.27	6,915.65	-4,428.69	352.01	4,438.21	0.00	0.00	0.00
11,000.00	90.15	179.27	6,915.39	-4,528.68	353.29	4,538.19	0.00	0.00	0.00
11,100.00	90.15	179.27	6,915.12	-4,628.67	354.56	4,638.16	0.00	0.00	0.00
11,200.00	90.15	179.27	6,914.86	-4,728.66	355.84	4,738.14	0.00	0.00	0.00
11,300.00	90.15	179.27	6,914.60	-4,828.65	357.11	4,838.12	0.00	0.00	0.00
11,400.00	90.15	179.27	6,914.34	-4,928.65	358.38	4,938.09	0.00	0.00	0.00
11,500.00	90.15	179.27	6,914.08	-5,028.64	359.66	5,038.07	0.00	0.00	0.00
11,600.00	90.15	179.27	6,913.81	-5,128.63	360.93	5,138.04	0.00	0.00	0.00

Database:	EDMP	**Local Co-ordinate Reference:**	Well Guttersen Y05-779
Company:	Northern Region - DJ Basin	**TVD Reference:**	Well @ 4810.00ft
Project:	Mustang	**MD Reference:**	Well @ 4810.00ft
Site:	D Section 29	**North Reference:**	Grid
Well:	Guttersen Y05-779	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Guttersen Y05- 779		
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)
11,700.00	90.15	179.27	6,913.55	-5,228.62	362.21	5,238.02	0.00	0.00	0.00
11,800.00	90.15	179.27	6,913.29	-5,328.61	363.48	5,337.99	0.00	0.00	0.00
11,900.00	90.15	179.27	6,913.03	-5,428.60	364.76	5,437.97	0.00	0.00	0.00
12,000.00	90.15	179.27	6,912.77	-5,528.59	366.03	5,537.95	0.00	0.00	0.00
12,100.00	90.15	179.27	6,912.51	-5,628.59	367.30	5,637.92	0.00	0.00	0.00
12,200.00	90.15	179.27	6,912.24	-5,728.58	368.58	5,737.90	0.00	0.00	0.00
12,300.00	90.15	179.27	6,911.98	-5,828.57	369.85	5,837.87	0.00	0.00	0.00
12,400.00	90.15	179.27	6,911.72	-5,928.56	371.13	5,937.85	0.00	0.00	0.00
12,500.00	90.15	179.27	6,911.46	-6,028.55	372.40	6,037.83	0.00	0.00	0.00
12,600.00	90.15	179.27	6,911.20	-6,128.54	373.67	6,137.80	0.00	0.00	0.00
12,700.00	90.15	179.27	6,910.93	-6,228.54	374.95	6,237.78	0.00	0.00	0.00
12,800.00	90.15	179.27	6,910.67	-6,328.53	376.22	6,337.75	0.00	0.00	0.00
12,900.00	90.15	179.27	6,910.41	-6,428.52	377.50	6,437.73	0.00	0.00	0.00
13,000.00	90.15	179.27	6,910.15	-6,528.51	378.77	6,537.70	0.00	0.00	0.00
13,100.00	90.15	179.27	6,909.89	-6,628.50	380.05	6,637.68	0.00	0.00	0.00
13,200.00	90.15	179.27	6,909.63	-6,728.49	381.32	6,737.66	0.00	0.00	0.00
13,300.00	90.15	179.27	6,909.36	-6,828.48	382.59	6,837.63	0.00	0.00	0.00
13,400.00	90.15	179.27	6,909.10	-6,928.48	383.87	6,937.61	0.00	0.00	0.00
13,500.00	90.15	179.27	6,908.84	-7,028.47	385.14	7,037.58	0.00	0.00	0.00
13,600.00	90.15	179.27	6,908.58	-7,128.46	386.42	7,137.56	0.00	0.00	0.00
13,700.00	90.15	179.27	6,908.32	-7,228.45	387.69	7,237.53	0.00	0.00	0.00
13,800.00	90.15	179.27	6,908.05	-7,328.44	388.96	7,337.51	0.00	0.00	0.00
13,900.00	90.15	179.27	6,907.79	-7,428.43	390.24	7,437.49	0.00	0.00	0.00
14,000.00	90.15	179.27	6,907.53	-7,528.43	391.51	7,537.46	0.00	0.00	0.00
14,100.00	90.15	179.27	6,907.27	-7,628.42	392.79	7,637.44	0.00	0.00	0.00
14,200.00	90.15	179.27	6,907.01	-7,728.41	394.06	7,737.41	0.00	0.00	0.00
14,300.00	90.15	179.27	6,906.75	-7,828.40	395.34	7,837.39	0.00	0.00	0.00
14,400.00	90.15	179.27	6,906.48	-7,928.39	396.61	7,937.37	0.00	0.00	0.00
14,500.00	90.15	179.27	6,906.22	-8,028.38	397.88	8,037.34	0.00	0.00	0.00
14,600.00	90.15	179.27	6,905.96	-8,128.37	399.16	8,137.32	0.00	0.00	0.00
14,700.00	90.15	179.27	6,905.70	-8,228.37	400.43	8,237.29	0.00	0.00	0.00
14,800.00	90.15	179.27	6,905.44	-8,328.36	401.71	8,337.27	0.00	0.00	0.00
14,900.00	90.15	179.27	6,905.17	-8,428.35	402.98	8,437.24	0.00	0.00	0.00
15,000.00	90.15	179.27	6,904.91	-8,528.34	404.26	8,537.22	0.00	0.00	0.00
15,100.00	90.15	179.27	6,904.65	-8,628.33	405.53	8,637.20	0.00	0.00	0.00
15,200.00	90.15	179.27	6,904.39	-8,728.32	406.80	8,737.17	0.00	0.00	0.00
15,300.00	90.15	179.27	6,904.13	-8,828.32	408.08	8,837.15	0.00	0.00	0.00
15,400.00	90.15	179.27	6,903.87	-8,928.31	409.35	8,937.12	0.00	0.00	0.00
15,500.00	90.15	179.27	6,903.60	-9,028.30	410.63	9,037.10	0.00	0.00	0.00
15,600.00	90.15	179.27	6,903.34	-9,128.29	411.90	9,137.07	0.00	0.00	0.00
15,700.00	90.15	179.27	6,903.08	-9,228.28	413.17	9,237.05	0.00	0.00	0.00
15,800.00	90.15	179.27	6,902.82	-9,328.27	414.45	9,337.03	0.00	0.00	0.00
15,900.00	90.15	179.27	6,902.56	-9,428.26	415.72	9,437.00	0.00	0.00	0.00
16,000.00	90.15	179.27	6,902.30	-9,528.26	417.00	9,536.98	0.00	0.00	0.00
16,100.00	90.15	179.27	6,902.03	-9,628.25	418.27	9,636.95	0.00	0.00	0.00
16,200.00	90.15	179.27	6,901.77	-9,728.24	419.55	9,736.93	0.00	0.00	0.00
16,300.00	90.15	179.27	6,901.51	-9,828.23	420.82	9,836.91	0.00	0.00	0.00
16,400.00	90.15	179.27	6,901.25	-9,928.22	422.09	9,936.88	0.00	0.00	0.00
16,500.00	90.15	179.27	6,900.99	-10,028.21	423.37	10,036.86	0.00	0.00	0.00
16,600.00	90.15	179.27	6,900.72	-10,128.21	424.64	10,136.83	0.00	0.00	0.00
16,700.00	90.15	179.27	6,900.46	-10,228.20	425.92	10,236.81	0.00	0.00	0.00
16,800.00	90.15	179.27	6,900.20	-10,328.19	427.19	10,336.78	0.00	0.00	0.00
16,900.00	90.15	179.27	6,899.94	-10,428.18	428.46	10,436.76	0.00	0.00	0.00
17,000.00	90.15	179.27	6,899.68	-10,528.17	429.74	10,536.74	0.00	0.00	0.00

Database:	EDMP	**Local Co-ordinate Reference:**	Well Guttersen Y05-779
Company:	Northern Region - DJ Basin	**TVD Reference:**	Well @ 4810.00ft
Project:	Mustang	**MD Reference:**	Well @ 4810.00ft
Site:	D Section 29	**North Reference:**	Grid
Well:	Guttersen Y05-779	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Guttersen Y05- 779		
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)
17,100.00	90.15	179.27	6,899.42	-10,628.16	431.01	10,636.71	0.00	0.00	0.00
17,200.00	90.15	179.27	6,899.15	-10,728.15	432.29	10,736.69	0.00	0.00	0.00
17,300.00	90.15	179.27	6,898.89	-10,828.15	433.56	10,836.66	0.00	0.00	0.00
17,400.00	90.15	179.27	6,898.63	-10,928.14	434.84	10,936.64	0.00	0.00	0.00
17,500.00	90.15	179.27	6,898.37	-11,028.13	436.11	11,036.61	0.00	0.00	0.00
17,600.00	90.15	179.27	6,898.11	-11,128.12	437.38	11,136.59	0.00	0.00	0.00
17,700.00	90.15	179.27	6,897.84	-11,228.11	438.66	11,236.57	0.00	0.00	0.00
17,800.00	90.15	179.27	6,897.58	-11,328.10	439.93	11,336.54	0.00	0.00	0.00
17,900.00	90.15	179.27	6,897.32	-11,428.10	441.21	11,436.52	0.00	0.00	0.00
18,000.00	90.15	179.27	6,897.06	-11,528.09	442.48	11,536.49	0.00	0.00	0.00
18,100.00	90.15	179.27	6,896.80	-11,628.08	443.75	11,636.47	0.00	0.00	0.00
18,200.00	90.15	179.27	6,896.54	-11,728.07	445.03	11,736.45	0.00	0.00	0.00
18,300.00	90.15	179.27	6,896.27	-11,828.06	446.30	11,836.42	0.00	0.00	0.00
18,400.00	90.15	179.27	6,896.01	-11,928.05	447.58	11,936.40	0.00	0.00	0.00
18,500.00	90.15	179.27	6,895.75	-12,028.04	448.85	12,036.37	0.00	0.00	0.00
18,600.00	90.15	179.27	6,895.49	-12,128.04	450.13	12,136.35	0.00	0.00	0.00
18,700.00	90.15	179.27	6,895.23	-12,228.03	451.40	12,236.32	0.00	0.00	0.00
18,800.00	90.15	179.27	6,894.96	-12,328.02	452.67	12,336.30	0.00	0.00	0.00
18,900.00	90.15	179.27	6,894.70	-12,428.01	453.95	12,436.28	0.00	0.00	0.00
19,000.00	90.15	179.27	6,894.44	-12,528.00	455.22	12,536.25	0.00	0.00	0.00
19,100.00	90.15	179.27	6,894.18	-12,627.99	456.50	12,636.23	0.00	0.00	0.00
19,200.00	90.15	179.27	6,893.92	-12,727.99	457.77	12,736.20	0.00	0.00	0.00
19,300.00	90.15	179.27	6,893.66	-12,827.98	459.05	12,836.18	0.00	0.00	0.00
19,400.00	90.15	179.27	6,893.39	-12,927.97	460.32	12,936.15	0.00	0.00	0.00
19,500.00	90.15	179.27	6,893.13	-13,027.96	461.59	13,036.13	0.00	0.00	0.00
19,600.00	90.15	179.27	6,892.87	-13,127.95	462.87	13,136.11	0.00	0.00	0.00
19,700.00	90.15	179.27	6,892.61	-13,227.94	464.14	13,236.08	0.00	0.00	0.00
19,800.00	90.15	179.27	6,892.35	-13,327.93	465.42	13,336.06	0.00	0.00	0.00
19,900.00	90.15	179.27	6,892.08	-13,427.93	466.69	13,436.03	0.00	0.00	0.00
19,990.85	90.15	179.27	6,891.85	-13,518.77	467.85	13,526.86	0.00	0.00	0.00
TD at 19990.85									

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 S - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	1,316,098.15	3,256,685.41	40.1974353	-104.5810923
GUTTERSEN Y05-779 H - plan hits target center - Point	0.00	0.00	6,321.33	-196.44	259.27	1,315,901.71	3,256,944.69	40.1968887	-104.5801714
GUTTERSEN Y05-779 E - plan misses target center by 11.07ft at 19990.82ft MD (6891.85 TVD, -13518.74 N, 467.85 E) - Point	0.00	0.00	6,902.92	-13,518.77	467.85	1,302,579.41	3,257,153.26	40.1603133	-104.5799197
GUTTERSEN Y05-779 T - plan hits target center - Point	0.00	0.00	6,925.06	-833.39	306.20	1,315,264.76	3,256,991.61	40.1951389	-104.5800271

Database:	EDMP	**Local Co-ordinate Reference:**	Well Guttersen Y05-779
Company:	Northern Region - DJ Basin	**TVD Reference:**	Well @ 4810.00ft
Project:	Mustang	**MD Reference:**	Well @ 4810.00ft
Site:	D Section 29	**North Reference:**	Grid
Well:	Guttersen Y05-779	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Guttersen Y05- 779		
Design:	Plan #3		

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			
3,769.64	3,765.00	Parkman			
4,128.82	4,123.00	Sussex			
4,907.38	4,899.00	Shannon			
5,940.77	5,929.00	Teepee Buttes			
6,722.56	6,679.00	Sharon Springs			
6,802.75	6,739.00	Top A Chalk			
6,802.75	6,739.00	Top A Marl			
6,811.31	6,745.00	Top B Chalk			
6,888.08	6,795.00	Top B Marl			
7,021.33	6,864.00	Top C Chalk			
7,112.81	6,897.00	Top C Marl			

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
2,200.00	2,200.00	0.00	0.00	Start Build 2.00
2,432.16	2,431.91	-5.68	7.49	Start 3902.23 hold at 2432.16 MD
6,334.39	6,321.33	-196.44	259.28	Start DLS 9.00 TFO 52.20
7,304.40	6,925.06	-833.39	306.20	TPZ/Landing Pt. at 7304.4 MD
19,990.85	6,891.85	-13,518.77	467.85	TD at 19990.85

Northern Region - DJ Basin

Mustang
D Section 29
Guttersen Y05-779

Guttersen Y05- 779
Plan #3

Anticollision Summary Report

15 October, 2019

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:	Plan #3	**Offset TVD Reference:**	Reference 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** 10/15/2019

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	19,990.85	Plan #3 (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						
Diggen State D16-23 (SI) - Wellbore #1 - Gyro Surveys						Out of range
Diggin State D 16-07 (SI) - Wellbore #1 - No Surveys						Out of range
Diggin State D 16-19J (PR) - Wellbore #1 - As-Drilled						Out of range
Diggin State D16-13 (PR) - Wellbore #1 - Gyro Surveys	3,586.15	3,634.79	9,612.37	9,587.44	385.635	CC
Diggin State D16-13 (PR) - Wellbore #1 - Gyro Surveys	3,900.00	3,898.38	9,613.61	9,586.66	356.702	ES
Diggin State D16-13 (PR) - Wellbore #1 - Gyro Surveys	6,950.00	6,835.05	9,918.00	9,870.16	207.295	SF
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 Survey						Out of range
Guttersen ST D 16-33 (SI) - Wellbore #1 - Gyros						Out of range
Guttersen State D 15-31 (PR) - Wellbore #1 - Gyro Surve						Out of range
Guttersen State D 15-33 (SI) - Wellbore #1 - Gyro Survey						Out of range
Guttersen State D 16-15X (PR) - Wellbore #1 - Gyro Surv						Out of range
Guttersen State D 16-18 (SI) - Wellbore #1 - As-Drilled						Out of range
Guttersen State D 16-20 (SI) - Wellbore #1 - Gyro Survey						Out of range
Guttersen State D 16-24 (SI) - Wellbore #1 - Gyro Survey						Out of range
Guttersen State D 16-27 (PR) - Wellbore #1 - As-Drilled						Out of range
Guttersen State D 16-31 (PR) - Wellbore #1 - As-Drilled						Out of range
Guttersen State D 16-32D (SI) - Guttersen State D 16-32						Out of range
Guttersen State D 16-32D (SI) - Guttersen State D 16-32						Out of range
Guttersen State D16-63-1HN - Original Drilling - As-Drille	6,361.28	11,243.00	9,881.27	9,747.43	73.829	CC, ES
Guttersen State D16-63-1HN - Original Drilling - As-Drille	6,600.00	11,243.00	9,923.26	9,788.23	73.492	SF
Guttersen State D16-65-1HN - Original Drilling - As-Drille						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 - As-Drilled						Out of range
Spike ST GWS D 16-04 (SI) - Wellbore #1 - As-Drilled						Out of range
Spike ST GWS D 16-05 (PR) - Wellbore #1 - Gyro Survey						Out of range
Spike ST GWS D 16-06 (SI) - Wellbore #1 - As-Drilled						Out of range
Spike ST GWS D 16-08 (PR) - Wellbore #1 - Gyro Survey						Out of range
Spike ST GWS D 16-12 (PA) - Wellbore #1 - Gyro Survey						Out of range
Spike ST GWS D 16-14 (SI) - Wellbore #1 - No Surveys						Out of range
Spike ST GWS D 16-16 (SI) - Wellbore #1 - As-Drilled						Out of range
Spike State D 16-10 (SI) - Wellbore #1 - Gyro Surveys						Out of range
Spike State D 16-11 (SI) - Wellbore #1 - Gyro Surveys						Out of range
Spike State D 16-9 (SI) - Wellbore #1 - Gyro Surveys						Out of range
Spike State D16-15 (P&A) - Wellbore #1 - Wellbore #1						Out of range

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:	Plan #3	**Offset TVD Reference:**	Reference 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 16						
Spike State D16-99HZ - Original Drilling - As-Drilled						Out of range
Spike State GWS D 16-7J (PR) - Wellbore #1 - As-Drilled						Out of range
Spike State GWS D16-13J (PR) - Wellbore #1 - Gyro Sur						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:	Plan #3	**Offset TVD Reference:**	Reference 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	100.00	42.75	7,832.46	7,832.26	10,000.000	CC
Butterball D19-27D - Wellbore #1 - Gyro Surveys	2,300.00	2,250.29	7,846.97	7,823.85	339.482	ES
Butterball D19-27D - Wellbore #1 - Gyro Surveys	6,600.00	6,902.08	8,313.07	8,231.50	101.913	SF
Guttersen State D16-33 (SI) - Wellbore #1 - No Surveys						Out of range
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 - As-Dril	3,158.03	3,274.89	8,881.96	8,859.76	400.096	CC
HSR Mike Gutteresen 16-17X (SI) - Wellbore #1 - As-Dril	4,200.00	4,256.91	8,886.73	8,857.43	303.225	ES
HSR Mike Gutteresen 16-17X (SI) - Wellbore #1 - As-Dril	6,950.00	6,810.20	9,216.57	9,168.84	193.086	SF
HSR Mike Guttersen 16-17 (DA) - Wellbore #1 - As-Drille	1,700.00	1,657.13	8,885.73	8,831.54	163.976	CC
HSR Mike Guttersen 16-17 (DA) - Wellbore #1 - As-Drille	1,800.00	1,666.00	8,886.22	8,831.18	161.454	ES
HSR Mike Guttersen 16-17 (DA) - Wellbore #1 - As-Drille	4,100.00	1,666.00	9,234.16	9,173.19	151.457	SF
HSR Weeks 10-17 - Wellbore #1 - Gyro Surveys	100.00	32.82	9,793.29	9,793.11	10,000.000	CC
HSR Weeks 10-17 - Wellbore #1 - Gyro Surveys	2,100.00	2,100.00	9,800.34	9,785.88	677.760	ES
HSR Weeks 10-17 - Wellbore #1 - Gyro Surveys	6,600.00	6,632.96	9,984.47	9,938.35	216.514	SF
HSR Weeks 15-17 (SI) - Wellbore #1 - As-Drilled	2,369.83	2,502.33	8,530.89	8,514.10	508.070	CC
HSR Weeks 15-17 (SI) - Wellbore #1 - As-Drilled	2,432.16	2,560.26	8,531.16	8,513.95	495.979	ES
HSR Weeks 15-17 (SI) - Wellbore #1 - As-Drilled	6,900.00	6,656.15	8,914.65	8,867.63	189.590	SF
HSR Weeks 9-17 - Wellbore #1 - Gyro Surveys						Out of range
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	2,386.68	2,682.96	7,970.82	7,953.32	455.512	CC
LDS D17-13 - Wellbore #1 - Gyro Surveys	2,500.00	2,824.93	7,971.54	7,953.16	433.715	ES
LDS D17-13 - Wellbore #1 - Gyro Surveys	6,750.00	6,600.00	8,261.72	8,215.24	177.734	SF
LDS D17-18 (SI) - Wellbore #1 - No Surveys						Out of range
LDS D17-20 - Wellbore #1 - No Surveys						Out of range
LDS D17-21 - Wellbore #1 - No Surveys						Out of range
LDS D17-22 (SI) - Wellbore #1 - No Surveys						Out of range
LDS D17-24D - LDS D17-24D Gyros - As-Drilled	4,579.51	5,000.00	9,187.78	9,152.48	260.310	CC
LDS D17-24D - LDS D17-24D Gyros - As-Drilled	4,700.00	5,043.32	9,188.14	9,152.32	256.467	ES
LDS D17-24D - LDS D17-24D Gyros - As-Drilled	6,850.00	6,967.57	9,454.07	9,404.95	192.460	SF
LDS D17-24D - LDS D17-24D OH - As-Drilled	4,579.51	5,013.00	9,187.82	9,152.52	260.311	CC
LDS D17-24D - LDS D17-24D OH - As-Drilled	4,700.00	5,056.32	9,188.18	9,152.36	256.468	ES
LDS D17-24D - LDS D17-24D OH - As-Drilled	6,850.00	6,980.58	9,454.11	9,404.99	192.460	SF
LDS D17-25D - LDS D17-25D Gyros - As-Drilled	4,939.94	5,550.21	9,314.25	9,245.11	134.716	CC
LDS D17-25D - LDS D17-25D Gyros - As-Drilled	5,000.00	5,600.00	9,314.37	9,244.90	134.069	ES
LDS D17-25D - LDS D17-25D Gyros - As-Drilled	6,700.00	6,876.30	9,480.86	9,403.16	122.011	SF
LDS D17-25D - LDS D17-25D OH - LDS D17-25D - As D	4,939.94	5,563.21	9,314.24	9,245.10	134.716	CC
LDS D17-25D - LDS D17-25D OH - LDS D17-25D - As D	5,000.00	5,613.00	9,314.36	9,244.88	134.069	ES
LDS D17-25D - LDS D17-25D OH - LDS D17-25D - As D	6,700.00	6,889.30	9,480.85	9,403.15	122.010	SF
LDS D17-31D - LDS D17-31D - As-Drilled						Out of range
LDS D17-32D - LDS D17-32D - LDS D17-32D - As Drilled						Out of range
LDS D17-33 - LDS D17-33 - As-Drilled	2,208.14	2,176.33	8,958.29	8,943.00	585.817	CC, ES
LDS D17-33 - LDS D17-33 - As-Drilled	6,950.00	6,882.65	9,498.65	9,450.43	196.980	SF
LDS D17-7 - Wellbore #1 - As-Drilled						Out of range
LDS D20-29D - Wellbore #1 - LDS D20-29D - As Drilled	3,978.50	4,459.74	7,470.94	7,434.14	202.978	CC
LDS D20-29D - Wellbore #1 - LDS D20-29D - As Drilled	4,100.00	4,535.00	7,471.35	7,433.85	199.237	ES
LDS D20-29D - Wellbore #1 - LDS D20-29D - As Drilled	6,750.00	6,814.28	7,707.11	7,654.35	146.087	SF
LDS D20-30D - Wellbore #1 - LDS D20-30D - As Drilled	4,410.04	4,882.01	7,634.01	7,601.18	232.574	CC, ES
LDS D20-30D - Wellbore #1 - LDS D20-30D - As Drilled	6,900.00	6,882.28	7,968.27	7,920.09	165.388	SF
LDS RED D17-11 (SI) - Wellbore #1 - As Drilled	505.18	448.34	9,579.50	9,576.50	3,186.967	CC
LDS RED D17-11 (SI) - Wellbore #1 - As Drilled	600.00	500.00	9,579.90	9,576.36	2,711.640	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:	Plan #3	**Offset TVD Reference:**	Reference 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 RED D17-11 (SI) - Wellbore #1 - As Drilled	6,800.00	6,500.00	9,950.16	9,903.93	215.255	SF
LDS Red D17-12 - Wellbore #1 - No Surveys	2,200.00	2,146.00	9,715.16	9,688.78	368.265	CC
LDS Red D17-12 - Wellbore #1 - No Surveys	2,300.00	2,245.98	9,716.29	9,688.69	352.068	ES
LDS Red D17-12 - Wellbore #1 - No Surveys	6,600.00	6,521.74	9,997.56	9,917.57	124.983	SF
LDS Red D17-14 (DA) - LDS Red D17-14 - No Surveys	2,200.00	2,158.00	8,233.99	8,142.24	89.740	CC
LDS Red D17-14 (DA) - LDS Red D17-14 - No Surveys	6,350.00	6,305.12	8,399.98	8,127.76	30.858	ES
LDS Red D17-14 (DA) - LDS Red D17-14 - No Surveys	6,800.00	6,704.95	8,578.87	8,289.21	29.617	SF
LDS Red D17-14X (SI) - Wellbore #1 - As-Drilled	779.15	726.16	8,427.20	8,422.28	1,710.507	CC
LDS Red D17-14X (SI) - Wellbore #1 - As-Drilled	1,900.00	1,793.93	8,430.36	8,417.69	665.521	ES
LDS Red D17-14X (SI) - Wellbore #1 - As-Drilled	6,800.00	6,584.89	8,777.24	8,730.72	188.684	SF
LDS Red D17-3J (PR) - Wellbore #1 - Gyro Surveys	629.80	582.81	8,484.59	8,480.69	2,180.552	CC
LDS Red D17-3J (PR) - Wellbore #1 - Gyro Surveys	1,500.00	1,396.34	8,489.33	8,479.49	862.213	ES
LDS Red D17-3J (PR) - Wellbore #1 - Gyro Surveys	6,800.00	6,700.00	8,941.31	8,894.40	190.605	SF
LDS White D17-1 - Wellbore #1 - Gyro Surveys						Out of range
LDS White D17-2 - Wellbore #1 - As-Drilled						Out of range
LDS White D17-8 - Wellbore #1 - As-Drilled						Out of range
Thomson D20-31D - Wellbore #1 - Gyro Surveys	6,336.79	6,998.20	6,446.86	6,395.16	124.705	CC, ES
Thomson D20-31D - Wellbore #1 - Gyro Surveys	6,700.00	7,200.00	6,549.11	6,495.66	122.525	SF
Weeks 20-17 (SI) - Wellbore #1 - Gyro Surveys	2,271.30	2,275.20	9,289.03	9,273.30	590.670	CC
Weeks 20-17 (SI) - Wellbore #1 - Gyro Surveys	2,300.00	2,303.66	9,289.08	9,273.15	583.329	ES
Weeks 20-17 (SI) - Wellbore #1 - Gyro Surveys	7,000.00	6,815.76	9,663.21	9,615.39	202.080	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:	Plan #3	**Offset TVD Reference:**	Reference 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	3,200.00	1,747.27	9,998.93	9,981.68	579.614	SF
Horton D18-22D - Horton D18-22D - Horton D18-22D - A	174.15	138.15	9,769.94	9,769.24	10,000.000	CC
Horton D18-22D - Horton D18-22D - Horton D18-22D - A	900.00	800.00	9,773.27	9,767.65	1,740.305	ES
Horton D18-22D - Horton D18-22D - Horton D18-22D - A	3,100.00	1,976.20	9,994.70	9,975.87	530.748	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						Out of range
Mick D18-12 - Wellbore #1 - Wellbore #1- As Drilled						Out of range
Mick D18-13 - Wellbore #1 - Wellbore #1- As Drilled	255.82	247.82	9,753.36	9,751.98	7,094.414	CC
Mick D18-13 - Wellbore #1 - Wellbore #1- As Drilled	1,200.00	1,131.22	9,756.12	9,748.27	1,242.694	ES
Mick D18-13 - Wellbore #1 - Wellbore #1- As Drilled	4,900.00	4,654.76	9,992.48	9,959.37	301.778	SF
Mick D18-14 - Mick D18-14 - Mick D18-14 - As Drilled	360.61	344.61	9,091.29	9,089.20	4,352.132	CC
Mick D18-14 - Mick D18-14 - Mick D18-14 - As Drilled	600.00	540.55	9,092.04	9,088.41	2,503.707	ES
Mick D18-14 - Mick D18-14 - Mick D18-14 - As Drilled	6,950.00	7,011.05	9,706.61	9,658.31	200.958	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	100.00	0.00	9,877.32	9,877.20	10,000.000	CC, ES
Mick D18-25 - Mick D18-25 - Mick D18-25 - As Drilled	3,500.00	3,447.93	9,998.79	9,974.74	415.681	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	2,251.15	2,362.04	9,739.01	9,723.10	612.138	CC, ES
Scooter D18-10 - Scooter D18-10 - Scooter D18-10 - As	6,350.00	6,123.48	9,994.46	9,951.08	230.393	SF
Scooter D18-15 - Scooter D18-15 - Scooter D18-15 - As	2,228.42	2,269.19	8,626.26	8,610.76	556.508	CC, ES
Scooter D18-15 - Scooter D18-15 - Scooter D18-15 - As	6,900.00	7,140.16	9,128.62	9,079.99	187.722	SF
Scooter D18-16 - Scooter D18-16 - Scooter D18-16 - As	2,200.00	2,151.00	8,321.97	8,295.54	314.933	CC, ES
Scooter D18-16 - Scooter D18-16 - Scooter D18-16 - As	6,900.00	6,753.12	8,829.02	8,746.24	106.654	SF
Scooter D18-17 JI - Scooter D18-17 JI - Scooter D18-17						Out of range
Scooter D18-1JI - Scooter D18-1JI - Scooter D18-1JI - As						Out of range
Scooter D18-4J - Scooter D18-4J - Scooter D18-4J - As D	1,382.15	1,339.19	9,227.74	9,218.52	1,000.376	CC
Scooter D18-4J - Scooter D18-4J - Scooter D18-4J - As D	2,215.05	2,209.14	9,230.76	9,215.52	605.520	ES
Scooter D18-4J - Scooter D18-4J - Scooter D18-4J - As D	6,900.00	6,792.46	9,739.13	9,691.74	205.502	SF
Scooter D18-78-1HN - Original Drilling - Original Drilling -						Out of range
Scooter D18-78-1HN - Original Drilling - ST01 - Original D	6,204.53	11,297.00	9,789.54	9,722.35	145.708	CC, ES
Scooter D18-78-1HN - Original Drilling - ST01 - Original D	6,600.00	11,297.00	9,843.16	9,774.65	143.665	SF
Scooter D18-79-1HN - Original Drilling - Original Drilling -						Out of range
Scooter D18-79HN - Original Drilling - Original Drilling - A						Out of range
Scooter D18-8JI - Scooter D18-8JI - Scooter D18-8JI - As	469.14	376.14	9,329.29	9,326.70	3,604.441	CC
Scooter D18-8JI - Scooter D18-8JI - Scooter D18-8JI - As	700.00	549.90	9,329.88	9,325.86	2,319.591	ES
Scooter D18-8JI - Scooter D18-8JI - Scooter D18-8JI - As	4,500.00	1,700.00	9,988.95	9,967.91	474.597	SF
Scooter D18-9JI - Scooter D18-9JI - Scooter D18-9JI - As	606.43	512.45	9,247.27	9,243.70	2,596.751	CC
Scooter D18-9JI - Scooter D18-9JI - Scooter D18-9JI - As	900.00	734.83	9,248.48	9,243.10	1,717.035	ES
Scooter D18-9JI - Scooter D18-9JI - Scooter D18-9JI - As	6,450.00	6,362.08	9,988.89	9,942.29	214.355	SF
Shianne D18-29D - Shianne D18-29D - Shianne D18-29D						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:	Plan #3	**Offset TVD Reference:**	Reference 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	0.00	0.00	6,832.13			
Butterball 13-19 - Butterball 13-19 - Butterball 13-19 - As	2,201.15	2,177.97	6,840.06	6,824.95	452.737	ES
Butterball 13-19 - Butterball 13-19 - Butterball 13-19 - As	6,950.00	6,821.67	7,339.47	7,291.76	153.859	SF
Butterball 14-19 - Butterball 14-19 - Butterball 14-19 - As	2,284.89	2,435.11	6,086.77	6,070.48	373.603	CC
Butterball 14-19 - Butterball 14-19 - Butterball 14-19 - As	2,300.00	2,451.08	6,086.81	6,070.41	371.145	ES
Butterball 14-19 - Butterball 14-19 - Butterball 14-19 - As	7,000.00	6,977.39	6,502.62	6,454.13	134.110	SF
Butterball 23-19 - Butterball 23-19 - Butterball 23-19 - As	666.56	633.60	5,878.38	5,874.17	1,398.111	CC
Butterball 23-19 - Butterball 23-19 - Butterball 23-19 - As	2,000.00	1,935.76	5,884.01	5,870.47	434.598	ES
Butterball 23-19 - Butterball 23-19 - Butterball 23-19 - As	6,900.00	6,773.03	6,428.14	6,380.78	135.709	SF
Butterball B04-19 - Butterball B04-19 - Butterball B04-19	1,254.33	1,227.34	6,805.22	6,796.84	812.638	CC
Butterball B04-19 - Butterball B04-19 - Butterball B04-19	2,200.00	2,155.30	6,806.91	6,791.91	453.685	ES
Butterball B04-19 - Butterball B04-19 - Butterball B04-19	7,100.00	6,932.45	7,375.01	7,326.59	152.316	SF
Butterball D18-75HN - Original Drilling - Original Drilling -	1,923.92	1,910.00	7,797.27	7,785.07	639.238	CC, ES
Butterball D18-75HN - Original Drilling - Original Drilling -	6,750.00	6,279.00	8,661.78	8,616.32	190.546	SF
Butterball D19-17D - Butterball D19-17D - Butterball D19	5,122.90	6,147.39	6,980.60	6,835.41	48.081	CC
Butterball D19-17D - Butterball D19-17D - Butterball D19	5,200.00	6,200.00	6,980.90	6,835.08	47.874	ES
Butterball D19-17D - Butterball D19-17D - Butterball D19	6,400.00	6,893.16	7,035.44	6,883.39	46.270	SF
Butterball D19-18D - Butterball D19-18D - Butterball D19	3,484.39	4,115.43	7,631.99	7,597.40	220.637	CC
Butterball D19-18D - Butterball D19-18D - Butterball D19	3,600.00	4,186.27	7,632.36	7,597.11	216.507	ES
Butterball D19-18D - Butterball D19-18D - Butterball D19	6,850.00	6,822.55	8,001.15	7,947.86	150.156	SF
Butterball D19-19D - Butterball D19-19D - Butterball D19	2,733.95	3,370.83	7,721.00	7,696.72	318.105	CC
Butterball D19-19D - Butterball D19-19D - Butterball D19	2,900.00	3,469.15	7,721.79	7,696.50	305.406	ES
Butterball D19-19D - Butterball D19-19D - Butterball D19	6,900.00	6,870.17	8,141.66	8,091.57	162.546	SF
Butterball D19-20D - Butterball D19-20D - Butterball D19	4,117.01	4,771.82	7,001.13	6,966.32	201.092	CC
Butterball D19-20D - Butterball D19-20D - Butterball D19	4,200.00	4,800.00	7,001.27	6,966.07	198.921	ES
Butterball D19-20D - Butterball D19-20D - Butterball D19	6,900.00	6,947.81	7,322.74	7,271.67	143.387	SF
Butterball D19-22D - Wellbore #1 - Wellbore #1 - As Drille	2,364.84	2,627.50	5,536.84	5,516.50	272.200	CC
Butterball D19-22D - Wellbore #1 - Wellbore #1 - As Drille	2,400.00	2,666.62	5,537.01	5,516.36	268.153	ES
Butterball D19-22D - Wellbore #1 - Wellbore #1 - As Drille	6,700.00	6,697.46	5,847.03	5,794.47	111.249	SF
Butterball D19-75HN - Original Drilling - Original Drilling -	6,386.07	11,767.00	4,386.87	4,281.84	41.769	CC, ES
Butterball D19-75HN - Original Drilling - Original Drilling -	6,500.00	11,767.00	4,393.60	4,288.10	41.645	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	400.00	335.84	5,024.51	5,022.31	2,284.715	ES
Butterball D24-19 - Butterball D24-19 - Butterball D24-19	6,900.00	6,818.80	5,611.86	5,564.26	117.897	SF
Butterball H24-69HN - Original Drilling - Original Drilling -	0.00	0.00	7,824.38			
Butterball H24-69HN - Original Drilling - Original Drilling -	800.00	757.76	7,825.90	7,821.95	1,981.428	ES
Butterball H24-69HN - Original Drilling - Original Drilling -	6,750.00	6,300.53	8,505.91	8,461.14	190.001	SF
Champlin 366 Amoco F 1 - Wellbore #1 - Wellbore #1 - A	590.15	554.16	4,420.95	4,417.31	1,212.163	CC
Champlin 366 Amoco F 1 - Wellbore #1 - Wellbore #1 - A	1,800.00	1,734.98	4,428.82	4,416.72	365.846	ES
Champlin 366 Amoco F 1 - Wellbore #1 - Wellbore #1 - A	6,750.00	6,666.02	4,912.26	4,865.66	105.410	SF
Dechant D19-32D - Dechant D19-32D - Dechant D19-32D	2,219.87	2,382.19	7,865.12	7,830.26	225.569	CC
Dechant D19-32D - Dechant D19-32D - Dechant D19-32D	2,300.00	2,443.77	7,866.39	7,829.91	215.666	ES
Dechant D19-32D - Dechant D19-32D - Dechant D19-32D	6,600.00	7,119.43	8,169.70	8,053.11	70.072	SF
Graznak 01-19 - Graznak 01-19 - Graznak 01-19 - As Dri	2,200.00	2,173.00	6,128.08	6,101.46	230.236	CC, ES
Graznak 01-19 - Graznak 01-19 - Graznak 01-19 - As Dri	6,950.00	6,803.01	6,655.94	6,572.53	79.797	SF
Higgins D19-720 - Original Drilling - Original Drilling - As	933.68	919.70	7,232.96	7,227.13	1,241.358	CC
Higgins D19-720 - Original Drilling - Original Drilling - As	1,000.00	961.27	7,233.07	7,226.93	1,177.803	ES
Higgins D19-720 - Original Drilling - Original Drilling - As	6,700.00	6,700.91	7,952.02	7,909.11	185.346	SF
Higgins D19-720 - Sidetrack Curve/Horizontal - ST01 - A	6,474.48	11,660.02	3,653.82	3,600.28	68.252	CC, ES
Higgins D19-720 - Sidetrack Curve/Horizontal - ST01 - A	6,600.00	11,660.02	3,666.33	3,612.35	67.920	SF
Independence D18-717 - Independence D18-717 - Plan 1	2,200.00	2,210.00	7,332.89	7,317.54	477.943	CC, ES
Independence D18-717 - Independence D18-717 - Plan 1	6,600.00	6,300.00	7,575.35	7,530.07	167.277	SF
Independence D18-725 - Independence D18-725 - Plan 1	2,200.00	2,210.00	7,338.75	7,323.41	478.326	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:	Plan #3	**Offset TVD Reference:**	Reference 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 D18-725 - Independence D18-725 - Plan 1	6,600.00	6,200.00	7,683.74	7,638.78	170.892	SF
Independence D18-732 - Independence D18-732 - Plan 1	2,200.00	2,210.00	7,344.95	7,329.61	478.730	CC, ES
Independence D18-732 - Independence D18-732 - Plan 1	6,600.00	6,223.38	7,803.70	7,758.74	173.567	SF
Independence D18-739 - Independence D18-739 - Plan 1	2,200.00	2,189.00	7,350.95	7,335.68	481.483	CC, ES
Independence D18-739 - Independence D18-739 - Plan 1	6,850.00	6,316.55	8,058.91	8,012.64	174.168	SF
Independence D18-744 - Independence D18-744 - Plan 1	2,200.00	2,188.00	7,357.00	7,341.74	481.993	CC, ES
Independence D18-744 - Independence D18-744 - Plan 1	6,850.00	6,100.20	8,158.92	8,112.97	177.572	SF
Independence D18-759 - Independence D18-759 - Plan 1	2,369.52	2,835.72	8,263.87	8,245.80	457.124	CC
Independence D18-759 - Independence D18-759 - Plan 1	2,400.00	2,866.08	8,264.03	8,245.74	451.955	ES
Independence D18-759 - Independence D18-759 - Plan 1	6,650.00	6,350.00	8,461.22	8,415.63	185.606	SF
Independence D18-767 - Independence D18-767 - Plan 1	2,200.00	2,207.00	8,277.90	8,262.57	539.916	CC, ES
Independence D18-767 - Independence D18-767 - Plan 1	6,700.00	5,974.77	8,730.64	8,686.31	196.957	SF
Independence D30-711 - Independence D30-711 OH - As	7,124.91	15,368.16	1,299.94	1,204.52	13.624	CC
Independence D30-711 - Independence D30-711 OH - As	7,600.00	15,834.78	1,302.35	1,202.16	13.000	ES
Independence D30-711 - Independence D30-711 OH - As	9,500.00	17,743.07	1,349.77	1,225.54	10.865	SF
Independence D30-718 - Independence D30-718 OH - A	6,846.76	15,234.60	1,700.85	1,607.55	18.230	CC
Independence D30-718 - Independence D30-718 OH - A	7,324.92	15,644.90	1,703.66	1,606.36	17.509	ES
Independence D30-718 - Independence D30-718 OH - A	9,600.00	17,823.00	1,800.37	1,676.00	14.475	SF
Independence D30-724 - Independence D30-724 OH - A	6,953.56	15,358.40	2,188.61	2,094.68	23.301	CC, ES
Independence D30-724 - Independence D30-724 OH - A	9,600.00	17,803.00	2,239.63	2,115.60	18.057	SF
Independence D30-731 - Independence D30-731 OH - A	6,617.93	14,838.20	2,584.20	2,495.09	28.998	CC, ES
Independence D30-731 - Independence D30-731 OH - A	9,700.00	17,781.00	2,703.55	2,578.34	21.592	SF
Independence D30-737 - Independence D30-737 OH - A	6,838.83	15,318.74	3,009.43	2,916.79	32.484	CC
Independence D30-737 - Independence D30-737 OH - A	7,400.00	15,792.54	3,013.61	2,915.43	30.695	ES
Independence D30-737 - Independence D30-737 OH - A	9,800.00	17,920.00	3,086.60	2,960.61	24.499	SF
Independence D30-743 - Independence D30-743 OH - A	8,326.22	16,711.73	3,417.77	3,308.66	31.325	CC
Independence D30-743 - Independence D30-743 OH - A	8,400.00	16,762.00	3,418.03	3,308.17	31.113	ES
Independence D30-743 - Independence D30-743 OH - A	10,100.00	17,885.00	3,558.57	3,431.24	27.948	SF
Independence D30-758 - Independence D30-758 OH - A	8,790.27	17,155.93	4,208.33	4,093.56	36.670	CC
Independence D30-758 - Independence D30-758 OH - A	8,900.00	17,223.00	4,209.27	4,093.45	36.341	ES
Independence D30-758 - Independence D30-758 OH - A	9,900.00	17,863.00	4,264.65	4,138.72	33.865	SF
Independence D30-765 - Independence D30-765 OH - A	6,854.35	15,373.43	4,682.23	4,589.20	50.331	CC
Independence D30-765 - Independence D30-765 OH - A	9,000.00	17,383.61	4,701.99	4,584.96	40.176	ES
Independence D30-765 - Independence D30-765 OH - A	10,100.00	17,947.00	4,752.43	4,625.38	37.406	SF
Independence D30-770 - Independence D30-770 OH - A	6,502.16	14,821.91	4,985.63	4,897.35	56.471	CC
Independence D30-770 - Independence D30-770 OH - A	6,550.00	14,834.01	4,985.92	4,897.34	56.289	ES
Independence D30-770 - Independence D30-770 OH - A	10,200.00	17,813.00	5,076.50	4,948.92	39.791	SF
Independence D30-777 - Independence D30-777 - As-Dr	6,559.92	15,046.00	5,472.29	5,383.30	61.499	CC
Independence D30-777 - Independence D30-777 - As-Dr	8,100.00	16,499.57	5,483.21	5,377.66	51.952	ES
Independence D30-777 - Independence D30-777 - As-Dr	10,400.00	17,958.00	5,576.58	5,447.80	43.300	SF
Independence State D30-784 - Independence State D30-	6,681.58	15,486.08	5,940.77	5,847.89	63.964	CC
Independence State D30-784 - Independence State D30-	6,800.00	15,521.00	5,940.99	5,847.25	63.383	ES
Independence State D30-784 - Independence State D30-	10,600.00	17,958.00	6,153.97	6,023.57	47.195	SF
LDS White D19-10 - LDS White D19-10 - LDS White D19	366.50	331.50	5,229.15	5,227.08	2,529.987	CC
LDS White D19-10 - LDS White D19-10 - LDS White D19	2,100.00	2,034.60	5,238.18	5,223.94	367.964	ES
LDS White D19-10 - LDS White D19-10 - LDS White D19	6,800.00	6,721.66	5,761.59	5,714.63	122.690	SF
LDS White D19-15 - LDS White D19-15 - LDS White D19	1,776.92	1,743.94	4,136.05	4,124.00	343.106	CC
LDS White D19-15 - LDS White D19-15 - LDS White D19	2,000.00	1,940.80	4,136.68	4,123.14	305.502	ES
LDS White D19-15 - LDS White D19-15 - LDS White D19	6,800.00	6,681.65	4,651.57	4,604.77	99.406	SF
LDS White D19-16 - Wellbore #1 - Wellbore #1 - As Drille	100.00	55.71	3,359.84	3,359.62	10,000.000	CC
LDS White D19-16 - Wellbore #1 - Wellbore #1 - As Drille	2,213.66	2,196.76	3,365.11	3,349.91	221.330	ES
LDS White D19-16 - Wellbore #1 - Wellbore #1 - As Drille	6,700.00	6,625.29	3,799.52	3,753.21	82.042	SF
Mile High 02-19 - Wellbore #1 - Wellbore #1 - As Drilled	190.97	153.96	6,396.47	6,395.66	7,848.554	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:	Plan #3	**Offset TVD Reference:**	Reference 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						
Mile High 02-19 - Wellbore #1 - Wellbore #1 - As Drilled	2,100.00	2,017.71	6,399.83	6,385.66	451.632	ES
Mile High 02-19 - Wellbore #1 - Wellbore #1 - As Drilled	6,850.00	6,754.40	6,902.48	6,855.33	146.388	SF
Sean D19-09 - Wellbore #1 - Wellbore #1 - As Drilled	490.98	448.98	4,582.12	4,579.20	1,568.249	CC
Sean D19-09 - Wellbore #1 - Wellbore #1 - As Drilled	2,237.10	2,244.41	4,586.06	4,570.61	296.851	ES
Sean D19-09 - Wellbore #1 - Wellbore #1 - As Drilled	6,750.00	6,653.22	4,989.31	4,942.75	107.159	SF
Turk Blue D19-02J - Turk Blue D19-02J - Turk Blue D19-	2,029.79	2,006.85	7,929.25	7,915.37	571.294	CC
Turk Blue D19-02J - Turk Blue D19-02J - Turk Blue D19-	2,200.00	2,135.67	7,929.71	7,914.77	530.817	ES
Turk Blue D19-02J - Turk Blue D19-02J - Turk Blue D19-	6,900.00	6,875.73	8,528.99	8,481.28	178.765	SF
Turk Blue D19-04 - Turk Blue D19-04 - Turk Blue D19-04	0.00	0.00	8,872.44			
Turk Blue D19-04 - Turk Blue D19-04 - Turk Blue D19-04	2,216.11	2,260.73	8,874.11	8,858.67	574.696	ES
Turk Blue D19-04 - Turk Blue D19-04 - Turk Blue D19-04	6,900.00	6,760.89	9,389.34	9,342.03	198.478	SF
Turk Blue D19-05 - Turk Blue D19-05 - Turk Blue D19-05	2,204.16	2,194.21	7,610.28	7,595.12	501.882	CC, ES
Turk Blue D19-05 - Turk Blue D19-05 - Turk Blue D19-05	7,000.00	6,853.97	8,199.35	8,151.42	171.053	SF
Turk Blue D19-06 - Turk Blue D19-06 - Turk Blue D19-06	610.06	575.06	6,835.11	6,831.32	1,802.654	CC
Turk Blue D19-06 - Turk Blue D19-06 - Turk Blue D19-06	2,204.31	2,179.30	6,838.05	6,822.95	452.775	ES
Turk Blue D19-06 - Turk Blue D19-06 - Turk Blue D19-06	6,900.00	6,800.89	7,364.36	7,316.92	155.227	SF
Turk White D19-01 - Wellbore #1 - Wellbore #1 - As Drille	100.00	49.52	6,985.31	6,985.10	10,000.000	CC
Turk White D19-01 - Wellbore #1 - Wellbore #1 - As Drille	2,200.00	2,149.49	6,991.68	6,976.69	466.248	ES
Turk White D19-01 - Wellbore #1 - Wellbore #1 - As Drille	6,850.00	6,793.73	7,495.81	7,448.49	158.405	SF
Turk White D19-02 - Wellbore #1 - Wellbore #1 - As Drille	946.81	900.00	7,569.63	7,563.47	1,228.543	CC
Turk White D19-02 - Wellbore #1 - Wellbore #1 - As Drille	1,900.00	1,800.00	7,571.91	7,559.19	595.607	ES
Turk White D19-02 - Wellbore #1 - Wellbore #1 - As Drille	6,900.00	6,777.72	8,088.42	8,041.08	170.847	SF
Turk White D19-08 - Wellbore #1 - Wellbore #1 - As Drille	2,209.27	2,185.10	5,610.00	5,594.86	370.445	CC, ES
Turk White D19-08 - Wellbore #1 - Wellbore #1 - As Drille	6,750.00	6,630.03	6,030.15	5,983.69	129.788	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:	Plan #3	**Offset TVD Reference:**	Reference 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	2,200.00	2,158.00	5,870.86	5,844.37	221.662	CC
Bohlender D20-2J - Wellbore #1 - No Surveys	2,300.00	2,257.98	5,871.92	5,844.22	211.964	ES
Bohlender D20-2J - Wellbore #1 - No Surveys	6,800.00	6,695.05	6,258.14	6,176.06	76.242	SF
Bohlender D20-3 - Wellbore #1 - Gyro Surveys	2,205.97	2,177.31	6,945.76	6,930.64	459.412	CC, ES
Bohlender D20-3 - Wellbore #1 - Gyro Surveys	6,850.00	6,743.13	7,338.73	7,291.54	155.533	SF
Bohlender D20-4 (P&A) - Wellbore #1 - No Surveys	2,200.00	2,160.00	7,021.50	6,970.65	138.073	CC
Bohlender D20-4 (P&A) - Wellbore #1 - No Surveys	2,300.00	2,259.98	7,022.64	6,969.45	132.011	ES
Bohlender D20-4 (P&A) - Wellbore #1 - No Surveys	6,850.00	6,731.07	7,460.60	7,302.22	47.104	SF
Bohlender D20-6 - Wellbore#1 - Gyro Surveys	2,312.13	2,367.83	5,645.02	5,628.89	350.001	CC, ES
Bohlender D20-6 - Wellbore#1 - Gyro Surveys	6,750.00	6,621.56	5,932.64	5,886.14	127.567	SF
Butterball D19-27D - Butterball D19-27D - Butterball D19	100.00	42.75	7,832.46	7,832.26	10,000.000	CC
Butterball D19-27D - Butterball D19-27D - Butterball D19	2,300.00	2,250.29	7,846.97	7,823.86	339.498	ES
Butterball D19-27D - Butterball D19-27D - Butterball D19	6,600.00	6,902.08	8,313.07	8,231.51	101.919	SF
Duncan D20-1 (P&A) - Wellbore #1 - No Surveys	2,200.00	2,159.00	7,935.12	7,884.28	156.100	CC
Duncan D20-1 (P&A) - Wellbore #1 - No Surveys	6,334.39	6,280.33	7,993.89	7,846.08	54.081	ES
Duncan D20-1 (P&A) - Wellbore #1 - No Surveys	6,900.00	6,761.12	8,213.98	8,054.75	51.585	SF
Duncan D20-10 - Wellbore #1 - Gyro Surveys	2,406.69	2,395.97	4,688.64	4,672.08	283.156	CC
Duncan D20-10 - Wellbore #1 - Gyro Surveys	6,334.39	6,310.79	4,697.83	4,653.74	106.545	ES
Duncan D20-10 - Wellbore #1 - Gyro Surveys	6,800.00	6,714.00	4,842.44	4,795.38	102.899	SF
Duncan D20-11 (SI) - Wellbore #1 - No Surveys	2,200.00	2,165.00	4,395.36	4,368.81	165.571	CC
Duncan D20-11 (SI) - Wellbore #1 - No Surveys	2,300.00	2,264.98	4,396.06	4,368.29	158.339	ES
Duncan D20-11 (SI) - Wellbore #1 - No Surveys	6,700.00	6,625.97	4,648.23	4,566.99	57.213	SF
Duncan D20-12 (SI) - Wellbore #1 - No Surveys	2,200.00	2,163.00	4,223.19	4,196.66	159.190	CC
Duncan D20-12 (SI) - Wellbore #1 - No Surveys	2,300.00	2,262.98	4,224.35	4,196.60	152.250	ES
Duncan D20-12 (SI) - Wellbore #1 - No Surveys	6,700.00	6,623.97	4,567.40	4,486.22	56.261	SF
Duncan D20-13 (SI) - Wellbore #1 - No Surveys	2,200.00	2,168.00	2,696.59	2,670.02	101.479	CC, ES
Duncan D20-13 (SI) - Wellbore #1 - No Surveys	6,600.00	6,543.74	3,003.84	2,923.67	37.469	SF
Duncan D20-14 (SI) - Wellbore #1 - Gyro Surveys	244.98	206.98	3,274.27	3,273.07	2,741.145	CC
Duncan D20-14 (SI) - Wellbore #1 - Gyro Surveys	2,000.00	1,949.03	3,277.09	3,263.52	241.528	ES
Duncan D20-14 (SI) - Wellbore #1 - Gyro Surveys	6,600.00	6,541.45	3,507.08	3,461.31	76.623	SF
Duncan D20-15 (P&A) - Wellbore #1 - Gyro Surveys	3,258.71	3,228.81	3,584.51	3,562.13	160.134	CC
Duncan D20-15 (P&A) - Wellbore #1 - Gyro Surveys	5,500.00	5,443.59	3,590.96	3,552.89	94.331	ES
Duncan D20-15 (P&A) - Wellbore #1 - Gyro Surveys	6,650.00	6,561.89	3,675.30	3,629.24	79.792	SF
Duncan D20-16 (SI) - Wellbore #1 - Gyro Surveys	6,352.15	6,325.10	4,675.06	4,630.86	105.787	CC, ES
Duncan D20-16 (SI) - Wellbore #1 - Gyro Surveys	6,950.00	6,795.48	4,855.96	4,808.17	101.598	SF
Duncan D20-2 - Wellbore #1 - Gyro Surveys	1,965.48	1,914.50	7,230.77	7,217.44	542.725	CC
Duncan D20-2 - Wellbore #1 - Gyro Surveys	2,200.00	2,115.22	7,231.36	7,216.50	486.512	ES
Duncan D20-2 - Wellbore #1 - Gyro Surveys	7,100.00	7,100.00	7,794.11	7,745.19	159.316	SF
Duncan D20-7 - Wellbore #1 - Gyro Surveys	2,278.89	2,271.47	6,455.67	6,439.98	411.495	CC
Duncan D20-7 - Wellbore #1 - Gyro Surveys	2,400.00	2,395.28	6,456.28	6,439.75	390.665	ES
Duncan D20-7 - Wellbore #1 - Gyro Surveys	6,850.00	6,731.02	6,709.34	6,662.11	142.056	SF
Duncan D20-8 - Wellbore #1 - Gyro Surveys	1,296.24	1,274.28	6,582.11	6,573.42	756.943	CC
Duncan D20-8 - Wellbore #1 - Gyro Surveys	1,400.00	1,345.93	6,582.33	6,573.02	706.430	ES
Duncan D20-8 - Wellbore #1 - Gyro Surveys	6,900.00	6,813.63	6,853.54	6,805.89	143.829	SF
Duncan D20-9 (P&A) - Wellbore #1 - Gyro Surveys	3,214.81	3,144.64	5,638.66	5,616.72	257.003	CC
Duncan D20-9 (P&A) - Wellbore #1 - Gyro Surveys	6,350.00	6,327.64	5,653.30	5,609.11	127.928	ES
Duncan D20-9 (P&A) - Wellbore #1 - Gyro Surveys	6,850.00	6,765.98	5,806.64	5,759.26	122.541	SF
E Ranches (P&A) - Wellbore #1 - No Surveys	2,200.00	2,160.00	2,891.45	2,840.59	56.858	CC
E Ranches (P&A) - Wellbore #1 - No Surveys	2,300.00	2,259.98	2,892.43	2,839.23	54.372	ES
E Ranches (P&A) - Wellbore #1 - No Surveys	6,600.00	6,535.74	3,154.09	3,000.29	20.508	SF
Guttersen 10-20 - Wellbore #1 - Gyro Surveys	2,293.15	2,278.45	4,907.41	4,891.65	311.342	CC
Guttersen 10-20 - Wellbore #1 - Gyro Surveys	2,400.00	2,365.14	4,907.97	4,891.55	298.888	ES
Guttersen 10-20 - Wellbore #1 - Gyro Surveys	6,650.00	6,629.16	5,047.04	5,000.85	109.254	SF

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:	Plan #3	**Offset TVD Reference:**	Reference 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						
LDS D20-30D - LDS D20-30D - LDS D20-30D - As Drilled	4,377.29	4,834.92	7,641.57	7,606.92	220.542	CC
LDS D20-30D - LDS D20-30D - LDS D20-30D - As Drilled	4,400.00	4,844.70	7,641.59	7,606.83	219.800	ES
LDS D20-30D - LDS D20-30D - LDS D20-30D - As Drilled	6,850.00	6,828.91	7,933.49	7,883.92	160.068	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:	Plan #3	**Offset TVD Reference:**	Reference 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	6,716.15	6,673.93	7,311.56	7,154.56	46.569	CC
O'SH D 28-7 (P&A) - Wellbore #1 - No Surveys	6,800.00	6,737.05	7,312.35	7,153.80	46.121	ES
O'SH D 28-7 (P&A) - Wellbore #1 - No Surveys	7,300.00	6,925.06	7,355.14	7,191.39	44.919	SF
Spike ST GWS D 28-12 (SI) - Wellbore #1 - Gyro Survey	7,533.17	6,937.92	4,524.37	4,474.69	91.074	CC, ES
Spike ST GWS D 28-12 (SI) - Wellbore #1 - Gyro Survey	9,400.00	6,947.48	4,894.37	4,836.89	85.135	SF
Guttersen D State 28-29D (PR) - Wellbore #1 - MWD Sur	941.42	917.44	5,335.57	5,330.47	1,046.181	CC
Guttersen D State 28-29D (PR) - Wellbore #1 - MWD Sur	1,000.00	941.17	5,335.76	5,330.37	989.721	ES
Guttersen D State 28-29D (PR) - Wellbore #1 - MWD Sur	7,150.00	6,944.47	6,158.38	6,109.84	126.868	SF
Guttersen D State 28-30D - Guttersen D State 28-30D OH	6,406.42	6,630.48	4,618.10	4,560.40	80.035	CC, ES
Guttersen D State 28-30D - Guttersen D State 28-30D OH	6,900.00	6,891.95	4,725.91	4,665.34	78.018	SF
Guttersen D State 28-30D - Gyros - As-Drilled	6,406.42	6,617.48	4,618.09	4,560.39	80.035	CC, ES
Guttersen D State 28-30D - Gyros - As-Drilled	6,900.00	6,878.95	4,725.91	4,665.33	78.018	SF
Guttersen State D28-18D (PR) - Wellbore #1 - MWD Surv	6,506.91	6,585.06	6,623.92	6,574.71	134.623	CC, ES
Guttersen State D28-18D (PR) - Wellbore #1 - MWD Surv	9,200.00	6,971.70	7,516.56	7,457.01	126.220	SF
Guttersen State D28-21D (SI) - Wellbore #1 - As-Drilled	0.00	3.19	6,530.22			
Guttersen State D28-21D (SI) - Wellbore #1 - As-Drilled	6,950.00	6,885.95	6,561.44	6,510.86	129.707	ES
Guttersen State D28-21D (SI) - Wellbore #1 - As-Drilled	10,400.00	10,400.00	7,535.42	7,460.11	100.057	SF
Guttersen State D28-24D (SI) - Wellbore #1 - MWD Surv	8,241.65	7,110.97	6,527.20	6,469.62	113.370	CC
Guttersen State D28-24D (SI) - Wellbore #1 - MWD Surv	8,300.00	7,111.59	6,527.46	6,469.60	112.814	ES
Guttersen State D28-24D (SI) - Wellbore #1 - MWD Surv	11,500.00	7,148.07	7,295.14	7,219.94	97.006	SF
Guttersen State D28-28D (PR) - Wellbore #1 - MWD Surv	0.00	0.00	6,630.30			
Guttersen State D28-28D (PR) - Wellbore #1 - MWD Surv	300.00	233.24	6,631.26	6,629.78	4,493.301	ES
Guttersen State D28-28D (PR) - Wellbore #1 - MWD Surv	7,150.00	6,914.00	7,233.38	7,183.32	144.512	SF
Guttersen State D28-79HN - Wellbore #1 - As-Drilled	6,650.00	9,338.41	4,165.57	4,087.97	53.675	SF
Guttersen State D28-79HN - Wellbore #1 - As-Drilled	6,850.00	9,169.63	4,158.10	4,082.46	54.971	ES
Guttersen State D28-79HN - Wellbore #1 - As-Drilled	6,891.31	9,142.77	4,157.88	4,082.53	55.183	CC
HSR Guttersen State 10-28 (SI) - Wellbore #1 - Gyro Sur	7,457.28	7,003.97	6,989.54	6,939.77	140.451	CC, ES
HSR Guttersen State 10-28 (SI) - Wellbore #1 - Gyro Sur	11,600.00	6,924.40	8,124.00	8,055.05	117.829	SF
HSR Guttersen State 15-28 (SI) - Wellbore #1 - Gyro Sur	9,096.04	6,767.95	7,572.22	7,516.18	135.136	CC
HSR Guttersen State 15-28 (SI) - Wellbore #1 - Gyro Sur	9,500.00	9,500.00	7,582.89	7,514.84	111.430	ES
HSR Guttersen State 15-28 (SI) - Wellbore #1 - Gyro Sur	13,900.00	7,153.04	8,959.29	8,873.94	104.967	SF
HSR Guttersen State 7-28 (PR) - Wellbore #1 - Gyro Sur	6,601.54	6,411.99	7,094.06	7,048.71	156.418	CC, ES
HSR Guttersen State 7-28 (PR) - Wellbore #1 - Gyro Sur	10,900.00	6,600.00	8,520.10	8,457.23	135.534	SF
O'SH D 28-1 (SI) - Wellbore #1 - Gyro Surveys	6,519.94	6,514.73	8,430.98	8,385.55	185.593	CC
O'SH D 28-1 (SI) - Wellbore #1 - Gyro Surveys	6,550.00	6,541.75	8,431.12	8,385.49	184.777	ES
O'SH D 28-1 (SI) - Wellbore #1 - Gyro Surveys	10,800.00	6,907.71	9,978.90	9,915.48	157.349	SF
O'SH D 28-2 (SI) - Wellbore #1 - Gyro Surveys	6,442.54	6,376.71	7,552.31	7,507.62	169.020	CC
O'SH D 28-2 (SI) - Wellbore #1 - Gyro Surveys	6,450.00	6,384.22	7,552.32	7,507.58	168.820	ES
O'SH D 28-2 (SI) - Wellbore #1 - Gyro Surveys	10,300.00	6,928.71	9,110.50	9,050.69	152.339	SF
O'SH D 28-8 (SI) - Wellbore #1 - Gyro Surveys	6,728.02	6,592.54	8,651.54	8,605.12	186.386	CC
O'SH D 28-8 (SI) - Wellbore #1 - Gyro Surveys	6,750.00	6,606.18	8,651.58	8,605.05	185.898	ES
O'SH D 28-8 (SI) - Wellbore #1 - Gyro Surveys	11,300.00	6,976.54	9,988.60	9,921.36	148.548	SF
Spike ST GWS D 28-03 (PR) - Wellbore #1 - Gyro Survey	6,430.60	6,412.08	6,402.62	6,343.83	108.907	CC
Spike ST GWS D 28-03 (PR) - Wellbore #1 - Gyro Survey	6,450.00	6,430.95	6,402.71	6,343.71	108.515	ES
Spike ST GWS D 28-03 (PR) - Wellbore #1 - Gyro Survey	7,200.00	6,908.49	6,552.39	6,487.38	100.800	SF
Spike ST GWS D 28-4 (SI) - Wellbore #1 - Gyro Surveys	6,385.14	6,310.82	5,127.16	5,082.90	115.853	CC
Spike ST GWS D 28-4 (SI) - Wellbore #1 - Gyro Surveys	6,400.00	6,330.39	5,127.22	5,082.84	115.536	ES
Spike ST GWS D 28-4 (SI) - Wellbore #1 - Gyro Surveys	7,100.00	6,847.10	5,284.02	5,235.57	109.061	SF
Spike State D 28-13 (SI) - Wellbore #1 - Gyro Surveys	8,976.41	6,925.97	4,594.90	4,539.13	82.383	CC
Spike State D 28-13 (SI) - Wellbore #1 - Gyro Surveys	9,000.00	6,926.01	4,594.96	4,539.05	82.189	ES
Spike State D 28-13 (SI) - Wellbore #1 - Gyro Surveys	10,700.00	6,928.96	4,907.53	4,842.23	75.149	SF
Spike State D28-05 (PR) - Wellbore #1 - Gyro Surveys	6,481.41	6,364.14	4,598.20	4,553.43	102.720	CC
Spike State D28-05 (PR) - Wellbore #1 - Gyro Surveys	6,500.00	6,378.01	4,598.25	4,553.37	102.457	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:	Plan #3	**Offset TVD Reference:**	Reference 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						
Spike State D28-05 (PR) - Wellbore #1 - Gyro Surveys	7,050.00	7,050.00	4,651.74	4,602.70	94.855	SF
Spike State D28-06 (SI) - Wellbore #1 - Gyro Surveys	6,608.03	6,534.97	6,273.42	6,227.61	136.939	CC
Spike State D28-06 (SI) - Wellbore #1 - Gyro Surveys	6,650.00	6,565.71	6,273.65	6,227.58	136.188	ES
Spike State D28-06 (SI) - Wellbore #1 - Gyro Surveys	9,800.00	6,847.53	7,264.87	7,206.40	124.252	SF
Spike State D28-11 (SI) - Wellbore #1 - Gyro Surveys	7,360.01	7,071.06	6,116.72	6,066.94	122.883	CC, ES
Spike State D28-11 (SI) - Wellbore #1 - Gyro Surveys	10,700.00	7,203.00	6,966.22	6,901.32	107.340	SF
Spike State GWS D 28-14 (P&A) - Wellbore #1 - Gyro Su	9,055.30	6,956.94	6,128.60	6,072.18	108.628	CC
Spike State GWS D 28-14 (P&A) - Wellbore #1 - Gyro Su	9,100.00	6,959.49	6,128.76	6,072.09	108.141	ES
Spike State GWS D 28-14 (P&A) - Wellbore #1 - Gyro Su	12,000.00	7,125.30	6,797.25	6,724.24	93.102	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:	Plan #3	**Offset TVD Reference:**	Reference 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	6,550.00	6,687.61	2,641.13	2,593.55	55.507	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	6,450.00	6,491.97	1,548.52	1,503.83	34.652	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 -	8,300.00	7,134.10	1,111.76	1,051.68	18.505	SF
Guttersen D29-65HN - Guttersen D29-65HN OH - As-Dri	6,900.00	7,578.07	39.78	-16.58	0.706	Level 1, ES, SF
Guttersen D29-65HN - Guttersen D29-65HN OH - As-Dri	6,926.61	7,578.15	30.13	-8.00	0.790	Level 1, CC
Guttersen D29-67HN - Original Drilling - Original Drilling -	2,142.62	2,132.31	1,072.43	1,059.04	80.065	CC
Guttersen D29-67HN - Original Drilling - Original Drilling -	2,200.00	2,183.78	1,072.60	1,058.81	77.829	ES
Guttersen D29-67HN - Original Drilling - Original Drilling -	6,650.00	7,419.24	1,234.58	1,182.75	23.819	SF
Guttersen D29-69HN - Original Drilling - Original Drilling -	948.53	939.54	1,130.19	1,125.22	227.297	CC
Guttersen D29-69HN - Original Drilling - Original Drilling -	1,000.00	983.82	1,130.36	1,125.05	212.860	ES
Guttersen D29-69HN - Original Drilling - Original Drilling -	6,600.00	7,491.02	2,428.65	2,376.21	46.312	SF
Guttersen D29-722 - Guttersen D29-722 OH - As-Drilled	6,961.38	7,174.00	3,319.06	3,275.08	75.471	CC, ES
Guttersen D29-722 - Guttersen D29-722 OH - As-Drilled	8,100.00	6,645.65	3,446.41	3,400.14	74.486	SF
Guttersen D29-730 - Guttersen D29-730 OH - As-Drilled	6,775.32	7,211.38	2,720.12	2,676.65	62.572	CC, ES
Guttersen D29-730 - Guttersen D29-730 OH - As-Drilled	6,900.00	7,171.43	2,724.12	2,680.37	62.272	SF
Guttersen D29-738 - Guttersen D29-738 OH - As-Drilled	0.00	1.80	1,445.57			
Guttersen D29-738 - Guttersen D29-738 OH - As-Drilled	2,500.00	2,396.26	1,450.33	1,434.85	93.705	ES
Guttersen D29-738 - Guttersen D29-738 OH - As-Drilled	7,400.00	7,400.00	2,018.80	1,971.92	43.064	SF
Guttersen D29-746 - Guttersen D29-746 OH - As-Drilled	2,654.58	2,559.76	1,396.97	1,380.86	86.702	CC, ES
Guttersen D29-746 - Guttersen D29-746 OH - As-Drilled	6,950.00	6,734.53	1,487.83	1,444.99	34.729	SF
Guttersen D29-754 - Guttersen D29-754 OH - As-Drilled	7,042.94	7,029.04	855.59	811.54	19.422	CC, ES
Guttersen D29-754 - Guttersen D29-754 OH - As-Drilled	7,050.00	7,026.69	855.62	811.55	19.414	SF
Guttersen D29-770 - Guttersen D29-770 OH - Guttersen	2,173.10	2,178.18	150.76	136.50	10.577	CC, ES
Guttersen D29-770 - Guttersen D29-770 OH - Guttersen	6,800.63	6,855.03	267.72	224.95	6.259	SF
Guttersen D29-778 - Guttersen D29-778 OH - As-Drilled	603.21	607.24	145.88	142.03	37.839	CC
Guttersen D29-778 - Guttersen D29-778 OH - As-Drilled	2,100.00	2,104.03	146.19	132.23	10.471	ES
Guttersen D29-778 - Guttersen D29-778 OH - As-Drilled	6,954.12	7,085.37	379.47	335.68	8.665	SF
Guttersen D29-786 - Guttersen D29-786 OH - As-Drilled	2,175.40	2,180.49	153.23	138.99	10.762	CC, ES
Guttersen D29-786 - Guttersen D29-786 OH - As-Drilled	2,300.00	2,295.88	156.50	141.79	10.638	SF
Guttersen D29-99HZ - Guttersen D29-99HZ OH - As-Dril	8,294.28	7,448.59	46.43	17.69	1.616	CC
Guttersen D29-99HZ - Guttersen D29-99HZ OH - As-Dril	8,300.00	7,448.50	46.78	17.17	1.580	ES, 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	6,350.00	6,251.98	1,827.78	1,785.26	42.995	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	6,400.00	6,364.22	2,514.11	2,469.88	56.834	SF
Guttersen State D29-714 - Guttersen State D29-714 OH	0.00	10.26	3,753.59			
Guttersen State D29-714 - Guttersen State D29-714 OH	800.00	793.38	3,757.49	3,752.27	719.794	ES
Guttersen State D29-714 - Guttersen State D29-714 OH	8,500.00	6,703.00	4,103.66	4,055.36	84.966	SF
Guttersen State Y05-719 - Guttersen State Y05-719 - Pla	5,158.58	4,939.18	3,588.10	3,552.74	101.465	CC
Guttersen State Y05-719 - Guttersen State Y05-719 - Pla	19,990.85	20,149.90	3,671.57	3,444.00	16.133	ES, SF
Guttersen Y05-726 - Guttersen Y05-726 - Plan #3	19,977.95	20,284.29	3,058.42	2,830.09	13.395	CC, ES
Guttersen Y05-726 - Guttersen Y05-726 - Plan #3	19,990.85	20,276.68	3,058.47	2,830.11	13.393	SF
Guttersen Y05-734 - Guttersen Y05-734 - Plan #3	19,979.49	20,158.96	2,445.52	2,217.69	10.734	CC, ES
Guttersen Y05-734 - Guttersen Y05-734 - Plan #3	19,990.85	20,153.95	2,445.57	2,217.71	10.733	SF
Guttersen Y05-749 - Guttersen Y05-749 - Plan #3	2,477.69	2,390.79	1,400.80	1,383.93	83.067	CC
Guttersen Y05-749 - Guttersen Y05-749 - Plan #3	2,500.00	2,400.00	1,400.87	1,383.91	82.600	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:	Plan #3	**Offset TVD Reference:**	Reference 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 - Plan #3	19,990.85	20,041.07	1,832.56	1,604.83	8.047	SF
Guttersen Y05-756 - Guttersen Y05-756 - Plan #3	7,380.02	7,256.47	1,225.15	1,174.42	24.149	CC
Guttersen Y05-756 - Guttersen Y05-756 - Plan #3	19,990.85	19,860.11	1,226.52	998.32	5.375	ES, SF
Guttersen Y05-771 - Guttersen Y05-771 - Plan #3	2,200.00	2,200.00	37.01	21.70	2.418	CC
Guttersen Y05-771 - Guttersen Y05-771 - Plan #3	2,400.00	2,397.74	37.66	21.03	2.265	ES
Guttersen Y05-771 - Guttersen Y05-771 - Plan #3	2,432.16	2,429.53	37.90	21.06	2.251	SF
Guttersen Y05-786 - Guttersen Y05-786 - Plan #3	2,200.00	2,204.00	38.01	22.69	2.481	CC, ES
Guttersen Y05-786 - Guttersen Y05-786 - Plan #3	19,990.85	19,826.75	558.77	330.74	2.450	SF
Jessie D29-1J - Wellbore #1 - Gyro Surveys	6,366.85	6,323.28	2,799.72	2,755.48	63.285	CC, ES
Jessie D29-1J - Wellbore #1 - Gyro Surveys	6,800.00	6,704.24	2,879.45	2,832.39	61.179	SF
Jessie D29-4J - Wellbore #1 - Gyro Surveys	7,879.72	6,847.29	2,400.57	2,349.91	47.380	CC, ES
Jessie D29-4J - Wellbore #1 - Gyro Surveys	8,400.00	6,872.12	2,456.20	2,403.28	46.411	SF
Kate Red D29-03J - Kate Red D29-03J - Kate Red D29-0	7,885.03	6,909.67	363.90	313.02	7.152	CC, ES, SF
Kate Red D29-11 - Wellbore #1 - Gyro Surveys	7,522.30	6,909.90	609.98	560.34	12.286	CC, ES, SF
Kate Red D29-13 - Wellbore #1 - Gyro Surveys	8,959.64	6,922.83	718.57	662.82	12.890	CC, ES
Kate Red D29-13 - Wellbore #1 - Gyro Surveys	9,000.00	6,922.93	719.71	663.85	12.884	SF
Kate Red D29-14 - Wellbore #1 - Gyro Surveys	8,855.53	6,920.12	647.34	592.17	11.733	CC, ES
Kate Red D29-14 - Wellbore #1 - Gyro Surveys	8,900.00	6,920.53	648.87	593.40	11.698	SF
Kate Red D29-2J - Wellbore #1 - Kate Red D29-2J	404.85	371.85	1,218.59	1,216.25	519.757	CC
Kate Red D29-2J - Wellbore #1 - Kate Red D29-2J	2,100.00	2,058.42	1,227.31	1,212.99	85.730	ES
Kate Red D29-2J - Wellbore #1 - Kate Red D29-2J	6,450.00	6,418.11	1,407.32	1,362.50	31.402	SF
Kate Red D29-3 - Wellbore #1 - Kate Red D29-3	185.17	150.17	1,884.38	1,883.59	2,411.319	CC
Kate Red D29-3 - Wellbore #1 - Kate Red D29-3	700.00	652.35	1,886.13	1,881.75	430.422	ES
Kate Red D29-3 - Wellbore #1 - Kate Red D29-3	6,550.00	6,504.50	1,996.74	1,951.23	43.873	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	6,400.00	6,362.66	752.22	707.81	16.940	SF
Kate Red D29-6 - Wellbore #1 - Gyro Surveys	6,375.94	6,330.44	898.05	853.73	20.264	CC, ES
Kate Red D29-6 - Wellbore #1 - Gyro Surveys	6,550.00	6,499.22	910.41	864.88	19.996	SF
Kate White D29-1 - Wellbore #1 - Gyro Surveys	6,380.61	6,352.18	3,931.50	3,887.12	88.576	CC, ES
Kate White D29-1 - Wellbore #1 - Gyro Surveys	6,900.00	6,793.34	4,031.75	3,984.07	84.548	SF
Kate White D29-15 - Wellbore #1 - Gyro Surveys	8,752.60	6,831.68	1,898.57	1,844.12	34.868	CC, ES
Kate White D29-15 - Wellbore #1 - Gyro Surveys	9,100.00	6,829.39	1,930.09	1,873.78	34.280	SF
Kate White D29-16 - Wellbore #1 - Gyro Surveys	8,838.57	6,885.21	3,304.79	3,249.73	60.030	CC, ES
Kate White D29-16 - Wellbore #1 - Gyro Surveys	9,800.00	6,883.21	3,441.80	3,381.57	57.148	SF
Kate White D29-7 - Wellbore #1 - Gyro Surveys	6,497.87	6,461.45	2,307.60	2,262.41	51.057	CC
Kate White D29-7 - Wellbore #1 - Gyro Surveys	6,550.00	6,522.04	2,307.95	2,262.36	50.623	ES
Kate White D29-7 - Wellbore #1 - Gyro Surveys	6,950.00	6,790.05	2,355.21	2,307.35	49.207	SF
Kate White D29-8 - Wellbore #1 - Gyro Surveys	6,529.22	6,456.24	3,428.23	3,382.94	75.697	CC
Kate White D29-8 - Wellbore #1 - Gyro Surveys	6,550.00	6,472.82	3,428.30	3,382.88	75.479	ES
Kate White D29-8 - Wellbore #1 - Gyro Surveys	7,100.00	6,920.93	3,484.09	3,435.40	71.559	SF
Kate White D29-9 (SI) - Wellbore #1 - Gyro Surveys	7,611.49	6,855.04	3,330.74	3,280.94	66.875	CC, ES
Kate White D29-9 (SI) - Wellbore #1 - Gyro Surveys	8,600.00	6,881.47	3,474.22	3,420.43	64.591	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:	Plan #3	**Offset TVD Reference:**	Reference 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 30						
Adams D30-27D - Adams D30-27D - Adams D30-27D - A	2,246.56	2,310.86	3,401.35	3,383.59	191.535	CC
Adams D30-27D - Adams D30-27D - Adams D30-27D - A	2,300.00	2,371.15	3,401.80	3,383.56	186.437	ES
Adams D30-27D - Adams D30-27D - Adams D30-27D - A	6,650.00	6,721.00	3,791.40	3,740.92	75.100	SF
Adams D30-29D - Wellbore #1 - Wellbore #1 - As Drilled	0.00	0.00	4,442.17			
Adams D30-29D - Wellbore #1 - Wellbore #1 - As Drilled	300.00	251.32	4,442.99	4,441.53	3,040.242	ES
Adams D30-29D - Wellbore #1 - Wellbore #1 - As Drilled	7,000.00	6,921.25	5,723.26	5,673.86	115.865	SF
Adams D30-30D - Adams D30-30D Gyros - Gyros	370.22	342.24	4,421.03	4,418.90	2,075.545	CC
Adams D30-30D - Adams D30-30D Gyros - Gyros	400.00	360.05	4,421.07	4,418.77	1,920.839	ES
Adams D30-30D - Adams D30-30D Gyros - Gyros	6,600.00	6,600.00	6,480.83	6,418.54	104.036	SF
Adams D30-30D - Adams D30-30D OH - As Drilled	370.22	355.24	4,421.00	4,418.87	2,075.546	CC
Adams D30-30D - Adams D30-30D OH - As Drilled	400.00	373.05	4,421.04	4,418.74	1,920.840	ES
Adams D30-30D - Adams D30-30D OH - As Drilled	6,600.00	6,600.00	6,480.81	6,418.62	104.211	SF
Adams D30-31D - Adams D30-31D Gyros - Gyros	100.00	71.31	4,404.25	4,404.00	10,000.000	CC
Adams D30-31D - Adams D30-31D Gyros - Gyros	200.00	155.61	4,404.39	4,403.54	5,140.370	ES
Adams D30-31D - Adams D30-31D Gyros - Gyros	9,300.00	7,341.31	7,228.64	7,112.97	62.495	SF
Adams D30-31D - Adams D30-31D OH - As-drilled	100.00	84.28	4,404.25	4,403.99	10,000.000	CC
Adams D30-31D - Adams D30-31D OH - As-drilled	200.00	168.61	4,404.40	4,403.54	5,140.605	ES
Adams D30-31D - Adams D30-31D OH - As-drilled	9,300.00	7,354.31	7,228.64	7,112.97	62.495	SF
Corbin D30-23D - Corbin D30-23D - Corbin D30-23D - As	8,552.98	7,303.92	2,521.75	2,454.00	37.222	CC
Corbin D30-23D - Corbin D30-23D - Corbin D30-23D - As	8,600.00	7,304.23	2,522.18	2,453.29	36.611	ES
Corbin D30-23D - Corbin D30-23D - Corbin D30-23D - As	9,900.00	7,312.99	2,858.95	2,761.58	29.363	SF
Corbin Red D30-04J - Corbin Red D30-04J - Corbin Red	7,800.00	7,800.00	2,876.64	2,822.79	53.420	SF
Corbin Red D30-04J - Corbin Red D30-04J - Corbin Red	7,949.87	7,032.31	2,872.82	2,821.22	55.671	CC, ES
Corbin Red D30-09 - Corbin Red D30-09 - Corbin Red D3	7,567.66	6,984.72	1,881.10	1,830.96	37.520	CC, ES
Corbin Red D30-09 - Corbin Red D30-09 - Corbin Red D3	7,800.00	6,990.05	1,895.38	1,844.62	37.339	SF
Corbin Red D30-15 - Corbin Red D30-15 - Corbin Red D3	8,907.33	6,879.80	3,233.11	3,177.75	58.399	CC, ES
Corbin Red D30-15 - Corbin Red D30-15 - Corbin Red D3	9,700.00	6,926.42	3,328.49	3,269.35	56.277	SF
Corbin Red D30-16 - Corbin Red D30-16 - Corbin Red D3	8,997.58	6,917.74	1,999.16	1,943.16	35.696	CC
Corbin Red D30-16 - Corbin Red D30-16 - Corbin Red D3	9,000.00	6,917.71	1,999.16	1,943.15	35.689	ES
Corbin Red D30-16 - Corbin Red D30-16 - Corbin Red D3	9,300.00	6,914.72	2,021.91	1,964.64	35.309	SF
Dechant D30-17D - Dechant D30-17D - Dechant D30-17D	5,575.04	6,200.00	2,702.24	2,639.20	42.864	CC
Dechant D30-17D - Dechant D30-17D - Dechant D30-17D	5,600.00	6,219.54	2,702.25	2,639.09	42.779	ES
Dechant D30-17D - Dechant D30-17D - Dechant D30-17D	6,400.00	6,836.29	2,738.63	2,672.20	41.224	SF
Dechant D30-20D - Dechant D30-20D - Dechant D30-20D	4,246.67	4,627.96	4,998.93	4,964.77	146.328	CC
Dechant D30-20D - Dechant D30-20D - Dechant D30-20D	4,300.00	4,652.00	4,999.03	4,964.60	145.188	ES
Dechant D30-20D - Dechant D30-20D - Dechant D30-20D	9,100.00	6,970.25	5,597.69	5,537.75	93.390	SF
Dechant D30-24D - Dechant D30-24D - Dechant D30-24D	8,279.90	7,159.03	3,962.22	3,904.90	69.119	CC
Dechant D30-24D - Dechant D30-24D - Dechant D30-24D	8,300.00	7,159.34	3,962.28	3,904.86	69.008	ES
Dechant D30-24D - Dechant D30-24D - Dechant D30-24D	9,400.00	7,173.97	4,117.47	4,055.02	65.934	SF
Dechant D30-25D - Dechant D30-25D - Dechant D30-25D	0.00	0.00	4,854.11			
Dechant D30-25D - Dechant D30-25D - Dechant D30-25D	300.00	259.49	4,855.22	4,853.63	3,067.276	ES
Dechant D30-25D - Dechant D30-25D - Dechant D30-25D	9,100.00	7,213.05	5,216.63	5,152.24	81.007	SF
Dechant D31-27D - Dechant D31-27D - Dechant D31-27D	8,200.00	7,261.71	2,881.97	2,807.32	38.607	SF
Dechant D31-27D - Dechant D31-27D - Dechant D31-27D	9,450.83	7,250.44	2,596.40	2,533.95	41.574	CC, ES
Dechant D31-28D - Dechant D31-28D - Dechant D31-28D	9,394.10	6,975.53	4,004.00	3,945.42	68.359	CC
Dechant D31-28D - Dechant D31-28D - Dechant D31-28D	9,400.00	6,975.58	4,004.00	3,945.40	68.323	ES
Dechant D31-28D - Dechant D31-28D - Dechant D31-28D	10,500.00	6,984.12	4,153.90	4,089.95	64.954	SF
Dechant D31-29D - Dechant D31-29D - Dechant D31-29D	0.00	0.00	4,879.37			
Dechant D31-29D - Dechant D31-29D - Dechant D31-29D	900.00	857.83	4,881.19	4,875.37	839.075	ES
Dechant D31-29D - Dechant D31-29D - Dechant D31-29D	13,200.00	13,200.00	6,373.14	6,274.01	64.290	SF
Dechant D31-77HN - Original Drilling - Original Drilling - A	9,687.91	6,565.27	4,590.56	4,534.15	81.375	CC
Dechant D31-77HN - Original Drilling - Original Drilling - A	9,700.00	6,566.09	4,590.58	4,534.09	81.265	ES
Dechant D31-77HN - Original Drilling - Original Drilling - A	15,100.00	11,360.01	5,070.08	4,908.92	31.460	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:	Plan #3	**Offset TVD Reference:**	Reference 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 30						
Hanson D30-11 - Hanson D30-11 - Hanson D30-11 - As D	0.00	0.00	4,405.58			
Hanson D30-11 - Hanson D30-11 - Hanson D30-11 - As D	2,226.61	2,234.23	4,408.28	4,392.86	286.020	ES
Hanson D30-11 - Hanson D30-11 - Hanson D30-11 - As D	9,000.00	7,054.71	4,834.53	4,779.14	87.286	SF
Hanson D30-12 - Hanson D30-12 - Hanson D30-12 - As	1,349.57	1,330.60	5,576.86	5,567.78	614.298	CC
Hanson D30-12 - Hanson D30-12 - Hanson D30-12 - As	2,200.00	2,153.70	5,580.61	5,565.61	372.012	ES
Hanson D30-12 - Hanson D30-12 - Hanson D30-12 - As	10,000.00	6,896.65	6,332.53	6,273.40	107.099	SF
Hanson D30-13 - Hanson D30-13 - Hanson D30-13 - As	8,909.69	6,998.53	5,873.34	5,817.50	105.187	CC, ES
Hanson D30-13 - Hanson D30-13 - Hanson D30-13 - As	13,900.00	13,900.00	7,707.08	7,606.93	76.959	SF
Hanson D30-14 - Hanson D30-14 - Hanson D30-14 - As	8,850.54	7,235.00	4,376.93	4,320.53	77.611	CC, ES
Hanson D30-14 - Hanson D30-14 - Hanson D30-14 - As	10,300.00	7,235.00	4,610.69	4,547.44	72.903	SF
Hettinger C Unit 1 - Hettinger C Unit 1 - Hettinger C Unit	178.16	152.13	2,294.10	2,293.34	3,008.465	CC
Hettinger C Unit 1 - Hettinger C Unit 1 - Hettinger C Unit	600.00	550.31	2,295.00	2,291.34	626.190	ES
Hettinger C Unit 1 - Hettinger C Unit 1 - Hettinger C Unit	6,650.00	6,655.40	2,860.05	2,813.71	61.711	SF
Hettinger D30-02 - Hettinger D30-02 - Hettinger D30-02 -	2,200.00	2,169.00	3,400.83	3,374.25	127.939	CC, ES
Hettinger D30-02 - Hettinger D30-02 - Hettinger D30-02 -	6,800.00	6,706.05	3,843.40	3,761.20	46.761	SF
Hettinger D30-03 - Hettinger D30-03 - Hettinger D30-03 -	0.00	0.00	4,583.26			
Hettinger D30-03 - Hettinger D30-03 - Hettinger D30-03 -	2,200.00	2,166.64	4,588.74	4,573.69	304.902	ES
Hettinger D30-03 - Hettinger D30-03 - Hettinger D30-03 -	7,000.00	6,884.14	5,125.58	5,077.45	106.502	SF
Hettinger D30-04 - Hettinger D30-04 - Hettinger D30-04 -	1,772.30	1,746.31	5,733.81	5,721.77	476.101	CC
Hettinger D30-04 - Hettinger D30-04 - Hettinger D30-04 -	2,205.75	2,190.54	5,734.45	5,719.31	378.600	ES
Hettinger D30-04 - Hettinger D30-04 - Hettinger D30-04 -	7,100.00	6,980.96	6,242.02	6,193.29	128.107	SF
Hettinger D30-05 - Hettinger D30-05 - Hettinger D30-05 -	1,299.42	1,278.50	5,453.50	5,444.77	624.934	CC
Hettinger D30-05 - Hettinger D30-05 - Hettinger D30-05 -	2,000.00	1,939.61	5,454.98	5,441.44	402.831	ES
Hettinger D30-05 - Hettinger D30-05 - Hettinger D30-05 -	9,100.00	6,869.41	6,323.30	6,268.79	116.015	SF
Hettinger D30-06 - Hettinger D30-06 - Hettinger D30-06 -	0.00	0.00	4,262.20			
Hettinger D30-06 - Hettinger D30-06 - Hettinger D30-06 -	100.00	56.28	4,262.38	4,262.15	10,000.000	ES
Hettinger D30-06 - Hettinger D30-06 - Hettinger D30-06 -	7,300.00	6,937.60	4,636.34	4,587.21	94.365	SF
Hettinger D30-08 - Hettinger D30-08 - Hettinger D30-08 -	687.86	665.86	1,812.79	1,808.40	413.097	CC
Hettinger D30-08 - Hettinger D30-08 - Hettinger D30-08 -	1,600.00	1,565.59	1,815.30	1,804.50	168.190	ES
Hettinger D30-08 - Hettinger D30-08 - Hettinger D30-08 -	6,800.00	6,716.41	2,112.90	2,065.88	44.937	SF
Leslie E Hanson Gas Unit 1 - Leslie E Hanson Gas Unit 1	8,298.64	6,909.46	5,390.42	5,301.55	60.656	CC
Leslie E Hanson Gas Unit 1 - Leslie E Hanson Gas Unit 1	8,300.00	6,909.45	5,390.42	5,301.55	60.653	ES
Leslie E Hanson Gas Unit 1 - Leslie E Hanson Gas Unit 1	9,800.00	6,905.53	5,595.59	5,499.86	58.448	SF
McWilliams D29-32 - McWilliams D29-32 - McWilliams D	2,258.04	2,253.35	1,166.92	1,151.35	74.976	CC
McWilliams D29-32 - McWilliams D29-32 - McWilliams D	2,300.00	2,296.60	1,167.07	1,151.21	73.588	ES
McWilliams D29-32 - McWilliams D29-32 - McWilliams D	6,950.00	6,844.87	1,383.08	1,335.08	28.813	SF
McWilliams D30-07 - McWilliams D30-07 - McWilliams D	2,200.00	2,177.00	2,969.96	2,943.31	111.437	CC, ES
McWilliams D30-07 - McWilliams D30-07 - McWilliams D	7,000.00	6,831.58	3,365.96	3,282.03	40.105	SF
McWilliams D30-18 - McWilliams D30-18 - McWilliams D	0.00	0.00	3,750.07			
McWilliams D30-18 - McWilliams D30-18 - McWilliams D	800.00	745.03	3,751.95	3,746.89	741.140	ES
McWilliams D30-18 - McWilliams D30-18 - McWilliams D	7,000.00	6,924.62	4,146.10	4,097.78	85.813	SF
McWilliams D30-19 - McWilliams D30-19 - McWilliams D	1,876.97	1,853.09	4,849.48	4,836.68	378.871	CC
McWilliams D30-19 - McWilliams D30-19 - McWilliams D	2,000.00	1,951.53	4,849.79	4,836.21	357.031	ES
McWilliams D30-19 - McWilliams D30-19 - McWilliams D	7,200.00	6,954.85	5,346.98	5,296.20	105.287	SF
McWilliams D30-21 - McWilliams D30-21 - McWilliams D	1,791.80	1,775.84	3,390.20	3,377.98	277.476	CC
McWilliams D30-21 - McWilliams D30-21 - McWilliams D	2,215.76	2,217.76	3,390.56	3,375.28	221.932	ES
McWilliams D30-21 - McWilliams D30-21 - McWilliams D	8,100.00	7,022.07	3,688.05	3,636.36	71.356	SF
McWilliams D30-22 - McWilliams D30-22 - McWilliams D	2,152.51	2,132.60	2,496.00	2,481.24	169.141	CC
McWilliams D30-22 - McWilliams D30-22 - McWilliams D	2,200.00	2,175.24	2,496.04	2,480.97	165.565	ES
McWilliams D30-22 - McWilliams D30-22 - McWilliams D	7,200.00	6,915.80	2,755.00	2,706.12	56.361	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:	Plan #3	**Offset TVD Reference:**	Reference 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 31						
Dechant 1-31A (PR) - Wellbore #1 - Gyro Surveys	13,873.69	7,176.50	5,356.70	5,265.94	59.018	CC
Dechant 1-31A (PR) - Wellbore #1 - Gyro Surveys	13,900.00	7,176.92	5,356.77	5,265.81	58.894	ES
Dechant 1-31A (PR) - Wellbore #1 - Gyro Surveys	15,200.00	7,197.91	5,518.41	5,419.74	55.929	SF
Dechant D 31-22D (PR) - Wellbore #1 - Gyro Surveys	12,148.59	7,056.30	2,749.21	2,667.91	33.815	CC, ES
Dechant D 31-22D (PR) - Wellbore #1 - Gyro Surveys	12,400.00	7,056.93	2,760.68	2,678.47	33.581	SF
Dechant D31-18D (PR) - Wellbore #1 - As Drilled	10,917.95	7,393.49	4,035.43	3,951.35	47.991	CC, ES
Dechant D31-18D (PR) - Wellbore #1 - As Drilled	11,400.00	7,408.90	4,064.09	3,978.33	47.386	SF
Dechant D31-21D(PR) - Wellbore #1 - As Drilled	12,069.94	7,037.20	3,779.60	3,700.55	47.812	CC
Dechant D31-21D(PR) - Wellbore #1 - As Drilled	12,100.00	7,037.57	3,779.72	3,700.50	47.707	ES
Dechant D31-21D(PR) - Wellbore #1 - As Drilled	12,800.00	7,045.93	3,849.46	3,766.85	46.596	SF
Dechant D31-24D (PR) - Wellbore #1 - Gyro Surveys	13,412.98	6,833.46	3,846.48	3,758.80	43.870	CC, ES
Dechant D31-24D (PR) - Wellbore #1 - Gyro Surveys	14,100.00	6,851.56	3,907.30	3,816.14	42.861	SF
Dechant D31-31D (SI) - Dechant D31-31D Gyros - As-Dr	11,010.32	7,000.00	6,315.76	6,233.50	76.776	CC, ES
Dechant D31-31D (SI) - Dechant D31-31D Gyros - As-Dr	15,100.00	15,100.00	7,524.24	7,408.61	65.073	SF
Dechant D31-31D (SI) - Dechant D31-31D OH - As-Drille	11,010.12	7,062.93	6,315.47	6,233.14	76.708	CC, ES
Dechant D31-31D (SI) - Dechant D31-31D OH - As-Drille	12,600.00	7,061.90	6,512.51	6,423.03	72.777	SF
Dechant State D31-32 (SI) - Wellbore #1 - As-Drilled	12,007.35	6,915.36	6,003.25	5,927.39	79.140	CC, ES
Dechant State D31-32 (SI) - Wellbore #1 - As-Drilled	14,000.00	6,924.14	6,325.31	6,238.03	72.466	SF
Dechant Y 06-27D (PR) - Wellbore #1 - As Drilled	14,764.98	7,084.55	2,627.43	2,526.77	26.102	CC, ES
Dechant Y 06-27D (PR) - Wellbore #1 - As Drilled	15,000.00	7,088.16	2,637.92	2,536.36	25.975	SF
Dechant Y 06-28D (PR) - Wellbore #1 - As Drilled	14,818.24	7,012.04	3,838.34	3,737.55	38.082	CC, ES
Dechant Y 06-28D (PR) - Wellbore #1 - As Drilled	15,500.00	7,042.88	3,898.33	3,792.92	36.982	SF
Riva Blue 31-15 (PR) - Wellbore #1 - Gyro Surveys	13,878.49	6,962.60	3,262.85	3,172.98	36.308	CC
Riva Blue 31-15 (PR) - Wellbore #1 - Gyro Surveys	13,900.00	6,962.54	3,262.92	3,172.91	36.249	ES
Riva Blue 31-15 (PR) - Wellbore #1 - Gyro Surveys	16,000.00	16,000.00	3,891.91	3,773.73	32.933	SF
Riva Blue 31-16 (PR) - Wellbore #1 - Gyro Surveys	14,115.88	6,925.79	2,227.70	2,136.12	24.325	CC, ES
Riva Blue 31-16 (PR) - Wellbore #1 - Gyro Surveys	14,300.00	6,924.41	2,235.29	2,142.69	24.137	SF
Riva Blue 31-9 (PR) - Wellbore #1 - Gyro Surveys	12,864.78	6,955.60	2,173.31	2,091.12	26.443	CC, ES
Riva Blue 31-9 (PR) - Wellbore #1 - Gyro Surveys	13,100.00	6,957.42	2,186.01	2,102.56	26.196	SF
Riva Blue D 31-04J (PR) - Wellbore #1 - Gyro Surveys	13,196.22	6,984.10	2,948.98	2,864.11	34.747	CC
Riva Blue D 31-04J (PR) - Wellbore #1 - Gyro Surveys	13,200.00	6,984.30	2,948.98	2,864.08	34.736	ES
Riva Blue D 31-04J (PR) - Wellbore #1 - Gyro Surveys	13,700.00	7,010.65	2,991.58	2,903.85	34.097	SF
Riva Blue D 31-11 (PR) - Wellbore #1 - Gyro Surveys	12,680.08	6,957.14	4,275.34	4,192.81	51.803	CC
Riva Blue D 31-11 (PR) - Wellbore #1 - Gyro Surveys	12,700.00	6,956.78	4,275.39	4,192.72	51.718	ES
Riva Blue D 31-11 (PR) - Wellbore #1 - Gyro Surveys	13,600.00	6,940.65	4,373.16	4,285.42	49.839	SF
Riva Blue D 31-12 (SI) - Wellbore #1 - Gyro Surveys	12,806.98	6,939.48	5,907.80	5,826.10	72.308	CC, ES
Riva Blue D 31-12 (SI) - Wellbore #1 - Gyro Surveys	14,600.00	6,952.63	6,173.88	6,081.72	66.990	SF
Riva Blue D31-14 (PR) - Wellbore #1 - Gyro Surveys	14,480.27	6,949.71	4,451.00	4,356.49	47.098	CC
Riva Blue D31-14 (PR) - Wellbore #1 - Gyro Surveys	14,500.00	6,949.29	4,451.04	4,356.40	47.028	ES
Riva Blue D31-14 (PR) - Wellbore #1 - Gyro Surveys	15,400.00	6,930.14	4,544.98	4,445.26	45.577	SF
Riva D 31-10 (PR) - Wellbore #1 - As-Drilled	12,732.15	6,852.41	3,479.06	3,398.25	43.053	CC, ES
Riva D 31-10 (PR) - Wellbore #1 - As-Drilled	13,400.00	6,931.75	3,542.54	3,457.72	41.766	SF
Riva Red D 31-2J (PA) - Wellbore #1 - Gyro Surveys	10,950.73	6,994.18	5,294.40	5,225.88	77.260	CC
Riva Red D 31-2J (PA) - Wellbore #1 - Gyro Surveys	11,000.00	6,994.92	5,294.63	5,225.78	76.901	ES
Riva Red D 31-2J (PA) - Wellbore #1 - Gyro Surveys	12,800.00	12,800.00	5,608.05	5,509.26	56.765	SF
Riva Red D 31-3 (PA) - Wellbore #1 - Gyro Surveys	9,923.38	6,783.81	4,419.22	4,358.29	72.527	CC, ES
Riva Red D 31-3 (PA) - Wellbore #1 - Gyro Surveys	11,300.00	6,807.82	4,628.62	4,560.49	67.938	SF
Riva Red D 31-6 (PA) - Wellbore #1 - No Surveys	11,665.70	6,911.64	4,410.32	4,086.61	13.624	CC
Riva Red D 31-6 (PA) - Wellbore #1 - No Surveys	11,700.00	6,911.55	4,410.45	4,086.51	13.615	ES
Riva Red D 31-6 (PA) - Wellbore #1 - No Surveys	12,000.00	6,910.77	4,422.97	4,097.15	13.575	SF
Riva Red D31-06X (SI) - Wellbore #1 - Gyro Surveys	11,458.04	7,104.80	4,500.62	4,428.48	62.385	CC
Riva Red D31-06X (SI) - Wellbore #1 - Gyro Surveys	11,500.00	7,106.01	4,500.81	4,428.39	62.147	ES
Riva Red D31-06X (SI) - Wellbore #1 - Gyro Surveys	12,700.00	7,140.51	4,668.70	4,589.61	59.031	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:	Plan #3	**Offset TVD Reference:**	Reference 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 31						
Riva White D 31-1 (PR) - Wellbore #1 - Gyro Surveys	10,188.91	6,932.27	2,027.40	1,964.21	32.083	CC
Riva White D 31-1 (PR) - Wellbore #1 - Gyro Surveys	10,200.00	6,932.08	2,027.43	1,964.18	32.053	ES
Riva White D 31-1 (PR) - Wellbore #1 - Gyro Surveys	10,400.00	6,928.48	2,038.35	1,974.12	31.735	SF
Riva White D 31-7 (PR) - Wellbore #1 - Gyro Surveys	11,442.90	6,915.78	3,133.19	3,061.62	43.777	CC, ES
Riva White D 31-7 (PR) - Wellbore #1 - Gyro Surveys	12,000.00	6,927.78	3,182.31	3,107.70	42.654	SF
Riva White D 31-8 (PA) - Wellbore #1 - Gyro Surveys	11,631.61	6,814.51	2,099.06	2,026.54	28.946	CC, ES
Riva White D 31-8 (PA) - Wellbore #1 - Gyro Surveys	11,900.00	6,827.87	2,116.11	2,042.17	28.619	SF
River Red D 31-4 (PA) - Wellbore #1 - Gyro Surveys	10,032.67	6,382.11	6,221.75	6,115.91	58.785	CC, ES
River Red D 31-4 (PA) - Wellbore #1 - Gyro Surveys	11,700.00	6,342.11	6,441.16	6,326.92	56.381	SF
UPRR 53 Pan Am UT R 1 (PA) - Wellbore #1 - No Survey	10,882.95	6,906.69	2,628.31	2,310.29	8.265	CC
UPRR 53 Pan Am UT R 1 (PA) - Wellbore #1 - No Survey	10,900.00	6,906.65	2,628.36	2,310.24	8.262	ES
UPRR 53 Pan Am UT R 1 (PA) - Wellbore #1 - No Survey	11,000.00	6,906.39	2,630.91	2,312.22	8.255	SF
D Section 32						
HP D32-21D - Wellbore #1 - MWD Surveys	12,135.31	7,044.34	1,416.47	1,336.26	17.660	CC, ES
HP D32-21D - Wellbore #1 - MWD Surveys	12,300.00	7,048.95	1,426.00	1,344.18	17.429	SF
HP D32-23D - Wellbore #1 - MWD Surveys	13,218.35	6,980.98	2,586.72	2,500.32	29.939	CC, ES
HP D32-23D - Wellbore #1 - MWD Surveys	13,700.00	6,981.12	2,631.18	2,541.13	29.217	SF
HP Farms D 32-22D - Wellbore #1 - MWD Surveys	12,066.37	7,197.55	2,694.16	2,606.18	30.621	CC
HP Farms D 32-22D - Wellbore #1 - MWD Surveys	12,100.00	7,197.78	2,694.37	2,606.09	30.521	ES
HP Farms D 32-22D - Wellbore #1 - MWD Surveys	12,500.00	7,200.60	2,728.83	2,637.75	29.959	SF
HP Farms D32-03 - Wellbore #1 - Gyro Surveys	10,364.53	6,916.41	849.89	785.62	13.223	CC, ES
HP Farms D32-03 - Wellbore #1 - Gyro Surveys	10,400.00	6,917.00	850.63	786.07	13.175	SF
HP Farms D32-18D - Wellbore #1 - MWD Surveys	10,884.38	7,134.66	1,456.57	1,386.56	20.804	CC
HP Farms D32-18D - Wellbore #1 - MWD Surveys	10,900.00	7,134.71	1,456.66	1,386.48	20.757	ES
HP Farms D32-18D - Wellbore #1 - MWD Surveys	11,100.00	7,135.41	1,472.45	1,400.33	20.418	SF
HP Farms D32-24D - Wellbore #1 - MWD Surveys	13,482.39	7,183.50	1,443.75	1,354.61	16.197	CC
HP Farms D32-24D - Wellbore #1 - MWD Surveys	13,500.00	7,183.56	1,443.85	1,354.52	16.162	ES
HP Farms D32-24D - Wellbore #1 - MWD Surveys	13,700.00	7,184.24	1,460.05	1,368.80	16.000	SF
Norris 14-32 - Wellbore #1 - Projection Survey	14,352.25	6,923.61	748.48	618.70	5.767	CC, ES, SF
Norris A Unit 2 - Wellbore #1 - As-Drilled	13,624.72	6,939.11	83.00	-5.04	0.943	Level 1, CC, ES, SF
Norris D32-1 (SI) - Wellbore #1 - Gyro Surveys	10,256.15	6,904.51	3,332.75	3,269.23	52.470	CC
Norris D32-1 (SI) - Wellbore #1 - Gyro Surveys	10,300.00	6,903.67	3,333.04	3,269.22	52.224	ES
Norris D32-1 (SI) - Wellbore #1 - Gyro Surveys	11,100.00	6,891.36	3,437.89	3,369.20	50.045	SF
Norris D32-10 - Wellbore #1 - Gyro Surveys	12,934.32	6,750.00	2,000.64	1,918.53	24.366	CC, ES
Norris D32-10 - Wellbore #1 - Gyro Surveys	13,200.00	6,750.00	2,018.20	1,934.26	24.043	SF
Norris D32-15 - Wellbore #1 - Gyro Surveys	14,220.16	6,800.00	1,987.78	1,895.70	21.587	CC, ES
Norris D32-15 - Wellbore #1 - Gyro Surveys	14,400.00	6,800.00	1,995.90	1,902.49	21.366	SF
Norris D32-1J - Wellbore #1 - Gyro Surveys	11,048.39	6,958.68	2,903.59	2,834.51	42.032	CC, ES
Norris D32-1J - Wellbore #1 - Gyro Surveys	11,700.00	6,936.91	2,975.73	2,902.56	40.668	SF
Norris D32-2 - Wellbore #1 - Gyro Surveys	10,176.84	6,955.16	2,020.34	1,957.20	31.998	CC
Norris D32-2 - Wellbore #1 - Gyro Surveys	10,200.00	6,954.92	2,020.47	1,957.16	31.915	ES
Norris D32-2 - Wellbore #1 - Gyro Surveys	10,500.00	6,951.87	2,046.02	1,980.79	31.368	SF
Norris D32-2J - Wellbore #1 - Gyro Surveys	10,655.91	6,932.71	115.62	49.33	1.744	CC, ES, SF
Norris D32-4 (P&A) - Wellbore #1 - No Surveys	10,217.50	6,917.43	645.81	468.16	3.635	CC, ES, SF
Norris D32-5 - Wellbore #1 - Gyro Surveys	11,561.91	6,921.27	619.07	546.59	8.542	CC, ES, SF
Norris D32-6 - Wellbore #1 - Gyro Surveys	11,586.58	6,948.43	598.47	525.69	8.223	CC, ES
Norris D32-6 - Wellbore #1 - Gyro Surveys	11,600.00	6,948.43	598.62	525.71	8.210	SF
Norris D32-7 - Wellbore #1 - Gyro Surveys	11,553.80	6,889.46	1,943.18	1,870.80	26.849	CC, ES
Norris D32-7 - Wellbore #1 - Gyro Surveys	11,800.00	6,900.00	1,958.65	1,884.52	26.421	SF
Norris D32-9 (SI) - Wellbore #1 - Gyro Surveys	12,911.81	6,909.44	3,404.39	3,322.02	41.333	CC, ES
Norris D32-9 (SI) - Wellbore #1 - Gyro Surveys	13,600.00	6,902.98	3,473.25	3,386.29	39.944	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:	Plan #3	**Offset TVD Reference:**	Reference 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
Y Section 04						
HSR-Guttersen 01-04 - Original Drilling - Original Drilling	15,430.42	7,128.19	8,303.79	8,201.38	81.088	CC
HSR-Guttersen 01-04 - Original Drilling - Original Drilling	15,500.00	7,127.44	8,304.08	8,201.12	80.650	ES
HSR-Guttersen 01-04 - Original Drilling - Original Drilling	18,300.00	7,096.95	8,785.58	8,664.76	72.716	SF
HSR-Guttersen 02-04 - Original Drilling - Original Drilling	15,423.51	6,930.48	7,204.83	7,102.99	70.743	CC
HSR-Guttersen 02-04 - Original Drilling - Original Drilling	15,500.00	6,930.49	7,205.24	7,102.77	70.320	ES
HSR-Guttersen 02-04 - Original Drilling - Original Drilling	17,700.00	6,930.57	7,555.93	7,439.39	64.840	SF
HSR-Guttersen 03-04 - Original Drilling - Original Drilling	15,497.56	6,916.67	5,764.47	5,662.21	56.371	CC
HSR-Guttersen 03-04 - Original Drilling - Original Drilling	15,500.00	6,916.65	5,764.47	5,662.19	56.360	ES
HSR-Guttersen 03-04 - Original Drilling - Original Drilling	17,000.00	6,898.96	5,957.03	5,845.00	53.177	SF
HSR-Guttersen 05-04 - Original Drilling - Original Drilling	16,857.35	6,735.34	4,632.76	4,520.34	41.208	CC
HSR-Guttersen 05-04 - Original Drilling - Original Drilling	16,900.00	6,734.85	4,632.96	4,520.18	41.081	ES
HSR-Guttersen 05-04 - Original Drilling - Original Drilling	17,800.00	6,725.16	4,727.67	4,609.09	39.870	SF
HSR-Guttersen 07-04 - Original Drilling - Original Drilling	16,655.61	6,938.73	7,048.63	6,937.15	63.232	CC
HSR-Guttersen 07-04 - Original Drilling - Original Drilling	16,700.00	6,938.57	7,048.77	6,936.93	63.027	ES
HSR-Guttersen 07-04 - Original Drilling - Original Drilling	18,700.00	6,931.28	7,339.12	7,214.47	58.880	SF
Melvin Y04-04 - Original Drilling - Original Drilling - As Dr	15,705.96	6,831.56	4,945.57	4,841.94	47.721	CC, ES
Melvin Y04-04 - Original Drilling - Original Drilling - As Dr	16,800.00	6,800.00	5,065.05	4,954.26	45.719	SF
Y Section 05						
Olsen Red Y05-02D - Olsen Red Y05-02D - Olsen Red Y	15,778.30	6,932.12	314.32	209.79	3.007	CC, ES, SF
Olsen Y5-05JI - Olsen Y5-05JI - Olsen Y5-05JI - As Drille	16,755.50	6,920.32	716.23	615.98	7.145	CC, ES, SF
Perkins 32-05 - Perkins 32-05 - Perkins 32-05 - As Drilled	16,765.46	6,972.29	1,980.53	1,831.44	13.284	CC
Perkins 32-05 - Perkins 32-05 - Perkins 32-05 - As Drilled	16,800.00	6,972.20	1,980.83	1,831.44	13.259	ES
Perkins 32-05 - Perkins 32-05 - Perkins 32-05 - As Drilled	16,900.00	6,971.94	1,985.09	1,834.96	13.222	SF
Perkins 42-05 - Perkins 42-05 - Perkins 42-05 - As Drilled	16,772.05	6,989.27	3,285.59	3,136.30	22.007	CC
Perkins 42-05 - Perkins 42-05 - Perkins 42-05 - As Drilled	16,800.00	6,989.20	3,285.71	3,136.18	21.973	ES
Perkins 42-05 - Perkins 42-05 - Perkins 42-05 - As Drilled	17,200.00	6,988.15	3,313.35	3,161.05	21.756	SF
Perkins 43-05 - Perkins 43-05 - Perkins 43-05 - As Drilled	18,079.82	6,990.85	3,277.08	3,117.38	20.519	CC
Perkins 43-05 - Perkins 43-05 - Perkins 43-05 - As Drilled	18,100.00	6,990.80	3,277.14	3,117.26	20.497	ES
Perkins 43-05 - Perkins 43-05 - Perkins 43-05 - As Drilled	18,400.00	6,990.01	3,292.69	3,130.63	20.319	SF
Perkins USX Y05-16 - Perkins USX Y05-16 - Perkins US	19,003.41	6,942.31	2,738.32	2,608.12	21.031	CC, ES
Perkins USX Y05-16 - Perkins USX Y05-16 - Perkins US	19,300.00	6,942.94	2,754.33	2,622.08	20.826	SF
Pioneer Y17-715 - Pioneer Y17-715 - Plan #1	19,621.18	5,868.13	3,300.18	3,168.38	25.038	CC, ES
Pioneer Y17-715 - Pioneer Y17-715 - Plan #1	19,990.85	5,862.15	3,320.82	3,186.53	24.729	SF
Pioneer Y17-725 - Pioneer Y17-725 - Plan #1	19,617.58	6,366.77	2,810.06	2,676.03	20.967	CC, ES
Pioneer Y17-725 - Pioneer Y17-725 - Plan #1	19,900.00	6,362.76	2,824.21	2,688.25	20.773	SF
Pioneer Y17-735 - Pioneer Y17-735 - Plan #1	19,808.76	6,780.63	2,263.07	2,126.49	16.570	CC
Pioneer Y17-735 - Pioneer Y17-735 - Plan #1	19,900.00	6,853.82	2,263.85	2,126.32	16.460	ES
Pioneer Y17-735 - Pioneer Y17-735 - Plan #1	19,990.85	6,942.56	2,265.73	2,127.25	16.361	SF
Pioneer Y17-745 - Pioneer Y17-745 - Plan #1	19,990.85	7,076.84	1,620.90	1,482.51	11.713	CC, ES, SF
Pioneer Y17-755 - Pioneer Y17-755 - Plan #1	19,897.14	6,951.60	970.30	832.02	7.017	CC
Pioneer Y17-755 - Pioneer Y17-755 - Plan #1	19,900.00	6,953.96	970.30	831.99	7.015	ES
Pioneer Y17-755 - Pioneer Y17-755 - Plan #1	19,990.85	7,035.52	971.51	832.10	6.969	SF
Pioneer Y17-765 - Pioneer Y17-765 - Plan #1	19,990.85	7,097.01	316.08	177.36	2.279	CC, ES, SF
Pioneer Y17-775 - Pioneer Y17-775 - Plan #1	19,990.85	6,992.34	360.41	227.12	2.704	CC, ES, SF
Pioneer Y17-785 - Pioneer Y17-785 - Plan #1	19,799.43	6,905.99	954.53	818.28	7.006	CC
Pioneer Y17-785 - Pioneer Y17-785 - Plan #1	19,800.00	6,906.36	954.53	818.28	7.005	ES
Pioneer Y17-785 - Pioneer Y17-785 - Plan #1	19,990.85	7,064.83	963.06	824.81	6.966	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:	Plan #3	**Offset TVD Reference:**	Reference 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
Y Section 06						
Gray 10-6 (PA) - Wellbore #1 - Gyro Surveys	18,065.50	6,918.84	3,214.31	3,091.72	26.219	CC
Gray 10-6 (PA) - Wellbore #1 - Gyro Surveys	18,100.00	6,917.26	3,214.50	3,091.66	26.170	ES
Gray 10-6 (PA) - Wellbore #1 - Gyro Surveys	18,400.00	6,903.25	3,231.64	3,107.18	25.966	SF
Norris 14-6 (PA) - Wellbore #1 - Gyro Surveys	19,083.48	6,997.82	5,409.50	5,278.49	41.290	CC
Norris 14-6 (PA) - Wellbore #1 - Gyro Surveys	19,100.00	6,998.45	5,409.53	5,278.39	41.250	ES
Norris 14-6 (PA) - Wellbore #1 - Gyro Surveys	19,990.85	7,039.63	5,484.95	5,348.32	40.145	SF
Norris 41-6 (PA) - Wellbore #1 - Gyro Surveys	15,825.08	6,964.14	2,215.79	2,110.99	21.144	CC, ES
Norris 41-6 (PA) - Wellbore #1 - Gyro Surveys	16,000.00	6,968.14	2,222.68	2,116.90	21.012	SF
Norris Y 6-5 (PA) - Wellbore #1 - Gyro Surveys	16,363.52	6,872.65	5,528.42	5,419.52	50.766	CC
Norris Y 6-5 (PA) - Wellbore #1 - Gyro Surveys	16,400.00	6,873.01	5,528.54	5,419.36	50.640	ES
Norris Y 6-5 (PA) - Wellbore #1 - Gyro Surveys	17,600.00	6,884.22	5,664.99	5,548.83	48.769	SF
Y Section 07						
Harkis 11-7 (PA) - Wellbore #1 - Gyro Surveys	19,990.85	6,927.64	5,839.42	5,702.01	42.496	CC, ES, SF
Harkis 1-7 (PA) - Wellbore #1 - Gyro Surveys	19,990.85	6,981.48	5,621.45	5,486.62	41.693	CC, ES, SF
HP Farms Y 7-15JI (PR) - Wellbore #1 - As-Drilled	19,990.85	7,119.15	5,935.32	5,834.22	58.706	CC, ES, SF
HP Y07-09 (PR) - Wellbore #1 - As-Drilled	19,990.85	6,840.31	3,897.46	3,808.53	43.825	CC, ES, SF
HP Y07-10D (SI) - Wellbore #1 - Gyro Surveys	19,990.85	7,220.03	4,776.86	4,638.77	34.593	CC, ES, SF
Perkins 31-7 (SI) - Wellbore #1 - As-Drilled	19,990.85	6,979.69	3,319.37	3,183.19	24.375	CC, ES, SF
Perkins USX Y 7-17 (SI) - Wellbore #1 - Gyro Surveys	19,990.85	6,946.81	2,948.13	2,821.06	23.202	CC, ES, SF
Pioneer 22-7 (SI) - Wellbore #1 - As-Drilled	19,990.85	6,916.44	4,961.51	4,834.16	38.958	CC, ES, SF
Pioneer D31-716 - Pioneer D31-716 - Plan #2	10,209.61	17,365.08	1,638.36	1,509.50	12.713	CC, ES
Pioneer D31-716 - Pioneer D31-716 - Plan #2	19,990.85	7,650.00	1,726.18	1,584.73	12.204	SF
Pioneer D31-725 - Pioneer D31-725 - Plan #3	10,214.18	17,194.86	2,265.36	2,136.61	17.595	CC, ES
Pioneer D31-725 - Pioneer D31-725 - Plan #3	19,990.85	7,556.50	2,347.38	2,207.14	16.738	SF
Pioneer D31-735 - Pioneer D31-735 - Plan #2	10,208.89	17,013.99	2,892.69	2,764.50	22.565	CC, ES
Pioneer D31-735 - Pioneer D31-735 - Plan #2	19,990.85	7,424.25	2,967.86	2,828.70	21.326	SF
Pioneer D31-744 - Pioneer D31-744 - Plan #3	10,208.19	17,095.39	3,518.38	3,390.00	27.405	CC, ES
Pioneer D31-744 - Pioneer D31-744 - Plan #3	19,990.85	7,483.32	3,589.24	3,449.71	25.725	SF
Pioneer D31-756 - Pioneer D31-756 - Plan #4	9,772.55	17,574.24	4,142.81	4,014.02	32.168	CC
Pioneer D31-756 - Pioneer D31-756 - Plan #4	9,800.00	17,574.24	4,142.90	4,013.94	32.127	ES
Pioneer D31-756 - Pioneer D31-756 - Plan #4	19,990.85	7,472.22	4,418.78	4,279.12	31.639	SF
Pioneer D31-775 - Pioneer D31-775 - Plan #4	19,990.85	6,263.53	5,186.08	5,050.74	38.319	CC, ES, SF
Pioneer D31-785 - Pioneer D31-785 - Plan #5	19,990.85	5,232.76	5,737.09	5,606.66	43.988	CC, ES, SF
Pioneer USX Y07-08D (PR) - Pioneer USX Y07-08D OH	19,990.85	7,123.83	2,973.54	2,862.97	26.892	CC, ES, SF
Pioneer Y07-07D (PR) - Wellbore #1 - Gyro Surveys	19,990.85	7,357.20	3,867.71	3,691.32	21.927	CC, ES, SF
Pioneer Y18-715 - Pioneer Y18-715 - Plan #1	19,990.85	7,722.55	1,690.11	1,549.55	12.024	CC, ES, SF
Pioneer Y18-725 - Pioneer Y18-725 - Plan #1	19,990.85	7,550.00	2,297.77	2,156.98	16.321	CC, ES, SF
Pioneer Y18-735 - Pioneer Y18-735 - Plan #2	19,990.85	7,365.74	2,925.74	2,786.32	20.986	CC, ES, SF
Pioneer Y18-744 - Pioneer Y18-744 - Plan #1	19,885.54	7,154.99	3,532.73	3,394.30	25.521	CC
Pioneer Y18-744 - Pioneer Y18-744 - Plan #1	19,990.85	7,223.91	3,533.52	3,394.18	25.358	ES, SF
Pioneer Y18-756 - Pioneer Y18-756 - Plan #1	19,919.41	7,088.14	4,151.02	4,012.73	30.016	CC
Pioneer Y18-756 - Pioneer Y18-756 - Plan #1	19,990.85	7,127.26	4,151.37	4,012.46	29.886	ES, SF
Pioneer Y18-766 - Pioneer Y18-766 - Plan #1	19,685.59	6,668.64	4,745.84	4,610.25	35.000	CC
Pioneer Y18-766 - Pioneer Y18-766 - Plan #1	19,700.00	6,669.82	4,745.86	4,610.16	34.971	ES
Pioneer Y18-766 - Pioneer Y18-766 - Plan #1	19,990.85	6,713.56	4,755.53	4,617.67	34.497	SF
Pioneer Y18-775 - Pioneer Y18-775 - Plan #2	19,854.85	5,978.77	5,239.63	5,105.77	39.144	CC
Pioneer Y18-775 - Pioneer Y18-775 - Plan #2	19,900.00	5,965.52	5,239.80	5,105.69	39.070	ES
Pioneer Y18-775 - Pioneer Y18-775 - Plan #2	19,990.85	5,938.85	5,241.24	5,106.62	38.935	SF
Pioneer Y18-785 - Pioneer Y18-785 - Plan #1	19,990.85	5,262.93	5,575.44	5,444.32	42.520	CC, ES, SF
UPRC 7-10Q (PR) - Wellbore #1 - As-Drilled	19,400.00	19,400.00	5,414.33	5,280.26	40.383	SF
UPRC 7-10Q (PR) - Wellbore #1 - As-Drilled	19,990.85	6,906.44	4,928.85	4,830.38	50.054	CC, ES
UPRR 53 PAN AM E 1 (PA) - Wellbore #1 - Gyro Surveys	19,990.85	7,040.88	6,730.89	6,611.75	56.495	CC, ES, SF

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:	Plan #3	**Offset TVD Reference:**	Reference 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
Y Section 16						
Hullabaloo State Y21-716 - Original Drilling - Original Dril						Out of range
Hullabaloo State Y21-726 - Original Drilling - Original Dril	19,990.85	6,621.00	9,710.84	9,597.12	85.392	CC, ES, SF
Hullabaloo State Y21-736 - Original Drilling - Original Dril	19,990.85	6,571.12	9,306.23	9,197.88	85.891	CC, ES, SF
Hullabaloo State Y21-746 - Original Drilling - Original Dril	19,990.85	6,710.00	8,920.33	8,810.55	81.252	CC, ES, SF
Hullabaloo State Y21-756 - Original Drilling - Original Dril	19,990.85	6,425.00	8,222.78	8,118.11	78.554	CC, ES, SF
Hullabaloo State Y21-763 - Orignal Drilling - Orignal Drilli	19,990.85	6,803.00	7,795.04	7,690.90	74.846	CC, ES, SF
Hullabaloo State Y21-769 - Original Drilling - Original Dril	19,990.85	6,417.00	7,393.22	7,292.98	73.750	CC, ES, SF
Hullabaloo State Y21-775 - Original Drilling - Original Dril	19,990.85	6,323.00	7,191.65	7,095.10	74.486	CC, ES, SF
Hullabaloo State Y21-781 - Original Drilling - Original Dril	19,990.85	6,416.00	6,924.39	6,829.80	73.210	CC, ES, SF
Hullabaloo State Y21-787 - Original Drilling - Original Dril	19,990.85	6,416.00	6,672.16	6,580.59	72.865	CC, ES, SF
State 01 - Original Drilling - Original Drilling - As Drilled						Out of range
State 21 (PA) - Original Drilling - Original Drilling - As Dril						Out of range
State Y16-05D - Wellbore #1 - Wellbore #1 - As Drilled	19,990.85	7,145.85	8,572.46	8,482.33	95.116	CC, ES, SF