Project: Mustang
Site: D Section 29
Well: Guttersen Y05-786
Wellbore: Guttersen Y05-786
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

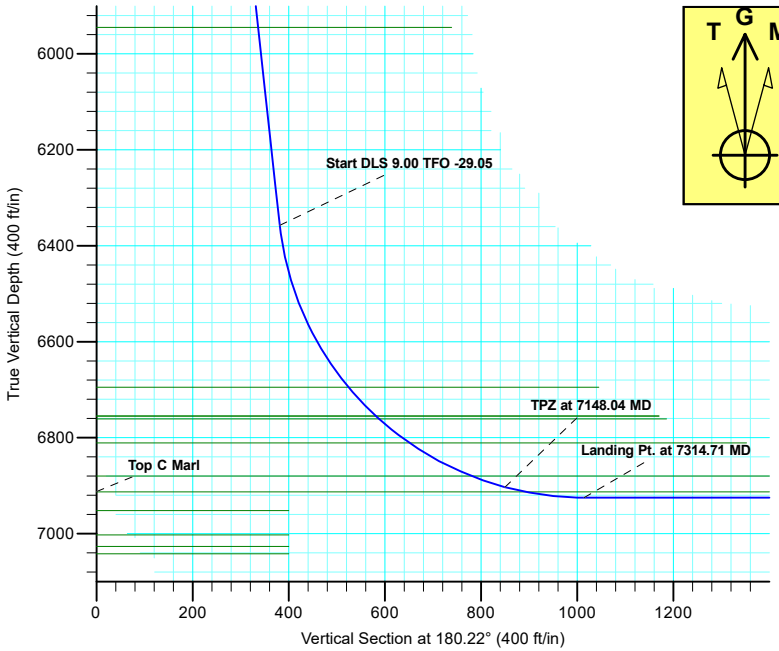
SECTION DETAILS

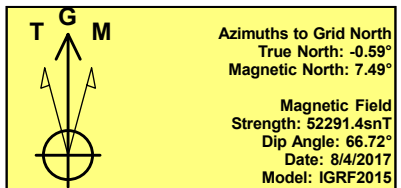
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	2695.00	0.00	0.00	2695.00	0.00	0.00	0.00	0.00	0.00
3	3044.77	7.00	207.22	3043.90	-18.96	-9.75	2.00	207.22	19.00
4	6383.04	7.00	207.22	6357.32	-380.50	-195.72	0.00	0.00	381.26
5	7148.04	75.00	179.27	6903.31	-849.17	-214.63	9.00	-29.05	849.99
6	7314.71	90.00	179.27	6925.00	-1013.93	-212.51	9.00	0.00	1014.74
7	19829.99	90.00	179.27	6925.00	-13528.18	-52.08	0.00	0.00	13528.28

WELL DETAILS: Guttersen Y05-786

Ground Level: 4784.00

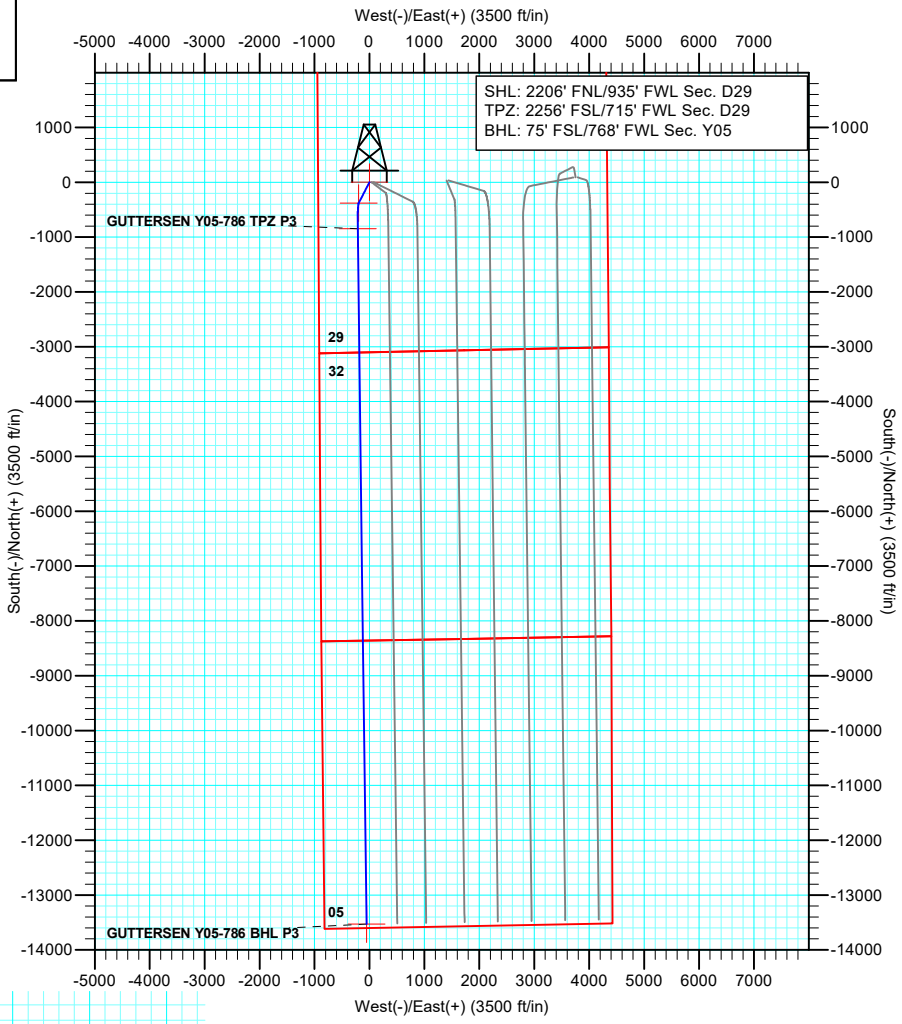
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1316097.17	3256647.41	40.1974336	-104.5812283	

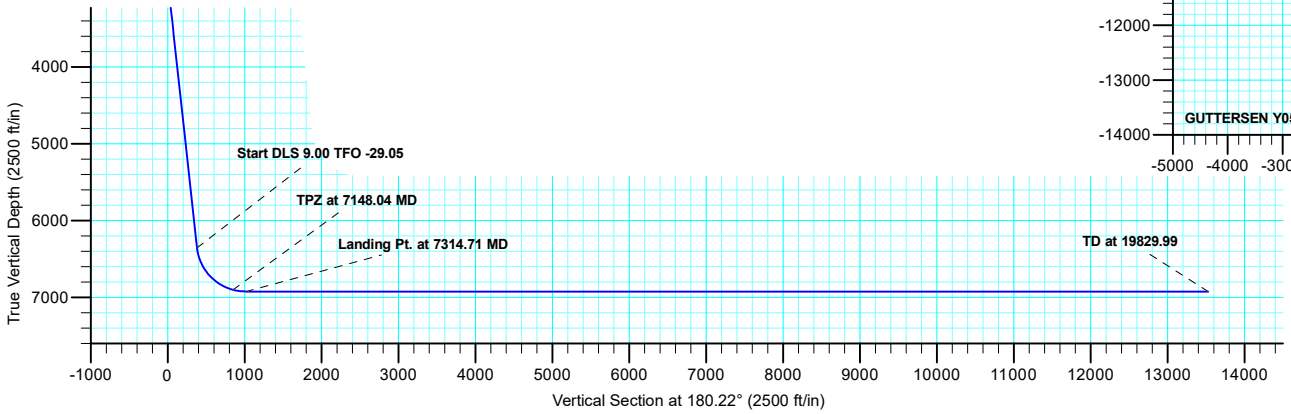




Azimuths to Grid North
True North: -0.59°
Magnetic North: 7.49°

Magnetic Field
Strength: 52291.4snT
Dip Angle: 66.72°
Date: 8/4/2017
Model: IGRF2015





Plan: Plan #3 (Guttersen Y05-786/Guttersen Y05-786)

Created By: Shelly C. Peterkin Date: 11:55, October 15 2019

Northern Region - DJ Basin

Mustang
D Section 29
Guttersen Y05-786

Guttersen Y05-786

Plan: Plan #3

Standard Planning Report

15 October, 2019

Database:	EDMP	**Local Co-ordinate Reference:**	Well Guttersen Y05-786
Company:	Northern Region - DJ Basin	**TVD Reference:**	WELL @ 4814.00ft (Original Well Elev.)
Project:	Mustang	**MD Reference:**	WELL @ 4814.00ft (Original Well Elev.)
Site:	D Section 29	**North Reference:**	Grid
Well:	Guttersen Y05-786	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Guttersen Y05-786		
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 Y05-786

Well Position	**+N/-S**	2,468.32 ft	**Northing:**	1,316,097.17 usft	**Latitude:**	40.1974336
	+E/-W	1,964.01 ft	**Easting:**	3,256,647.42 usft	**Longitude:**	-104.5812283
Position Uncertainty		0.00 ft	**Wellhead Elevation:**		**Ground Level:**	4,784.00 ft

Wellbore Guttersen Y05-786

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	8/4/2017	8.08	66.72	52,291.39892167

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	180.22

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	
2,695.00	0.00	0.00	2,695.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,044.77	7.00	207.22	3,043.90	-18.96	-9.75	2.00	2.00	0.00	207.22	
6,383.04	7.00	207.22	6,357.32	-380.50	-195.72	0.00	0.00	0.00	0.00	
7,148.04	75.00	179.27	6,903.31	-849.17	-214.63	9.00	8.89	-3.65	-29.05	
7,314.71	90.00	179.27	6,925.00	-1,013.93	-212.51	9.00	9.00	0.00	0.00	
19,829.99	90.00	179.27	6,925.00	-13,528.18	-52.08	0.00	0.00	0.00	0.00	GUTTERSEN Y05-78

Database:	EDMP	**Local Co-ordinate Reference:**	Well Guttersen Y05-786
Company:	Northern Region - DJ Basin	**TVD Reference:**	WELL @ 4814.00ft (Original Well Elev.)
Project:	Mustang	**MD Reference:**	WELL @ 4814.00ft (Original Well Elev.)
Site:	D Section 29	**North Reference:**	Grid
Well:	Guttersen Y05-786	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Guttersen Y05-786		
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
585.00	0.00	0.00	585.00	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
673.00	0.00	0.00	673.00	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
1,571.00	0.00	0.00	1,571.00	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
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,695.00	0.00	0.00	2,695.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
2,700.00	0.10	207.22	2,700.00	0.00	0.00	0.00	2.00	2.00	0.00
2,800.00	2.10	207.22	2,799.98	-1.71	-0.88	1.71	2.00	2.00	0.00
2,900.00	4.10	207.22	2,899.83	-6.52	-3.35	6.53	2.00	2.00	0.00
3,000.00	6.10	207.22	2,999.42	-14.42	-7.42	14.45	2.00	2.00	0.00
3,044.77	7.00	207.22	3,043.90	-18.96	-9.75	19.00	2.00	2.00	0.00
Start 3338.27 hold at 3044.77 MD									
3,100.00	7.00	207.22	3,098.72	-24.95	-12.83	24.99	0.00	0.00	0.00
3,200.00	7.00	207.22	3,197.98	-35.78	-18.40	35.85	0.00	0.00	0.00
3,300.00	7.00	207.22	3,297.23	-46.61	-23.97	46.70	0.00	0.00	0.00
3,400.00	7.00	207.22	3,396.49	-57.44	-29.54	57.55	0.00	0.00	0.00
3,500.00	7.00	207.22	3,495.74	-68.27	-35.11	68.40	0.00	0.00	0.00
3,600.00	7.00	207.22	3,595.00	-79.10	-40.69	79.25	0.00	0.00	0.00
3,700.00	7.00	207.22	3,694.25	-89.93	-46.26	90.10	0.00	0.00	0.00
3,787.40	7.00	207.22	3,781.00	-99.39	-51.12	99.59	0.00	0.00	0.00
Parkman									
3,800.00	7.00	207.22	3,793.51	-100.76	-51.83	100.96	0.00	0.00	0.00
3,900.00	7.00	207.22	3,892.77	-111.59	-57.40	111.81	0.00	0.00	0.00
4,000.00	7.00	207.22	3,992.02	-122.42	-62.97	122.66	0.00	0.00	0.00

Database:	EDMP	**Local Co-ordinate Reference:**	Well Guttersen Y05-786
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Site:	D Section 29	**North Reference:**	Grid
Well:	Guttersen Y05-786	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Guttersen Y05-786		
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)
4,100.00	7.00	207.22	4,091.28	-133.25	-68.54	133.51	0.00	0.00	0.00
4,148.08	7.00	207.22	4,139.00	-138.45	-71.22	138.73	0.00	0.00	0.00
Sussex									
4,200.00	7.00	207.22	4,190.53	-144.08	-74.11	144.36	0.00	0.00	0.00
4,300.00	7.00	207.22	4,289.79	-154.91	-79.68	155.21	0.00	0.00	0.00
4,400.00	7.00	207.22	4,389.04	-165.74	-85.25	166.06	0.00	0.00	0.00
4,500.00	7.00	207.22	4,488.30	-176.57	-90.82	176.92	0.00	0.00	0.00
4,600.00	7.00	207.22	4,587.55	-187.40	-96.39	187.77	0.00	0.00	0.00
4,700.00	7.00	207.22	4,686.81	-198.23	-101.96	198.62	0.00	0.00	0.00
4,800.00	7.00	207.22	4,786.07	-209.06	-107.53	209.47	0.00	0.00	0.00
4,900.00	7.00	207.22	4,885.32	-219.89	-113.11	220.32	0.00	0.00	0.00
4,929.90	7.00	207.22	4,915.00	-223.13	-114.77	223.57	0.00	0.00	0.00
Shannon									
5,000.00	7.00	207.22	4,984.58	-230.72	-118.68	231.17	0.00	0.00	0.00
5,100.00	7.00	207.22	5,083.83	-241.55	-124.25	242.03	0.00	0.00	0.00
5,200.00	7.00	207.22	5,183.09	-252.38	-129.82	252.88	0.00	0.00	0.00
5,300.00	7.00	207.22	5,282.34	-263.21	-135.39	263.73	0.00	0.00	0.00
5,400.00	7.00	207.22	5,381.60	-274.04	-140.96	274.58	0.00	0.00	0.00
5,500.00	7.00	207.22	5,480.85	-284.87	-146.53	285.43	0.00	0.00	0.00
5,600.00	7.00	207.22	5,580.11	-295.70	-152.10	296.28	0.00	0.00	0.00
5,700.00	7.00	207.22	5,679.37	-306.53	-157.67	307.13	0.00	0.00	0.00
5,800.00	7.00	207.22	5,778.62	-317.36	-163.24	317.99	0.00	0.00	0.00
5,900.00	7.00	207.22	5,877.88	-328.19	-168.81	328.84	0.00	0.00	0.00
5,967.63	7.00	207.22	5,945.00	-335.51	-172.58	336.18	0.00	0.00	0.00
Teepee Buttes									
6,000.00	7.00	207.22	5,977.13	-339.02	-174.38	339.69	0.00	0.00	0.00
6,100.00	7.00	207.22	6,076.39	-349.85	-179.95	350.54	0.00	0.00	0.00
6,200.00	7.00	207.22	6,175.64	-360.68	-185.53	361.39	0.00	0.00	0.00
6,300.00	7.00	207.22	6,274.90	-371.51	-191.10	372.24	0.00	0.00	0.00
6,383.04	7.00	207.22	6,357.32	-380.50	-195.72	381.26	0.00	0.00	0.00
Start DLS 9.00 TFO -29.05									
6,400.00	8.36	202.12	6,374.13	-382.57	-196.66	383.32	9.00	8.06	-30.08
6,450.00	12.61	193.71	6,423.29	-391.24	-199.32	392.00	9.00	8.49	-16.81
6,500.00	16.98	189.54	6,471.62	-403.75	-201.83	404.52	9.00	8.75	-8.35
6,550.00	21.41	187.05	6,518.83	-420.01	-204.16	420.80	9.00	8.85	-4.99
6,600.00	25.86	185.38	6,564.62	-439.93	-206.30	440.72	9.00	8.90	-3.34
6,650.00	30.32	184.17	6,608.72	-463.39	-208.24	464.19	9.00	8.93	-2.41
6,700.00	34.79	183.25	6,650.86	-490.23	-209.97	491.04	9.00	8.95	-1.85
6,750.00	39.27	182.51	6,690.76	-520.30	-211.47	521.11	9.00	8.96	-1.47
6,755.50	39.77	182.44	6,695.00	-523.80	-211.62	524.61	9.00	8.96	-1.31
Sharon Springs									
6,800.00	43.75	181.90	6,728.19	-553.41	-212.74	554.22	9.00	8.96	-1.20
6,838.23	47.18	181.50	6,755.00	-580.65	-213.54	581.47	9.00	8.97	-1.05
Top A Chalk - Top A Marl									
6,847.13	47.98	181.42	6,761.00	-587.21	-213.71	588.03	9.00	8.97	-0.98
Top B Chalk									
6,850.00	48.24	181.39	6,762.92	-589.35	-213.76	590.17	9.00	8.97	-0.96
6,900.00	52.73	180.94	6,794.72	-627.90	-214.54	628.72	9.00	8.97	-0.90
6,927.67	55.21	180.71	6,811.00	-650.28	-214.86	651.10	9.00	8.98	-0.81
Top B Marl									
6,950.00	57.21	180.54	6,823.42	-668.83	-215.07	669.66	9.00	8.98	-0.77
7,000.00	61.70	180.18	6,848.82	-711.88	-215.34	712.71	9.00	8.98	-0.72
7,050.00	66.19	179.85	6,870.77	-756.79	-215.35	757.62	9.00	8.98	-0.66

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Well:	Guttersen Y05-786	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Guttersen Y05-786		
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)
7,073.88	68.34	179.70	6,880.00	-778.82	-215.26	779.64	9.00	8.98	-0.63
Top C Chalk									
7,100.00	70.68	179.55	6,889.14	-803.28	-215.10	804.10	9.00	8.98	-0.61
7,148.04	75.00	179.27	6,903.31	-849.17	-214.63	849.99	9.00	8.98	-0.58
TPZ at 7148.04 MD									
7,150.00	75.18	179.27	6,903.81	-851.06	-214.60	851.88	9.00	9.00	0.00
7,190.89	78.86	179.27	6,913.00	-890.90	-214.09	891.72	9.00	9.00	0.00
Top C Marl									
7,200.00	79.68	179.27	6,914.70	-899.85	-213.98	900.66	9.00	9.00	0.00
7,250.00	84.18	179.27	6,921.72	-949.34	-213.34	950.15	9.00	9.00	0.00
7,300.00	88.68	179.27	6,924.83	-999.22	-212.70	1,000.03	9.00	9.00	0.00
7,314.71	90.00	179.27	6,925.00	-1,013.93	-212.51	1,014.74	9.00	9.00	0.00
Landing Pt. at 7314.71 MD									
7,400.00	90.00	179.27	6,925.00	-1,099.21	-211.42	1,100.02	0.00	0.00	0.00
7,500.00	90.00	179.27	6,925.00	-1,199.20	-210.14	1,200.00	0.00	0.00	0.00
7,600.00	90.00	179.27	6,925.00	-1,299.20	-208.86	1,299.99	0.00	0.00	0.00
7,700.00	90.00	179.27	6,925.00	-1,399.19	-207.57	1,399.98	0.00	0.00	0.00
7,800.00	90.00	179.27	6,925.00	-1,499.18	-206.29	1,499.96	0.00	0.00	0.00
7,900.00	90.00	179.27	6,925.00	-1,599.17	-205.01	1,599.95	0.00	0.00	0.00
8,000.00	90.00	179.27	6,925.00	-1,699.16	-203.73	1,699.93	0.00	0.00	0.00
8,100.00	90.00	179.27	6,925.00	-1,799.15	-202.45	1,799.92	0.00	0.00	0.00
8,200.00	90.00	179.27	6,925.00	-1,899.15	-201.16	1,899.91	0.00	0.00	0.00
8,300.00	90.00	179.27	6,925.00	-1,999.14	-199.88	1,999.89	0.00	0.00	0.00
8,400.00	90.00	179.27	6,925.00	-2,099.13	-198.60	2,099.88	0.00	0.00	0.00
8,500.00	90.00	179.27	6,925.00	-2,199.12	-197.32	2,199.86	0.00	0.00	0.00
8,600.00	90.00	179.27	6,925.00	-2,299.11	-196.04	2,299.85	0.00	0.00	0.00
8,700.00	90.00	179.27	6,925.00	-2,399.10	-194.76	2,399.84	0.00	0.00	0.00
8,800.00	90.00	179.27	6,925.00	-2,499.10	-193.47	2,499.82	0.00	0.00	0.00
8,900.00	90.00	179.27	6,925.00	-2,599.09	-192.19	2,599.81	0.00	0.00	0.00
9,000.00	90.00	179.27	6,925.00	-2,699.08	-190.91	2,699.79	0.00	0.00	0.00
9,100.00	90.00	179.27	6,925.00	-2,799.07	-189.63	2,799.78	0.00	0.00	0.00
9,200.00	90.00	179.27	6,925.00	-2,899.06	-188.35	2,899.77	0.00	0.00	0.00
9,300.00	90.00	179.27	6,925.00	-2,999.06	-187.06	2,999.75	0.00	0.00	0.00
9,400.00	90.00	179.27	6,925.00	-3,099.05	-185.78	3,099.74	0.00	0.00	0.00
9,500.00	90.00	179.27	6,925.00	-3,199.04	-184.50	3,199.73	0.00	0.00	0.00
9,600.00	90.00	179.27	6,925.00	-3,299.03	-183.22	3,299.71	0.00	0.00	0.00
9,700.00	90.00	179.27	6,925.00	-3,399.02	-181.94	3,399.70	0.00	0.00	0.00
9,800.00	90.00	179.27	6,925.00	-3,499.01	-180.65	3,499.68	0.00	0.00	0.00
9,900.00	90.00	179.27	6,925.00	-3,599.01	-179.37	3,599.67	0.00	0.00	0.00
10,000.00	90.00	179.27	6,925.00	-3,699.00	-178.09	3,699.66	0.00	0.00	0.00
10,100.00	90.00	179.27	6,925.00	-3,798.99	-176.81	3,799.64	0.00	0.00	0.00
10,200.00	90.00	179.27	6,925.00	-3,898.98	-175.53	3,899.63	0.00	0.00	0.00
10,300.00	90.00	179.27	6,925.00	-3,998.97	-174.24	3,999.61	0.00	0.00	0.00
10,400.00	90.00	179.27	6,925.00	-4,098.97	-172.96	4,099.60	0.00	0.00	0.00
10,500.00	90.00	179.27	6,925.00	-4,198.96	-171.68	4,199.59	0.00	0.00	0.00
10,600.00	90.00	179.27	6,925.00	-4,298.95	-170.40	4,299.57	0.00	0.00	0.00
10,700.00	90.00	179.27	6,925.00	-4,398.94	-169.12	4,399.56	0.00	0.00	0.00
10,800.00	90.00	179.27	6,925.00	-4,498.93	-167.84	4,499.54	0.00	0.00	0.00
10,900.00	90.00	179.27	6,925.00	-4,598.92	-166.55	4,599.53	0.00	0.00	0.00
11,000.00	90.00	179.27	6,925.00	-4,698.92	-165.27	4,699.52	0.00	0.00	0.00
11,100.00	90.00	179.27	6,925.00	-4,798.91	-163.99	4,799.50	0.00	0.00	0.00
11,200.00	90.00	179.27	6,925.00	-4,898.90	-162.71	4,899.49	0.00	0.00	0.00
11,300.00	90.00	179.27	6,925.00	-4,998.89	-161.43	4,999.48	0.00	0.00	0.00

Database:	EDMP	**Local Co-ordinate Reference:**	Well Guttersen Y05-786
Company:	Northern Region - DJ Basin	**TVD Reference:**	WELL @ 4814.00ft (Original Well Elev.)
Project:	Mustang	**MD Reference:**	WELL @ 4814.00ft (Original Well Elev.)
Site:	D Section 29	**North Reference:**	Grid
Well:	Guttersen Y05-786	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Guttersen Y05-786		
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)
11,400.00	90.00	179.27	6,925.00	-5,098.88	-160.14	5,099.46	0.00	0.00	0.00
11,500.00	90.00	179.27	6,925.00	-5,198.87	-158.86	5,199.45	0.00	0.00	0.00
11,600.00	90.00	179.27	6,925.00	-5,298.87	-157.58	5,299.43	0.00	0.00	0.00
11,700.00	90.00	179.27	6,925.00	-5,398.86	-156.30	5,399.42	0.00	0.00	0.00
11,800.00	90.00	179.27	6,925.00	-5,498.85	-155.02	5,499.41	0.00	0.00	0.00
11,900.00	90.00	179.27	6,925.00	-5,598.84	-153.73	5,599.39	0.00	0.00	0.00
12,000.00	90.00	179.27	6,925.00	-5,698.83	-152.45	5,699.38	0.00	0.00	0.00
12,100.00	90.00	179.27	6,925.00	-5,798.83	-151.17	5,799.36	0.00	0.00	0.00
12,200.00	90.00	179.27	6,925.00	-5,898.82	-149.89	5,899.35	0.00	0.00	0.00
12,300.00	90.00	179.27	6,925.00	-5,998.81	-148.61	5,999.34	0.00	0.00	0.00
12,400.00	90.00	179.27	6,925.00	-6,098.80	-147.32	6,099.32	0.00	0.00	0.00
12,500.00	90.00	179.27	6,925.00	-6,198.79	-146.04	6,199.31	0.00	0.00	0.00
12,600.00	90.00	179.27	6,925.00	-6,298.78	-144.76	6,299.29	0.00	0.00	0.00
12,700.00	90.00	179.27	6,925.00	-6,398.78	-143.48	6,399.28	0.00	0.00	0.00
12,800.00	90.00	179.27	6,925.00	-6,498.77	-142.20	6,499.27	0.00	0.00	0.00
12,900.00	90.00	179.27	6,925.00	-6,598.76	-140.92	6,599.25	0.00	0.00	0.00
13,000.00	90.00	179.27	6,925.00	-6,698.75	-139.63	6,699.24	0.00	0.00	0.00
13,100.00	90.00	179.27	6,925.00	-6,798.74	-138.35	6,799.23	0.00	0.00	0.00
13,200.00	90.00	179.27	6,925.00	-6,898.74	-137.07	6,899.21	0.00	0.00	0.00
13,300.00	90.00	179.27	6,925.00	-6,998.73	-135.79	6,999.20	0.00	0.00	0.00
13,400.00	90.00	179.27	6,925.00	-7,098.72	-134.51	7,099.18	0.00	0.00	0.00
13,500.00	90.00	179.27	6,925.00	-7,198.71	-133.22	7,199.17	0.00	0.00	0.00
13,600.00	90.00	179.27	6,925.00	-7,298.70	-131.94	7,299.16	0.00	0.00	0.00
13,700.00	90.00	179.27	6,925.00	-7,398.69	-130.66	7,399.14	0.00	0.00	0.00
13,800.00	90.00	179.27	6,925.00	-7,498.69	-129.38	7,499.13	0.00	0.00	0.00
13,900.00	90.00	179.27	6,925.00	-7,598.68	-128.10	7,599.11	0.00	0.00	0.00
14,000.00	90.00	179.27	6,925.00	-7,698.67	-126.81	7,699.10	0.00	0.00	0.00
14,100.00	90.00	179.27	6,925.00	-7,798.66	-125.53	7,799.09	0.00	0.00	0.00
14,200.00	90.00	179.27	6,925.00	-7,898.65	-124.25	7,899.07	0.00	0.00	0.00
14,300.00	90.00	179.27	6,925.00	-7,998.64	-122.97	7,999.06	0.00	0.00	0.00
14,400.00	90.00	179.27	6,925.00	-8,098.64	-121.69	8,099.04	0.00	0.00	0.00
14,500.00	90.00	179.27	6,925.00	-8,198.63	-120.40	8,199.03	0.00	0.00	0.00
14,600.00	90.00	179.27	6,925.00	-8,298.62	-119.12	8,299.02	0.00	0.00	0.00
14,700.00	90.00	179.27	6,925.00	-8,398.61	-117.84	8,399.00	0.00	0.00	0.00
14,800.00	90.00	179.27	6,925.00	-8,498.60	-116.56	8,498.99	0.00	0.00	0.00
14,900.00	90.00	179.27	6,925.00	-8,598.60	-115.28	8,598.98	0.00	0.00	0.00
15,000.00	90.00	179.27	6,925.00	-8,698.59	-113.99	8,698.96	0.00	0.00	0.00
15,100.00	90.00	179.27	6,925.00	-8,798.58	-112.71	8,798.95	0.00	0.00	0.00
15,200.00	90.00	179.27	6,925.00	-8,898.57	-111.43	8,898.93	0.00	0.00	0.00
15,300.00	90.00	179.27	6,925.00	-8,998.56	-110.15	8,998.92	0.00	0.00	0.00
15,400.00	90.00	179.27	6,925.00	-9,098.55	-108.87	9,098.91	0.00	0.00	0.00
15,500.00	90.00	179.27	6,925.00	-9,198.55	-107.59	9,198.89	0.00	0.00	0.00
15,600.00	90.00	179.27	6,925.00	-9,298.54	-106.30	9,298.88	0.00	0.00	0.00
15,700.00	90.00	179.27	6,925.00	-9,398.53	-105.02	9,398.86	0.00	0.00	0.00
15,800.00	90.00	179.27	6,925.00	-9,498.52	-103.74	9,498.85	0.00	0.00	0.00
15,900.00	90.00	179.27	6,925.00	-9,598.51	-102.46	9,598.84	0.00	0.00	0.00
16,000.00	90.00	179.27	6,925.00	-9,698.51	-101.18	9,698.82	0.00	0.00	0.00
16,100.00	90.00	179.27	6,925.00	-9,798.50	-99.89	9,798.81	0.00	0.00	0.00
16,200.00	90.00	179.27	6,925.00	-9,898.49	-98.61	9,898.79	0.00	0.00	0.00
16,300.00	90.00	179.27	6,925.00	-9,998.48	-97.33	9,998.78	0.00	0.00	0.00
16,400.00	90.00	179.27	6,925.00	-10,098.47	-96.05	10,098.77	0.00	0.00	0.00
16,500.00	90.00	179.27	6,925.00	-10,198.46	-94.77	10,198.75	0.00	0.00	0.00
16,600.00	90.00	179.27	6,925.00	-10,298.46	-93.48	10,298.74	0.00	0.00	0.00
16,700.00	90.00	179.27	6,925.00	-10,398.45	-92.20	10,398.73	0.00	0.00	0.00

Database:	EDMP	**Local Co-ordinate Reference:**	Well Guttersen Y05-786
Company:	Northern Region - DJ Basin	**TVD Reference:**	WELL @ 4814.00ft (Original Well Elev.)
Project:	Mustang	**MD Reference:**	WELL @ 4814.00ft (Original Well Elev.)
Site:	D Section 29	**North Reference:**	Grid
Well:	Guttersen Y05-786	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Guttersen Y05-786		
Design:	Plan #3		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
16,800.00	90.00	179.27	6,925.00	-10,498.44	-90.92	10,498.71	0.00	0.00	0.00
16,900.00	90.00	179.27	6,925.00	-10,598.43	-89.64	10,598.70	0.00	0.00	0.00
17,000.00	90.00	179.27	6,925.00	-10,698.42	-88.36	10,698.68	0.00	0.00	0.00
17,100.00	90.00	179.27	6,925.00	-10,798.41	-87.07	10,798.67	0.00	0.00	0.00
17,200.00	90.00	179.27	6,925.00	-10,898.41	-85.79	10,898.66	0.00	0.00	0.00
17,300.00	90.00	179.27	6,925.00	-10,998.40	-84.51	10,998.64	0.00	0.00	0.00
17,400.00	90.00	179.27	6,925.00	-11,098.39	-83.23	11,098.63	0.00	0.00	0.00
17,500.00	90.00	179.27	6,925.00	-11,198.38	-81.95	11,198.61	0.00	0.00	0.00
17,600.00	90.00	179.27	6,925.00	-11,298.37	-80.67	11,298.60	0.00	0.00	0.00
17,700.00	90.00	179.27	6,925.00	-11,398.37	-79.38	11,398.59	0.00	0.00	0.00
17,800.00	90.00	179.27	6,925.00	-11,498.36	-78.10	11,498.57	0.00	0.00	0.00
17,900.00	90.00	179.27	6,925.00	-11,598.35	-76.82	11,598.56	0.00	0.00	0.00
18,000.00	90.00	179.27	6,925.00	-11,698.34	-75.54	11,698.54	0.00	0.00	0.00
18,100.00	90.00	179.27	6,925.00	-11,798.33	-74.26	11,798.53	0.00	0.00	0.00
18,200.00	90.00	179.27	6,925.00	-11,898.32	-72.97	11,898.52	0.00	0.00	0.00
18,300.00	90.00	179.27	6,925.00	-11,998.32	-71.69	11,998.50	0.00	0.00	0.00
18,400.00	90.00	179.27	6,925.00	-12,098.31	-70.41	12,098.49	0.00	0.00	0.00
18,500.00	90.00	179.27	6,925.00	-12,198.30	-69.13	12,198.48	0.00	0.00	0.00
18,600.00	90.00	179.27	6,925.00	-12,298.29	-67.85	12,298.46	0.00	0.00	0.00
18,700.00	90.00	179.27	6,925.00	-12,398.28	-66.56	12,398.45	0.00	0.00	0.00
18,800.00	90.00	179.27	6,925.00	-12,498.28	-65.28	12,498.43	0.00	0.00	0.00
18,900.00	90.00	179.27	6,925.00	-12,598.27	-64.00	12,598.42	0.00	0.00	0.00
19,000.00	90.00	179.27	6,925.00	-12,698.26	-62.72	12,698.41	0.00	0.00	0.00
19,100.00	90.00	179.27	6,925.00	-12,798.25	-61.44	12,798.39	0.00	0.00	0.00
19,200.00	90.00	179.27	6,925.00	-12,898.24	-60.15	12,898.38	0.00	0.00	0.00
19,300.00	90.00	179.27	6,925.00	-12,998.23	-58.87	12,998.36	0.00	0.00	0.00
19,400.00	90.00	179.27	6,925.00	-13,098.23	-57.59	13,098.35	0.00	0.00	0.00
19,500.00	90.00	179.27	6,925.00	-13,198.22	-56.31	13,198.34	0.00	0.00	0.00
19,600.00	90.00	179.27	6,925.00	-13,298.21	-55.03	13,298.32	0.00	0.00	0.00
19,700.00	90.00	179.27	6,925.00	-13,398.20	-53.75	13,398.31	0.00	0.00	0.00
19,800.00	90.00	179.27	6,925.00	-13,498.19	-52.46	13,498.29	0.00	0.00	0.00
19,829.99	90.00	179.27	6,925.00	-13,528.18	-52.08	13,528.28	0.00	0.00	0.00
TD at 19829.99									

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 Y05-786 S - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	1,316,097.17	3,256,647.42	40.1974336	-104.5812283
GUTTERSEN Y05-786 H - plan hits target center - Point	0.00	0.00	6,357.32	-380.50	-195.72	1,315,716.66	3,256,451.69	40.1963947	-104.5819430
GUTTERSEN Y05-786 T - plan hits target center - Point	0.00	0.00	6,903.31	-849.17	-214.63	1,315,248.00	3,256,432.79	40.1951088	-104.5820280
GUTTERSEN Y05-786 B - plan hits target center - Point	0.00	0.00	6,925.00	-13,528.18	-52.08	1,302,569.02	3,256,595.34	40.1603006	-104.5819161

Database:	EDMP	**Local Co-ordinate Reference:**	Well Guttersen Y05-786
Company:	Northern Region - DJ Basin	**TVD Reference:**	WELL @ 4814.00ft (Original Well Elev.)
Project:	Mustang	**MD Reference:**	WELL @ 4814.00ft (Original Well Elev.)
Site:	D Section 29	**North Reference:**	Grid
Well:	Guttersen Y05-786	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Guttersen Y05-786		
Design:	Plan #3		

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
585.00	585.00	Pierre			
673.00	673.00	Upper Pierre Aquifer Top			
1,571.00	1,571.00	Upper Pierre Aquifer Base			
3,787.40	3,781.00	Parkman			
4,148.08	4,139.00	Sussex			
4,929.90	4,915.00	Shannon			
5,967.63	5,945.00	Teepee Buttes			
6,755.50	6,695.00	Sharon Springs			
6,838.23	6,755.00	Top A Chalk			
6,838.23	6,755.00	Top A Marl			
6,847.13	6,761.00	Top B Chalk			
6,927.67	6,811.00	Top B Marl			
7,073.88	6,880.00	Top C Chalk			
7,190.89	6,913.00	Top C Marl			

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
2,695.00	2,695.00	0.00	0.00	Start Build 2.00
3,044.77	3,043.90	-18.96	-9.75	Start 3338.27 hold at 3044.77 MD
6,383.04	6,357.32	-380.50	-195.72	Start DLS 9.00 TFO -29.05
7,148.04	6,903.31	-849.17	-214.63	TPZ at 7148.04 MD
7,314.71	6,925.00	-1,013.93	-212.51	Landing Pt. at 7314.71 MD
19,829.99	6,925.00	-13,528.18	-52.08	TD at 19829.99

Northern Region - DJ Basin

Mustang
D Section 29
Guttersen Y05-786

Guttersen Y05-786
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 Y05-786
Project:	Mustang	**TVD Reference:**	WELL @ 4814.00ft (Original Well Elev.)
Reference Site:	D Section 29	**MD Reference:**	WELL @ 4814.00ft (Original Well Elev.)
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Guttersen Y05-786	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Guttersen Y05-786	**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	19,829.99	Plan #3 (Guttersen Y05-786)	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	2,796.81	3,087.35	9,637.85	9,617.49	473.329	CC
Diggin State D16-13 (PR) - Wellbore #1 - Gyro Surveys	2,800.00	3,091.03	9,637.85	9,617.47	472.792	ES
Diggin State D16-13 (PR) - Wellbore #1 - Gyro Surveys	5,800.00	5,568.49	9,995.32	9,955.95	253.845	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						Out of range
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
Spike State D16-99HZ - Original Drilling - As-Drilled						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 Y05-786
Project:	Mustang	**TVD Reference:**	WELL @ 4814.00ft (Original Well Elev.)
Reference Site:	D Section 29	**MD Reference:**	WELL @ 4814.00ft (Original Well Elev.)
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Guttersen Y05-786	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Guttersen Y05-786	**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 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 Y05-786
Project:	Mustang	**TVD Reference:**	WELL @ 4814.00ft (Original Well Elev.)
Reference Site:	D Section 29	**MD Reference:**	WELL @ 4814.00ft (Original Well Elev.)
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Guttersen Y05-786	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Guttersen Y05-786	**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	39.54	7,829.74	7,829.54	10,000.000	CC
Butterball D19-27D - Wellbore #1 - Gyro Surveys	2,600.00	2,600.00	7,846.05	7,816.73	267.587	ES
Butterball D19-27D - Wellbore #1 - Gyro Surveys	6,650.00	6,928.12	8,358.45	8,276.07	101.468	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	2,745.65	2,845.80	8,891.12	8,871.75	459.048	CC, ES
HSR Mike Gutteresen 16-17X (SI) - Wellbore #1 - As-Dril	6,950.00	6,802.02	9,584.01	9,536.42	201.376	SF
HSR Mike Guttersen 16-17 (DA) - Wellbore #1 - As-Drille	1,700.00	1,653.13	8,902.04	8,848.07	164.955	CC
HSR Mike Guttersen 16-17 (DA) - Wellbore #1 - As-Drille	1,800.00	1,666.00	8,902.48	8,847.44	161.748	ES
HSR Mike Guttersen 16-17 (DA) - Wellbore #1 - As-Drille	3,500.00	1,666.00	9,154.42	9,094.66	153.202	SF
HSR Weeks 10-17 - Wellbore #1 - Gyro Surveys	100.00	29.40	9,803.07	9,802.89	10,000.000	CC
HSR Weeks 10-17 - Wellbore #1 - Gyro Surveys	2,715.71	2,719.74	9,809.40	9,790.58	521.071	ES
HSR Weeks 10-17 - Wellbore #1 - Gyro Surveys	4,600.00	4,546.42	9,998.52	9,966.92	316.438	SF
HSR Weeks 15-17 (SI) - Wellbore #1 - As-Drilled	2,741.82	2,819.76	8,533.44	8,514.19	443.289	CC, ES
HSR Weeks 15-17 (SI) - Wellbore #1 - As-Drilled	6,950.00	6,666.44	9,256.56	9,209.50	196.668	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	2,843.50	3,147.23	7,948.29	7,927.52	382.617	CC, ES
LDS D17-13 - Wellbore #1 - Gyro Surveys	6,800.00	6,600.00	8,425.27	8,378.66	180.788	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	3,657.06	4,800.00	9,273.55	9,241.73	291.434	CC
LDS D17-24D - LDS D17-24D Gyros - As-Drilled	3,700.00	4,800.00	9,273.65	9,241.68	290.050	ES
LDS D17-24D - LDS D17-24D Gyros - As-Drilled	6,850.00	6,958.73	9,712.66	9,662.97	195.475	SF
LDS D17-24D - LDS D17-24D OH - As-Drilled	3,657.06	4,813.00	9,273.59	9,241.77	291.436	CC
LDS D17-24D - LDS D17-24D OH - As-Drilled	3,700.00	4,813.00	9,273.69	9,241.72	290.051	ES
LDS D17-24D - LDS D17-24D OH - As-Drilled	6,850.00	6,971.73	9,712.70	9,663.01	195.475	SF
LDS D17-25D - LDS D17-25D Gyros - As-Drilled	4,000.95	5,200.00	9,392.35	9,329.01	148.279	CC
LDS D17-25D - LDS D17-25D Gyros - As-Drilled	4,100.00	5,240.07	9,392.64	9,328.75	147.005	ES
LDS D17-25D - LDS D17-25D Gyros - As-Drilled	6,700.00	6,831.83	9,672.42	9,596.61	127.578	SF
LDS D17-25D - LDS D17-25D OH - LDS D17-25D - As D	4,000.95	5,213.00	9,392.34	9,329.00	148.278	CC
LDS D17-25D - LDS D17-25D OH - LDS D17-25D - As D	4,100.00	5,253.07	9,392.63	9,328.74	147.005	ES
LDS D17-25D - LDS D17-25D OH - LDS D17-25D - As D	6,700.00	6,844.83	9,672.41	9,596.60	127.577	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	2,771.68	2,920.33	8,945.27	8,925.35	449.033	CC
LDS D17-33 - LDS D17-33 - As-Drilled	2,800.00	2,938.41	8,945.41	8,925.33	445.532	ES
LDS D17-33 - LDS D17-33 - As-Drilled	7,000.00	6,907.43	9,662.86	9,614.41	199.446	SF
LDS D17-7 - Wellbore #1 - As-Drilled						Out of range
LDS D20-29D - Wellbore #1 - LDS D20-29D - As Drilled	2,955.98	3,679.00	7,462.34	7,432.68	251.561	CC, ES
LDS D20-29D - Wellbore #1 - LDS D20-29D - As Drilled	6,750.00	6,802.38	7,900.44	7,847.49	149.226	SF
LDS D20-30D - Wellbore #1 - LDS D20-30D - As Drilled	3,928.32	4,711.01	7,651.15	7,620.87	252.693	CC
LDS D20-30D - Wellbore #1 - LDS D20-30D - As Drilled	4,000.00	4,736.60	7,651.37	7,620.73	249.700	ES
LDS D20-30D - Wellbore #1 - LDS D20-30D - As Drilled	6,900.00	6,872.53	8,060.07	8,011.99	167.645	SF
LDS RED D17-11 (SI) - Wellbore #1 - As Drilled	509.71	448.89	9,584.89	9,581.87	3,169.788	CC
LDS RED D17-11 (SI) - Wellbore #1 - As Drilled	600.00	500.00	9,585.26	9,581.73	2,713.297	ES
LDS RED D17-11 (SI) - Wellbore #1 - As Drilled	6,300.00	6,296.63	9,992.75	9,948.97	228.242	SF
LDS Red D17-12 - Wellbore #1 - No Surveys	2,695.00	2,637.00	9,714.04	9,681.60	299.445	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 Y05-786
Project:	Mustang	**TVD Reference:**	WELL @ 4814.00ft (Original Well Elev.)
Reference Site:	D Section 29	**MD Reference:**	WELL @ 4814.00ft (Original Well Elev.)
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Guttersen Y05-786	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Guttersen Y05-786	**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 D17-12 - Wellbore #1 - No Surveys	2,700.00	2,642.00	9,714.04	9,681.54	298.887	ES
LDS Red D17-12 - Wellbore #1 - No Surveys	5,500.00	5,422.85	9,991.99	9,925.58	150.481	SF
LDS Red D17-14 (DA) - LDS Red D17-14 - No Surveys	2,695.00	2,649.00	8,240.08	8,126.92	72.813	CC
LDS Red D17-14 (DA) - LDS Red D17-14 - No Surveys	2,800.00	2,753.98	8,241.90	8,124.19	70.019	ES
LDS Red D17-14 (DA) - LDS Red D17-14 - No Surveys	6,900.00	6,748.72	8,892.36	8,600.76	30.495	SF
LDS Red D17-14X (SI) - Wellbore #1 - As-Drilled	783.25	726.26	8,433.45	8,428.51	1,706.560	CC
LDS Red D17-14X (SI) - Wellbore #1 - As-Drilled	1,900.00	1,790.51	8,436.56	8,423.90	666.637	ES
LDS Red D17-14X (SI) - Wellbore #1 - As-Drilled	6,850.00	6,585.37	9,054.02	9,007.45	194.408	SF
LDS Red D17-3J (PR) - Wellbore #1 - Gyro Surveys	634.61	583.62	8,485.49	8,481.57	2,169.572	CC
LDS Red D17-3J (PR) - Wellbore #1 - Gyro Surveys	2,701.70	2,668.51	8,497.63	8,479.03	456.921	ES
LDS Red D17-3J (PR) - Wellbore #1 - Gyro Surveys	6,850.00	6,700.00	9,144.13	9,097.12	194.476	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	5,747.94	6,617.55	6,525.02	6,477.42	137.074	CC
Thomson D20-31D - Wellbore #1 - Gyro Surveys	5,800.00	6,645.69	6,525.13	6,477.27	136.331	ES
Thomson D20-31D - Wellbore #1 - Gyro Surveys	6,700.00	7,200.00	6,627.14	6,574.62	126.196	SF
Weeks 20-17 (SI) - Wellbore #1 - Gyro Surveys	2,477.57	2,400.00	9,300.25	9,283.34	550.014	CC
Weeks 20-17 (SI) - Wellbore #1 - Gyro Surveys	2,695.00	2,559.27	9,301.00	9,282.76	509.935	ES
Weeks 20-17 (SI) - Wellbore #1 - Gyro Surveys	7,000.00	6,812.55	9,983.36	9,935.64	209.183	SF

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Guttersen Y05-786
Project:	Mustang	**TVD Reference:**	WELL @ 4814.00ft (Original Well Elev.)
Reference Site:	D Section 29	**MD Reference:**	WELL @ 4814.00ft (Original Well Elev.)
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Guttersen Y05-786	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Guttersen Y05-786	**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	648.43	609.44	9,768.75	9,764.70	2,413.770	CC
Horton D18-20D - Horton D18-20D - Horton D18-20D - A	1,000.00	900.00	9,770.02	9,763.70	1,545.713	ES
Horton D18-20D - Horton D18-20D - Horton D18-20D - A	3,300.00	1,800.00	9,979.15	9,961.26	557.530	SF
Horton D18-22D - Horton D18-22D - Horton D18-22D - A	177.64	137.64	9,759.00	9,758.29	10,000.000	CC
Horton D18-22D - Horton D18-22D - Horton D18-22D - A	900.00	800.00	9,762.32	9,756.70	1,738.355	ES
Horton D18-22D - Horton D18-22D - Horton D18-22D - A	3,300.00	2,222.96	9,991.67	9,970.59	474.033	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	260.06	248.06	9,732.93	9,731.54	6,998.055	CC
Mick D18-13 - Wellbore #1 - Wellbore #1- As Drilled	1,200.00	1,128.97	9,735.66	9,727.82	1,241.336	ES
Mick D18-13 - Wellbore #1 - Wellbore #1- As Drilled	6,000.00	5,960.19	9,994.81	9,953.20	240.230	SF
Mick D18-14 - Mick D18-14 - Mick D18-14 - As Drilled	364.57	344.57	9,074.21	9,072.10	4,314.919	CC
Mick D18-14 - Mick D18-14 - Mick D18-14 - As Drilled	600.00	537.95	9,074.95	9,071.33	2,505.296	ES
Mick D18-14 - Mick D18-14 - Mick D18-14 - As Drilled	7,000.00	7,037.74	9,656.03	9,607.33	198.275	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	9,859.51	9,859.39	10,000.000	CC, ES
Mick D18-25 - Mick D18-25 - Mick D18-25 - As Drilled	4,300.00	4,219.23	9,994.50	9,965.01	338.828	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	2,736.48	2,800.00	9,720.98	9,701.80	506.859	CC, ES
Scooter D18-10 - Scooter D18-10 - Scooter D18-10 - As	6,100.00	5,940.82	9,990.04	9,948.22	238.877	SF
Scooter D18-15 - Scooter D18-15 - Scooter D18-15 - As	2,395.56	2,360.61	8,613.40	8,596.98	524.459	CC
Scooter D18-15 - Scooter D18-15 - Scooter D18-15 - As	2,500.00	2,407.65	8,613.77	8,596.81	507.843	ES
Scooter D18-15 - Scooter D18-15 - Scooter D18-15 - As	6,950.00	7,147.54	9,155.98	9,107.08	187.231	SF
Scooter D18-16 - Scooter D18-16 - Scooter D18-16 - As	2,695.00	2,642.00	8,315.43	8,282.95	255.988	CC
Scooter D18-16 - Scooter D18-16 - Scooter D18-16 - As	2,700.00	2,647.00	8,315.43	8,282.89	255.510	ES
Scooter D18-16 - Scooter D18-16 - Scooter D18-16 - As	6,900.00	6,741.72	8,895.60	8,812.84	107.486	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	1,386.48	1,339.52	9,220.50	9,211.26	997.788	CC
Scooter D18-4J - Scooter D18-4J - Scooter D18-4J - As D	2,710.08	2,700.56	9,221.64	9,202.91	492.297	ES
Scooter D18-4J - Scooter D18-4J - Scooter D18-4J - As D	6,900.00	6,797.53	9,793.76	9,746.26	206.187	SF
Scooter D18-78-1HN - Original Drilling - Original Drilling -						Out of range
Scooter D18-78-1HN - Original Drilling - ST01 - Original D	6,332.18	11,297.00	9,685.71	9,620.89	149.440	CC
Scooter D18-78-1HN - Original Drilling - ST01 - Original D	6,383.04	11,297.00	9,685.84	9,620.86	149.071	ES
Scooter D18-78-1HN - Original Drilling - ST01 - Original D	6,600.00	11,297.00	9,721.53	9,655.96	148.269	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	473.25	376.25	9,322.14	9,319.53	3,580.779	CC
Scooter D18-8JI - Scooter D18-8JI - Scooter D18-8JI - As	700.00	547.65	9,322.70	9,318.69	2,322.340	ES
Scooter D18-8JI - Scooter D18-8JI - Scooter D18-8JI - As	4,500.00	1,700.00	9,999.84	9,978.89	477.207	SF
Scooter D18-9JI - Scooter D18-9JI - Scooter D18-9JI - As	610.37	512.38	9,240.21	9,236.64	2,584.704	CC
Scooter D18-9JI - Scooter D18-9JI - Scooter D18-9JI - As	900.00	732.25	9,241.40	9,236.02	1,718.581	ES
Scooter D18-9JI - Scooter D18-9JI - Scooter D18-9JI - As	5,800.00	4,275.36	9,975.89	9,939.59	274.833	SF
Shianne D18-29D - Shianne D18-29D - Shianne D18-29D						Out of range

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

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Guttersen Y05-786
Project:	Mustang	**TVD Reference:**	WELL @ 4814.00ft (Original Well Elev.)
Reference Site:	D Section 29	**MD Reference:**	WELL @ 4814.00ft (Original Well Elev.)
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Guttersen Y05-786	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Guttersen Y05-786	**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	6,802.40			
Butterball 13-19 - Butterball 13-19 - Butterball 13-19 - As	2,900.00	2,942.28	6,806.69	6,786.49	336.943	ES
Butterball 13-19 - Butterball 13-19 - Butterball 13-19 - As	7,000.00	6,822.30	7,071.25	7,023.15	147.001	SF
Butterball 14-19 - Butterball 14-19 - Butterball 14-19 - As	6,404.24	6,527.86	5,980.05	5,934.96	132.640	CC, ES
Butterball 14-19 - Butterball 14-19 - Butterball 14-19 - As	7,050.00	6,973.52	6,160.92	6,112.04	126.053	SF
Butterball 23-19 - Butterball 23-19 - Butterball 23-19 - As	671.44	634.48	5,851.98	5,847.75	1,385.057	CC
Butterball 23-19 - Butterball 23-19 - Butterball 23-19 - As	2,900.00	2,933.56	5,857.13	5,836.95	290.268	ES
Butterball 23-19 - Butterball 23-19 - Butterball 23-19 - As	6,900.00	6,756.85	6,189.29	6,141.77	130.229	SF
Butterball B04-19 - Butterball B04-19 - Butterball B04-19	2,982.87	2,993.32	6,771.72	6,751.08	328.028	CC
Butterball B04-19 - Butterball B04-19 - Butterball B04-19	3,100.00	3,087.59	6,772.04	6,750.69	317.078	ES
Butterball B04-19 - Butterball B04-19 - Butterball B04-19	7,050.00	6,900.00	6,996.16	6,947.63	144.164	SF
Butterball D18-75HN - Original Drilling - Original Drilling -	1,927.92	1,910.00	7,783.51	7,771.29	637.363	CC, ES
Butterball D18-75HN - Original Drilling - Original Drilling -	6,800.00	6,279.00	8,630.16	8,584.34	188.370	SF
Butterball D19-17D - Butterball D19-17D - Butterball D19	4,717.94	5,851.89	6,969.58	6,826.79	48.812	CC
Butterball D19-17D - Butterball D19-17D - Butterball D19	4,800.00	5,900.00	6,969.95	6,826.25	48.502	ES
Butterball D19-17D - Butterball D19-17D - Butterball D19	6,450.00	6,910.83	7,066.24	6,911.23	45.587	SF
Butterball D19-18D - Butterball D19-18D - Butterball D19	3,648.30	4,200.00	7,564.98	7,529.37	212.481	CC
Butterball D19-18D - Butterball D19-18D - Butterball D19	3,700.00	4,200.00	7,565.15	7,529.36	211.358	ES
Butterball D19-18D - Butterball D19-18D - Butterball D19	6,850.00	6,817.71	7,887.91	7,834.11	146.614	SF
Butterball D19-19D - Butterball D19-19D - Butterball D19	3,652.52	4,065.47	7,643.61	7,613.21	251.452	CC
Butterball D19-19D - Butterball D19-19D - Butterball D19	3,700.00	4,100.00	7,643.76	7,613.07	249.058	ES
Butterball D19-19D - Butterball D19-19D - Butterball D19	6,950.00	6,882.55	7,980.85	7,930.50	158.503	SF
Butterball D19-20D - Butterball D19-20D - Butterball D19	4,737.93	5,100.00	6,869.30	6,830.90	178.887	CC
Butterball D19-20D - Butterball D19-20D - Butterball D19	4,800.00	5,135.73	6,869.41	6,830.68	177.356	ES
Butterball D19-20D - Butterball D19-20D - Butterball D19	6,950.00	6,953.70	7,124.60	7,072.45	136.616	SF
Butterball D19-22D - Wellbore #1 - Wellbore #1 - As Drille	2,916.26	3,200.01	5,496.99	5,471.52	215.777	CC, ES
Butterball D19-22D - Wellbore #1 - Wellbore #1 - As Drille	6,750.00	6,714.15	5,819.30	5,766.65	110.528	SF
Butterball D19-75HN - Original Drilling - Original Drilling -	6,477.37	11,767.00	4,070.37	3,969.10	40.194	CC, ES
Butterball D19-75HN - Original Drilling - Original Drilling -	6,550.00	11,767.00	4,073.64	3,972.17	40.148	SF
Butterball D24-19 - Butterball D24-19 - Butterball D24-19	225.84	190.84	4,993.00	4,991.93	4,671.602	CC
Butterball D24-19 - Butterball D24-19 - Butterball D24-19	400.00	333.04	4,993.50	4,991.31	2,280.763	ES
Butterball D24-19 - Butterball D24-19 - Butterball D24-19	6,950.00	6,826.60	5,322.96	5,274.97	110.921	SF
Butterball H24-69HN - Original Drilling - Original Drilling -	0.00	0.00	7,810.48			
Butterball H24-69HN - Original Drilling - Original Drilling -	800.00	754.07	7,811.96	7,808.02	1,981.111	ES
Butterball H24-69HN - Original Drilling - Original Drilling -	6,750.00	6,326.00	8,488.26	8,443.40	189.211	SF
Champlin 366 Amoco F 1 - Wellbore #1 - Wellbore #1 - A	594.94	554.95	4,402.04	4,398.38	1,200.407	CC
Champlin 366 Amoco F 1 - Wellbore #1 - Wellbore #1 - A	1,800.00	1,731.61	4,409.83	4,397.74	364.633	ES
Champlin 366 Amoco F 1 - Wellbore #1 - Wellbore #1 - A	6,750.00	6,653.51	4,803.82	4,757.16	102.968	SF
Dechant D19-32D - Dechant D19-32D - Dechant D19-32D	5,785.74	6,500.00	7,838.68	7,725.13	69.032	CC
Dechant D19-32D - Dechant D19-32D - Dechant D19-32D	5,900.00	6,550.92	7,839.12	7,725.07	68.736	ES
Dechant D19-32D - Dechant D19-32D - Dechant D19-32D	6,650.00	7,146.99	7,893.14	7,775.71	67.215	SF
Graznak 01-19 - Graznak 01-19 - Graznak 01-19 - As Dri	2,695.00	2,664.00	6,097.20	6,064.52	186.597	CC
Graznak 01-19 - Graznak 01-19 - Graznak 01-19 - As Dri	3,000.00	2,968.42	6,099.21	6,062.88	167.902	ES
Graznak 01-19 - Graznak 01-19 - Graznak 01-19 - As Dri	6,950.00	6,792.42	6,332.04	6,248.47	75.765	SF
Higgins D19-720 - Original Drilling - Original Drilling - As	937.61	919.63	7,226.65	7,220.81	1,237.304	CC
Higgins D19-720 - Original Drilling - Original Drilling - As	1,000.00	958.77	7,226.75	7,220.61	1,177.656	ES
Higgins D19-720 - Original Drilling - Original Drilling - As	6,750.00	6,693.00	8,037.57	7,994.50	186.600	SF
Higgins D19-720 - Sidetrack Curve/Horizontal - ST01 - A	6,510.38	11,660.02	3,568.66	3,517.03	69.117	CC, ES
Higgins D19-720 - Sidetrack Curve/Horizontal - ST01 - A	6,650.00	11,660.02	3,585.55	3,533.46	68.835	SF
Independence D18-717 - Independence D18-717 - Plan 1	2,804.53	3,004.08	7,321.48	7,301.22	361.276	CC, ES
Independence D18-717 - Independence D18-717 - Plan 1	6,700.00	6,300.00	7,686.76	7,641.18	168.640	SF
Independence D18-725 - Independence D18-725 - Plan 1	2,695.00	2,681.00	7,328.92	7,310.12	389.724	CC
Independence D18-725 - Independence D18-725 - Plan 1	2,700.00	2,686.00	7,328.93	7,310.09	389.001	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 Y05-786
Project:	Mustang	**TVD Reference:**	WELL @ 4814.00ft (Original Well Elev.)
Reference Site:	D Section 29	**MD Reference:**	WELL @ 4814.00ft (Original Well Elev.)
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Guttersen Y05-786	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Guttersen Y05-786	**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	6,650.00	6,200.00	7,734.54	7,689.43	171.455	SF
Independence D18-732 - Independence D18-732 - Plan 1	2,695.00	2,681.00	7,335.01	7,316.21	390.048	CC
Independence D18-732 - Independence D18-732 - Plan 1	2,700.00	2,686.00	7,335.02	7,316.18	389.324	ES
Independence D18-732 - Independence D18-732 - Plan 1	6,750.00	6,238.55	7,887.96	7,842.49	173.457	SF
Independence D18-739 - Independence D18-739 - Plan 1	2,300.00	2,285.00	7,340.90	7,324.93	459.671	CC
Independence D18-739 - Independence D18-739 - Plan 1	2,400.00	2,348.88	7,341.11	7,324.56	443.490	ES
Independence D18-739 - Independence D18-739 - Plan 1	6,800.00	6,356.31	7,998.73	7,952.31	172.305	SF
Independence D18-744 - Independence D18-744 - Plan 1	2,200.00	2,184.00	7,346.85	7,331.60	481.780	CC
Independence D18-744 - Independence D18-744 - Plan 1	2,300.00	2,251.65	7,347.04	7,331.19	463.663	ES
Independence D18-744 - Independence D18-744 - Plan 1	6,900.00	6,256.80	8,150.79	8,103.91	173.864	SF
Independence D18-759 - Independence D18-759 - Plan 1	2,992.45	3,443.34	8,214.01	8,191.62	366.877	CC
Independence D18-759 - Independence D18-759 - Plan 1	3,044.77	3,505.47	8,214.26	8,191.48	360.561	ES
Independence D18-759 - Independence D18-759 - Plan 1	6,700.00	6,350.00	8,390.40	8,344.58	183.086	SF
Independence D18-767 - Independence D18-767 - Plan 1	2,695.00	2,702.00	8,258.22	8,239.33	437.389	CC
Independence D18-767 - Independence D18-767 - Plan 1	2,700.00	2,703.00	8,258.22	8,239.32	436.912	ES
Independence D18-767 - Independence D18-767 - Plan 1	6,750.00	5,974.77	8,632.10	8,587.51	193.619	SF
Independence D30-711 - Independence D30-711 OH - As	7,350.39	15,770.09	746.82	647.38	7.510	CC
Independence D30-711 - Independence D30-711 OH - As	7,400.00	15,811.00	747.02	647.17	7.482	ES
Independence D30-711 - Independence D30-711 OH - As	9,300.00	17,713.04	793.78	670.17	6.422	SF
Independence D30-718 - Independence D30-718 OH - A	7,111.90	15,610.07	1,143.95	1,047.16	11.818	CC
Independence D30-718 - Independence D30-718 OH - A	7,148.04	15,637.36	1,144.10	1,047.03	11.786	ES
Independence D30-718 - Independence D30-718 OH - A	9,400.00	17,823.00	1,241.35	1,117.06	9.988	SF
Independence D30-724 - Independence D30-724 OH - A	7,071.62	15,568.20	1,637.31	1,541.36	17.065	CC
Independence D30-724 - Independence D30-724 OH - A	9,161.24	17,674.99	1,661.58	1,539.91	13.657	ES
Independence D30-724 - Independence D30-724 OH - A	9,400.00	17,803.00	1,679.71	1,555.84	13.560	SF
Independence D30-731 - Independence D30-731 OH - A	6,917.78	15,295.01	2,068.35	1,974.47	22.032	CC
Independence D30-731 - Independence D30-731 OH - A	7,500.00	15,932.54	2,073.01	1,972.22	20.567	ES
Independence D30-731 - Independence D30-731 OH - A	9,500.00	17,781.00	2,143.90	2,018.71	17.126	SF
Independence D30-737 - Independence D30-737 OH - A	7,157.97	15,739.73	2,454.34	2,357.08	25.234	CC
Independence D30-737 - Independence D30-737 OH - A	7,250.00	15,811.00	2,454.92	2,356.76	25.009	ES
Independence D30-737 - Independence D30-737 OH - A	9,600.00	17,920.00	2,527.08	2,401.19	20.074	SF
Independence D30-743 - Independence D30-743 OH - A	8,161.15	16,711.06	2,858.88	2,749.89	26.231	CC
Independence D30-743 - Independence D30-743 OH - A	8,300.00	16,806.87	2,859.89	2,749.43	25.890	ES
Independence D30-743 - Independence D30-743 OH - A	9,800.00	17,885.00	2,985.14	2,858.04	23.488	SF
Independence D30-758 - Independence D30-758 OH - A	8,625.58	17,155.66	3,649.46	3,534.82	31.836	CC
Independence D30-758 - Independence D30-758 OH - A	8,700.00	17,189.69	3,649.87	3,534.60	31.663	ES
Independence D30-758 - Independence D30-758 OH - A	9,700.00	17,863.00	3,705.03	3,579.17	29.440	SF
Independence D30-765 - Independence D30-765 OH - A	7,129.09	15,695.18	4,131.62	4,035.16	42.833	CC
Independence D30-765 - Independence D30-765 OH - A	8,800.00	17,366.47	4,142.88	4,026.36	35.553	ES
Independence D30-765 - Independence D30-765 OH - A	9,800.00	17,947.00	4,181.47	4,054.90	33.036	SF
Independence D30-770 - Independence D30-770 OH - A	9,001.99	17,483.83	4,463.23	4,343.56	37.297	CC
Independence D30-770 - Independence D30-770 OH - A	9,200.00	17,629.99	4,464.35	4,342.35	36.595	ES
Independence D30-770 - Independence D30-770 OH - A	9,900.00	17,813.00	4,504.71	4,377.47	35.403	SF
Independence D30-777 - Independence D30-777 - As-Dr	7,662.66	16,291.03	4,922.56	4,819.89	47.948	CC
Independence D30-777 - Independence D30-777 - As-Dr	7,900.00	16,476.54	4,923.93	4,818.86	46.866	ES
Independence D30-777 - Independence D30-777 - As-Dr	10,100.00	17,958.00	5,003.34	4,874.91	38.957	SF
Independence State D30-784 - Independence State D30-	7,097.22	15,700.98	5,388.43	5,291.80	55.762	CC
Independence State D30-784 - Independence State D30-	7,100.00	15,703.44	5,388.43	5,291.77	55.745	ES
Independence State D30-784 - Independence State D30-	10,400.00	17,958.00	5,598.32	5,467.77	42.881	SF
LDS White D19-10 - LDS White D19-10 - LDS White D19	369.32	330.32	5,207.06	5,204.98	2,512.056	CC
LDS White D19-10 - LDS White D19-10 - LDS White D19	2,100.00	2,031.12	5,216.09	5,201.87	366.723	ES
LDS White D19-10 - LDS White D19-10 - LDS White D19	6,850.00	6,741.28	5,633.75	5,586.43	119.057	SF
LDS White D19-15 - LDS White D19-15 - LDS White D19	1,783.08	1,746.09	4,108.97	4,096.88	340.022	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 Y05-786
Project:	Mustang	**TVD Reference:**	WELL @ 4814.00ft (Original Well Elev.)
Reference Site:	D Section 29	**MD Reference:**	WELL @ 4814.00ft (Original Well Elev.)
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Guttersen Y05-786	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Guttersen Y05-786	**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						
LDS White D19-15 - LDS White D19-15 - LDS White D19	2,000.00	1,937.61	4,109.56	4,096.03	303.746	ES
LDS White D19-15 - LDS White D19-15 - LDS White D19	6,800.00	6,670.01	4,408.25	4,361.34	93.969	SF
LDS White D19-16 - Wellbore #1 - Wellbore #1 - As Drille	100.00	52.55	3,340.30	3,340.09	10,000.000	CC
LDS White D19-16 - Wellbore #1 - Wellbore #1 - As Drille	2,700.00	2,646.19	3,344.67	3,326.16	180.666	ES
LDS White D19-16 - Wellbore #1 - Wellbore #1 - As Drille	6,700.00	6,609.63	3,695.28	3,648.95	79.757	SF
Mile High 02-19 - Wellbore #1 - Wellbore #1 - As Drilled	195.01	154.01	6,381.82	6,380.99	7,692.413	CC
Mile High 02-19 - Wellbore #1 - Wellbore #1 - As Drilled	2,100.00	2,014.81	6,385.08	6,370.92	450.915	ES
Mile High 02-19 - Wellbore #1 - Wellbore #1 - As Drilled	6,850.00	6,739.70	6,850.55	6,803.32	145.069	SF
Sean D19-09 - Wellbore #1 - Wellbore #1 - As Drilled	2,719.06	2,700.00	4,568.74	4,549.98	243.477	CC
Sean D19-09 - Wellbore #1 - Wellbore #1 - As Drilled	2,800.00	2,815.98	4,569.09	4,549.66	235.139	ES
Sean D19-09 - Wellbore #1 - Wellbore #1 - As Drilled	6,750.00	6,634.40	4,995.00	4,948.45	107.319	SF
Turk Blue D19-02J - Turk Blue D19-02J - Turk Blue D19-	2,033.43	2,006.49	7,907.95	7,894.05	569.273	CC
Turk Blue D19-02J - Turk Blue D19-02J - Turk Blue D19-	2,300.00	2,215.06	7,909.03	7,893.46	507.846	ES
Turk Blue D19-02J - Turk Blue D19-02J - Turk Blue D19-	6,950.00	6,884.98	8,404.70	8,356.63	174.848	SF
Turk Blue D19-04 - Turk Blue D19-04 - Turk Blue D19-04	2,775.16	2,869.38	8,846.40	8,826.85	452.560	CC
Turk Blue D19-04 - Turk Blue D19-04 - Turk Blue D19-04	2,800.00	2,890.46	8,846.45	8,826.74	449.018	ES
Turk Blue D19-04 - Turk Blue D19-04 - Turk Blue D19-04	6,800.00	6,800.00	9,141.79	9,094.43	193.024	SF
Turk Blue D19-05 - Turk Blue D19-05 - Turk Blue D19-05	2,402.50	2,377.55	7,582.50	7,565.99	459.123	CC
Turk Blue D19-05 - Turk Blue D19-05 - Turk Blue D19-05	2,700.00	2,658.22	7,583.35	7,564.79	408.633	ES
Turk Blue D19-05 - Turk Blue D19-05 - Turk Blue D19-05	7,050.00	6,838.03	7,981.65	7,933.36	165.300	SF
Turk Blue D19-06 - Turk Blue D19-06 - Turk Blue D19-06	614.04	575.05	6,812.37	6,808.56	1,789.950	CC
Turk Blue D19-06 - Turk Blue D19-06 - Turk Blue D19-06	2,700.00	2,632.02	6,815.72	6,797.26	369.220	ES
Turk Blue D19-06 - Turk Blue D19-06 - Turk Blue D19-06	6,950.00	6,815.97	7,218.84	7,171.01	150.930	SF
Turk White D19-01 - Wellbore #1 - Wellbore #1 - As Drille	100.00	46.29	6,978.16	6,977.96	10,000.000	CC
Turk White D19-01 - Wellbore #1 - Wellbore #1 - As Drille	2,400.00	2,300.00	6,985.45	6,969.21	430.160	ES
Turk White D19-01 - Wellbore #1 - Wellbore #1 - As Drille	6,900.00	6,812.99	7,591.21	7,543.63	159.563	SF
Turk White D19-02 - Wellbore #1 - Wellbore #1 - As Drille	950.81	900.00	7,555.50	7,549.33	1,223.409	CC
Turk White D19-02 - Wellbore #1 - Wellbore #1 - As Drille	1,900.00	1,800.00	7,557.68	7,544.97	594.487	ES
Turk White D19-02 - Wellbore #1 - Wellbore #1 - As Drille	6,950.00	6,797.29	8,083.15	8,035.48	169.549	SF
Turk White D19-08 - Wellbore #1 - Wellbore #1 - As Drille	2,548.33	2,510.13	5,599.40	5,581.90	320.054	CC
Turk White D19-08 - Wellbore #1 - Wellbore #1 - As Drille	2,700.00	2,623.80	5,599.98	5,581.54	303.784	ES
Turk White D19-08 - Wellbore #1 - Wellbore #1 - As Drille	6,800.00	6,654.23	6,083.46	6,036.72	130.165	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 Y05-786
Project:	Mustang	**TVD Reference:**	WELL @ 4814.00ft (Original Well Elev.)
Reference Site:	D Section 29	**MD Reference:**	WELL @ 4814.00ft (Original Well Elev.)
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Guttersen Y05-786	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Guttersen Y05-786	**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	2,695.00	2,649.00	5,871.86	5,839.31	180.424	CC
Bohlender D20-2J - Wellbore #1 - No Surveys	2,700.00	2,654.00	5,871.86	5,839.25	180.088	ES
Bohlender D20-2J - Wellbore #1 - No Surveys	6,800.00	6,682.19	6,429.46	6,347.51	78.457	SF
Bohlender D20-3 - Wellbore #1 - Gyro Surveys	2,239.75	2,200.00	6,951.98	6,936.66	453.789	CC
Bohlender D20-3 - Wellbore #1 - Gyro Surveys	2,703.00	2,681.61	6,953.42	6,934.77	372.730	ES
Bohlender D20-3 - Wellbore #1 - Gyro Surveys	6,900.00	6,764.61	7,613.64	7,566.31	160.869	SF
Bohlender D20-4 (P&A) - Wellbore #1 - No Surveys	2,695.00	2,651.00	7,020.11	6,957.66	112.415	CC
Bohlender D20-4 (P&A) - Wellbore #1 - No Surveys	2,800.00	2,755.98	7,021.76	6,956.87	108.211	ES
Bohlender D20-4 (P&A) - Wellbore #1 - No Surveys	6,850.00	6,718.92	7,599.67	7,441.52	48.052	SF
Bohlender D20-6 - Wellbore#1 - Gyro Surveys	2,731.21	2,750.73	5,645.21	5,626.24	297.492	CC, ES
Bohlender D20-6 - Wellbore#1 - Gyro Surveys	6,800.00	6,634.84	6,220.04	6,173.44	133.465	SF
Butterball D19-27D - Butterball D19-27D - Butterball D19	100.00	39.54	7,829.74	7,829.55	10,000.000	CC
Butterball D19-27D - Butterball D19-27D - Butterball D19	2,600.00	2,600.00	7,846.05	7,816.73	267.601	ES
Butterball D19-27D - Butterball D19-27D - Butterball D19	6,650.00	6,928.12	8,358.45	8,276.08	101.473	SF
Duncan D20-1 (P&A) - Wellbore #1 - No Surveys	2,695.00	2,650.00	7,953.83	7,891.40	127.408	CC
Duncan D20-1 (P&A) - Wellbore #1 - No Surveys	2,800.00	2,754.98	7,955.76	7,890.89	122.643	ES
Duncan D20-1 (P&A) - Wellbore #1 - No Surveys	6,950.00	6,778.42	8,645.97	8,486.42	54.189	SF
Duncan D20-10 - Wellbore #1 - Gyro Surveys	2,704.96	2,687.26	4,709.27	4,690.58	251.995	CC, ES
Duncan D20-10 - Wellbore #1 - Gyro Surveys	6,850.00	6,740.57	5,297.99	5,250.84	112.369	SF
Duncan D20-11 (SI) - Wellbore #1 - No Surveys	2,695.00	2,656.00	4,405.44	4,372.83	135.112	CC
Duncan D20-11 (SI) - Wellbore #1 - No Surveys	2,700.00	2,661.00	4,405.44	4,372.77	134.861	ES
Duncan D20-11 (SI) - Wellbore #1 - No Surveys	6,750.00	6,651.76	4,962.23	4,880.71	60.874	SF
Duncan D20-12 (SI) - Wellbore #1 - No Surveys	2,695.00	2,654.00	4,221.29	4,188.70	129.533	CC
Duncan D20-12 (SI) - Wellbore #1 - No Surveys	2,700.00	2,659.00	4,221.29	4,188.64	129.293	ES
Duncan D20-12 (SI) - Wellbore #1 - No Surveys	6,700.00	6,609.86	4,701.66	4,620.63	58.024	SF
Duncan D20-13 (SI) - Wellbore #1 - No Surveys	2,695.00	2,659.00	2,692.83	2,660.20	82.521	CC
Duncan D20-13 (SI) - Wellbore #1 - No Surveys	2,700.00	2,664.00	2,692.84	2,660.15	82.368	ES
Duncan D20-13 (SI) - Wellbore #1 - No Surveys	6,600.00	6,528.62	3,116.01	3,036.02	38.955	SF
Duncan D20-14 (SI) - Wellbore #1 - Gyro Surveys	250.18	208.18	3,282.94	3,281.72	2,696.759	CC
Duncan D20-14 (SI) - Wellbore #1 - Gyro Surveys	2,705.85	2,675.90	3,289.27	3,270.63	176.514	ES
Duncan D20-14 (SI) - Wellbore #1 - Gyro Surveys	6,650.00	6,556.42	3,795.40	3,749.52	82.741	SF
Duncan D20-15 (P&A) - Wellbore #1 - Gyro Surveys	2,714.53	2,701.88	3,610.07	3,591.29	192.299	CC, ES
Duncan D20-15 (P&A) - Wellbore #1 - Gyro Surveys	6,700.00	6,579.53	4,132.55	4,086.44	89.625	SF
Duncan D20-16 (SI) - Wellbore #1 - Gyro Surveys	301.67	274.67	4,800.42	4,798.78	2,935.828	CC
Duncan D20-16 (SI) - Wellbore #1 - Gyro Surveys	2,700.00	2,659.84	4,802.78	4,784.22	258.774	ES
Duncan D20-16 (SI) - Wellbore #1 - Gyro Surveys	7,000.00	6,815.09	5,405.22	5,357.39	113.010	SF
Duncan D20-2 - Wellbore #1 - Gyro Surveys	1,969.62	1,914.64	7,243.70	7,230.36	543.070	CC
Duncan D20-2 - Wellbore #1 - Gyro Surveys	2,300.00	2,191.94	7,244.87	7,229.38	467.721	ES
Duncan D20-2 - Wellbore #1 - Gyro Surveys	7,148.04	7,148.04	8,159.86	8,110.80	166.325	SF
Duncan D20-7 - Wellbore #1 - Gyro Surveys	2,713.86	2,703.46	6,469.33	6,450.56	344.765	CC, ES
Duncan D20-7 - Wellbore #1 - Gyro Surveys	6,850.00	6,721.25	7,072.46	7,025.38	150.236	SF
Duncan D20-8 - Wellbore #1 - Gyro Surveys	1,302.04	1,276.08	6,603.94	6,595.21	757.090	CC
Duncan D20-8 - Wellbore #1 - Gyro Surveys	1,400.00	1,343.61	6,604.13	6,594.82	709.379	ES
Duncan D20-8 - Wellbore #1 - Gyro Surveys	6,900.00	6,796.45	7,283.60	7,236.16	153.518	SF
Duncan D20-9 (P&A) - Wellbore #1 - Gyro Surveys	2,724.28	2,737.56	5,672.44	5,653.50	299.604	CC, ES
Duncan D20-9 (P&A) - Wellbore #1 - Gyro Surveys	6,900.00	6,789.04	6,307.15	6,259.70	132.926	SF
E Ranches (P&A) - Wellbore #1 - No Surveys	2,695.00	2,651.00	2,894.59	2,832.14	46.352	CC
E Ranches (P&A) - Wellbore #1 - No Surveys	2,800.00	2,755.98	2,896.36	2,831.47	44.635	ES
E Ranches (P&A) - Wellbore #1 - No Surveys	6,600.00	6,520.62	3,351.45	3,198.04	21.846	SF
Guttersen 10-20 - Wellbore #1 - Gyro Surveys	2,449.93	2,400.00	4,924.13	4,907.37	293.764	CC
Guttersen 10-20 - Wellbore #1 - Gyro Surveys	2,600.00	2,508.90	4,924.78	4,907.11	278.576	ES
Guttersen 10-20 - Wellbore #1 - Gyro Surveys	6,650.00	6,646.73	5,418.03	5,371.97	117.652	SF
LDS D20-30D - LDS D20-30D - LDS D20-30D - As Drilled	3,930.64	4,700.00	7,658.60	7,626.24	236.664	CC, ES

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 Y05-786
Project:	Mustang	**TVD Reference:**	WELL @ 4814.00ft (Original Well Elev.)
Reference Site:	D Section 29	**MD Reference:**	WELL @ 4814.00ft (Original Well Elev.)
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Guttersen Y05-786	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Guttersen Y05-786	**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	6,900.00	6,855.65	8,063.86	8,014.26	162.568 SF	

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Guttersen Y05-786
Project:	Mustang	**TVD Reference:**	WELL @ 4814.00ft (Original Well Elev.)
Reference Site:	D Section 29	**MD Reference:**	WELL @ 4814.00ft (Original Well Elev.)
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Guttersen Y05-786	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Guttersen Y05-786	**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	2,695.00	2,691.00	7,608.44	7,545.19	120.295	CC
O'SH D 28-7 (P&A) - Wellbore #1 - No Surveys	2,800.00	2,795.98	7,609.40	7,543.72	115.841	ES
O'SH D 28-7 (P&A) - Wellbore #1 - No Surveys	7,300.00	6,920.83	7,932.95	7,769.19	48.443	SF
Spike ST GWS D 28-12 (SI) - Wellbore #1 - Gyro Survey	388.55	380.55	4,930.97	4,928.65	2,127.531	CC
Spike ST GWS D 28-12 (SI) - Wellbore #1 - Gyro Survey	600.00	558.51	4,931.58	4,927.88	1,334.507	ES
Spike ST GWS D 28-12 (SI) - Wellbore #1 - Gyro Survey	9,500.00	6,952.98	5,511.74	5,454.02	95.488	SF
Guttersen D State 28-29D (PR) - Wellbore #1 - MWD Sur	945.47	917.49	5,371.45	5,366.34	1,050.198	CC
Guttersen D State 28-29D (PR) - Wellbore #1 - MWD Sur	1,000.00	939.47	5,371.62	5,366.23	997.443	ES
Guttersen D State 28-29D (PR) - Wellbore #1 - MWD Sur	7,150.00	6,928.83	6,725.95	6,677.57	139.030	SF
Guttersen D State 28-30D - Guttersen D State 28-30D OH	4,210.72	4,790.22	4,988.06	4,943.95	113.096	CC
Guttersen D State 28-30D - Guttersen D State 28-30D OH	4,300.00	4,813.00	4,988.54	4,943.94	111.851	ES
Guttersen D State 28-30D - Guttersen D State 28-30D OH	6,950.00	6,913.00	5,297.82	5,237.51	87.838	SF
Guttersen D State 28-30D - Gyros - As-Drilled	4,210.71	4,777.21	4,988.05	4,943.95	113.096	CC
Guttersen D State 28-30D - Gyros - As-Drilled	4,300.00	4,800.00	4,988.54	4,943.94	111.851	ES
Guttersen D State 28-30D - Gyros - As-Drilled	6,950.00	6,900.00	5,297.81	5,237.50	87.838	SF
Guttersen State D28-18D (PR) - Wellbore #1 - MWD Surv	0.00	0.00	6,666.76			
Guttersen State D28-18D (PR) - Wellbore #1 - MWD Surv	100.00	47.00	6,666.95	6,666.74	10,000.000	ES
Guttersen State D28-18D (PR) - Wellbore #1 - MWD Surv	9,200.00	6,973.05	8,081.95	8,022.86	136.775	SF
Guttersen State D28-21D (SI) - Wellbore #1 - As-Drilled	0.00	0.00	6,567.82			
Guttersen State D28-21D (SI) - Wellbore #1 - As-Drilled	1,000.00	942.79	6,570.25	6,563.86	1,028.505	ES
Guttersen State D28-21D (SI) - Wellbore #1 - As-Drilled	10,400.00	10,400.00	8,103.31	8,028.51	108.343	SF
Guttersen State D28-24D (SI) - Wellbore #1 - MWD Surv	661.68	646.69	6,579.45	6,575.27	1,576.197	CC
Guttersen State D28-24D (SI) - Wellbore #1 - MWD Surv	1,000.00	939.41	6,580.50	6,574.09	1,025.463	ES
Guttersen State D28-24D (SI) - Wellbore #1 - MWD Surv	11,600.00	7,160.63	7,912.74	7,837.36	104.982	SF
Guttersen State D28-28D (PR) - Wellbore #1 - MWD Surv	0.00	0.00	6,667.04			
Guttersen State D28-28D (PR) - Wellbore #1 - MWD Surv	300.00	230.98	6,667.96	6,666.49	4,542.912	ES
Guttersen State D28-28D (PR) - Wellbore #1 - MWD Surv	7,200.00	6,913.73	7,828.82	7,778.75	156.354	SF
Guttersen State D28-79HN - Wellbore #1 - As-Drilled	6,300.00	9,306.10	4,708.17	4,632.66	62.352	SF
Guttersen State D28-79HN - Wellbore #1 - As-Drilled	6,535.11	9,199.66	4,701.10	4,626.18	62.747	CC, ES
HSR Guttersen State 10-28 (SI) - Wellbore #1 - Gyro Sur	2,801.67	2,879.37	7,445.61	7,425.95	378.641	CC, ES
HSR Guttersen State 10-28 (SI) - Wellbore #1 - Gyro Sur	11,900.00	6,923.08	8,841.90	8,772.28	126.997	SF
HSR Guttersen State 15-28 (SI) - Wellbore #1 - Gyro Sur	8,930.79	6,748.71	8,130.94	8,075.18	145.817	CC
HSR Guttersen State 15-28 (SI) - Wellbore #1 - Gyro Sur	9,000.00	6,756.65	8,131.24	8,075.07	144.775	ES
HSR Guttersen State 15-28 (SI) - Wellbore #1 - Gyro Sur	14,300.00	7,208.57	9,733.17	9,646.15	111.861	SF
HSR Guttersen State 7-28 (PR) - Wellbore #1 - Gyro Sur	2,813.06	2,948.25	7,372.82	7,352.89	369.856	CC, ES
HSR Guttersen State 7-28 (PR) - Wellbore #1 - Gyro Sur	11,100.00	6,600.00	9,186.65	9,123.79	146.151	SF
O'SH D 28-1 (SI) - Wellbore #1 - Gyro Surveys	2,305.70	2,318.75	8,676.56	8,660.60	543.748	CC
O'SH D 28-1 (SI) - Wellbore #1 - Gyro Surveys	2,704.29	2,734.03	8,677.51	8,658.67	460.775	ES
O'SH D 28-1 (SI) - Wellbore #1 - Gyro Surveys	9,700.00	6,900.84	9,978.22	9,920.19	171.955	SF
O'SH D 28-2 (SI) - Wellbore #1 - Gyro Surveys	739.94	741.97	7,782.83	7,777.99	1,607.718	CC
O'SH D 28-2 (SI) - Wellbore #1 - Gyro Surveys	2,700.00	2,704.92	7,786.93	7,768.21	415.932	ES
O'SH D 28-2 (SI) - Wellbore #1 - Gyro Surveys	10,600.00	6,932.81	9,835.97	9,775.77	163.381	SF
O'SH D 28-8 (SI) - Wellbore #1 - Gyro Surveys	0.00	19.13	8,923.05			
O'SH D 28-8 (SI) - Wellbore #1 - Gyro Surveys	2,695.00	2,659.46	8,925.82	8,907.28	481.386	ES
O'SH D 28-8 (SI) - Wellbore #1 - Gyro Surveys	10,000.00	6,925.97	9,978.12	9,917.70	165.156	SF
Spike ST GWS D 28-03 (PR) - Wellbore #1 - Gyro Survey	2,708.83	2,707.87	6,639.78	6,621.00	353.498	CC, ES
Spike ST GWS D 28-03 (PR) - Wellbore #1 - Gyro Survey	7,200.00	6,903.82	7,131.45	7,066.55	109.889	SF
Spike ST GWS D 28-4 (SI) - Wellbore #1 - Gyro Surveys	2,446.07	2,416.41	5,301.70	5,284.90	315.582	CC
Spike ST GWS D 28-4 (SI) - Wellbore #1 - Gyro Surveys	2,500.00	2,447.03	5,301.83	5,284.73	310.053	ES
Spike ST GWS D 28-4 (SI) - Wellbore #1 - Gyro Surveys	7,148.04	6,851.68	5,875.45	5,826.99	121.234	SF
Spike State D 28-13 (SI) - Wellbore #1 - Gyro Surveys	8,812.70	6,926.41	5,153.76	5,098.11	92.615	CC, ES
Spike State D 28-13 (SI) - Wellbore #1 - Gyro Surveys	10,800.00	6,935.07	5,523.63	5,458.03	84.193	SF
Spike State D28-05 (PR) - Wellbore #1 - Gyro Surveys	2,700.71	2,688.15	4,823.93	4,805.25	258.267	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 Y05-786
Project:	Mustang	**TVD Reference:**	WELL @ 4814.00ft (Original Well Elev.)
Reference Site:	D Section 29	**MD Reference:**	WELL @ 4814.00ft (Original Well Elev.)
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Guttersen Y05-786	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Guttersen Y05-786	**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	2,800.00	2,818.69	4,824.63	4,805.17	247.981	ES
Spike State D28-05 (PR) - Wellbore #1 - Gyro Surveys	7,200.00	6,891.69	5,266.28	5,217.57	108.123	SF
Spike State D28-06 (SI) - Wellbore #1 - Gyro Surveys	2,264.99	2,248.03	6,539.85	6,524.29	420.275	CC
Spike State D28-06 (SI) - Wellbore #1 - Gyro Surveys	2,600.00	2,536.75	6,540.97	6,523.20	368.099	ES
Spike State D28-06 (SI) - Wellbore #1 - Gyro Surveys	10,000.00	6,845.46	7,931.46	7,872.77	135.131	SF
Spike State D28-11 (SI) - Wellbore #1 - Gyro Surveys	2,440.42	2,424.47	6,536.42	6,519.60	388.638	CC
Spike State D28-11 (SI) - Wellbore #1 - Gyro Surveys	2,600.00	2,537.42	6,536.98	6,519.19	367.601	ES
Spike State D28-11 (SI) - Wellbore #1 - Gyro Surveys	10,800.00	7,203.00	7,582.58	7,517.54	116.578	SF
Spike State GWS D 28-14 (P&A) - Wellbore #1 - Gyro Su	8,800.00	8,800.00	6,688.06	6,625.76	107.355	ES
Spike State GWS D 28-14 (P&A) - Wellbore #1 - Gyro Su	8,892.08	6,961.30	6,687.43	6,631.11	118.739	CC
Spike State GWS D 28-14 (P&A) - Wellbore #1 - Gyro Su	12,100.00	7,153.09	7,414.56	7,341.29	101.190	SF

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Guttersen Y05-786
Project:	Mustang	**TVD Reference:**	WELL @ 4814.00ft (Original Well Elev.)
Reference Site:	D Section 29	**MD Reference:**	WELL @ 4814.00ft (Original Well Elev.)
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Guttersen Y05-786	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Guttersen Y05-786	**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	805.89	803.90	1,128.85	1,123.54	212.375	CC
Guttersen D29-30D - Wellbore #1 - Design #1	900.00	884.79	1,129.13	1,123.19	190.012	ES
Guttersen D29-30D - Wellbore #1 - Design #1	6,550.00	6,672.09	2,626.42	2,579.13	55.537	SF
Guttersen D29-31D - Wellbore #1 - Guttersen D29-31D	100.00	69.70	385.38	385.13	1,536.377	CC
Guttersen D29-31D - Wellbore #1 - Guttersen D29-31D	500.00	467.98	386.58	384.18	161.082	ES
Guttersen D29-31D - Wellbore #1 - Guttersen D29-31D	6,500.00	6,527.37	1,415.13	1,370.04	31.388	SF
Guttersen D29-33D - Wellbore #1 - Guttersen D29-33D -	8,057.70	7,125.01	550.16	490.57	9.232	CC, ES
Guttersen D29-33D - Wellbore #1 - Guttersen D29-33D -	8,100.00	7,124.98	551.79	491.93	9.219	SF
Guttersen D29-65HN - Guttersen D29-65HN OH - As-Dri	6,784.92	7,023.78	103.67	64.56	2.651	CC
Guttersen D29-65HN - Guttersen D29-65HN OH - As-Dri	6,800.00	7,026.70	104.90	62.70	2.486	ES, SF
Guttersen D29-67HN - Original Drilling - Original Drilling -	2,145.33	2,131.12	1,052.21	1,038.81	78.523	CC
Guttersen D29-67HN - Original Drilling - Original Drilling -	2,200.00	2,179.94	1,052.37	1,038.60	76.436	ES
Guttersen D29-67HN - Original Drilling - Original Drilling -	6,550.00	6,721.73	1,331.93	1,286.85	29.548	SF
Guttersen D29-69HN - Original Drilling - Original Drilling -	950.91	937.92	1,111.10	1,106.13	223.325	CC
Guttersen D29-69HN - Original Drilling - Original Drilling -	1,000.00	980.04	1,111.26	1,105.96	209.779	ES
Guttersen D29-69HN - Original Drilling - Original Drilling -	6,600.00	7,004.20	2,582.01	2,534.59	54.447	SF
Guttersen D29-722 - Guttersen D29-722 OH - As-Drilled	0.00	0.00	3,754.58			
Guttersen D29-722 - Guttersen D29-722 OH - As-Drilled	3,500.00	3,711.11	3,755.01	3,733.63	175.620	ES
Guttersen D29-722 - Guttersen D29-722 OH - As-Drilled	7,900.00	6,649.18	3,978.08	3,932.61	87.477	SF
Guttersen D29-730 - Guttersen D29-730 OH - As-Drilled	6,467.25	6,743.42	3,258.64	3,216.99	78.231	CC
Guttersen D29-730 - Guttersen D29-730 OH - As-Drilled	6,500.00	6,750.48	3,258.74	3,216.97	78.002	ES
Guttersen D29-730 - Guttersen D29-730 OH - As-Drilled	7,050.00	6,797.00	3,295.37	3,252.02	76.027	SF
Guttersen D29-738 - Guttersen D29-738 OH - As-Drilled	0.00	0.00	1,483.37			
Guttersen D29-738 - Guttersen D29-738 OH - As-Drilled	2,200.00	2,187.01	1,488.55	1,474.17	103.542	ES
Guttersen D29-738 - Guttersen D29-738 OH - As-Drilled	7,400.00	6,522.73	2,576.18	2,531.82	58.079	SF
Guttersen D29-746 - Guttersen D29-746 OH - As-Drilled	2,141.91	2,139.94	1,441.33	1,427.22	102.157	CC
Guttersen D29-746 - Guttersen D29-746 OH - As-Drilled	2,200.00	2,192.12	1,441.40	1,427.06	100.541	ES
Guttersen D29-746 - Guttersen D29-746 OH - As-Drilled	6,850.00	6,654.99	2,027.69	1,985.39	47.935	SF
Guttersen D29-754 - Guttersen D29-754 OH - As-Drilled	3,750.97	3,814.14	1,384.71	1,362.21	61.558	CC, ES
Guttersen D29-754 - Guttersen D29-754 OH - As-Drilled	7,000.00	6,968.57	1,416.62	1,372.74	32.284	SF
Guttersen D29-770 - Guttersen D29-770 OH - Guttersen	2,177.20	2,178.31	164.34	150.07	11.517	CC, ES
Guttersen D29-770 - Guttersen D29-770 OH - Guttersen	2,300.00	2,293.35	167.31	152.55	11.339	SF
Guttersen D29-778 - Guttersen D29-778 OH - As-Drilled	640.65	640.68	149.46	145.36	36.391	CC
Guttersen D29-778 - Guttersen D29-778 OH - As-Drilled	6,894.54	6,936.40	166.25	122.76	3.823	ES, SF
Guttersen D29-786 - Guttersen D29-786 OH - As-Drilled	2,073.73	2,074.77	147.99	134.15	10.691	CC
Guttersen D29-786 - Guttersen D29-786 OH - As-Drilled	2,200.00	2,199.18	148.19	133.86	10.337	ES
Guttersen D29-786 - Guttersen D29-786 OH - As-Drilled	6,800.00	6,861.73	373.40	330.28	8.660	SF
Guttersen D29-99HZ - Guttersen D29-99HZ OH - As-Dril	8,100.00	6,960.52	184.73	149.42	5.232	SF
Guttersen D29-99HZ - Guttersen D29-99HZ OH - As-Dril	8,127.84	6,960.25	182.62	147.95	5.268	CC, ES
Guttersen D30-68-1HN - Original Drilling - Original Drillin	1,035.25	1,021.27	1,068.75	1,063.17	191.520	CC
Guttersen D30-68-1HN - Original Drilling - Original Drillin	1,100.00	1,072.66	1,069.15	1,063.16	178.494	ES
Guttersen D30-68-1HN - Original Drilling - Original Drillin	6,400.00	6,293.61	1,731.93	1,688.88	40.233	SF
Guttersen D30-69-1HN - Original Drilling - Original Drillin	1,130.58	1,116.59	1,087.33	1,081.09	174.187	CC
Guttersen D30-69-1HN - Original Drilling - Original Drillin	1,200.00	1,177.81	1,087.59	1,080.89	162.142	ES
Guttersen D30-69-1HN - Original Drilling - Original Drillin	6,450.00	6,410.01	2,471.09	2,426.52	55.444	SF
Guttersen State D29-714 - Guttersen State D29-714 OH	0.00	7.31	3,791.56			
Guttersen State D29-714 - Guttersen State D29-714 OH	800.00	789.50	3,795.44	3,790.23	728.957	ES
Guttersen State D29-714 - Guttersen State D29-714 OH	8,600.00	6,703.00	4,717.14	4,668.80	97.566	SF
Guttersen State Y05-719 - Guttersen State Y05-719 - Pla	2,695.00	2,701.00	3,790.75	3,771.87	200.812	CC
Guttersen State Y05-719 - Guttersen State Y05-719 - Pla	2,700.00	2,706.00	3,790.75	3,771.84	200.441	ES
Guttersen State Y05-719 - Guttersen State Y05-719 - Pla	19,829.99	20,149.90	4,229.79	4,002.24	18.588	SF
Guttersen Y05-726 - Guttersen Y05-726 - Plan #3	19,813.43	20,284.34	3,616.56	3,388.28	15.843	CC, ES
Guttersen Y05-726 - Guttersen Y05-726 - Plan #3	19,829.99	20,276.68	3,616.63	3,388.31	15.840	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 Y05-786
Project:	Mustang	**TVD Reference:**	WELL @ 4814.00ft (Original Well Elev.)
Reference Site:	D Section 29	**MD Reference:**	WELL @ 4814.00ft (Original Well Elev.)
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Guttersen Y05-786	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Guttersen Y05-786	**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 Y05-734 - Guttersen Y05-734 - Plan #3	19,815.06	20,159.11	3,003.37	2,775.59	13.185	CC, ES
Guttersen Y05-734 - Guttersen Y05-734 - Plan #3	19,829.99	20,153.95	3,003.43	2,775.62	13.184	SF
Guttersen Y05-749 - Guttersen Y05-749 - Plan #3	2,200.00	2,198.00	1,440.19	1,424.89	94.133	CC, ES
Guttersen Y05-749 - Guttersen Y05-749 - Plan #3	19,829.99	20,041.07	2,390.36	2,162.51	10.491	SF
Guttersen Y05-756 - Guttersen Y05-756 - Plan #3	2,200.00	2,198.00	1,403.18	1,387.88	91.714	CC
Guttersen Y05-756 - Guttersen Y05-756 - Plan #3	2,300.00	2,282.99	1,403.71	1,387.76	88.024	ES
Guttersen Y05-756 - Guttersen Y05-756 - Plan #3	19,825.26	19,865.76	1,784.04	1,555.71	7.813	SF
Guttersen Y05-771 - Guttersen Y05-771 - Plan #3	2,200.00	2,196.00	75.01	59.72	4.905	CC, ES
Guttersen Y05-771 - Guttersen Y05-771 - Plan #3	19,829.99	19,900.81	1,086.02	858.25	4.768	SF
Guttersen Y05-779 - Guttersen Y05- 779 - Plan #3	2,200.00	2,196.00	38.01	22.72	2.485	CC, ES
Guttersen Y05-779 - Guttersen Y05- 779 - Plan #3	19,829.99	19,994.06	558.77	330.69	2.450	SF
Jessie D29-1J - Wellbore #1 - Gyro Surveys	2,106.56	2,076.65	2,973.54	2,959.13	206.430	CC
Jessie D29-1J - Wellbore #1 - Gyro Surveys	2,700.00	2,667.43	2,974.89	2,956.31	160.055	ES
Jessie D29-1J - Wellbore #1 - Gyro Surveys	6,850.00	6,723.71	3,444.22	3,397.08	73.055	SF
Jessie D29-4J - Wellbore #1 - Gyro Surveys	7,714.74	6,825.22	2,959.21	2,908.86	58.770	CC, ES
Jessie D29-4J - Wellbore #1 - Gyro Surveys	8,400.00	6,860.97	3,037.35	2,984.40	57.356	SF
Kate Red D29-03J - Kate Red D29-03J - Kate Red D29-0	7,720.96	6,905.94	195.04	144.34	3.847	CC, ES, SF
Kate Red D29-11 - Wellbore #1 - Gyro Surveys	7,358.28	6,911.56	1,168.96	1,119.46	23.613	CC, ES
Kate Red D29-11 - Wellbore #1 - Gyro Surveys	7,400.00	6,911.13	1,169.71	1,120.10	23.581	SF
Kate Red D29-13 - Wellbore #1 - Gyro Surveys	8,795.51	6,918.58	159.73	104.14	2.873	CC, ES
Kate Red D29-13 - Wellbore #1 - Gyro Surveys	8,800.00	6,918.60	159.79	104.15	2.872	SF
Kate Red D29-14 - Wellbore #1 - Gyro Surveys	8,691.47	6,917.32	1,206.20	1,151.18	21.923	CC
Kate Red D29-14 - Wellbore #1 - Gyro Surveys	8,700.00	6,917.42	1,206.23	1,151.18	21.909	ES
Kate Red D29-14 - Wellbore #1 - Gyro Surveys	8,800.00	6,918.61	1,211.08	1,155.63	21.841	SF
Kate Red D29-2J - Wellbore #1 - Kate Red D29-2J	405.45	368.46	1,223.03	1,220.69	523.831	CC
Kate Red D29-2J - Wellbore #1 - Kate Red D29-2J	2,100.00	2,055.09	1,231.86	1,217.56	86.116	ES
Kate Red D29-2J - Wellbore #1 - Kate Red D29-2J	6,500.00	6,449.44	1,642.86	1,597.86	36.508	SF
Kate Red D29-3 - Wellbore #1 - Kate Red D29-3	190.83	151.83	1,905.76	1,904.95	2,359.812	CC
Kate Red D29-3 - Wellbore #1 - Kate Red D29-3	700.00	648.58	1,907.45	1,903.08	436.607	ES
Kate Red D29-3 - Wellbore #1 - Kate Red D29-3	6,550.00	6,491.18	2,394.01	2,348.71	52.847	SF
Kate Red D29-5 - Wellbore #1 - Gyro Surveys	100.00	66.24	354.90	354.66	1,458.879	CC
Kate Red D29-5 - Wellbore #1 - Gyro Surveys	800.00	764.85	357.03	351.90	69.514	ES
Kate Red D29-5 - Wellbore #1 - Gyro Surveys	6,383.04	6,324.65	656.91	612.73	14.871	SF
Kate Red D29-6 - Wellbore #1 - Gyro Surveys	664.89	626.89	1,072.19	1,068.03	257.129	CC
Kate Red D29-6 - Wellbore #1 - Gyro Surveys	2,695.00	2,648.46	1,072.93	1,054.43	57.991	ES
Kate Red D29-6 - Wellbore #1 - Gyro Surveys	6,550.00	6,484.67	1,446.38	1,401.05	31.908	SF
Kate White D29-1 - Wellbore #1 - Gyro Surveys	2,616.20	2,592.26	4,080.76	4,062.74	226.380	CC
Kate White D29-1 - Wellbore #1 - Gyro Surveys	2,700.00	2,670.36	4,080.83	4,062.24	219.421	ES
Kate White D29-1 - Wellbore #1 - Gyro Surveys	6,950.00	6,810.49	4,609.94	4,562.17	96.504	SF
Kate White D29-15 - Wellbore #1 - Gyro Surveys	8,588.54	6,804.46	2,456.71	2,402.65	45.443	CC
Kate White D29-15 - Wellbore #1 - Gyro Surveys	8,600.00	6,804.42	2,456.74	2,402.62	45.400	ES
Kate White D29-15 - Wellbore #1 - Gyro Surveys	9,000.00	6,802.95	2,490.93	2,435.08	44.600	SF
Kate White D29-16 - Wellbore #1 - Gyro Surveys	8,674.65	6,878.09	3,863.62	3,808.76	70.428	CC
Kate White D29-16 - Wellbore #1 - Gyro Surveys	8,700.00	6,878.11	3,863.70	3,808.72	70.271	ES
Kate White D29-16 - Wellbore #1 - Gyro Surveys	9,800.00	6,879.14	4,024.17	3,963.97	66.844	SF
Kate White D29-7 - Wellbore #1 - Gyro Surveys	2,748.45	2,749.62	2,615.65	2,596.62	137.403	CC
Kate White D29-7 - Wellbore #1 - Gyro Surveys	2,800.00	2,800.53	2,615.91	2,596.53	134.969	ES
Kate White D29-7 - Wellbore #1 - Gyro Surveys	6,950.00	6,776.82	2,930.42	2,882.67	61.375	SF
Kate White D29-8 - Wellbore #1 - Gyro Surveys	2,731.13	2,727.06	3,732.51	3,713.59	197.274	CC, ES
Kate White D29-8 - Wellbore #1 - Gyro Surveys	7,100.00	6,921.94	4,064.58	4,015.88	83.454	SF
Kate White D29-9 (SI) - Wellbore #1 - Gyro Surveys	2,704.69	2,694.28	3,817.14	3,798.44	204.113	CC
Kate White D29-9 (SI) - Wellbore #1 - Gyro Surveys	2,800.00	2,782.64	3,817.53	3,798.22	197.615	ES
Kate White D29-9 (SI) - Wellbore #1 - Gyro Surveys	8,600.00	6,876.13	4,056.66	4,002.91	75.475	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 Y05-786
Project:	Mustang	**TVD Reference:**	WELL @ 4814.00ft (Original Well Elev.)
Reference Site:	D Section 29	**MD Reference:**	WELL @ 4814.00ft (Original Well Elev.)
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Guttersen Y05-786	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Guttersen Y05-786	**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

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Guttersen Y05-786
Project:	Mustang	**TVD Reference:**	WELL @ 4814.00ft (Original Well Elev.)
Reference Site:	D Section 29	**MD Reference:**	WELL @ 4814.00ft (Original Well Elev.)
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Guttersen Y05-786	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Guttersen Y05-786	**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	2,781.09	2,820.32	3,364.47	3,342.22	151.206	CC
Adams D30-27D - Adams D30-27D - Adams D30-27D - A	2,900.00	2,929.97	3,365.00	3,341.80	145.049	ES
Adams D30-27D - Adams D30-27D - Adams D30-27D - A	6,700.00	6,740.18	3,587.48	3,536.85	70.855	SF
Adams D30-29D - Wellbore #1 - Wellbore #1 - As Drilled	0.00	0.00	4,408.67			
Adams D30-29D - Wellbore #1 - Wellbore #1 - As Drilled	300.00	247.42	4,409.44	4,407.99	3,046.394	ES
Adams D30-29D - Wellbore #1 - Wellbore #1 - As Drilled	7,050.00	6,934.32	5,350.01	5,299.90	106.770	SF
Adams D30-30D - Adams D30-30D Gyros - Gyros	373.55	341.58	4,387.56	4,385.42	2,050.647	CC
Adams D30-30D - Adams D30-30D Gyros - Gyros	400.00	357.42	4,387.59	4,385.30	1,914.252	ES
Adams D30-30D - Adams D30-30D Gyros - Gyros	6,383.04	6,383.04	6,016.22	5,951.98	93.658	SF
Adams D30-30D - Adams D30-30D OH - As Drilled	373.55	354.58	4,387.53	4,385.39	2,050.647	CC
Adams D30-30D - Adams D30-30D OH - As Drilled	400.00	370.42	4,387.56	4,385.27	1,914.253	ES
Adams D30-30D - Adams D30-30D OH - As Drilled	6,383.04	6,383.04	6,016.19	5,952.07	93.827	SF
Adams D30-31D - Adams D30-31D Gyros - Gyros	100.00	67.44	4,370.82	4,370.57	10,000.000	CC
Adams D30-31D - Adams D30-31D Gyros - Gyros	300.00	228.23	4,371.56	4,370.08	2,967.914	ES
Adams D30-31D - Adams D30-31D Gyros - Gyros	8,800.00	7,342.82	6,576.73	6,461.24	56.944	SF
Adams D30-31D - Adams D30-31D OH - As-drilled	100.00	80.41	4,370.82	4,370.57	10,000.000	CC
Adams D30-31D - Adams D30-31D OH - As-drilled	300.00	241.23	4,371.56	4,370.09	2,967.909	ES
Adams D30-31D - Adams D30-31D OH - As-drilled	8,800.00	7,355.82	6,576.73	6,461.23	56.944	SF
Corbin D30-23D - Corbin D30-23D - Corbin D30-23D - As	8,388.73	7,297.51	1,962.89	1,895.33	29.054	CC
Corbin D30-23D - Corbin D30-23D - Corbin D30-23D - As	8,500.00	7,298.45	1,966.04	1,894.99	27.671	ES
Corbin D30-23D - Corbin D30-23D - Corbin D30-23D - As	9,400.00	7,306.70	2,208.06	2,111.79	22.936	SF
Corbin Red D30-04J - Corbin Red D30-04J - Corbin Red	7,782.59	7,000.75	2,314.47	2,263.25	45.192	CC
Corbin Red D30-04J - Corbin Red D30-04J - Corbin Red	7,800.00	7,004.28	2,314.53	2,263.24	45.124	ES
Corbin Red D30-04J - Corbin Red D30-04J - Corbin Red	8,300.00	7,066.18	2,370.85	2,317.29	44.263	SF
Corbin Red D30-09 - Corbin Red D30-09 - Corbin Red D3	7,403.03	6,959.13	1,322.66	1,272.87	26.565	CC, ES
Corbin Red D30-09 - Corbin Red D30-09 - Corbin Red D3	7,500.00	6,961.50	1,326.21	1,276.09	26.461	SF
Corbin Red D30-15 - Corbin Red D30-15 - Corbin Red D3	8,743.33	6,885.80	2,674.28	2,618.99	48.371	CC, ES
Corbin Red D30-15 - Corbin Red D30-15 - Corbin Red D3	9,400.00	6,926.10	2,753.39	2,694.47	46.726	SF
Corbin Red D30-16 - Corbin Red D30-16 - Corbin Red D3	8,833.37	6,917.12	1,440.31	1,384.44	25.780	CC, ES
Corbin Red D30-16 - Corbin Red D30-16 - Corbin Red D3	9,000.00	6,916.05	1,449.91	1,393.09	25.517	SF
Dechant D30-17D - Dechant D30-17D - Dechant D30-17D	6,403.09	6,818.06	2,328.29	2,269.11	39.342	CC, ES
Dechant D30-17D - Dechant D30-17D - Dechant D30-17D	6,450.00	6,867.78	2,329.00	2,269.74	39.298	SF
Dechant D30-20D - Dechant D30-20D - Dechant D30-20D	6,830.22	6,839.19	4,570.86	4,520.29	90.386	CC
Dechant D30-20D - Dechant D30-20D - Dechant D30-20D	6,850.00	6,844.00	4,570.92	4,520.25	90.204	ES
Dechant D30-20D - Dechant D30-20D - Dechant D30-20D	8,700.00	6,973.88	4,991.18	4,931.44	83.556	SF
Dechant D30-24D - Dechant D30-24D - Dechant D30-24D	8,115.49	7,142.42	3,403.67	3,346.64	59.681	CC, ES
Dechant D30-24D - Dechant D30-24D - Dechant D30-24D	9,100.00	7,160.18	3,543.13	3,480.96	56.989	SF
Dechant D30-25D - Dechant D30-25D - Dechant D30-25D	8,070.01	7,179.67	4,585.59	4,523.01	73.274	CC, ES
Dechant D30-25D - Dechant D30-25D - Dechant D30-25D	8,800.00	7,199.97	4,643.29	4,579.28	72.543	SF
Dechant D31-27D - Dechant D31-27D - Dechant D31-27D	8,300.00	7,253.41	2,263.89	2,189.11	30.275	SF
Dechant D31-27D - Dechant D31-27D - Dechant D31-27D	9,286.64	7,247.08	2,037.59	1,975.29	32.708	CC, ES
Dechant D31-28D - Dechant D31-28D - Dechant D31-28D	9,229.78	6,972.34	3,445.18	3,386.77	58.981	CC, ES
Dechant D31-28D - Dechant D31-28D - Dechant D31-28D	10,200.00	6,982.22	3,579.17	3,515.37	56.096	SF
Dechant D31-29D - Dechant D31-29D - Dechant D31-29D	9,323.01	7,044.54	4,623.13	4,563.01	76.894	CC, ES
Dechant D31-29D - Dechant D31-29D - Dechant D31-29D	12,900.00	12,900.00	5,843.64	5,744.82	59.134	SF
Dechant D31-77HN - Original Drilling - Original Drilling - A	9,533.25	6,587.00	4,034.65	3,977.88	71.070	CC, ES
Dechant D31-77HN - Original Drilling - Original Drilling - A	12,700.00	12,700.00	4,315.23	4,150.22	26.151	SF
Hanson D30-11 - Hanson D30-11 - Hanson D30-11 - As D	7,285.17	7,039.38	4,018.39	3,968.64	80.772	CC
Hanson D30-11 - Hanson D30-11 - Hanson D30-11 - As D	7,300.00	7,039.86	4,018.42	3,968.62	80.701	ES
Hanson D30-11 - Hanson D30-11 - Hanson D30-11 - As D	8,700.00	7,036.47	4,262.26	4,207.05	77.203	SF
Hanson D30-12 - Hanson D30-12 - Hanson D30-12 - As	7,170.05	6,897.36	5,184.73	5,135.75	105.869	CC
Hanson D30-12 - Hanson D30-12 - Hanson D30-12 - As	7,200.00	6,902.99	5,184.81	5,135.73	105.629	ES
Hanson D30-12 - Hanson D30-12 - Hanson D30-12 - As	9,600.00	6,900.63	5,726.40	5,667.41	97.073	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 Y05-786
Project:	Mustang	**TVD Reference:**	WELL @ 4814.00ft (Original Well Elev.)
Reference Site:	D Section 29	**MD Reference:**	WELL @ 4814.00ft (Original Well Elev.)
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Guttersen Y05-786	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Guttersen Y05-786	**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 D30-13 - Hanson D30-13 - Hanson D30-13 - As	8,745.34	6,987.06	5,314.53	5,258.91	95.550	CC
Hanson D30-13 - Hanson D30-13 - Hanson D30-13 - As	8,800.00	6,987.41	5,314.81	5,258.89	95.040	ES
Hanson D30-13 - Hanson D30-13 - Hanson D30-13 - As	11,000.00	7,003.19	5,773.00	5,705.00	84.891	SF
Hanson D30-14 - Hanson D30-14 - Hanson D30-14 - As	8,686.96	7,235.00	3,819.72	3,763.73	68.221	CC
Hanson D30-14 - Hanson D30-14 - Hanson D30-14 - As	8,700.00	7,235.00	3,819.74	3,763.68	68.135	ES
Hanson D30-14 - Hanson D30-14 - Hanson D30-14 - As	9,900.00	7,235.00	4,007.70	3,945.17	64.091	SF
Hettinger C Unit 1 - Hettinger C Unit 1 - Hettinger C Unit	181.82	151.82	2,262.08	2,261.30	2,920.266	CC
Hettinger C Unit 1 - Hettinger C Unit 1 - Hettinger C Unit	600.00	547.42	2,262.94	2,259.28	619.154	ES
Hettinger C Unit 1 - Hettinger C Unit 1 - Hettinger C Unit	6,650.00	6,627.03	2,572.34	2,526.02	55.531	SF
Hettinger D30-02 - Hettinger D30-02 - Hettinger D30-02 -	2,695.00	2,660.00	3,368.30	3,335.66	103.193	CC
Hettinger D30-02 - Hettinger D30-02 - Hettinger D30-02 -	4,400.00	4,354.04	3,381.91	3,328.70	63.565	ES
Hettinger D30-02 - Hettinger D30-02 - Hettinger D30-02 -	6,800.00	6,693.19	3,508.27	3,426.03	42.661	SF
Hettinger D30-03 - Hettinger D30-03 - Hettinger D30-03 -	0.00	0.00	4,548.27			
Hettinger D30-03 - Hettinger D30-03 - Hettinger D30-03 -	2,500.00	2,438.95	4,554.62	4,537.55	266.705	ES
Hettinger D30-03 - Hettinger D30-03 - Hettinger D30-03 -	7,000.00	6,867.53	4,721.74	4,673.41	97.699	SF
Hettinger D30-04 - Hettinger D30-04 - Hettinger D30-04 -	6,422.98	6,447.53	5,662.68	5,617.87	126.375	CC, ES
Hettinger D30-04 - Hettinger D30-04 - Hettinger D30-04 -	7,150.00	6,979.32	5,826.41	5,777.24	118.499	SF
Hettinger D30-05 - Hettinger D30-05 - Hettinger D30-05 -	6,661.63	6,629.31	5,217.59	5,171.30	112.708	CC
Hettinger D30-05 - Hettinger D30-05 - Hettinger D30-05 -	6,700.00	6,658.70	5,217.79	5,171.25	112.120	ES
Hettinger D30-05 - Hettinger D30-05 - Hettinger D30-05 -	8,700.00	6,872.15	5,717.05	5,662.72	105.231	SF
Hettinger D30-06 - Hettinger D30-06 - Hettinger D30-06 -	6,618.66	6,609.63	4,040.44	3,994.37	87.708	CC
Hettinger D30-06 - Hettinger D30-06 - Hettinger D30-06 -	6,650.00	6,638.43	4,040.59	3,994.30	87.301	ES
Hettinger D30-06 - Hettinger D30-06 - Hettinger D30-06 -	7,250.00	6,929.25	4,115.22	4,065.88	83.411	SF
Hettinger D30-08 - Hettinger D30-08 - Hettinger D30-08 -	6,412.11	6,354.87	1,607.81	1,563.36	36.175	CC, ES
Hettinger D30-08 - Hettinger D30-08 - Hettinger D30-08 -	6,750.00	6,658.09	1,644.02	1,597.27	35.167	SF
Leslie E Hanson Gas Unit 1 - Leslie E Hanson Gas Unit 1	8,134.16	6,908.00	4,831.51	4,742.80	54.466	CC, ES
Leslie E Hanson Gas Unit 1 - Leslie E Hanson Gas Unit 1	9,500.00	6,908.00	5,020.85	4,925.21	52.495	SF
McWilliams D29-32 - McWilliams D29-32 - McWilliams D	6,654.46	6,615.19	846.57	800.35	18.313	CC, ES
McWilliams D29-32 - McWilliams D29-32 - McWilliams D	6,800.00	6,729.25	854.03	806.86	18.105	SF
McWilliams D30-07 - McWilliams D30-07 - McWilliams D	6,438.45	6,385.00	2,810.59	2,732.36	35.924	CC
McWilliams D30-07 - McWilliams D30-07 - McWilliams D	6,450.00	6,396.29	2,810.63	2,732.25	35.860	ES
McWilliams D30-07 - McWilliams D30-07 - McWilliams D	6,950.00	6,796.42	2,880.91	2,797.23	34.429	SF
McWilliams D30-18 - McWilliams D30-18 - McWilliams D	6,461.66	6,516.91	3,605.64	3,560.47	79.819	CC, ES
McWilliams D30-18 - McWilliams D30-18 - McWilliams D	7,000.00	6,904.96	3,699.00	3,650.54	76.330	SF
McWilliams D30-19 - McWilliams D30-19 - McWilliams D	6,461.13	6,462.58	4,738.11	4,691.82	102.355	CC, ES
McWilliams D30-19 - McWilliams D30-19 - McWilliams D	7,200.00	6,940.33	4,878.07	4,827.00	95.514	SF
McWilliams D30-21 - McWilliams D30-21 - McWilliams D	7,071.43	6,921.71	3,017.66	2,968.93	61.928	CC, ES
McWilliams D30-21 - McWilliams D30-21 - McWilliams D	7,700.00	6,968.59	3,089.79	3,038.93	60.750	SF
McWilliams D30-22 - McWilliams D30-22 - McWilliams D	6,737.01	6,679.03	2,185.82	2,139.08	46.757	CC
McWilliams D30-22 - McWilliams D30-22 - McWilliams D	6,750.00	6,687.60	2,185.86	2,139.03	46.679	ES
McWilliams D30-22 - McWilliams D30-22 - McWilliams D	7,100.00	6,884.76	2,215.97	2,167.24	45.469	SF

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Guttersen Y05-786
Project:	Mustang	**TVD Reference:**	WELL @ 4814.00ft (Original Well Elev.)
Reference Site:	D Section 29	**MD Reference:**	WELL @ 4814.00ft (Original Well Elev.)
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Guttersen Y05-786	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Guttersen Y05-786	**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	13,709.62	7,162.42	4,798.24	4,707.78	53.041	CC, ES
Dechant 1-31A (PR) - Wellbore #1 - Gyro Surveys	14,900.00	7,184.76	4,943.65	4,845.31	50.274	SF
Dechant D 31-22D (PR) - Wellbore #1 - Gyro Surveys	11,984.39	7,059.77	2,190.53	2,109.33	26.976	CC
Dechant D 31-22D (PR) - Wellbore #1 - Gyro Surveys	12,000.00	7,059.86	2,190.59	2,109.30	26.950	ES
Dechant D 31-22D (PR) - Wellbore #1 - Gyro Surveys	12,200.00	7,060.94	2,201.12	2,118.98	26.797	SF
Dechant D31-18D (PR) - Wellbore #1 - As Drilled	10,753.58	7,387.57	3,476.73	3,392.81	41.431	CC, ES
Dechant D31-18D (PR) - Wellbore #1 - As Drilled	11,200.00	7,403.07	3,505.24	3,419.60	40.929	SF
Dechant D31-21D(PR) - Wellbore #1 - As Drilled	11,905.70	7,040.96	3,220.93	3,141.97	40.791	CC, ES
Dechant D31-21D(PR) - Wellbore #1 - As Drilled	12,500.00	7,049.56	3,275.29	3,192.94	39.774	SF
Dechant D31-24D (PR) - Wellbore #1 - Gyro Surveys	13,249.20	6,860.30	3,288.94	3,201.07	37.428	CC, ES
Dechant D31-24D (PR) - Wellbore #1 - Gyro Surveys	13,800.00	6,877.39	3,334.69	3,243.57	36.594	SF
Dechant D31-31D (SI) - Dechant D31-31D Gyros - As-Dr	10,845.65	7,000.00	5,757.12	5,674.91	70.036	CC
Dechant D31-31D (SI) - Dechant D31-31D Gyros - As-Dr	10,900.00	7,000.00	5,757.37	5,674.85	69.769	ES
Dechant D31-31D (SI) - Dechant D31-31D Gyros - As-Dr	12,300.00	7,000.00	5,937.97	5,848.65	66.481	SF
Dechant D31-31D (SI) - Dechant D31-31D OH - As-Drille	10,845.59	7,067.05	5,756.76	5,674.51	69.996	CC
Dechant D31-31D (SI) - Dechant D31-31D OH - As-Drille	10,900.00	7,067.15	5,757.02	5,674.45	69.728	ES
Dechant D31-31D (SI) - Dechant D31-31D OH - As-Drille	12,300.00	7,070.11	5,937.64	5,848.27	66.438	SF
Dechant State D31-32 (SI) - Wellbore #1 - As-Drilled	11,842.85	6,921.61	5,444.63	5,368.82	71.820	CC
Dechant State D31-32 (SI) - Wellbore #1 - As-Drilled	11,900.00	6,921.97	5,444.93	5,368.69	71.416	ES
Dechant State D31-32 (SI) - Wellbore #1 - As-Drilled	13,600.00	6,933.53	5,721.14	5,634.20	65.806	SF
Dechant Y 06-27D (PR) - Wellbore #1 - As Drilled	14,600.93	7,092.42	2,068.86	1,968.27	20.566	CC, ES
Dechant Y 06-27D (PR) - Wellbore #1 - As Drilled	14,800.00	7,096.09	2,078.42	1,976.91	20.475	SF
Dechant Y 06-28D (PR) - Wellbore #1 - As Drilled	14,654.56	7,032.19	3,279.95	3,179.12	32.531	CC
Dechant Y 06-28D (PR) - Wellbore #1 - As Drilled	14,700.00	7,034.33	3,280.26	3,179.00	32.394	ES
Dechant Y 06-28D (PR) - Wellbore #1 - As Drilled	15,300.00	7,065.45	3,342.74	3,237.01	31.618	SF
Riva Blue 31-15 (PR) - Wellbore #1 - Gyro Surveys	13,714.27	6,967.96	2,704.24	2,614.47	30.125	CC, ES
Riva Blue 31-15 (PR) - Wellbore #1 - Gyro Surveys	14,100.00	6,967.91	2,731.61	2,639.21	29.561	SF
Riva Blue 31-16 (PR) - Wellbore #1 - Gyro Surveys	13,951.59	6,965.46	1,669.18	1,577.55	18.216	CC, ES
Riva Blue 31-16 (PR) - Wellbore #1 - Gyro Surveys	14,100.00	6,966.14	1,675.77	1,583.05	18.075	SF
Riva Blue 31-9 (PR) - Wellbore #1 - Gyro Surveys	12,700.64	6,955.72	1,614.66	1,532.60	19.677	CC, ES
Riva Blue 31-9 (PR) - Wellbore #1 - Gyro Surveys	12,900.00	6,957.79	1,626.92	1,543.50	19.504	SF
Riva Blue D 31-04J (PR) - Wellbore #1 - Gyro Surveys	13,031.98	6,982.11	2,390.33	2,305.62	28.217	CC, ES
Riva Blue D 31-04J (PR) - Wellbore #1 - Gyro Surveys	13,400.00	7,002.48	2,418.41	2,331.14	27.710	SF
Riva Blue D 31-11 (PR) - Wellbore #1 - Gyro Surveys	12,515.72	6,961.35	3,716.70	3,634.25	45.078	CC, ES
Riva Blue D 31-11 (PR) - Wellbore #1 - Gyro Surveys	13,300.00	6,949.35	3,798.52	3,710.95	43.376	SF
Riva Blue D 31-12 (SI) - Wellbore #1 - Gyro Surveys	12,642.57	6,944.92	5,349.21	5,267.56	65.515	CC
Riva Blue D 31-12 (SI) - Wellbore #1 - Gyro Surveys	12,700.00	6,945.44	5,349.52	5,267.42	65.162	ES
Riva Blue D 31-12 (SI) - Wellbore #1 - Gyro Surveys	14,300.00	6,960.87	5,600.07	5,507.86	60.733	SF
Riva Blue D31-14 (PR) - Wellbore #1 - Gyro Surveys	14,315.76	6,959.59	3,892.46	3,798.00	41.206	CC, ES
Riva Blue D31-14 (PR) - Wellbore #1 - Gyro Surveys	15,100.00	6,945.00	3,970.65	3,871.08	39.878	SF
Riva D 31-10 (PR) - Wellbore #1 - As-Drilled	12,568.21	6,872.70	2,920.74	2,839.85	36.110	CC
Riva D 31-10 (PR) - Wellbore #1 - As-Drilled	12,600.00	6,873.57	2,920.91	2,839.77	35.998	ES
Riva D 31-10 (PR) - Wellbore #1 - As-Drilled	13,100.00	6,914.05	2,968.72	2,884.18	35.114	SF
Riva Red D 31-2J (PA) - Wellbore #1 - Gyro Surveys	10,786.40	6,989.27	4,735.68	4,667.31	69.268	CC
Riva Red D 31-2J (PA) - Wellbore #1 - Gyro Surveys	10,800.00	6,989.52	4,735.70	4,667.23	69.168	ES
Riva Red D 31-2J (PA) - Wellbore #1 - Gyro Surveys	12,300.00	7,016.22	4,971.64	4,893.81	63.881	SF
Riva Red D 31-3 (PA) - Wellbore #1 - Gyro Surveys	9,759.01	6,804.90	3,860.78	3,799.78	63.287	CC
Riva Red D 31-3 (PA) - Wellbore #1 - Gyro Surveys	9,800.00	6,805.98	3,861.00	3,799.72	63.009	ES
Riva Red D 31-3 (PA) - Wellbore #1 - Gyro Surveys	10,900.00	6,836.01	4,025.77	3,957.94	59.352	SF
Riva Red D 31-6 (PA) - Wellbore #1 - No Surveys	11,501.28	6,919.00	3,851.67	3,527.74	11.890	CC, ES
Riva Red D 31-6 (PA) - Wellbore #1 - No Surveys	11,800.00	6,919.00	3,863.23	3,537.13	11.847	SF
Riva Red D31-06X (SI) - Wellbore #1 - Gyro Surveys	11,293.59	7,088.20	3,942.16	3,870.27	54.843	CC
Riva Red D31-06X (SI) - Wellbore #1 - Gyro Surveys	11,300.00	7,088.40	3,942.16	3,870.23	54.806	ES

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Guttersen Y05-786
Project:	Mustang	**TVD Reference:**	WELL @ 4814.00ft (Original Well Elev.)
Reference Site:	D Section 29	**MD Reference:**	WELL @ 4814.00ft (Original Well Elev.)
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Guttersen Y05-786	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Guttersen Y05-786	**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 Red D31-06X (SI) - Wellbore #1 - Gyro Surveys	12,300.00	7,119.78	4,068.47	3,990.13	51.932	SF
Riva White D 31-1 (PR) - Wellbore #1 - Gyro Surveys	10,024.79	6,929.37	1,468.63	1,405.59	23.297	CC, ES
Riva White D 31-1 (PR) - Wellbore #1 - Gyro Surveys	10,200.00	6,926.72	1,479.04	1,414.86	23.045	SF
Riva White D 31-7 (PR) - Wellbore #1 - Gyro Surveys	11,278.74	6,921.01	2,574.50	2,503.02	36.017	CC
Riva White D 31-7 (PR) - Wellbore #1 - Gyro Surveys	11,300.00	6,921.52	2,574.59	2,502.95	35.937	ES
Riva White D 31-7 (PR) - Wellbore #1 - Gyro Surveys	11,800.00	6,933.60	2,626.71	2,551.94	35.129	SF
Riva White D 31-8 (PA) - Wellbore #1 - Gyro Surveys	11,468.78	6,849.43	1,541.26	1,468.52	21.188	CC, ES
Riva White D 31-8 (PA) - Wellbore #1 - Gyro Surveys	11,700.00	6,861.13	1,558.47	1,484.21	20.987	SF
River Red D 31-4 (PA) - Wellbore #1 - Gyro Surveys	9,865.61	6,433.56	5,665.33	5,557.91	52.740	CC
River Red D 31-4 (PA) - Wellbore #1 - Gyro Surveys	9,900.00	6,432.82	5,665.44	5,557.81	52.641	ES
River Red D 31-4 (PA) - Wellbore #1 - Gyro Surveys	11,400.00	6,400.74	5,869.35	5,753.30	50.574	SF
UPRR 53 Pan Am UT R 1 (PA) - Wellbore #1 - No Survey	10,718.67	6,912.00	2,069.59	1,751.45	6.505	CC, ES
UPRR 53 Pan Am UT R 1 (PA) - Wellbore #1 - No Survey	10,800.00	6,912.00	2,071.19	1,752.45	6.498	SF

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Guttersen Y05-786
Project:	Mustang	**TVD Reference:**	WELL @ 4814.00ft (Original Well Elev.)
Reference Site:	D Section 29	**MD Reference:**	WELL @ 4814.00ft (Original Well Elev.)
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Guttersen Y05-786	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Guttersen Y05-786	**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 32						
HP D32-21D - Wellbore #1 - MWD Surveys	11,971.25	7,043.40	1,975.15	1,895.08	24.667	CC
HP D32-21D - Wellbore #1 - MWD Surveys	12,000.00	7,044.24	1,975.36	1,895.04	24.596	ES
HP D32-21D - Wellbore #1 - MWD Surveys	12,200.00	7,050.16	1,988.34	1,906.60	24.326	SF
HP D32-23D - Wellbore #1 - MWD Surveys	13,054.38	6,984.15	3,145.37	3,059.07	36.448	CC
HP D32-23D - Wellbore #1 - MWD Surveys	13,100.00	6,984.28	3,145.70	3,059.05	36.304	ES
HP D32-23D - Wellbore #1 - MWD Surveys	13,600.00	6,985.73	3,192.34	3,102.51	35.539	SF
HP Farms D 32-22D - Wellbore #1 - MWD Surveys	11,902.30	7,193.17	3,252.83	3,165.01	37.040	CC, ES
HP Farms D 32-22D - Wellbore #1 - MWD Surveys	12,400.00	7,198.05	3,290.68	3,199.81	36.212	SF
HP Farms D32-03 - Wellbore #1 - Gyro Surveys	10,200.37	6,910.20	1,408.63	1,344.54	21.979	CC, ES
HP Farms D32-03 - Wellbore #1 - Gyro Surveys	10,300.00	6,912.11	1,412.14	1,347.55	21.863	SF
HP Farms D32-18D - Wellbore #1 - MWD Surveys	10,720.43	7,138.60	2,015.30	1,945.36	28.818	CC, ES
HP Farms D32-18D - Wellbore #1 - MWD Surveys	11,100.00	7,140.85	2,050.73	1,978.10	28.236	SF
HP Farms D32-24D - Wellbore #1 - MWD Surveys	13,318.43	7,190.93	2,002.34	1,913.26	22.478	CC, ES
HP Farms D32-24D - Wellbore #1 - MWD Surveys	13,600.00	7,192.37	2,022.04	1,930.92	22.190	SF
Norris 14-32 - Wellbore #1 - Projection Survey	14,188.10	6,938.00	190.04	60.17	1.463	Level 3, CC, ES, SF
Norris A Unit 2 - Wellbore #1 - As-Drilled	13,461.04	6,912.75	475.04	387.41	5.421	CC, ES, SF
Norris D32-1 (SI) - Wellbore #1 - Gyro Surveys	10,092.28	6,902.66	3,891.52	3,828.14	61.402	CC
Norris D32-1 (SI) - Wellbore #1 - Gyro Surveys	10,100.00	6,902.53	3,891.53	3,828.10	61.357	ES
Norris D32-1 (SI) - Wellbore #1 - Gyro Surveys	11,100.00	6,890.07	4,019.86	3,951.10	58.461	SF
Norris D32-10 - Wellbore #1 - Gyro Surveys	12,769.97	6,750.00	2,558.47	2,476.68	31.281	CC
Norris D32-10 - Wellbore #1 - Gyro Surveys	12,800.00	6,750.00	2,558.65	2,476.66	31.207	ES
Norris D32-10 - Wellbore #1 - Gyro Surveys	13,100.00	6,750.00	2,579.67	2,496.05	30.849	SF
Norris D32-15 - Wellbore #1 - Gyro Surveys	14,055.91	6,800.00	2,546.15	2,454.32	27.728	CC, ES
Norris D32-15 - Wellbore #1 - Gyro Surveys	14,400.00	6,800.00	2,569.29	2,475.61	27.427	SF
Norris D32-1J - Wellbore #1 - Gyro Surveys	10,884.32	6,966.44	3,462.26	3,393.22	50.144	CC
Norris D32-1J - Wellbore #1 - Gyro Surveys	10,900.00	6,965.96	3,462.30	3,393.16	50.073	ES
Norris D32-1J - Wellbore #1 - Gyro Surveys	11,600.00	6,944.39	3,535.39	3,462.46	48.475	SF
Norris D32-2 - Wellbore #1 - Gyro Surveys	10,012.92	6,960.28	2,579.09	2,516.03	40.901	CC, ES
Norris D32-2 - Wellbore #1 - Gyro Surveys	10,500.00	6,958.52	2,624.68	2,559.12	40.035	SF
Norris D32-2J - Wellbore #1 - Gyro Surveys	10,491.77	6,927.87	674.35	608.23	10.199	CC, ES
Norris D32-2J - Wellbore #1 - Gyro Surveys	10,500.00	6,927.99	674.40	608.25	10.195	SF
Norris D32-4 (P&A) - Wellbore #1 - No Surveys	10,053.38	6,921.00	87.05	-90.58	0.490	Level 1, CC, ES, SF
Norris D32-5 - Wellbore #1 - Gyro Surveys	11,397.64	6,931.27	60.45	-12.01	0.834	Level 1, CC
Norris D32-5 - Wellbore #1 - Gyro Surveys	11,400.00	6,931.25	60.49	-12.02	0.834	Level 1, ES, SF
Norris D32-6 - Wellbore #1 - Gyro Surveys	11,422.61	6,960.84	1,157.04	1,084.28	15.904	CC, ES
Norris D32-6 - Wellbore #1 - Gyro Surveys	11,500.00	6,961.07	1,159.62	1,086.50	15.858	SF
Norris D32-7 - Wellbore #1 - Gyro Surveys	11,389.95	6,891.10	2,501.88	2,429.61	34.617	CC
Norris D32-7 - Wellbore #1 - Gyro Surveys	11,400.00	6,891.65	2,501.90	2,429.56	34.585	ES
Norris D32-7 - Wellbore #1 - Gyro Surveys	11,800.00	6,913.50	2,535.12	2,460.56	33.999	SF
Norris D32-9 (SI) - Wellbore #1 - Gyro Surveys	12,747.97	6,919.50	3,962.95	3,880.60	48.125	CC
Norris D32-9 (SI) - Wellbore #1 - Gyro Surveys	12,800.00	6,919.31	3,963.29	3,880.58	47.918	ES
Norris D32-9 (SI) - Wellbore #1 - Gyro Surveys	13,600.00	6,916.35	4,053.50	3,966.27	46.465	SF

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Guttersen Y05-786
Project:	Mustang	**TVD Reference:**	WELL @ 4814.00ft (Original Well Elev.)
Reference Site:	D Section 29	**MD Reference:**	WELL @ 4814.00ft (Original Well Elev.)
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Guttersen Y05-786	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Guttersen Y05-786	**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	15,267.19	7,157.39	8,861.65	8,759.09	86.402	CC
HSR-Guttersen 01-04 - Original Drilling - Original Drilling	15,300.00	7,157.12	8,861.71	8,758.90	86.194	ES
HSR-Guttersen 01-04 - Original Drilling - Original Drilling	18,400.00	7,131.48	9,399.08	9,277.68	77.426	SF
HSR-Guttersen 02-04 - Original Drilling - Original Drilling	15,259.95	6,945.63	7,763.25	7,661.40	76.222	CC
HSR-Guttersen 02-04 - Original Drilling - Original Drilling	15,300.00	6,945.74	7,763.36	7,661.20	75.996	ES
HSR-Guttersen 02-04 - Original Drilling - Original Drilling	17,700.00	6,952.11	8,137.69	8,021.08	69.790	SF
HSR-Guttersen 03-04 - Original Drilling - Original Drilling	15,333.68	6,928.97	6,322.96	6,220.73	61.847	CC
HSR-Guttersen 03-04 - Original Drilling - Original Drilling	15,400.00	6,928.43	6,323.31	6,220.58	61.553	ES
HSR-Guttersen 03-04 - Original Drilling - Original Drilling	17,000.00	6,914.51	6,538.83	6,426.68	58.302	SF
HSR-Guttersen 05-04 - Original Drilling - Original Drilling	16,693.06	6,731.61	5,191.35	5,079.17	46.277	CC
HSR-Guttersen 05-04 - Original Drilling - Original Drilling	16,700.00	6,731.55	5,191.36	5,079.13	46.256	ES
HSR-Guttersen 05-04 - Original Drilling - Original Drilling	17,700.00	6,700.00	5,288.20	5,170.13	44.787	SF
HSR-Guttersen 07-04 - Original Drilling - Original Drilling	16,491.98	6,957.07	7,606.97	7,495.47	68.224	CC
HSR-Guttersen 07-04 - Original Drilling - Original Drilling	16,500.00	6,957.06	7,606.97	7,495.41	68.187	ES
HSR-Guttersen 07-04 - Original Drilling - Original Drilling	18,700.00	6,954.81	7,920.94	7,796.16	63.481	SF
Melvin Y04-04 - Original Drilling - Original Drilling - As Dr	15,541.85	6,833.02	5,504.20	5,400.70	53.181	CC
Melvin Y04-04 - Original Drilling - Original Drilling - As Dr	15,600.00	6,831.90	5,504.50	5,400.58	52.965	ES
Melvin Y04-04 - Original Drilling - Original Drilling - As Dr	16,800.00	6,800.00	5,646.08	5,535.22	50.930	SF
Y Section 05						
Olsen Red Y05-02D - Olsen Red Y05-02D - Olsen Red Y	15,614.46	6,946.99	872.77	768.25	8.350	CC, ES, SF
Olsen Y5-05JI - Olsen Y5-05JI - Olsen Y5-05JI - As Drille	16,591.35	6,941.00	157.97	57.72	1.576	CC, ES, SF
Perkins 32-05 - Perkins 32-05 - Perkins 32-05 - As Drilled	16,601.52	6,993.00	2,538.79	2,389.54	17.010	CC, ES
Perkins 32-05 - Perkins 32-05 - Perkins 32-05 - As Drilled	16,800.00	6,993.00	2,546.54	2,396.10	16.927	SF
Perkins 42-05 - Perkins 42-05 - Perkins 42-05 - As Drilled	16,608.21	7,010.00	3,843.85	3,694.40	25.720	CC, ES
Perkins 42-05 - Perkins 42-05 - Perkins 42-05 - As Drilled	17,100.00	7,010.00	3,875.18	3,722.73	25.419	SF
Perkins 43-05 - Perkins 43-05 - Perkins 43-05 - As Drilled	17,915.97	7,015.00	3,835.24	3,675.34	23.985	CC, ES
Perkins 43-05 - Perkins 43-05 - Perkins 43-05 - As Drilled	18,400.00	7,015.00	3,865.66	3,702.86	23.744	SF
Perkins USX Y05-16 - Perkins USX Y05-16 - Perkins US	18,839.53	6,962.24	3,296.70	3,166.49	25.319	CC, ES
Perkins USX Y05-16 - Perkins USX Y05-16 - Perkins US	19,200.00	6,964.16	3,316.34	3,184.04	25.065	SF
Pioneer Y17-715 - Pioneer Y17-715 - Plan #1	19,456.55	5,661.54	3,819.33	3,690.13	29.563	CC
Pioneer Y17-715 - Pioneer Y17-715 - Plan #1	19,500.00	5,660.94	3,819.57	3,690.07	29.495	ES
Pioneer Y17-715 - Pioneer Y17-715 - Plan #1	19,829.99	5,656.40	3,837.53	3,706.13	29.204	SF
Pioneer Y17-725 - Pioneer Y17-725 - Plan #1	19,453.14	6,245.69	3,355.52	3,223.08	25.335	CC
Pioneer Y17-725 - Pioneer Y17-725 - Plan #1	19,500.00	6,245.14	3,355.85	3,223.08	25.275	ES
Pioneer Y17-725 - Pioneer Y17-725 - Plan #1	19,800.00	6,241.65	3,373.40	3,238.99	25.097	SF
Pioneer Y17-735 - Pioneer Y17-735 - Plan #1	19,602.98	6,720.08	2,820.20	2,684.66	20.807	CC
Pioneer Y17-735 - Pioneer Y17-735 - Plan #1	19,700.00	6,791.84	2,821.08	2,684.52	20.659	ES
Pioneer Y17-735 - Pioneer Y17-735 - Plan #1	19,829.99	6,919.10	2,824.14	2,686.15	20.466	SF
Pioneer Y17-745 - Pioneer Y17-745 - Plan #1	19,829.99	7,090.56	2,179.45	2,041.10	15.753	CC, ES, SF
Pioneer Y17-755 - Pioneer Y17-755 - Plan #1	19,612.12	6,788.20	1,518.64	1,382.85	11.184	CC, ES
Pioneer Y17-755 - Pioneer Y17-755 - Plan #1	19,829.99	6,975.13	1,525.52	1,387.16	11.026	SF
Pioneer Y17-765 - Pioneer Y17-765 - Plan #1	19,770.48	7,030.51	873.68	736.02	6.347	CC
Pioneer Y17-765 - Pioneer Y17-765 - Plan #1	19,829.99	7,084.26	874.15	735.80	6.319	ES, SF
Pioneer Y17-775 - Pioneer Y17-775 - Plan #1	19,829.99	7,021.62	298.38	170.17	2.327	CC, ES, SF
Pioneer Y17-785 - Pioneer Y17-785 - Plan #1	19,780.98	7,096.63	409.69	271.14	2.957	CC
Pioneer Y17-785 - Pioneer Y17-785 - Plan #1	19,800.00	7,113.07	409.80	270.99	2.952	ES
Pioneer Y17-785 - Pioneer Y17-785 - Plan #1	19,829.99	7,140.01	410.40	271.23	2.949	SF

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Guttersen Y05-786
Project:	Mustang	**TVD Reference:**	WELL @ 4814.00ft (Original Well Elev.)
Reference Site:	D Section 29	**MD Reference:**	WELL @ 4814.00ft (Original Well Elev.)
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Guttersen Y05-786	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Guttersen Y05-786	**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	17,900.01	6,948.58	2,656.26	2,533.57	21.651	CC, ES
Gray 10-6 (PA) - Wellbore #1 - Gyro Surveys	18,200.00	6,936.22	2,673.12	2,548.45	21.442	SF
Norris 14-6 (PA) - Wellbore #1 - Gyro Surveys	18,920.18	7,025.32	4,851.22	4,720.16	37.013	CC
Norris 14-6 (PA) - Wellbore #1 - Gyro Surveys	19,000.00	7,029.25	4,851.88	4,720.14	36.829	ES
Norris 14-6 (PA) - Wellbore #1 - Gyro Surveys	19,800.00	7,066.80	4,930.21	4,793.28	36.004	SF
Norris 41-6 (PA) - Wellbore #1 - Gyro Surveys	15,661.12	6,971.64	1,657.21	1,552.50	15.827	CC, ES
Norris 41-6 (PA) - Wellbore #1 - Gyro Surveys	15,800.00	6,975.18	1,663.02	1,557.31	15.732	SF
Norris Y 6-5 (PA) - Wellbore #1 - Gyro Surveys	16,199.18	6,896.98	4,970.29	4,861.30	45.606	CC
Norris Y 6-5 (PA) - Wellbore #1 - Gyro Surveys	16,200.00	6,896.99	4,970.29	4,861.30	45.603	ES
Norris Y 6-5 (PA) - Wellbore #1 - Gyro Surveys	17,300.00	6,921.87	5,090.71	4,974.52	43.815	SF
Y Section 07						
Harkis 11-7 (PA) - Wellbore #1 - Gyro Surveys	19,829.99	6,955.27	5,286.59	5,149.80	38.648	CC, ES, SF
Harkis 1-7 (PA) - Wellbore #1 - Gyro Surveys	19,829.99	7,013.85	5,086.37	4,953.54	38.292	CC, ES, SF
HP Farms Y 7-15JI (PR) - Wellbore #1 - As-Drilled	19,829.99	7,151.46	5,607.42	5,515.69	61.129	CC, ES, SF
HP Y07-09 (PR) - Wellbore #1 - As-Drilled	19,829.99	6,870.26	3,649.24	3,574.00	48.502	CC, ES, SF
HP Y07-10D (SI) - Wellbore #1 - Gyro Surveys	19,829.99	7,236.91	4,386.75	4,255.18	33.343	CC, ES, SF
Perkins 31-7 (SI) - Wellbore #1 - As-Drilled	19,829.99	7,005.44	2,777.14	2,643.04	20.711	CC, ES, SF
Perkins USX Y 7-17 (SI) - Wellbore #1 - Gyro Surveys	19,829.99	6,986.97	2,467.03	2,347.47	20.634	CC, ES, SF
Pioneer 22-7 (SI) - Wellbore #1 - As-Drilled	19,829.99	6,944.73	4,472.85	4,350.24	36.480	CC, ES, SF
Pioneer D31-716 - Pioneer D31-716 - Plan #2	10,048.54	17,371.57	1,079.61	950.73	8.377	CC, ES
Pioneer D31-716 - Pioneer D31-716 - Plan #2	19,829.99	7,632.72	1,168.70	1,027.28	8.264	SF
Pioneer D31-725 - Pioneer D31-725 - Plan #3	10,046.69	17,194.86	1,706.60	1,577.97	13.267	CC, ES
Pioneer D31-725 - Pioneer D31-725 - Plan #3	19,829.99	7,516.93	1,790.71	1,650.33	12.756	SF
Pioneer D31-735 - Pioneer D31-735 - Plan #2	10,044.36	17,013.99	2,334.38	2,206.21	18.213	CC, ES
Pioneer D31-735 - Pioneer D31-735 - Plan #2	19,829.99	7,384.67	2,412.32	2,272.90	17.303	SF
Pioneer D31-744 - Pioneer D31-744 - Plan #3	10,043.85	17,095.39	2,959.62	2,831.33	23.070	CC, ES
Pioneer D31-744 - Pioneer D31-744 - Plan #3	19,829.99	7,453.46	3,031.93	2,892.26	21.707	SF
Pioneer D31-756 - Pioneer D31-756 - Plan #4	9,608.14	17,574.24	3,584.02	3,455.34	27.852	CC, ES
Pioneer D31-756 - Pioneer D31-756 - Plan #4	19,829.99	7,453.70	3,860.83	3,721.10	27.632	SF
Pioneer D31-775 - Pioneer D31-775 - Plan #4	19,829.99	6,381.08	4,642.45	4,506.69	34.195	CC, ES, SF
Pioneer D31-785 - Pioneer D31-785 - Plan #5	19,829.99	5,450.18	5,224.46	5,092.52	39.598	CC, ES, SF
Pioneer USX Y07-08D (PR) - Pioneer USX Y07-08D OH	19,829.99	7,145.87	2,623.39	2,528.88	27.757	CC, ES, SF
Pioneer Y07-07D (PR) - Wellbore #1 - Gyro Surveys	19,829.99	7,412.42	3,398.70	3,228.15	19.928	CC, ES, SF
Pioneer Y18-715 - Pioneer Y18-715 - Plan #1	19,829.99	7,700.00	1,137.32	997.69	8.145	CC, ES, SF
Pioneer Y18-725 - Pioneer Y18-725 - Plan #1	19,829.99	7,550.00	1,739.73	1,599.20	12.380	CC, ES, SF
Pioneer Y18-735 - Pioneer Y18-735 - Plan #2	19,829.99	7,361.89	2,369.10	2,229.86	17.014	CC, ES, SF
Pioneer Y18-744 - Pioneer Y18-744 - Plan #1	19,752.01	7,195.04	2,975.49	2,836.71	21.440	CC
Pioneer Y18-744 - Pioneer Y18-744 - Plan #1	19,800.00	7,227.13	2,975.67	2,836.46	21.375	ES
Pioneer Y18-744 - Pioneer Y18-744 - Plan #1	19,829.99	7,248.38	2,975.96	2,836.48	21.336	SF
Pioneer Y18-756 - Pioneer Y18-756 - Plan #1	19,783.11	7,123.56	3,594.59	3,455.91	25.921	CC
Pioneer Y18-756 - Pioneer Y18-756 - Plan #1	19,829.99	7,150.00	3,594.75	3,455.66	25.844	ES, SF
Pioneer Y18-766 - Pioneer Y18-766 - Plan #1	19,532.67	6,752.83	4,194.02	4,057.70	30.766	CC
Pioneer Y18-766 - Pioneer Y18-766 - Plan #1	19,600.00	6,768.33	4,194.53	4,057.62	30.636	ES
Pioneer Y18-766 - Pioneer Y18-766 - Plan #1	19,829.99	6,860.87	4,203.71	4,064.81	30.265	SF
Pioneer Y18-775 - Pioneer Y18-775 - Plan #2	19,638.35	6,146.32	4,704.02	4,569.05	34.852	CC
Pioneer Y18-775 - Pioneer Y18-775 - Plan #2	19,700.00	6,128.38	4,704.39	4,569.01	34.751	ES
Pioneer Y18-775 - Pioneer Y18-775 - Plan #2	19,829.99	6,109.46	4,707.59	4,571.34	34.550	SF
Pioneer Y18-785 - Pioneer Y18-785 - Plan #1	19,829.99	5,480.10	5,063.66	4,930.47	38.019	CC, ES, SF
UPRC 7-10Q (PR) - Wellbore #1 - As-Drilled	19,829.99	6,934.61	4,615.20	4,527.51	52.631	CC, ES, SF
UPRR 53 PAN AM E 1 (PA) - Wellbore #1 - Gyro Surveys	19,829.99	7,071.31	6,290.78	6,177.43	55.498	CC, ES, SF

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Guttersen Y05-786
Project:	Mustang	**TVD Reference:**	WELL @ 4814.00ft (Original Well Elev.)
Reference Site:	D Section 29	**MD Reference:**	WELL @ 4814.00ft (Original Well Elev.)
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Guttersen Y05-786	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Guttersen Y05-786	**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						Out of range
Hullabaloo State Y21-736 - Original Drilling - Original Dril	19,829.99	6,617.00	9,765.21	9,652.62	86.733	CC, ES, SF
Hullabaloo State Y21-746 - Original Drilling - Original Dril	19,829.99	6,804.00	9,360.64	9,246.07	81.705	CC, ES, SF
Hullabaloo State Y21-756 - Original Drilling - Original Dril	19,829.99	6,425.00	8,650.88	8,540.97	78.712	CC, ES, SF
Hullabaloo State Y21-763 - Orignal Drilling - Orignal Drilli	19,829.99	6,803.00	8,212.44	8,102.51	74.709	CC, ES, SF
Hullabaloo State Y21-769 - Original Drilling - Original Dril	19,829.99	6,417.00	7,797.20	7,690.80	73.287	CC, ES, SF
Hullabaloo State Y21-775 - Original Drilling - Original Dril	19,829.99	6,323.00	7,579.23	7,476.08	73.481	CC, ES, SF
Hullabaloo State Y21-781 - Original Drilling - Original Dril	19,829.99	6,460.75	7,298.26	7,196.61	71.798	CC, ES, SF
Hullabaloo State Y21-787 - Original Drilling - Original Dril	19,829.99	6,416.00	7,030.26	6,931.13	70.923	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	19,829.99	7,174.83	8,880.68	8,782.69	90.626	CC, ES, SF