

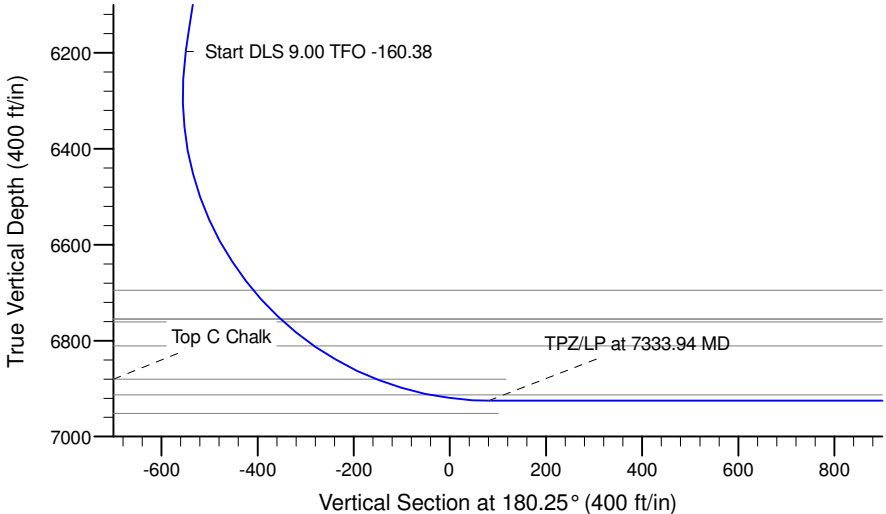
Project: Mustang
Site: D Section 29
Well: Guttersen Y05-786
Wellbore: Guttersen Y05-786
Design: Prelim - Rev 1

Northern Region - DJ Basin

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

SECTION DETAILS

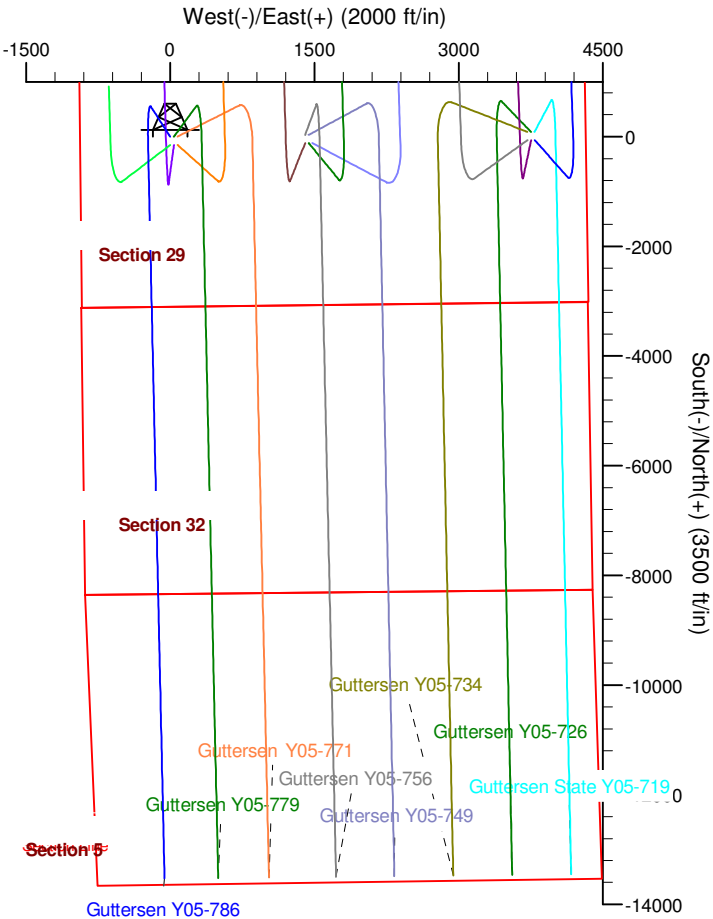
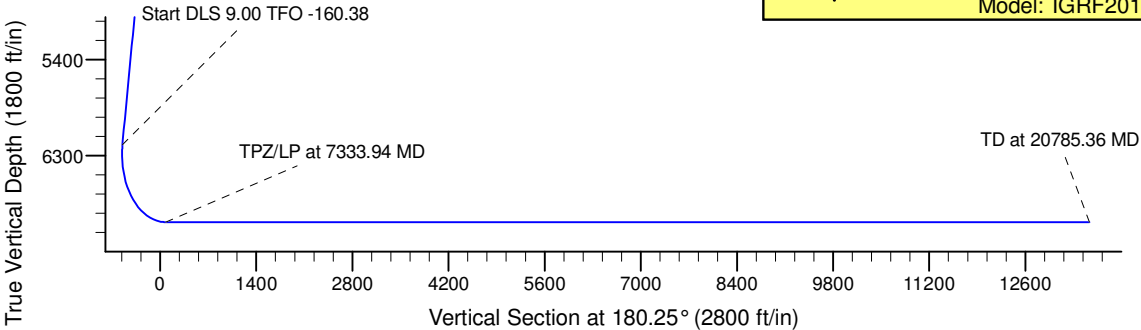
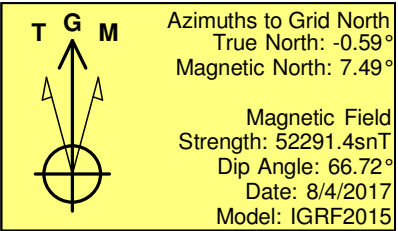
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	2200.00	0.00	0.00	2200.00	0.00	0.00	0.00	0.00	0.00	
3	2640.78	8.82	339.86	2639.04	31.77	-11.65	2.00	339.86	-31.72	
4	6241.59	8.82	339.86	6197.32	549.89	-201.62	0.00	0.00	-549.01	
5	7333.94	90.00	179.27	6925.00	-80.47	-231.03	9.00	-160.38	81.47	GUTTERSEN Y05-786 TPZ
6	20785.36	90.00	179.27	6925.00	-13530.78	-58.59	0.00	0.00	13530.91	GUTTERSEN Y05-786 BHL



Surface: 2206' FNL, 935'
FWL, Sec.29

TPZ: 2278' FNL,
710' FWL, Sec.29

BHL: 75' FSL, 768'
FWL, Sec.05



WELL DETAILS: Guttersen Y05-786

	Northing	Easting	Latitude	Longitude
0.00	0.00	1316097.17	4784.00 40.1974336	-104.5812283

Plan: Prelim - Rev 1 (Guttersen Y05-786/Guttersen Y05-786)

Created By: Colby Baxter Date: 9:45, April 10 2018
Checked: _____ Date: _____
Reviewed: _____ Date: _____
Approved: _____ Date: _____

Northern Region - DJ Basin

Mustang

D Section 29

Guttersen Y05-786

Guttersen Y05-786

Plan: Prelim - Rev 1

Standard Survey Report

10 April, 2018

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen Y05-786
Project:	Mustang	TVD Reference:	WELL @ 4814.00ft (Original Well Elev.)
Site:	D Section 29	MD Reference:	WELL @ 4814.00ft (Original Well Elev.)
Well:	Guttersen Y05-786	North Reference:	Grid
Wellbore:	Guttersen Y05-786	Survey Calculation Method:	Minimum Curvature
Design:	Prelim - Rev 1	Database:	EDMP

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

Site		D Section 29			
Site Position:		Northing:	1,313,628.85 usft	Latitude:	40.1907138
From:	Map	Easting:	3,254,683.41 usft	Longitude:	-104.5883496
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.59 °

Well	Guttersen Y05-786					
Well Position	+N/-S	0.00 ft	Northing:	1,316,097.17 usft	Latitude:	40.1974336
	+E/-W	0.00 ft	Easting:	3,256,647.42 usft	Longitude:	-104.5812283
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	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	Prelim - Rev 1				
Audit Notes:					
Version:	Phase:	PLAN	Tie On Depth:	0.00	
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	180.25	

Survey Tool Program	Date	4/10/2018			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.00	20,785.36	Prelim - Rev 1 (Guttersen Y05-786)	2_MWD+IFR1+MS	A008Mb: IFR dec & multi-station analysis	

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00	
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00	
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00	
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00	

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen Y05-786
Project:	Mustang	TVD Reference:	WELL @ 4814.00ft (Original Well Elev.)
Site:	D Section 29	MD Reference:	WELL @ 4814.00ft (Original Well Elev.)
Well:	Guttersen Y05-786	North Reference:	Grid
Wellbore:	Guttersen Y05-786	Survey Calculation Method:	Minimum Curvature
Design:	Prelim - Rev 1	Database:	EDMP

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	2.00	339.86	2,299.98	1.64	-0.60	-1.64	2.00	2.00	0.00
2,400.00	4.00	339.86	2,399.84	6.55	-2.40	-6.54	2.00	2.00	0.00
2,500.00	6.00	339.86	2,499.45	14.73	-5.40	-14.71	2.00	2.00	0.00
2,600.00	8.00	339.86	2,598.70	26.18	-9.60	-26.13	2.00	2.00	0.00
2,640.78	8.82	339.86	2,639.04	31.77	-11.65	-31.72	2.00	2.00	0.00
2,700.00	8.82	339.86	2,697.56	40.30	-14.77	-40.23	0.00	0.00	0.00
2,800.00	8.82	339.86	2,796.38	54.68	-20.05	-54.60	0.00	0.00	0.00
2,900.00	8.82	339.86	2,895.20	69.07	-25.33	-68.96	0.00	0.00	0.00
3,000.00	8.82	339.86	2,994.02	83.46	-30.60	-83.33	0.00	0.00	0.00
3,100.00	8.82	339.86	3,092.84	97.85	-35.88	-97.69	0.00	0.00	0.00
3,200.00	8.82	339.86	3,191.66	112.24	-41.15	-112.06	0.00	0.00	0.00
3,300.00	8.82	339.86	3,290.48	126.63	-46.43	-126.43	0.00	0.00	0.00
3,400.00	8.82	339.86	3,389.29	141.02	-51.70	-140.79	0.00	0.00	0.00
3,500.00	8.82	339.86	3,488.11	155.41	-56.98	-155.16	0.00	0.00	0.00
3,600.00	8.82	339.86	3,586.93	169.79	-62.26	-169.52	0.00	0.00	0.00
3,700.00	8.82	339.86	3,685.75	184.18	-67.53	-183.89	0.00	0.00	0.00
3,800.00	8.82	339.86	3,784.57	198.57	-72.81	-198.25	0.00	0.00	0.00
3,900.00	8.82	339.86	3,883.39	212.96	-78.08	-212.62	0.00	0.00	0.00
4,000.00	8.82	339.86	3,982.21	227.35	-83.36	-226.99	0.00	0.00	0.00
4,100.00	8.82	339.86	4,081.02	241.74	-88.63	-241.35	0.00	0.00	0.00
4,200.00	8.82	339.86	4,179.84	256.13	-93.91	-255.72	0.00	0.00	0.00
4,300.00	8.82	339.86	4,278.66	270.52	-99.19	-270.08	0.00	0.00	0.00
4,400.00	8.82	339.86	4,377.48	284.90	-104.46	-284.45	0.00	0.00	0.00
4,500.00	8.82	339.86	4,476.30	299.29	-109.74	-298.82	0.00	0.00	0.00
4,600.00	8.82	339.86	4,575.12	313.68	-115.01	-313.18	0.00	0.00	0.00
4,700.00	8.82	339.86	4,673.94	328.07	-120.29	-327.55	0.00	0.00	0.00
4,800.00	8.82	339.86	4,772.76	342.46	-125.56	-341.91	0.00	0.00	0.00
4,900.00	8.82	339.86	4,871.57	356.85	-130.84	-356.28	0.00	0.00	0.00
5,000.00	8.82	339.86	4,970.39	371.24	-136.12	-370.64	0.00	0.00	0.00
5,100.00	8.82	339.86	5,069.21	385.63	-141.39	-385.01	0.00	0.00	0.00
5,200.00	8.82	339.86	5,168.03	400.02	-146.67	-399.38	0.00	0.00	0.00

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen Y05-786
Project:	Mustang	TVD Reference:	WELL @ 4814.00ft (Original Well Elev.)
Site:	D Section 29	MD Reference:	WELL @ 4814.00ft (Original Well Elev.)
Well:	Guttersen Y05-786	North Reference:	Grid
Wellbore:	Guttersen Y05-786	Survey Calculation Method:	Minimum Curvature
Design:	Prelim - Rev 1	Database:	EDMP

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,300.00	8.82	339.86	5,266.85	414.40	-151.94	-413.74	0.00	0.00	0.00
5,400.00	8.82	339.86	5,365.67	428.79	-157.22	-428.11	0.00	0.00	0.00
5,500.00	8.82	339.86	5,464.49	443.18	-162.49	-442.47	0.00	0.00	0.00
5,600.00	8.82	339.86	5,563.30	457.57	-167.77	-456.84	0.00	0.00	0.00
5,700.00	8.82	339.86	5,662.12	471.96	-173.04	-471.21	0.00	0.00	0.00
5,800.00	8.82	339.86	5,760.94	486.35	-178.32	-485.57	0.00	0.00	0.00
5,900.00	8.82	339.86	5,859.76	500.74	-183.60	-499.94	0.00	0.00	0.00
6,000.00	8.82	339.86	5,958.58	515.13	-188.87	-514.30	0.00	0.00	0.00
6,100.00	8.82	339.86	6,057.40	529.51	-194.15	-528.67	0.00	0.00	0.00
6,200.00	8.82	339.86	6,156.22	543.90	-199.42	-543.03	0.00	0.00	0.00
6,241.60	8.82	339.86	6,197.32	549.89	-201.62	-549.01	0.00	0.00	0.00
6,300.00	4.25	315.32	6,255.34	555.63	-204.68	-554.74	9.00	-7.83	-42.03
6,400.00	6.63	205.56	6,355.07	553.05	-209.79	-552.13	9.00	2.39	-109.76
6,500.00	15.23	190.18	6,453.19	534.87	-214.61	-533.94	9.00	8.59	-15.38
6,600.00	24.12	185.87	6,547.26	501.56	-219.03	-500.60	9.00	8.89	-4.30
6,700.00	33.06	183.80	6,634.98	453.92	-222.94	-452.95	9.00	8.95	-2.07
6,800.00	42.03	182.54	6,714.19	393.13	-226.24	-392.15	9.00	8.97	-1.26
6,900.00	51.01	181.66	6,782.93	320.70	-228.85	-319.70	9.00	8.98	-0.89
7,000.00	59.99	180.97	6,839.52	238.39	-230.71	-237.39	9.00	8.98	-0.69
7,100.00	68.97	180.40	6,882.55	148.25	-231.77	-147.24	9.00	8.99	-0.57
7,200.00	77.96	179.90	6,910.98	52.48	-232.01	-51.48	9.00	8.99	-0.51
7,300.00	86.95	179.42	6,924.10	-46.55	-231.42	47.55	9.00	8.99	-0.47
7,333.94	90.00	179.27	6,925.00	-80.47	-231.03	81.47	9.00	8.99	-0.46
7,400.00	90.00	179.27	6,925.00	-146.53	-230.18	147.52	0.00	0.00	0.00
7,500.00	90.00	179.27	6,925.00	-246.52	-228.90	247.51	0.00	0.00	0.00
7,600.00	90.00	179.27	6,925.00	-346.51	-227.62	347.49	0.00	0.00	0.00
7,700.00	90.00	179.27	6,925.00	-446.50	-226.33	447.48	0.00	0.00	0.00
7,800.00	90.00	179.27	6,925.00	-546.49	-225.05	547.46	0.00	0.00	0.00
7,900.00	90.00	179.27	6,925.00	-646.48	-223.77	647.45	0.00	0.00	0.00
8,000.00	90.00	179.27	6,925.00	-746.48	-222.49	747.43	0.00	0.00	0.00
8,100.00	90.00	179.27	6,925.00	-846.47	-221.21	847.42	0.00	0.00	0.00
8,200.00	90.00	179.27	6,925.00	-946.46	-219.92	947.40	0.00	0.00	0.00
8,300.00	90.00	179.27	6,925.00	-1,046.45	-218.64	1,047.39	0.00	0.00	0.00
8,400.00	90.00	179.27	6,925.00	-1,146.44	-217.36	1,147.37	0.00	0.00	0.00
8,500.00	90.00	179.27	6,925.00	-1,246.44	-216.08	1,247.36	0.00	0.00	0.00
8,600.00	90.00	179.27	6,925.00	-1,346.43	-214.80	1,347.34	0.00	0.00	0.00
8,700.00	90.00	179.27	6,925.00	-1,446.42	-213.52	1,447.33	0.00	0.00	0.00
8,800.00	90.00	179.27	6,925.00	-1,546.41	-212.23	1,547.32	0.00	0.00	0.00
8,900.00	90.00	179.27	6,925.00	-1,646.40	-210.95	1,647.30	0.00	0.00	0.00
9,000.00	90.00	179.27	6,925.00	-1,746.39	-209.67	1,747.29	0.00	0.00	0.00
9,100.00	90.00	179.27	6,925.00	-1,846.39	-208.39	1,847.27	0.00	0.00	0.00
9,200.00	90.00	179.27	6,925.00	-1,946.38	-207.11	1,947.26	0.00	0.00	0.00
9,300.00	90.00	179.27	6,925.00	-2,046.37	-205.82	2,047.24	0.00	0.00	0.00

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen Y05-786
Project:	Mustang	TVD Reference:	WELL @ 4814.00ft (Original Well Elev.)
Site:	D Section 29	MD Reference:	WELL @ 4814.00ft (Original Well Elev.)
Well:	Guttersen Y05-786	North Reference:	Grid
Wellbore:	Guttersen Y05-786	Survey Calculation Method:	Minimum Curvature
Design:	Prelim - Rev 1	Database:	EDMP

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
9,400.00	90.00	179.27	6,925.00	-2,146.36	-204.54	2,147.23	0.00	0.00	0.00
9,500.00	90.00	179.27	6,925.00	-2,246.35	-203.26	2,247.21	0.00	0.00	0.00
9,600.00	90.00	179.27	6,925.00	-2,346.34	-201.98	2,347.20	0.00	0.00	0.00
9,700.00	90.00	179.27	6,925.00	-2,446.34	-200.70	2,447.18	0.00	0.00	0.00
9,800.00	90.00	179.27	6,925.00	-2,546.33	-199.41	2,547.17	0.00	0.00	0.00
9,900.00	90.00	179.27	6,925.00	-2,646.32	-198.13	2,647.15	0.00	0.00	0.00
10,000.00	90.00	179.27	6,925.00	-2,746.31	-196.85	2,747.14	0.00	0.00	0.00
10,100.00	90.00	179.27	6,925.00	-2,846.30	-195.57	2,847.12	0.00	0.00	0.00
10,200.00	90.00	179.27	6,925.00	-2,946.30	-194.29	2,947.11	0.00	0.00	0.00
10,300.00	90.00	179.27	6,925.00	-3,046.29	-193.00	3,047.09	0.00	0.00	0.00
10,400.00	90.00	179.27	6,925.00	-3,146.28	-191.72	3,147.08	0.00	0.00	0.00
10,500.00	90.00	179.27	6,925.00	-3,246.27	-190.44	3,247.07	0.00	0.00	0.00
10,600.00	90.00	179.27	6,925.00	-3,346.26	-189.16	3,347.05	0.00	0.00	0.00
10,700.00	90.00	179.27	6,925.00	-3,446.25	-187.88	3,447.04	0.00	0.00	0.00
10,800.00	90.00	179.27	6,925.00	-3,546.25	-186.60	3,547.02	0.00	0.00	0.00
10,900.00	90.00	179.27	6,925.00	-3,646.24	-185.31	3,647.01	0.00	0.00	0.00
11,000.00	90.00	179.27	6,925.00	-3,746.23	-184.03	3,746.99	0.00	0.00	0.00
11,100.00	90.00	179.27	6,925.00	-3,846.22	-182.75	3,846.98	0.00	0.00	0.00
11,200.00	90.00	179.27	6,925.00	-3,946.21	-181.47	3,946.96	0.00	0.00	0.00
11,300.00	90.00	179.27	6,925.00	-4,046.21	-180.19	4,046.95	0.00	0.00	0.00
11,400.00	90.00	179.27	6,925.00	-4,146.20	-178.90	4,146.93	0.00	0.00	0.00
11,500.00	90.00	179.27	6,925.00	-4,246.19	-177.62	4,246.92	0.00	0.00	0.00
11,600.00	90.00	179.27	6,925.00	-4,346.18	-176.34	4,346.90	0.00	0.00	0.00
11,700.00	90.00	179.27	6,925.00	-4,446.17	-175.06	4,446.89	0.00	0.00	0.00
11,800.00	90.00	179.27	6,925.00	-4,546.16	-173.78	4,546.87	0.00	0.00	0.00
11,900.00	90.00	179.27	6,925.00	-4,646.16	-172.49	4,646.86	0.00	0.00	0.00
12,000.00	90.00	179.27	6,925.00	-4,746.15	-171.21	4,746.84	0.00	0.00	0.00
12,100.00	90.00	179.27	6,925.00	-4,846.14	-169.93	4,846.83	0.00	0.00	0.00
12,200.00	90.00	179.27	6,925.00	-4,946.13	-168.65	4,946.82	0.00	0.00	0.00
12,300.00	90.00	179.27	6,925.00	-5,046.12	-167.37	5,046.80	0.00	0.00	0.00
12,400.00	90.00	179.27	6,925.00	-5,146.11	-166.08	5,146.79	0.00	0.00	0.00
12,500.00	90.00	179.27	6,925.00	-5,246.11	-164.80	5,246.77	0.00	0.00	0.00
12,600.00	90.00	179.27	6,925.00	-5,346.10	-163.52	5,346.76	0.00	0.00	0.00
12,700.00	90.00	179.27	6,925.00	-5,446.09	-162.24	5,446.74	0.00	0.00	0.00
12,800.00	90.00	179.27	6,925.00	-5,546.08	-160.96	5,546.73	0.00	0.00	0.00
12,900.00	90.00	179.27	6,925.00	-5,646.07	-159.68	5,646.71	0.00	0.00	0.00
13,000.00	90.00	179.27	6,925.00	-5,746.07	-158.39	5,746.70	0.00	0.00	0.00
13,100.00	90.00	179.27	6,925.00	-5,846.06	-157.11	5,846.68	0.00	0.00	0.00
13,200.00	90.00	179.27	6,925.00	-5,946.05	-155.83	5,946.67	0.00	0.00	0.00
13,300.00	90.00	179.27	6,925.00	-6,046.04	-154.55	6,046.65	0.00	0.00	0.00
13,400.00	90.00	179.27	6,925.00	-6,146.03	-153.27	6,146.64	0.00	0.00	0.00
13,500.00	90.00	179.27	6,925.00	-6,246.02	-151.98	6,246.62	0.00	0.00	0.00
13,600.00	90.00	179.27	6,925.00	-6,346.02	-150.70	6,346.61	0.00	0.00	0.00

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen Y05-786
Project:	Mustang	TVD Reference:	WELL @ 4814.00ft (Original Well Elev.)
Site:	D Section 29	MD Reference:	WELL @ 4814.00ft (Original Well Elev.)
Well:	Guttersen Y05-786	North Reference:	Grid
Wellbore:	Guttersen Y05-786	Survey Calculation Method:	Minimum Curvature
Design:	Prelim - Rev 1	Database:	EDMP

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
13,700.00	90.00	179.27	6,925.00	-6,446.01	-149.42	6,446.59	0.00	0.00	0.00
13,800.00	90.00	179.27	6,925.00	-6,546.00	-148.14	6,546.58	0.00	0.00	0.00
13,900.00	90.00	179.27	6,925.00	-6,645.99	-146.86	6,646.57	0.00	0.00	0.00
14,000.00	90.00	179.27	6,925.00	-6,745.98	-145.57	6,746.55	0.00	0.00	0.00
14,100.00	90.00	179.27	6,925.00	-6,845.98	-144.29	6,846.54	0.00	0.00	0.00
14,200.00	90.00	179.27	6,925.00	-6,945.97	-143.01	6,946.52	0.00	0.00	0.00
14,300.00	90.00	179.27	6,925.00	-7,045.96	-141.73	7,046.51	0.00	0.00	0.00
14,400.00	90.00	179.27	6,925.00	-7,145.95	-140.45	7,146.49	0.00	0.00	0.00
14,500.00	90.00	179.27	6,925.00	-7,245.94	-139.16	7,246.48	0.00	0.00	0.00
14,600.00	90.00	179.27	6,925.00	-7,345.93	-137.88	7,346.46	0.00	0.00	0.00
14,700.00	90.00	179.27	6,925.00	-7,445.93	-136.60	7,446.45	0.00	0.00	0.00
14,800.00	90.00	179.27	6,925.00	-7,545.92	-135.32	7,546.43	0.00	0.00	0.00
14,900.00	90.00	179.27	6,925.00	-7,645.91	-134.04	7,646.42	0.00	0.00	0.00
15,000.00	90.00	179.27	6,925.00	-7,745.90	-132.76	7,746.40	0.00	0.00	0.00
15,100.00	90.00	179.27	6,925.00	-7,845.89	-131.47	7,846.39	0.00	0.00	0.00
15,200.00	90.00	179.27	6,925.00	-7,945.88	-130.19	7,946.37	0.00	0.00	0.00
15,300.00	90.00	179.27	6,925.00	-8,045.88	-128.91	8,046.36	0.00	0.00	0.00
15,400.00	90.00	179.27	6,925.00	-8,145.87	-127.63	8,146.34	0.00	0.00	0.00
15,500.00	90.00	179.27	6,925.00	-8,245.86	-126.35	8,246.33	0.00	0.00	0.00
15,600.00	90.00	179.27	6,925.00	-8,345.85	-125.06	8,346.32	0.00	0.00	0.00
15,700.00	90.00	179.27	6,925.00	-8,445.84	-123.78	8,446.30	0.00	0.00	0.00
15,800.00	90.00	179.27	6,925.00	-8,545.84	-122.50	8,546.29	0.00	0.00	0.00
15,900.00	90.00	179.27	6,925.00	-8,645.83	-121.22	8,646.27	0.00	0.00	0.00
16,000.00	90.00	179.27	6,925.00	-8,745.82	-119.94	8,746.26	0.00	0.00	0.00
16,100.00	90.00	179.27	6,925.00	-8,845.81	-118.65	8,846.24	0.00	0.00	0.00
16,200.00	90.00	179.27	6,925.00	-8,945.80	-117.37	8,946.23	0.00	0.00	0.00
16,300.00	90.00	179.27	6,925.00	-9,045.79	-116.09	9,046.21	0.00	0.00	0.00
16,400.00	90.00	179.27	6,925.00	-9,145.79	-114.81	9,146.20	0.00	0.00	0.00
16,500.00	90.00	179.27	6,925.00	-9,245.78	-113.53	9,246.18	0.00	0.00	0.00
16,600.00	90.00	179.27	6,925.00	-9,345.77	-112.24	9,346.17	0.00	0.00	0.00
16,700.00	90.00	179.27	6,925.00	-9,445.76	-110.96	9,446.15	0.00	0.00	0.00
16,800.00	90.00	179.27	6,925.00	-9,545.75	-109.68	9,546.14	0.00	0.00	0.00
16,900.00	90.00	179.27	6,925.00	-9,645.75	-108.40	9,646.12	0.00	0.00	0.00
17,000.00	90.00	179.27	6,925.00	-9,745.74	-107.12	9,746.11	0.00	0.00	0.00
17,100.00	90.00	179.27	6,925.00	-9,845.73	-105.84	9,846.09	0.00	0.00	0.00
17,200.00	90.00	179.27	6,925.00	-9,945.72	-104.55	9,946.08	0.00	0.00	0.00
17,300.00	90.00	179.27	6,925.00	-10,045.71	-103.27	10,046.07	0.00	0.00	0.00
17,400.00	90.00	179.27	6,925.00	-10,145.70	-101.99	10,146.05	0.00	0.00	0.00
17,500.00	90.00	179.27	6,925.00	-10,245.70	-100.71	10,246.04	0.00	0.00	0.00
17,600.00	90.00	179.27	6,925.00	-10,345.69	-99.43	10,346.02	0.00	0.00	0.00
17,700.00	90.00	179.27	6,925.00	-10,445.68	-98.14	10,446.01	0.00	0.00	0.00
17,800.00	90.00	179.27	6,925.00	-10,545.67	-96.86	10,545.99	0.00	0.00	0.00
17,900.00	90.00	179.27	6,925.00	-10,645.66	-95.58	10,645.98	0.00	0.00	0.00
18,000.00	90.00	179.27	6,925.00	-10,745.65	-94.30	10,745.96	0.00	0.00	0.00

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen Y05-786
Project:	Mustang	TVD Reference:	WELL @ 4814.00ft (Original Well Elev.)
Site:	D Section 29	MD Reference:	WELL @ 4814.00ft (Original Well Elev.)
Well:	Guttersen Y05-786	North Reference:	Grid
Wellbore:	Guttersen Y05-786	Survey Calculation Method:	Minimum Curvature
Design:	Prelim - Rev 1	Database:	EDMP

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
18,100.00	90.00	179.27	6,925.00	-10,845.65	-93.02	10,845.95	0.00	0.00	0.00
18,200.00	90.00	179.27	6,925.00	-10,945.64	-91.73	10,945.93	0.00	0.00	0.00
18,300.00	90.00	179.27	6,925.00	-11,045.63	-90.45	11,045.92	0.00	0.00	0.00
18,400.00	90.00	179.27	6,925.00	-11,145.62	-89.17	11,145.90	0.00	0.00	0.00
18,500.00	90.00	179.27	6,925.00	-11,245.61	-87.89	11,245.89	0.00	0.00	0.00
18,600.00	90.00	179.27	6,925.00	-11,345.61	-86.61	11,345.87	0.00	0.00	0.00
18,700.00	90.00	179.27	6,925.00	-11,445.60	-85.32	11,445.86	0.00	0.00	0.00
18,800.00	90.00	179.27	6,925.00	-11,545.59	-84.04	11,545.84	0.00	0.00	0.00
18,900.00	90.00	179.27	6,925.00	-11,645.58	-82.76	11,645.83	0.00	0.00	0.00
19,000.00	90.00	179.27	6,925.00	-11,745.57	-81.48	11,745.82	0.00	0.00	0.00
19,100.00	90.00	179.27	6,925.00	-11,845.56	-80.20	11,845.80	0.00	0.00	0.00
19,200.00	90.00	179.27	6,925.00	-11,945.56	-78.92	11,945.79	0.00	0.00	0.00
19,300.00	90.00	179.27	6,925.00	-12,045.55	-77.63	12,045.77	0.00	0.00	0.00
19,400.00	90.00	179.27	6,925.00	-12,145.54	-76.35	12,145.76	0.00	0.00	0.00
19,500.00	90.00	179.27	6,925.00	-12,245.53	-75.07	12,245.74	0.00	0.00	0.00
19,600.00	90.00	179.27	6,925.00	-12,345.52	-73.79	12,345.73	0.00	0.00	0.00
19,700.00	90.00	179.27	6,925.00	-12,445.52	-72.51	12,445.71	0.00	0.00	0.00
19,800.00	90.00	179.27	6,925.00	-12,545.51	-71.22	12,545.70	0.00	0.00	0.00
19,900.00	90.00	179.27	6,925.00	-12,645.50	-69.94	12,645.68	0.00	0.00	0.00
20,000.00	90.00	179.27	6,925.00	-12,745.49	-68.66	12,745.67	0.00	0.00	0.00
20,100.00	90.00	179.27	6,925.00	-12,845.48	-67.38	12,845.65	0.00	0.00	0.00
20,200.00	90.00	179.27	6,925.00	-12,945.47	-66.10	12,945.64	0.00	0.00	0.00
20,300.00	90.00	179.27	6,925.00	-13,045.47	-64.81	13,045.62	0.00	0.00	0.00
20,400.00	90.00	179.27	6,925.00	-13,145.46	-63.53	13,145.61	0.00	0.00	0.00
20,500.00	90.00	179.27	6,925.00	-13,245.45	-62.25	13,245.59	0.00	0.00	0.00
20,600.00	90.00	179.27	6,925.00	-13,345.44	-60.97	13,345.58	0.00	0.00	0.00
20,700.00	90.00	179.27	6,925.00	-13,445.43	-59.69	13,445.57	0.00	0.00	0.00
20,785.36	90.00	179.27	6,925.00	-13,530.78	-58.59	13,530.91	0.00	0.00	0.00

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
GUTTERSEN Y05-786 E - hit/miss target - Shape - Point	0.00	0.00	6,925.00	-13,530.78	-58.59	1,302,566.41	3,256,588.82	40.1602937	-104.5819395
GUTTERSEN Y05-786 1 - plan hits target center - Point	0.00	0.00	6,925.00	-80.47	-231.03	1,316,016.69	3,256,416.39	40.1972193	-104.5820583

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen Y05-786
Project:	Mustang	TVD Reference:	WELL @ 4814.00ft (Original Well Elev.)
Site:	D Section 29	MD Reference:	WELL @ 4814.00ft (Original Well Elev.)
Well:	Guttersen Y05-786	North Reference:	Grid
Wellbore:	Guttersen Y05-786	Survey Calculation Method:	Minimum Curvature
Design:	Prelim - Rev 1	Database:	EDMP

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				
3,796.39	3,781.00	Parkman				
4,158.67	4,139.00	Sussex				
4,943.95	4,915.00	Shannon				
5,986.26	5,945.00	Teepee Buttes				
6,774.62	6,695.00	Sharon Springs				
6,857.34	6,755.00	Top A Chalk				
6,857.34	6,755.00	Top A Marl				
6,866.23	6,761.00	Top B Chalk				
6,946.77	6,811.00	Top B Marl				
7,092.98	6,880.00	Top C Chalk				
7,210.06	6,913.00	Top C Marl				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
2200	2200	0	0	Start Build 2.00	
6242	6197	32	-12	Start DLS 9.00 TFO -160.38	
7334	6925	550	-202	TPZ/LP at 7333.94 MD	
20,785	6925	-80	-231	TD at 20785.36 MD	

Checked By: _____	Approved By: _____	Date: _____
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Northern Region - DJ Basin

Mustang

D Section 29

Guttersen Y05-786

Guttersen Y05-786

Prelim - Rev 1

Anticollision Summary Report

10 April, 2018

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersten 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:	Guttersten Y05-786	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersten Y05-786	Database:	EDMP
Reference Design:	Prelim - Rev 1	Offset TVD Reference:	Offset Datum

Reference	Prelim - Rev 1		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 10,000.00 ft	Error Surface:	Pedal Curve
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program	Date	4/10/2018		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	20,785.36	Prelim - Rev 1 (Guttersten Y05-786)	2_MWD+IFR1+MS	A008Mb: IFR dec & multi-station analysis

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
D Section 16						
Diggin State D 16-07 (SI) - Wellbore #1 - No Surveys						Out of range
Diggin State D 16-19J (PR) - Wellbore #1 - No Surveys						Out of range
Guttersten ST D 15-32 (SI) - Wellbore #1 - Gyro Surveys						Out of range
Guttersten ST D 16-21 (SI) - Wellbore #1 - Gyro Surveys						Out of range
Guttersten ST D 16-22D (SI) - Wellbore #1 - MWD Surveys						Out of range
Guttersten ST D 16-33 (SI) - Wellbore #1 - No Surveys	6,316.11	6,209.42	9,624.65	9,477.84	65.560	CC
Guttersten ST D 16-33 (SI) - Wellbore #1 - No Surveys	6,350.00	6,243.26	9,625.44	9,477.84	65.213	ES
Guttersten ST D 16-33 (SI) - Wellbore #1 - No Surveys	6,950.00	6,750.84	9,880.33	9,721.32	62.134	SF
Guttersten State D 15-31 (PR) - Wellbore #1 - Gyro Survey						Out of range
Guttersten State D 16-18 (SI) - Wellbore #1 - No Surveys						Out of range
Guttersten State D 16-20 (SI) - Wellbore #1 - Gyro Survey						Out of range
Guttersten State D 16-27 (PR) - Wellbore #1 - No Survey						Out of range
Guttersten State D 16-31 (PR) - Wellbore #1 - No Survey						Out of range
Guttersten State D 16-32D (SI) - Wellbore #1 - MWD Surveys						Out of range
Guttersten State D16-63-1HN - Original Drilling - Original	6,356.87	11,243.02	9,479.34	9,357.78	77.979	CC, ES
Guttersten State D16-63-1HN - Original Drilling - Original	6,600.00	11,243.02	9,520.89	9,398.38	77.716	SF
Guttersten State D16-65-1HN - Original Drilling - Original						Out of range
Spike ST GWS D 16-01 (SI) - Wellbore #1 - Gyro Survey						Out of range
Spike ST GWS D 16-02 (P&A) - Wellbore #1 - Gyro Survey						Out of range
Spike ST GWS D 16-03 (PR) - Wellbore #1 - No Surveys						Out of range
Spike ST GWS D 16-04 (SI) - Wellbore #1 - No Surveys						Out of range
Spike ST GWS D 16-05 (PR) - Wellbore #1 - Gyro Survey						Out of range
Spike ST GWS D 16-06 (SI) - Wellbore #1 - No Surveys						Out of range
Spike ST GWS D 16-08 (PR) - Wellbore #1 - Gyro Survey						Out of range
Spike ST GWS D 16-12 (PA) - Wellbore #1 - Gyro Survey						Out of range
Spike State D16-99HZ - Original Drilling - Original Drilling	6,352.02	11,150.02	9,921.64	9,800.97	82.222	CC, ES
Spike State D16-99HZ - Original Drilling - Original Drilling	6,550.00	11,150.02	9,949.57	9,828.15	81.945	SF
Spike State GWS D 16-7J (PR) - Wellbore #1 - No Survey						Out of range

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Gutteresen 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:	Gutteresen Y05-786	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Gutteresen Y05-786	Database:	EDMP
Reference Design:	Prelim - Rev 1	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
D Section 17						
Butterball D19-27D - Wellbore #1 - Gyro Surveys	6,353.42	6,616.24	7,380.54	7,299.41	90.969	CC, ES
Butterball D19-27D - Wellbore #1 - Gyro Surveys	6,600.00	6,860.59	7,425.79	7,343.62	90.368	SF
Gutteresen State D16-33 (SI) - Wellbore #1 - No Surveys	6,316.11	6,209.42	9,624.65	9,547.84	125.311	CC, ES
Gutteresen State D16-33 (SI) - Wellbore #1 - No Surveys	6,950.00	6,750.84	9,880.33	9,797.42	119.167	SF
HSR LDS 6-17 (SI) - Wellbore #1 - No Surveys						Out of range
HSR LDS B5-17 (SI) - Wellbore #1 - No Surveys						Out of range
HSR Mike Gutteresen 16-17X (SI) - Wellbore #1 - No Su	6,316.98	6,215.28	8,489.13	8,412.27	110.447	CC, ES
HSR Mike Gutteresen 16-17X (SI) - Wellbore #1 - No Su	6,900.00	6,725.93	8,710.56	8,627.92	105.401	SF
HSR Weeks 10-17 - Wellbore #1 - Gyro Surveys	6,328.69	6,279.42	9,308.55	9,264.12	209.536	CC, ES
HSR Weeks 10-17 - Wellbore #1 - Gyro Surveys	6,800.00	6,700.00	9,469.20	9,422.17	201.325	SF
HSR Weeks 15-17 (SI) - Wellbore #1 - No Surveys	6,322.72	6,219.02	8,073.51	7,996.59	104.958	CC, ES
HSR Weeks 15-17 (SI) - Wellbore #1 - No Surveys	6,850.00	6,690.98	8,268.67	8,186.40	100.507	SF
HSR Weeks 9-17 - Wellbore #1 - Gyro Surveys	6,322.08	6,235.47	9,732.47	9,688.23	219.959	CC, ES
HSR Weeks 9-17 - Wellbore #1 - Gyro Surveys	6,800.00	6,668.38	9,890.82	9,843.95	211.005	SF
HSR-LDS 3-17 (SI) - Wellbore #1 - No Surveys						Out of range
HSR-LDS 4-17 (SI) - Wellbore #1 - No Surveys						Out of range
LDS 18-17 (SI) - Wellbore #1 - No Surveys						Out of range
LDS D17-13 - Wellbore #1 - Gyro Surveys	6,341.25	6,317.15	7,317.56	7,272.88	163.780	CC, ES
LDS D17-13 - Wellbore #1 - Gyro Surveys	6,700.00	6,551.42	7,418.10	7,371.66	159.729	SF
LDS D17-18 (SI) - Wellbore #1 - No Surveys						Out of range
LDS D17-20 - Wellbore #1 - No Surveys	6,331.68	6,228.96	9,475.21	9,398.17	122.997	CC, ES
LDS D17-20 - Wellbore #1 - No Surveys	6,900.00	6,724.93	9,711.92	9,629.32	117.573	SF
LDS D17-21 - Wellbore #1 - No Surveys	6,327.68	6,220.97	9,569.32	9,492.36	124.347	CC, ES
LDS D17-21 - Wellbore #1 - No Surveys	6,900.00	6,720.93	9,805.46	9,722.89	118.744	SF
LDS D17-22 (SI) - Wellbore #1 - No Surveys						Out of range
LDS D17-24D - Wellbore #1 - LDS D17-24D - As Drilled	6,323.82	6,326.57	8,576.96	8,531.24	187.586	CC, ES
LDS D17-24D - Wellbore #1 - LDS D17-24D - As Drilled	6,750.00	6,866.69	8,705.62	8,656.98	178.969	SF
LDS D17-25D - Wellbore #1 - LDS D17-25D - As Drilled	6,327.37	6,409.69	8,644.43	8,591.73	164.040	CC, ES
LDS D17-25D - Wellbore #1 - LDS D17-25D - As Drilled	6,800.00	6,884.63	8,811.25	8,756.24	160.167	SF
LDS D17-31D - LDS D17-31D - LDS D17-31D - As Drille						Out of range
LDS D17-32D - LDS D17-32D - LDS D17-32D - As Drille	6,333.83	6,234.53	9,821.36	9,776.46	218.732	CC, ES
LDS D17-32D - LDS D17-32D - LDS D17-32D - As Drille	6,800.00	6,701.16	9,982.26	9,934.75	210.104	SF
LDS D17-33 - LDS D17-33 - LDS D17-33 - As Drilled	6,314.83	5,938.75	8,384.19	8,340.94	193.864	CC, ES
LDS D17-33 - LDS D17-33 - LDS D17-33 - As Drilled	6,800.00	6,740.66	8,560.67	8,513.48	181.396	SF
LDS D17-7 - Wellbore #1 - No Surveys						Out of range
LDS D20-29D - Wellbore #1 - LDS D20-29D - As Drilled	6,328.39	6,385.24	6,825.62	6,774.56	133.662	CC, ES
LDS D20-29D - Wellbore #1 - LDS D20-29D - As Drilled	6,650.00	6,721.13	6,903.94	6,851.12	130.693	SF
LDS D20-30D - Wellbore #1 - LDS D20-30D - As Drilled	6,348.74	6,447.49	6,890.17	6,844.72	151.572	CC
LDS D20-30D - Wellbore #1 - LDS D20-30D - As Drilled	6,350.00	6,448.70	6,890.18	6,844.71	151.544	ES
LDS D20-30D - Wellbore #1 - LDS D20-30D - As Drilled	6,800.00	6,764.61	7,045.22	6,997.62	148.027	SF
LDS RED D17-11 (SI) - Wellbore #1 - No Surveys	6,328.60	6,222.89	9,068.82	8,991.84	117.813	CC, ES
LDS RED D17-11 (SI) - Wellbore #1 - No Surveys	6,900.00	6,721.93	9,305.38	9,222.79	112.679	SF
LDS Red D17-12 - Wellbore #1 - No Surveys	6,334.64	6,231.92	9,149.00	9,071.93	118.716	CC
LDS Red D17-12 - Wellbore #1 - No Surveys	6,350.00	6,247.26	9,149.18	9,071.93	118.432	ES
LDS Red D17-12 - Wellbore #1 - No Surveys	6,900.00	6,724.93	9,383.96	9,301.36	113.609	SF
LDS Red D17-14X (SI) - Wellbore #1 - No Surveys	6,327.65	6,225.93	7,918.87	7,841.87	102.843	CC, ES
LDS Red D17-14X (SI) - Wellbore #1 - No Surveys	6,850.00	6,692.98	8,117.79	8,035.51	98.662	SF
LDS Red D17-3J - Wellbore #1 - Gyro Surveys	6,332.10	6,227.39	7,999.25	7,954.96	180.621	CC, ES
LDS Red D17-3J - Wellbore #1 - Gyro Surveys	6,750.00	6,649.15	8,130.08	8,083.29	173.747	SF
LDS White D17-1 - Wellbore #1 - Gyro Surveys						Out of range
LDS White D17-2 - Wellbore #1 - No Surveys						Out of range
LDS White D17-8 - Wellbore #1 - No Surveys						Out of range
Thomson D20-31D - Wellbore #1 - Gyro Surveys	6,382.65	6,966.12	5,614.10	5,562.67	109.152	CC, ES

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Gutteresen 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:	Gutteresen Y05-786	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Gutteresen Y05-786	Database:	EDMP
Reference Design:	Prelim - Rev 1	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
D Section 17						
Thomson D20-31D - Wellbore #1 - Gyro Surveys	6,650.00	7,135.85	5,670.41	5,617.81	107.811	SF
Weeks 20-17 (SI) - Wellbore #1 - Gyro Surveys	6,321.72	6,203.91	8,781.11	8,736.93	198.758	CC, ES
Weeks 20-17 (SI) - Wellbore #1 - Gyro Surveys	6,800.00	6,650.57	8,940.56	8,893.66	190.611	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:	Prelim - Rev 1	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
D Section 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	5,700.00	2,600.00	9,992.94	9,960.13	304.536	SF
Horton D18-22D - Horton D18-22D - Horton D18-22D - A	6,336.79	6,312.70	9,652.88	9,600.63	184.752	CC, ES
Horton D18-22D - Horton D18-22D - Horton D18-22D - A	6,850.00	6,896.74	9,842.78	9,787.93	179.451	SF
LSWD 1 - LSWD 1 - LSWD 1 - As Drilled						Out of range
Mick D18-03 - Mick D18-03 - Mick D18-03 - As Drilled						Out of range
Mick D18-04 - Wellbore #1 - Wellbore #1- As Drilled						Out of range
Mick D18-05 - Wellbore #1 - Wellbore #1- As Drilled						Out of range
Mick D18-06 - Mick D18-06 - Mick D18-06 - As Drilled						Out of range
Mick D18-11 - Mick D18-11 - Mick D18-11 - As Drilled	6,339.64	6,147.10	9,549.29	9,505.32	217.205	CC, ES
Mick D18-11 - Mick D18-11 - Mick D18-11 - As Drilled	6,850.00	6,520.48	9,728.75	9,682.29	209.392	SF
Mick D18-12 - Wellbore #1 - Wellbore #1- As Drilled						Out of range
Mick D18-13 - Wellbore #1 - Wellbore #1- As Drilled	6,365.15	6,422.29	9,226.84	9,181.85	205.103	CC, ES
Mick D18-13 - Wellbore #1 - Wellbore #1- As Drilled	6,950.00	6,954.00	9,436.73	9,388.65	196.256	SF
Mick D18-14 - Mick D18-14 - Mick D18-14 - As Drilled	6,351.77	6,300.00	8,520.59	8,476.04	191.284	CC, ES
Mick D18-14 - Mick D18-14 - Mick D18-14 - As Drilled	7,000.00	7,013.60	8,794.41	8,746.10	182.038	SF
Mick D18-19 - Mick D18-19 - Mick D18-19 - As Drilled						Out of range
Mick D18-25 - Mick D18-25 - Mick D18-25 - As Drilled	6,342.01	6,110.81	9,314.17	9,270.29	212.227	CC
Mick D18-25 - Mick D18-25 - Mick D18-25 - As Drilled	6,350.00	6,117.85	9,314.22	9,270.28	211.976	ES
Mick D18-25 - Mick D18-25 - Mick D18-25 - As Drilled	6,950.00	6,853.60	9,551.70	9,503.96	200.058	SF
Scooter D18-02 - Scooter D18-02 - Scooter D18-02 - As						Out of range
Scooter D18-07 - Scooter D18-07 - Scooter D18-07 - As						Out of range
Scooter D18-10 - Scooter D18-10 - Scooter D18-10 - As	6,333.77	6,112.98	9,119.22	9,075.37	207.957	CC, ES
Scooter D18-10 - Scooter D18-10 - Scooter D18-10 - As	6,850.00	6,850.00	9,306.26	9,258.68	195.600	SF
Scooter D18-15 - Scooter D18-15 - Scooter D18-15 - As	6,357.66	6,428.47	8,009.38	7,964.42	178.154	CC, ES
Scooter D18-15 - Scooter D18-15 - Scooter D18-15 - As	6,800.00	7,010.32	8,146.88	8,098.89	169.768	SF
Scooter D18-16 - Scooter D18-16 - Scooter D18-16 - As	6,339.62	6,241.89	7,729.87	7,652.71	100.185	CC
Scooter D18-16 - Scooter D18-16 - Scooter D18-16 - As	6,350.00	6,252.26	7,729.95	7,652.67	100.022	ES
Scooter D18-16 - Scooter D18-16 - Scooter D18-16 - As	6,850.00	6,696.98	7,921.10	7,838.81	96.254	SF
Scooter D18-17 JI - Scooter D18-17 JI - Scooter D18-17						Out of range
Scooter D18-1JI - Scooter D18-1JI - Scooter D18-1JI - A						Out of range
Scooter D18-4J - Scooter D18-4J - Scooter D18-4J - As	6,346.43	6,335.27	8,636.15	8,591.52	193.509	CC
Scooter D18-4J - Scooter D18-4J - Scooter D18-4J - As	6,350.00	6,337.10	8,636.16	8,591.51	193.427	ES
Scooter D18-4J - Scooter D18-4J - Scooter D18-4J - As	6,800.00	6,720.03	8,789.81	8,742.75	186.778	SF
Scooter D18-78-1HN - Original Drilling - Original Drilling -						Out of range
Scooter D18-78-1HN - Original Drilling - ST01 - Original D	6,404.20	11,297.00	8,886.36	8,818.20	130.370	CC, ES
Scooter D18-78-1HN - Original Drilling - ST01 - Original D	6,550.00	11,297.00	8,901.61	8,833.12	129.970	SF
Scooter D18-79-1HN - Original Drilling - Original Drilling -	6,397.76	11,265.00	9,245.78	9,167.69	118.401	CC
Scooter D18-79-1HN - Original Drilling - Original Drilling -	6,400.00	11,265.00	9,245.79	9,167.69	118.391	ES
Scooter D18-79-1HN - Original Drilling - Original Drilling -	6,550.00	11,265.00	9,261.73	9,183.28	118.066	SF
Scooter D18-79HN - Original Drilling - Original Drilling - A	6,409.91	11,410.00	9,506.19	9,422.31	113.323	CC, ES
Scooter D18-79HN - Original Drilling - Original Drilling - A	6,550.00	11,410.00	9,519.37	9,435.13	113.004	SF
Scooter D18-8JI - Scooter D18-8JI - Scooter D18-8JI - A	473.25	376.25	9,322.14	9,319.53	3,580.779	CC
Scooter D18-8JI - Scooter D18-8JI - Scooter D18-8JI - A	700.00	547.65	9,322.70	9,318.69	2,322.340	ES
Scooter D18-8JI - Scooter D18-8JI - Scooter D18-8JI - A	6,500.00	2,700.00	9,970.15	9,937.39	304.341	SF
Scooter D18-9JI - Scooter D18-9JI - Scooter D18-9JI - A	6,335.15	6,214.45	9,147.50	9,101.36	198.233	CC, ES
Scooter D18-9JI - Scooter D18-9JI - Scooter D18-9JI - A	6,850.00	6,744.73	9,342.28	9,293.30	190.761	SF
Shianne D18-29D - Shianne D18-29D - Shianne D18-29D						Out of range

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersten 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:	Guttersten Y05-786	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersten Y05-786	Database:	EDMP
Reference Design:	Prelim - Rev 1	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
D Section 19						
Butterball 13-19 - Butterball 13-19 - Butterball 13-19 - As	6,402.92	6,467.40	6,276.78	6,231.60	138.948	CC, ES
Butterball 13-19 - Butterball 13-19 - Butterball 13-19 - As	6,900.00	6,789.89	6,392.39	6,344.91	134.628	SF
Butterball 14-19 - Butterball 14-19 - Butterball 14-19 - As	6,452.87	6,562.18	5,524.00	5,478.32	120.934	CC, ES
Butterball 14-19 - Butterball 14-19 - Butterball 14-19 - As	6,950.00	6,925.83	5,610.82	5,562.76	116.726	SF
Butterball 23-19 - Butterball 23-19 - Butterball 23-19 - As	6,371.83	6,304.27	5,341.58	5,297.04	119.925	CC, ES
Butterball 23-19 - Butterball 23-19 - Butterball 23-19 - As	6,800.00	6,687.21	5,436.78	5,389.84	115.815	SF
Butterball B04-19 - Butterball B04-19 - Butterball B04-19	6,434.86	6,554.01	6,306.70	6,261.18	138.550	CC
Butterball B04-19 - Butterball B04-19 - Butterball B04-19	6,450.00	6,572.86	6,306.79	6,261.16	138.216	ES
Butterball B04-19 - Butterball B04-19 - Butterball B04-19	6,950.00	6,849.83	6,410.25	6,362.51	134.273	SF
Butterball D18-75HN - Original Drilling - Original Drilling -	6,338.15	6,208.11	7,604.69	7,560.19	170.895	CC, ES
Butterball D18-75HN - Original Drilling - Original Drilling -	6,650.00	6,253.63	7,677.16	7,631.60	168.487	SF
Butterball D19-17D - Butterball D19-17D - Butterball D19	6,337.89	6,800.00	6,153.58	5,999.84	40.027	CC, ES
Butterball D19-17D - Butterball D19-17D - Butterball D19	6,450.00	6,908.62	6,163.06	6,008.83	39.962	SF
Butterball D19-18D - Butterball D19-18D - Butterball D19	6,350.27	6,334.34	6,890.80	6,839.93	135.467	CC, ES
Butterball D19-18D - Butterball D19-18D - Butterball D19	6,800.00	6,757.11	7,022.06	6,968.88	132.030	SF
Butterball D19-19D - Butterball D19-19D - Butterball D19	6,362.18	6,362.25	7,022.51	6,975.14	148.252	CC, ES
Butterball D19-19D - Butterball D19-19D - Butterball D19	6,850.00	6,815.27	7,159.29	7,109.39	143.467	SF
Butterball D19-20D - Butterball D19-20D - Butterball D19	6,372.79	6,448.89	6,228.93	6,181.03	130.047	CC, ES
Butterball D19-20D - Butterball D19-20D - Butterball D19	6,900.00	6,921.53	6,375.80	6,324.97	125.440	SF
Butterball D19-22D - Wellbore #1 - Wellbore #1 - As Drill	6,344.87	6,310.80	4,831.82	4,781.00	95.077	CC
Butterball D19-22D - Wellbore #1 - Wellbore #1 - As Drill	6,350.00	6,316.78	4,831.83	4,780.98	95.016	ES
Butterball D19-22D - Wellbore #1 - Wellbore #1 - As Drill	6,650.00	6,627.28	4,895.91	4,843.42	93.282	SF
Butterball D19-75HN - Original Drilling - Original Drilling -	6,560.14	11,767.00	3,584.97	3,476.00	32.898	CC, ES
Butterball D19-75HN - Original Drilling - Original Drilling -	6,600.00	11,767.00	3,585.76	3,476.68	32.874	SF
Butterball D24-19 - Butterball D24-19 - Butterball D24-19	6,403.57	6,384.87	4,609.12	4,564.21	102.615	CC, ES
Butterball D24-19 - Butterball D24-19 - Butterball D24-19	6,850.00	6,763.81	4,690.75	4,643.44	99.138	SF
Butterball H24-69HN - Original Drilling - Original Drilling -	6,337.76	6,228.71	7,461.34	7,417.57	170.452	CC, ES
Butterball H24-69HN - Original Drilling - Original Drilling -	6,600.00	6,279.00	7,514.85	7,470.14	168.049	SF
Champlin 366 Amoco F 1 - Wellbore #1 - Wellbore #1 - A	6,352.76	6,259.21	3,866.71	3,822.34	87.143	CC, ES
Champlin 366 Amoco F 1 - Wellbore #1 - Wellbore #1 - A	6,700.00	6,602.77	3,944.97	3,898.49	84.874	SF
Dechant D19-32D - Dechant D19-32D - Dechant D19-32	6,381.26	6,869.58	7,263.85	7,148.42	62.931	CC, ES
Dechant D19-32D - Dechant D19-32D - Dechant D19-32	6,650.00	7,134.76	7,296.94	7,180.41	62.618	SF
Graznak 01-19 - Graznak 01-19 - Graznak 01-19 - As Dr	6,387.19	6,311.34	5,622.57	5,544.77	72.269	CC
Graznak 01-19 - Graznak 01-19 - Graznak 01-19 - As Dr	6,400.00	6,324.07	5,622.63	5,544.68	72.129	ES
Graznak 01-19 - Graznak 01-19 - Graznak 01-19 - As Dr	6,950.00	6,781.84	5,750.10	5,666.91	69.121	SF
Higgins D19-720 - Original Drilling - Original Drilling - As	6,343.49	6,343.67	6,984.49	6,942.42	166.005	CC
Higgins D19-720 - Original Drilling - Original Drilling - As	6,350.00	6,352.36	6,984.52	6,942.41	165.863	ES
Higgins D19-720 - Original Drilling - Original Drilling - As	6,600.00	6,573.92	7,033.86	6,990.93	163.854	SF
Higgins D19-720 - Sidetrack Curve/Horizontal - ST01 - A	6,587.99	11,660.02	2,776.68	2,723.61	52.323	CC, ES
Higgins D19-720 - Sidetrack Curve/Horizontal - ST01 - A	6,650.00	11,660.02	2,780.00	2,726.75	52.205	SF
Independence D18-712 - Independence D18-712 - Plan 1	6,347.92	6,450.00	6,453.57	6,407.68	140.630	CC
Independence D18-712 - Independence D18-712 - Plan 1	6,350.00	6,450.00	6,453.58	6,407.68	140.607	ES
Independence D18-712 - Independence D18-712 - Plan 1	6,550.00	6,500.00	6,487.39	6,440.70	138.946	SF
Independence D18-717 - Independence D18-717 - Plan 1	6,335.46	6,250.00	6,511.05	6,466.33	145.586	CC, ES
Independence D18-717 - Independence D18-717 - Plan 1	6,650.00	6,276.09	6,591.98	6,546.30	144.324	SF
Independence D18-725 - Independence D18-725 - Plan 1	6,339.42	6,250.00	6,616.79	6,572.36	148.928	CC, ES
Independence D18-725 - Independence D18-725 - Plan 1	6,550.00	6,300.00	6,652.48	6,607.24	147.066	SF
Independence D18-732 - Independence D18-732 - Plan 1	6,335.40	6,200.00	6,723.15	6,678.62	150.989	CC, ES
Independence D18-732 - Independence D18-732 - Plan 1	6,600.00	6,250.00	6,778.90	6,733.42	149.063	SF
Independence D18-739 - Independence D18-739 - Plan 1	6,329.95	6,154.70	6,812.04	6,767.36	152.461	CC, ES
Independence D18-739 - Independence D18-739 - Plan 1	6,650.00	6,350.00	6,886.88	6,840.57	148.731	SF
Independence D18-744 - Independence D18-744 - Plan 1	6,308.80	5,966.32	6,900.76	6,856.24	154.996	CC, ES
Independence D18-744 - Independence D18-744 - Plan 1	6,650.00	6,281.20	6,982.98	6,936.24	149.416	SF

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen 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:	Prelim - Rev 1	Offset TVD Reference:	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Separation Factor	Warning
D Section 19						
Independence D18-759 - Independence D18-759 - Plan 1	6,349.26	6,300.00	7,343.30	7,298.42	163.605	CC
Independence D18-759 - Independence D18-759 - Plan 1	6,350.00	6,300.00	7,343.30	7,298.41	163.596	ES
Independence D18-759 - Independence D18-759 - Plan 1	6,600.00	6,350.00	7,389.28	7,343.50	161.421	SF
Independence D18-767 - Independence D18-767 - Plan 1	6,349.24	6,250.00	7,604.54	7,560.07	171.002	CC
Independence D18-767 - Independence D18-767 - Plan 1	6,350.00	6,250.00	7,604.54	7,560.07	170.992	ES
Independence D18-767 - Independence D18-767 - Plan 1	6,600.00	6,250.00	7,649.27	7,604.07	169.228	SF
Independence D30-711 - Independence D30-711 - Plan 1	7,314.76	15,081.65	763.39	670.61	8.226	CC
Independence D30-711 - Independence D30-711 - Plan 1	10,300.00	18,066.84	779.62	652.08	6.113	ES, SF
Independence D30-718 - Independence D30-718 - Plan 1	7,210.42	14,813.20	1,194.21	1,103.33	13.140	CC
Independence D30-718 - Independence D30-718 - Plan 1	7,300.00	14,902.03	1,194.69	1,103.09	13.042	ES
Independence D30-718 - Independence D30-718 - Plan 1	10,300.00	17,901.75	1,234.30	1,107.73	9.752	SF
Independence D30-724 - Independence D30-724 - Plan 1	7,118.67	14,606.68	1,637.98	1,548.05	18.214	CC
Independence D30-724 - Independence D30-724 - Plan 1	10,300.00	17,783.74	1,674.19	1,547.68	13.233	ES
Independence D30-724 - Independence D30-724 - Plan 1	10,400.00	17,790.74	1,677.94	1,550.91	13.209	SF
Independence D30-731 - Independence D30-731 - Plan 1	7,067.72	14,533.66	2,056.65	1,967.35	23.032	CC
Independence D30-731 - Independence D30-731 - Plan 1	7,150.00	14,610.81	2,057.11	1,967.10	22.855	ES
Independence D30-731 - Independence D30-731 - Plan 1	10,400.00	17,787.32	2,123.93	1,996.78	16.704	SF
Independence D30-737 - Independence D30-737 - Plan 1	7,174.76	14,706.39	2,458.53	2,367.79	27.094	CC
Independence D30-737 - Independence D30-737 - Plan 1	10,300.00	17,822.02	2,483.97	2,357.15	19.587	ES
Independence D30-737 - Independence D30-737 - Plan 1	10,500.00	17,823.24	2,493.18	2,365.13	19.470	SF
Independence D30-743 - Independence D30-743 - Plan 1	7,128.95	14,707.21	2,864.62	2,774.32	31.725	CC
Independence D30-743 - Independence D30-743 - Plan 1	7,250.00	14,810.56	2,865.23	2,773.94	31.387	ES
Independence D30-743 - Independence D30-743 - Plan 1	10,600.00	17,886.63	2,922.37	2,793.58	22.691	SF
Independence D30-758 - Independence D30-758 - Plan 1	7,228.88	14,761.97	3,664.18	3,573.45	40.385	CC
Independence D30-758 - Independence D30-758 - Plan 1	10,300.00	17,832.57	3,682.19	3,555.83	29.139	ES
Independence D30-758 - Independence D30-758 - Plan 1	10,600.00	17,840.49	3,695.54	3,567.69	28.905	SF
Independence D30-765 - Independence D30-765 - Plan 1	7,257.58	14,906.20	4,117.83	4,026.82	45.242	CC
Independence D30-765 - Independence D30-765 - Plan 1	10,300.00	17,948.30	4,146.87	4,020.55	32.827	ES
Independence D30-765 - Independence D30-765 - Plan 1	10,800.00	17,973.12	4,178.80	4,049.83	32.400	SF
Independence D30-770 - Independence D30-770 - Plan 1	7,258.92	14,745.00	4,474.93	4,383.80	49.104	CC
Independence D30-770 - Independence D30-770 - Plan 1	10,300.00	17,785.88	4,486.98	4,360.43	35.456	ES
Independence D30-770 - Independence D30-770 - Plan 1	10,900.00	17,787.74	4,529.06	4,399.33	34.910	SF
Independence D30-777 - Independence D30-777 - Plan 1	7,212.20	14,734.55	4,912.73	4,822.09	54.197	CC
Independence D30-777 - Independence D30-777 - Plan 1	10,300.00	17,821.52	4,936.41	4,810.00	39.052	ES
Independence D30-777 - Independence D30-777 - Plan 1	11,100.00	17,842.76	5,003.63	4,872.65	38.201	SF
Independence State D30-784 - Independence State D30	7,274.58	15,041.02	5,426.67	5,335.04	59.225	CC
Independence State D30-784 - Independence State D30	10,300.00	18,066.32	5,441.69	5,314.95	42.936	ES
Independence State D30-784 - Independence State D30	11,300.00	18,074.89	5,536.19	5,403.62	41.758	SF
LDS White D19-10 - LDS White D19-10 - LDS White D19	6,361.64	6,292.12	4,696.24	4,651.72	105.478	CC, ES
LDS White D19-10 - LDS White D19-10 - LDS White D19	6,750.00	6,654.62	4,788.27	4,741.50	102.371	SF
LDS White D19-15 - LDS White D19-15 - LDS White D19	6,365.03	6,251.64	3,631.41	3,587.07	81.903	CC, ES
LDS White D19-15 - LDS White D19-15 - LDS White D19	6,750.00	6,621.78	3,704.13	3,657.50	79.439	SF
LDS White D19-16 - Wellbore #1 - Wellbore #1 - As Drill	6,356.32	6,279.36	2,782.42	2,737.97	62.609	CC, ES
LDS White D19-16 - Wellbore #1 - Wellbore #1 - As Drill	6,600.00	6,507.36	2,821.14	2,775.21	61.424	SF
Mile High 02-19 - Wellbore #1 - Wellbore #1 - As Drilled	6,348.76	6,266.73	5,795.90	5,751.50	130.549	CC
Mile High 02-19 - Wellbore #1 - Wellbore #1 - As Drilled	6,350.00	6,267.78	5,795.90	5,751.50	130.526	ES
Mile High 02-19 - Wellbore #1 - Wellbore #1 - As Drilled	6,800.00	6,690.09	5,936.28	5,889.32	126.418	SF
Sean D19-09 - Wellbore #1 - Wellbore #1 - As Drilled	6,344.31	6,258.58	3,978.11	3,830.25	26.905	CC
Sean D19-09 - Wellbore #1 - Wellbore #1 - As Drilled	6,350.00	6,264.26	3,978.13	3,830.14	26.881	ES
Sean D19-09 - Wellbore #1 - Wellbore #1 - As Drilled	6,700.00	6,593.98	4,070.69	3,915.20	26.180	SF
Turk Blue D19-02J - Turk Blue D19-02J - Turk Blue D19-	6,352.18	6,229.44	7,397.04	7,352.77	167.105	CC, ES
Turk Blue D19-02J - Turk Blue D19-02J - Turk Blue D19-	6,800.00	6,812.46	7,516.54	7,469.19	158.732	SF
Turk Blue D19-04 - Turk Blue D19-04 - Turk Blue D19-04	6,359.69	6,300.00	8,263.27	8,218.74	185.587	CC, ES

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen 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:	Prelim - Rev 1	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
D Section 19						
Turk Blue D19-04 - Turk Blue D19-04 - Turk Blue D19-04	6,850.00	6,726.22	8,405.22	8,358.05	178.172	SF
Turk Blue D19-05 - Turk Blue D19-05 - Turk Blue D19-05	6,383.32	6,418.95	7,056.12	7,011.10	156.740	CC, ES
Turk Blue D19-05 - Turk Blue D19-05 - Turk Blue D19-05	6,900.00	6,776.61	7,195.14	7,147.65	151.530	SF
Turk Blue D19-06 - Turk Blue D19-06 - Turk Blue D19-06	6,364.00	6,307.26	6,240.08	6,195.54	140.113	CC, ES
Turk Blue D19-06 - Turk Blue D19-06 - Turk Blue D19-06	6,900.00	6,765.78	6,408.77	6,361.41	135.325	SF
Turk White D19-01 - Wellbore #1 - Wellbore #1 - As Drill	6,335.29	6,200.01	6,430.52	6,386.33	145.538	CC
Turk White D19-01 - Wellbore #1 - Wellbore #1 - As Drill	6,350.00	6,250.85	6,430.65	6,386.24	144.826	ES
Turk White D19-01 - Wellbore #1 - Wellbore #1 - As Drill	6,750.00	6,664.44	6,554.59	6,507.77	140.001	SF
Turk White D19-02 - Wellbore #1 - Wellbore #1 - As Drill	6,360.86	6,400.01	6,949.69	6,904.82	154.901	CC, ES
Turk White D19-02 - Wellbore #1 - Wellbore #1 - As Drill	6,800.00	6,669.67	7,089.28	7,042.38	151.175	SF
Turk White D19-08 - Wellbore #1 - Wellbore #1 - As Drill	6,339.62	6,226.48	5,009.08	4,964.84	113.211	CC, ES
Turk White D19-08 - Wellbore #1 - Wellbore #1 - As Drill	6,700.00	6,570.51	5,104.82	5,058.43	110.051	SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersten 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:	Guttersten Y05-786	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersten Y05-786	Database:	EDMP
Reference Design:	Prelim - Rev 1	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
D Section 20						
Bohlender D20-2J - Wellbore #1 - No Surveys	6,332.12	6,241.41	5,320.15	5,243.00	68.962	CC, ES
Bohlender D20-2J - Wellbore #1 - No Surveys	6,750.00	6,629.78	5,452.25	5,370.67	66.833	SF
Bohlender D20-3 - Wellbore #1 - Gyro Surveys	6,326.70	6,234.03	6,442.26	6,397.98	145.507	CC, ES
Bohlender D20-3 - Wellbore #1 - Gyro Surveys	6,850.00	6,715.19	6,642.81	6,595.66	140.871	SF
Bohlender D20-4 (P&A) - Wellbore #1 - No Surveys	6,334.61	6,245.89	6,454.55	6,306.95	43.730	CC
Bohlender D20-4 (P&A) - Wellbore #1 - No Surveys	6,350.00	6,261.26	6,454.73	6,306.77	43.625	ES
Bohlender D20-4 (P&A) - Wellbore #1 - No Surveys	6,800.00	6,670.19	6,617.23	6,460.03	42.095	SF
Bohlender D20-6 - Wellbore#1 - Gyro Surveys	6,316.07	6,147.58	5,128.07	5,084.13	116.686	CC, ES
Bohlender D20-6 - Wellbore#1 - Gyro Surveys	6,700.00	6,537.25	5,236.53	5,190.21	113.060	SF
Butterball D19-27D - Butterball D19-27D - Butterball D19	6,353.42	6,616.24	7,380.54	7,299.42	90.975	CC, ES
Butterball D19-27D - Butterball D19-27D - Butterball D19	6,600.00	6,860.59	7,425.79	7,343.63	90.373	SF
Duncan D20-1 (P&A) - Wellbore #1 - No Surveys	6,313.31	6,223.62	7,573.16	7,426.09	51.492	CC, ES
Duncan D20-1 (P&A) - Wellbore #1 - No Surveys	6,900.00	6,737.93	7,786.93	7,628.21	49.063	SF
Duncan D20-10 - Wellbore #1 - Gyro Surveys	6,309.53	6,253.25	4,371.58	4,327.32	98.776	CC, ES
Duncan D20-10 - Wellbore #1 - Gyro Surveys	6,700.00	6,604.47	4,459.55	4,412.99	95.784	SF
Duncan D20-11 (SI) - Wellbore #1 - No Surveys	6,322.18	6,238.48	3,930.43	3,853.34	50.986	CC, ES
Duncan D20-11 (SI) - Wellbore #1 - No Surveys	6,650.00	6,553.05	4,008.15	3,927.42	49.646	SF
Duncan D20-12 (SI) - Wellbore #1 - No Surveys	6,334.37	6,248.65	3,655.25	3,578.04	47.340	CC, ES
Duncan D20-12 (SI) - Wellbore #1 - No Surveys	6,650.00	6,551.05	3,731.94	3,651.23	46.241	SF
Duncan D20-13 (SI) - Wellbore #1 - No Surveys	6,335.23	6,254.51	2,120.48	2,043.22	27.445	CC
Duncan D20-13 (SI) - Wellbore #1 - No Surveys	6,350.00	6,269.26	2,120.65	2,043.21	27.383	ES
Duncan D20-13 (SI) - Wellbore #1 - No Surveys	6,550.00	6,464.88	2,156.37	2,076.65	27.048	SF
Duncan D20-14 (SI) - Wellbore #1 - Gyro Surveys	6,320.87	6,227.16	2,813.37	2,769.15	63.630	CC, ES
Duncan D20-14 (SI) - Wellbore #1 - Gyro Surveys	6,550.00	6,455.35	2,851.75	2,806.06	62.422	SF
Duncan D20-15 (P&A) - Wellbore #1 - Gyro Surveys	6,288.25	6,165.68	3,326.79	3,282.92	75.839	CC
Duncan D20-15 (P&A) - Wellbore #1 - Gyro Surveys	6,300.00	6,176.39	3,326.86	3,282.92	75.704	ES
Duncan D20-15 (P&A) - Wellbore #1 - Gyro Surveys	6,650.00	6,536.53	3,394.33	3,348.14	73.479	SF
Duncan D20-16 (SI) - Wellbore #1 - Gyro Surveys	6,285.19	6,247.46	4,645.50	4,601.43	105.405	CC
Duncan D20-16 (SI) - Wellbore #1 - Gyro Surveys	6,300.00	6,260.59	4,645.59	4,601.42	105.170	ES
Duncan D20-16 (SI) - Wellbore #1 - Gyro Surveys	6,950.00	6,752.45	4,814.01	4,766.56	101.448	SF
Duncan D20-2 - Wellbore #1 - Gyro Surveys	6,328.50	6,310.60	6,838.26	6,793.74	153.594	CC, ES
Duncan D20-2 - Wellbore #1 - Gyro Surveys	6,800.00	6,708.68	6,994.64	6,947.57	148.614	SF
Duncan D20-7 - Wellbore #1 - Gyro Surveys	6,317.72	6,234.02	6,036.49	5,992.24	136.413	CC, ES
Duncan D20-7 - Wellbore #1 - Gyro Surveys	6,800.00	6,672.38	6,190.54	6,143.56	131.780	SF
Duncan D20-8 - Wellbore #1 - Gyro Surveys	6,302.27	6,193.29	6,311.22	6,267.21	143.412	CC, ES
Duncan D20-8 - Wellbore #1 - Gyro Surveys	6,900.00	6,772.79	6,512.58	6,465.15	137.305	SF
Duncan D20-9 (P&A) - Wellbore #1 - Gyro Surveys	6,301.39	6,233.64	5,436.66	5,392.55	123.227	CC, ES
Duncan D20-9 (P&A) - Wellbore #1 - Gyro Surveys	6,800.00	6,701.91	5,561.26	5,514.21	118.207	SF
E Ranches (P&A) - Wellbore #1 - No Surveys	6,328.04	6,239.33	2,364.61	2,217.15	16.036	CC
E Ranches (P&A) - Wellbore #1 - No Surveys	6,350.00	6,261.26	2,364.98	2,217.01	15.983	ES
E Ranches (P&A) - Wellbore #1 - No Surveys	6,550.00	6,456.88	2,402.31	2,249.86	15.757	SF
Guttersten 10-20 - Wellbore #1 - Gyro Surveys	6,318.16	6,252.49	4,520.46	4,476.17	102.085	CC, ES
Guttersten 10-20 - Wellbore #1 - Gyro Surveys	6,700.00	6,622.01	4,615.67	4,569.13	99.173	SF
LDS D20-30D - LDS D20-30D - LDS D20-30D - As Drille	6,350.06	6,448.86	6,895.91	6,848.77	146.288	CC, ES
LDS D20-30D - LDS D20-30D - LDS D20-30D - As Drille	6,650.00	6,679.14	6,965.07	6,916.40	143.084	SF

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersten 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:	Guttersten Y05-786	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersten Y05-786	Database:	EDMP
Reference Design:	Prelim - Rev 1	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
D Section 28						
O'SH D 28-7 (P&A) - Wellbore #1 - No Surveys	2,200.00	2,196.00	7,608.44	7,556.87	147.526	CC
O'SH D 28-7 (P&A) - Wellbore #1 - No Surveys	2,400.00	2,395.84	7,610.51	7,554.23	135.219	ES
O'SH D 28-7 (P&A) - Wellbore #1 - No Surveys	7,333.94	6,921.00	7,843.53	7,680.61	48.143	SF
Guttersten D State 28-29D (PR) - Wellbore #1 - MWD Su	945.47	917.49	5,371.45	5,366.34	1,050.198	CC
Guttersten D State 28-29D (PR) - Wellbore #1 - MWD Su	1,000.00	939.47	5,371.62	5,366.23	997.443	ES
Guttersten D State 28-29D (PR) - Wellbore #1 - MWD Su	7,100.00	6,894.04	6,315.41	6,267.36	131.437	SF
Guttersten D State 28-30D - Wellbore #1 - Guttersten D S	6,298.07	6,298.07	4,745.31	4,698.92	102.287	CC
Guttersten D State 28-30D - Wellbore #1 - Guttersten D S	6,350.00	6,541.22	4,745.99	4,698.68	100.312	ES
Guttersten D State 28-30D - Wellbore #1 - Guttersten D S	6,900.00	6,887.38	4,844.46	4,794.58	97.120	SF
Guttersten State D28-18D (PR) - Wellbore #1 - MWD Sur	0.00	0.00	6,666.76			
Guttersten State D28-18D (PR) - Wellbore #1 - MWD Sur	100.00	47.00	6,666.95	6,666.74	10,000.000	ES
Guttersten State D28-18D (PR) - Wellbore #1 - MWD Sur	10,200.00	6,972.63	8,111.12	8,050.70	134.249	SF
Guttersten State D28-28D (PR) - Wellbore #1 - MWD Sur	0.00	0.00	6,667.04			
Guttersten State D28-28D (PR) - Wellbore #1 - MWD Sur	300.00	230.98	6,667.96	6,666.49	4,542.912	ES
Guttersten State D28-28D (PR) - Wellbore #1 - MWD Sur	7,100.00	6,885.75	7,448.54	7,398.85	149.897	SF
Guttersten State D28-79HN - Wellbore #1 - Actual	6,589.46	10,014.12	4,651.91	4,563.02	52.332	CC, ES
Guttersten State D28-79HN - Wellbore #1 - Actual	6,600.00	10,012.47	4,651.92	4,563.02	52.327	SF
HSR Guttersten State 7-28 (PR) - Wellbore #1 - Gyro Sur	2,528.25	2,759.10	7,384.97	7,366.69	404.091	CC
HSR Guttersten State 7-28 (PR) - Wellbore #1 - Gyro Sur	2,600.00	2,800.00	7,385.34	7,366.67	395.502	ES
HSR Guttersten State 7-28 (PR) - Wellbore #1 - Gyro Sur	12,000.00	6,600.00	9,162.63	9,098.49	142.853	SF
O'SH D 28-1 (SI) - Wellbore #1 - Gyro Surveys	2,220.62	2,245.66	8,676.66	8,661.26	563.547	CC
O'SH D 28-1 (SI) - Wellbore #1 - Gyro Surveys	2,300.00	2,314.89	8,676.90	8,660.98	544.970	ES
O'SH D 28-1 (SI) - Wellbore #1 - Gyro Surveys	10,600.00	6,901.08	9,959.54	9,900.47	168.605	SF
O'SH D 28-2 (SI) - Wellbore #1 - Gyro Surveys	739.94	741.97	7,782.83	7,777.99	1,607.719	CC
O'SH D 28-2 (SI) - Wellbore #1 - Gyro Surveys	2,100.00	2,062.86	7,784.70	7,770.36	543.181	ES
O'SH D 28-2 (SI) - Wellbore #1 - Gyro Surveys	11,500.00	6,932.86	9,809.49	9,748.25	160.189	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	2,300.00	2,350.01	8,925.38	8,909.34	556.275	ES
O'SH D 28-8 (SI) - Wellbore #1 - Gyro Surveys	10,900.00	6,923.69	9,963.59	9,902.08	161.983	SF
Spike ST GWS D 28-4 (SI) - Wellbore #1 - Gyro Surveys	2,447.43	2,417.10	5,301.64	5,284.84	315.554	CC
Spike ST GWS D 28-4 (SI) - Wellbore #1 - Gyro Surveys	4,000.00	3,958.50	5,308.92	5,281.19	191.433	ES
Spike ST GWS D 28-4 (SI) - Wellbore #1 - Gyro Surveys	7,100.00	6,830.78	5,498.83	5,450.90	114.716	SF
Spike State D28-05 (PR) - Wellbore #1 - Gyro Surveys	2,307.77	2,334.17	4,826.98	4,810.94	301.104	CC
Spike State D28-05 (PR) - Wellbore #1 - Gyro Surveys	2,400.00	2,409.15	4,827.54	4,810.92	290.444	ES
Spike State D28-05 (PR) - Wellbore #1 - Gyro Surveys	7,000.00	7,000.00	5,090.53	5,042.15	105.239	SF
Spike State D28-06 (SI) - Wellbore #1 - Gyro Surveys	2,222.01	2,218.92	6,539.92	6,524.62	427.309	CC
Spike State D28-06 (SI) - Wellbore #1 - Gyro Surveys	2,300.00	2,271.74	6,540.36	6,524.60	414.791	ES
Spike State D28-06 (SI) - Wellbore #1 - Gyro Surveys	10,900.00	6,845.00	7,909.72	7,849.95	132.332	SF

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersten 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:	Guttersten Y05-786	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersten Y05-786	Database:	EDMP
Reference Design:	Prelim - Rev 1	Offset TVD Reference:	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
D Section 29						
Guttersten D29-30D - Wellbore #1 - Design #1	805.89	803.90	1,128.85	1,123.54	212.375	CC
Guttersten D29-30D - Wellbore #1 - Design #1	900.00	884.79	1,129.13	1,123.19	190.012	ES
Guttersten D29-30D - Wellbore #1 - Design #1	6,500.00	6,606.44	1,715.67	1,668.24	36.170	SF
Guttersten D29-31D - Wellbore #1 - Guttersten D29-31D	100.00	69.70	385.38	385.13	1,536.377	CC
Guttersten D29-31D - Wellbore #1 - Guttersten D29-31D	500.00	467.98	386.58	384.18	161.082	ES
Guttersten D29-31D - Wellbore #1 - Guttersten D29-31D	6,500.00	6,504.93	672.94	627.24	14.725	SF
Guttersten D29-33D - Wellbore #1 - Guttersten D29-33D -	9,010.55	7,124.92	543.62	482.95	8.960	CC, ES, SF
Guttersten D29-65HN - Original Drilling - Original Drilling	7,725.37	7,037.91	137.53	112.89	5.581	CC, ES
Guttersten D29-65HN - Original Drilling - Original Drilling	7,800.00	7,045.30	156.27	122.79	4.667	SF
Guttersten D29-67HN - Original Drilling - Original Drilling	6,567.45	6,715.66	422.40	379.52	9.850	CC, ES
Guttersten D29-67HN - Original Drilling - Original Drilling	6,650.00	6,755.51	433.70	388.85	9.670	SF
Guttersten D29-69HN - Original Drilling - Original Drilling	950.80	937.81	1,109.68	1,104.71	223.076	CC
Guttersten D29-69HN - Original Drilling - Original Drilling	1,000.00	980.02	1,109.84	1,104.54	209.514	ES
Guttersten D29-69HN - Original Drilling - Original Drilling	6,600.00	6,910.54	1,645.06	1,598.03	34.979	SF
Guttersten D29-722 - Guttersten D29-722 - Prelim - Rev 1	2,207.89	2,227.60	3,754.56	3,739.13	243.350	CC
Guttersten D29-722 - Guttersten D29-722 - Prelim - Rev 1	2,300.00	2,333.85	3,754.92	3,738.81	233.045	ES
Guttersten D29-722 - Guttersten D29-722 - Prelim - Rev 1	8,800.00	6,700.00	3,978.96	3,927.63	77.510	SF
Guttersten D29-730 - Guttersten D29-730 - Prelim - Rev 1	6,684.68	7,950.10	3,242.82	3,193.28	65.457	CC, ES
Guttersten D29-730 - Guttersten D29-730 - Prelim - Rev 1	6,700.00	7,941.93	3,242.85	3,193.30	65.451	SF
Guttersten D29-738 - Guttersten D29-738 - Prelim - Rev 1	2,200.00	2,204.00	1,483.37	1,468.05	96.819	CC, ES
Guttersten D29-738 - Guttersten D29-738 - Prelim - Rev 1	8,500.00	6,514.12	2,598.44	2,548.22	51.741	SF
Guttersten D29-746 - Guttersten D29-746 - Prelim - Rev 1	2,200.00	2,192.00	1,445.57	1,430.30	94.618	CC, ES
Guttersten D29-746 - Guttersten D29-746 - Prelim - Rev 1	6,850.00	7,781.39	2,026.32	1,977.15	41.211	SF
Guttersten D29-754 - Guttersten D29-754 - Prelim - Rev 1	2,200.00	2,192.00	1,408.79	1,393.51	92.210	CC
Guttersten D29-754 - Guttersten D29-754 - Prelim - Rev 1	7,100.00	7,809.12	1,437.62	1,387.75	28.826	SF
Guttersten D29-754 - Guttersten D29-754 - Prelim - Rev 1	7,226.82	7,668.79	1,436.93	1,387.14	28.856	ES
Guttersten D29-770 - Guttersten D29-770 - Prelim - Rev 1	2,200.00	2,196.00	166.42	151.12	10.882	CC, ES
Guttersten D29-770 - Guttersten D29-770 - Prelim - Rev 1	2,300.00	2,290.65	169.66	153.69	10.625	SF
Guttersten D29-778 - Guttersten D29-778 - Prelim - Rev 1	2,200.00	2,196.00	154.04	138.75	10.073	CC
Guttersten D29-778 - Guttersten D29-778 - Prelim - Rev 1	7,204.18	7,641.43	187.63	138.09	3.788	ES, SF
Guttersten D29-786 - Guttersten D29-786 - Prelim - Rev 1	2,200.00	2,196.00	150.03	134.74	9.811	CC, ES
Guttersten D29-786 - Guttersten D29-786 - Prelim - Rev 1	7,020.53	7,695.22	396.04	346.48	7.992	SF
Guttersten D29-99HZ - Wellbore #1 - MWD Surveys	9,080.99	6,952.05	188.96	150.02	4.852	CC, ES
Guttersten D29-99HZ - Wellbore #1 - MWD Surveys	9,100.00	6,951.89	189.91	150.29	4.793	SF
Guttersten D30-68-1HN - Original Drilling - Original Drilling	6,311.77	6,241.98	928.43	885.47	21.615	CC, ES
Guttersten D30-68-1HN - Original Drilling - Original Drilling	6,350.00	6,260.41	929.76	886.60	21.544	SF
Guttersten D30-69-1HN - Original Drilling - Original Drilling	1,130.58	1,116.59	1,087.33	1,081.09	174.187	CC
Guttersten D30-69-1HN - Original Drilling - Original Drilling	1,200.00	1,177.81	1,087.59	1,080.89	162.142	ES
Guttersten D30-69-1HN - Original Drilling - Original Drilling	6,450.00	6,410.01	1,612.51	1,567.30	35.665	SF
Guttersten State D29-714 - Guttersten D29-714 - Prelim -	2,110.32	2,126.32	3,791.56	3,776.84	257.559	CC
Guttersten State D29-714 - Guttersten D29-714 - Prelim -	2,200.00	2,200.00	3,791.59	3,776.29	247.709	ES
Guttersten State D29-714 - Guttersten D29-714 - Prelim -	9,600.00	6,517.87	4,663.92	4,609.68	85.986	SF
Guttersten State Y05-719 - Guttersten Y05-719 - Prelim -	2,200.00	2,206.00	3,790.75	3,775.42	247.305	CC, ES
Guttersten State Y05-719 - Guttersten Y05-719 - Prelim -	20,785.36	20,810.66	4,229.59	3,998.29	18.286	SF
Guttersten Y05-726 - Guttersten Y05-726 - Prelim - Rev 1	20,764.08	20,832.45	3,616.42	3,385.29	15.647	CC
Guttersten Y05-726 - Guttersten Y05-726 - Prelim - Rev 1	20,785.36	20,829.50	3,616.49	3,385.24	15.639	ES, SF
Guttersten Y05-734 - Guttersten Y05-734 - Prelim - Rev 1	20,775.13	20,908.75	3,003.36	2,772.04	12.983	CC, ES, SF
Guttersten Y05-749 - Guttersten Y05-749 - Prelim - Rev 1	2,200.00	2,198.00	1,440.19	1,424.89	94.133	CC, ES
Guttersten Y05-749 - Guttersten Y05-749 - Prelim - Rev 1	20,785.36	20,847.99	2,390.36	2,159.14	10.338	SF
Guttersten Y05-756 - Guttersten Y05-756 - Prelim - Rev 1	2,200.00	2,198.00	1,403.18	1,387.88	91.714	CC, ES
Guttersten Y05-756 - Guttersten Y05-756 - Prelim - Rev 1	20,785.36	20,790.14	1,784.06	1,552.93	7.719	SF
Guttersten Y05-771 - Guttersten Y05-771 - Prelim - Rev 1	2,200.00	2,196.00	75.01	59.72	4.905	CC, ES
Guttersten Y05-771 - Guttersten Y05-771 - Prelim - Rev 1	20,785.36	20,848.37	1,086.04	854.87	4.698	SF

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen 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:	Prelim - Rev 1	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
D Section 29						
Guttersen Y05-779 - Guttersen Y05- 779 - Prelim - Rev 1	2,200.00	2,196.00	38.01	22.72	2.485	CC, ES
Guttersen Y05-779 - Guttersen Y05- 779 - Prelim - Rev 1	2,300.00	2,295.46	39.23	23.22	2.451	SF
Jessie D29-1J - Wellbore #1 - Gyro Surveys	4,559.71	4,512.08	2,947.22	2,915.51	92.944	CC
Jessie D29-1J - Wellbore #1 - Gyro Surveys	5,400.00	5,336.31	2,949.74	2,912.10	78.359	ES
Jessie D29-1J - Wellbore #1 - Gyro Surveys	6,850.00	6,706.86	3,044.29	2,997.15	64.575	SF
Jessie D29-4J - Wellbore #1 - Gyro Surveys	8,667.57	6,824.98	2,965.76	2,914.43	57.777	CC, ES
Jessie D29-4J - Wellbore #1 - Gyro Surveys	9,400.00	6,863.30	3,054.67	3,000.36	56.244	SF
Kate Red D29-03J - Kate Red D29-03J - Kate Red D29-0	8,673.81	6,905.92	201.58	149.89	3.900	CC, ES, SF
Kate Red D29-11 - Wellbore #1 - Gyro Surveys	8,311.13	6,911.61	1,175.51	1,125.13	23.333	CC, ES
Kate Red D29-11 - Wellbore #1 - Gyro Surveys	8,400.00	6,910.70	1,178.86	1,128.25	23.292	SF
Kate Red D29-13 - Wellbore #1 - Gyro Surveys	9,748.36	6,918.53	153.18	96.36	2.696	CC, ES, SF
Kate Red D29-14 - Wellbore #1 - Gyro Surveys	9,644.32	6,917.29	1,212.75	1,156.51	21.565	CC, ES
Kate Red D29-14 - Wellbore #1 - Gyro Surveys	9,700.00	6,917.95	1,214.03	1,157.54	21.492	SF
Kate Red D29-2J - Wellbore #1 - Kate Red D29-2J	6,325.25	6,257.41	751.46	707.14	16.956	CC, ES
Kate Red D29-2J - Wellbore #1 - Kate Red D29-2J	6,400.00	6,328.81	755.27	710.45	16.853	SF
Kate Red D29-3 - Wellbore #1 - Kate Red D29-3	6,301.48	6,232.46	1,656.30	1,612.19	37.552	CC, ES
Kate Red D29-3 - Wellbore #1 - Kate Red D29-3	6,550.00	6,469.59	1,687.11	1,641.42	36.924	SF
Kate Red D29-5 - Wellbore #1 - Gyro Surveys	6,962.64	6,789.02	49.06	1.47	1.031	Level 2, CC, ES, 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	2,500.00	2,464.56	1,074.11	1,056.96	62.622	ES
Kate Red D29-6 - Wellbore #1 - Gyro Surveys	7,100.00	6,843.87	1,314.40	1,266.39	27.379	SF
Kate White D29-1 - Wellbore #1 - Gyro Surveys	3,007.79	2,946.20	4,076.52	4,055.88	197.555	CC
Kate White D29-1 - Wellbore #1 - Gyro Surveys	4,700.00	4,634.64	4,082.37	4,049.74	125.107	ES
Kate White D29-1 - Wellbore #1 - Gyro Surveys	6,950.00	6,797.59	4,219.11	4,171.48	88.588	SF
Kate White D29-15 - Wellbore #1 - Gyro Surveys	9,541.39	6,804.15	2,463.25	2,408.00	44.583	CC, ES
Kate White D29-15 - Wellbore #1 - Gyro Surveys	10,000.00	6,802.46	2,505.58	2,448.19	43.664	SF
Kate White D29-16 - Wellbore #1 - Gyro Surveys	9,627.50	6,878.00	3,870.17	3,814.10	69.026	CC, ES
Kate White D29-16 - Wellbore #1 - Gyro Surveys	10,800.00	6,879.10	4,043.88	3,982.07	65.433	SF
Kate White D29-7 - Wellbore #1 - Gyro Surveys	2,263.28	2,253.39	2,619.25	2,603.67	168.135	CC
Kate White D29-7 - Wellbore #1 - Gyro Surveys	2,300.00	2,289.44	2,619.32	2,603.48	165.407	ES
Kate White D29-7 - Wellbore #1 - Gyro Surveys	7,250.00	6,859.14	2,808.11	2,759.88	58.225	SF
Kate White D29-8 - Wellbore #1 - Gyro Surveys	2,311.25	2,321.65	3,736.74	3,720.74	233.472	CC
Kate White D29-8 - Wellbore #1 - Gyro Surveys	2,400.00	2,402.32	3,737.22	3,720.61	225.093	ES
Kate White D29-8 - Wellbore #1 - Gyro Surveys	7,250.00	6,934.87	3,939.39	3,890.98	81.367	SF
Kate White D29-9 (SI) - Wellbore #1 - Gyro Surveys	2,277.29	2,325.14	3,821.11	3,805.23	240.648	CC
Kate White D29-9 (SI) - Wellbore #1 - Gyro Surveys	2,300.00	2,349.53	3,821.16	3,805.11	238.154	ES
Kate White D29-9 (SI) - Wellbore #1 - Gyro Surveys	9,600.00	6,877.40	4,076.55	4,021.43	73.951	SF

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen 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:	Prelim - Rev 1	Offset TVD Reference:	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
D Section 32						
HP D32-21D - Wellbore #1 - MWD Surveys	12,924.09	7,043.30	1,981.69	1,900.17	24.307	CC, ES
HP D32-21D - Wellbore #1 - MWD Surveys	13,200.00	7,051.47	2,000.79	1,917.25	23.951	SF
HP D32-23D - Wellbore #1 - MWD Surveys	14,007.22	6,984.03	3,151.91	3,064.14	35.911	CC, ES
HP D32-23D - Wellbore #1 - MWD Surveys	14,600.00	6,985.77	3,207.17	3,115.53	34.999	SF
HP Farms D 32-22D - Wellbore #1 - MWD Surveys	12,855.14	7,193.01	3,259.38	3,170.10	36.510	CC
HP Farms D 32-22D - Wellbore #1 - MWD Surveys	12,900.00	7,193.44	3,259.68	3,170.07	36.374	ES
HP Farms D 32-22D - Wellbore #1 - MWD Surveys	13,400.00	7,198.36	3,304.60	3,211.95	35.670	SF
HP Farms D32-03 - Wellbore #1 - Gyro Surveys	11,153.21	6,910.08	1,415.17	1,349.70	21.615	CC, ES
HP Farms D32-03 - Wellbore #1 - Gyro Surveys	11,300.00	6,912.89	1,422.76	1,356.54	21.484	SF
HP Farms D32-18D - Wellbore #1 - MWD Surveys	11,673.27	7,138.58	2,021.84	1,950.50	28.339	CC
HP Farms D32-18D - Wellbore #1 - MWD Surveys	11,700.00	7,138.74	2,022.02	1,950.46	28.257	ES
HP Farms D32-18D - Wellbore #1 - MWD Surveys	12,000.00	7,140.52	2,048.07	1,974.30	27.762	SF
HP Farms D32-24D - Wellbore #1 - MWD Surveys	14,271.27	7,190.88	2,008.89	1,918.33	22.184	CC
HP Farms D32-24D - Wellbore #1 - MWD Surveys	14,300.00	7,191.03	2,009.09	1,918.29	22.126	ES
HP Farms D32-24D - Wellbore #1 - MWD Surveys	14,600.00	7,192.55	2,035.60	1,942.64	21.897	SF
Norris 14-32 - Wellbore #1 - Projection Survey	15,140.94	6,938.00	183.49	52.14	1.397	Level 3, CC, ES, SF
Norris A Unit 2 - Wellbore #1 - Projection Survey	14,404.83	6,943.00	448.71	322.98	3.569	CC, ES, SF
Norris D32-1 (SI) - Wellbore #1 - Gyro Surveys	11,045.12	6,902.59	3,898.07	3,833.31	60.199	CC, ES
Norris D32-1 (SI) - Wellbore #1 - Gyro Surveys	12,100.00	6,889.47	4,038.25	3,967.77	57.295	SF
Norris D32-10 - Wellbore #1 - Gyro Surveys	13,722.82	6,750.00	2,565.00	2,481.73	30.802	CC, ES
Norris D32-10 - Wellbore #1 - Gyro Surveys	14,100.00	6,750.00	2,592.59	2,507.14	30.342	SF
Norris D32-15 - Wellbore #1 - Gyro Surveys	15,008.76	6,800.00	2,552.68	2,459.36	27.354	CC, ES
Norris D32-15 - Wellbore #1 - Gyro Surveys	15,300.00	6,800.00	2,569.24	2,474.18	27.027	SF
Norris D32-1J - Wellbore #1 - Gyro Surveys	11,837.17	6,966.46	3,468.81	3,398.34	49.225	CC, ES
Norris D32-1J - Wellbore #1 - Gyro Surveys	12,600.00	6,942.96	3,551.62	3,476.96	47.573	SF
Norris D32-2 - Wellbore #1 - Gyro Surveys	10,965.76	6,960.31	2,585.63	2,521.20	40.132	CC, ES
Norris D32-2 - Wellbore #1 - Gyro Surveys	11,400.00	6,958.95	2,621.84	2,555.06	39.263	SF
Norris D32-2J - Wellbore #1 - Gyro Surveys	11,444.62	6,927.75	680.90	613.38	10.085	CC, ES, SF
Norris D32-4 (P&A) - Wellbore #1 - No Surveys	11,006.16	6,921.00	80.50	-98.49	0.450	Level 1, CC, ES, SF
Norris D32-5 - Wellbore #1 - Gyro Surveys	12,350.55	6,931.30	53.90	-20.00	0.729	Level 1, CC, ES, SF
Norris D32-6 - Wellbore #1 - Gyro Surveys	12,375.45	6,960.90	1,163.58	1,089.39	15.683	CC, ES
Norris D32-6 - Wellbore #1 - Gyro Surveys	12,500.00	6,961.27	1,170.23	1,095.47	15.653	SF
Norris D32-7 - Wellbore #1 - Gyro Surveys	12,342.79	6,891.05	2,508.42	2,434.71	34.030	CC, ES
Norris D32-7 - Wellbore #1 - Gyro Surveys	12,700.00	6,910.52	2,533.63	2,457.79	33.410	SF
Norris D32-9 (SI) - Wellbore #1 - Gyro Surveys	13,700.82	6,919.50	3,969.49	3,885.68	47.359	CC, ES
Norris D32-9 (SI) - Wellbore #1 - Gyro Surveys	14,500.00	6,916.55	4,049.14	3,960.58	45.719	SF
Y Section 05						
Olsen Red Y05-02D - Olsen Red Y05-02D - Olsen Red Y	16,567.31	6,946.94	879.31	773.30	8.295	CC, ES
Olsen Red Y05-02D - Olsen Red Y05-02D - Olsen Red Y	16,600.00	6,947.52	879.92	773.74	8.287	SF
Olsen Y5-05JI - Olsen Y5-05JI - Olsen Y5-05JI - As Drille	17,544.20	6,941.00	151.43	49.68	1.488	Level 3, CC, ES, SF
Perkins 32-05 - Perkins 32-05 - Perkins 32-05 - As Drille	17,554.37	6,993.00	2,545.34	2,394.59	16.885	CC, ES
Perkins 32-05 - Perkins 32-05 - Perkins 32-05 - As Drille	17,800.00	6,993.00	2,557.16	2,404.96	16.802	SF
Perkins 42-05 - Perkins 42-05 - Perkins 42-05 - As Drille	17,561.06	7,010.00	3,850.40	3,699.45	25.509	CC
Perkins 42-05 - Perkins 42-05 - Perkins 42-05 - As Drille	17,600.00	7,010.00	3,850.59	3,699.36	25.461	ES
Perkins 42-05 - Perkins 42-05 - Perkins 42-05 - As Drille	18,000.00	7,010.00	3,875.34	3,721.58	25.205	SF
Perkins 43-05 - Perkins 43-05 - Perkins 43-05 - As Drille	18,868.82	7,015.00	3,841.79	3,680.39	23.804	CC
Perkins 43-05 - Perkins 43-05 - Perkins 43-05 - As Drille	18,900.00	7,015.00	3,841.91	3,680.28	23.770	ES
Perkins 43-05 - Perkins 43-05 - Perkins 43-05 - As Drille	19,300.00	7,015.00	3,865.91	3,701.79	23.556	SF
Perkins USX Y05-16 - Perkins USX Y05-16 - Perkins US	19,792.38	6,962.15	3,303.24	3,171.54	25.081	CC
Perkins USX Y05-16 - Perkins USX Y05-16 - Perkins US	19,800.00	6,962.19	3,303.25	3,171.49	25.070	ES
Perkins USX Y05-16 - Perkins USX Y05-16 - Perkins US	20,200.00	6,964.33	3,328.30	3,194.23	24.825	SF

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

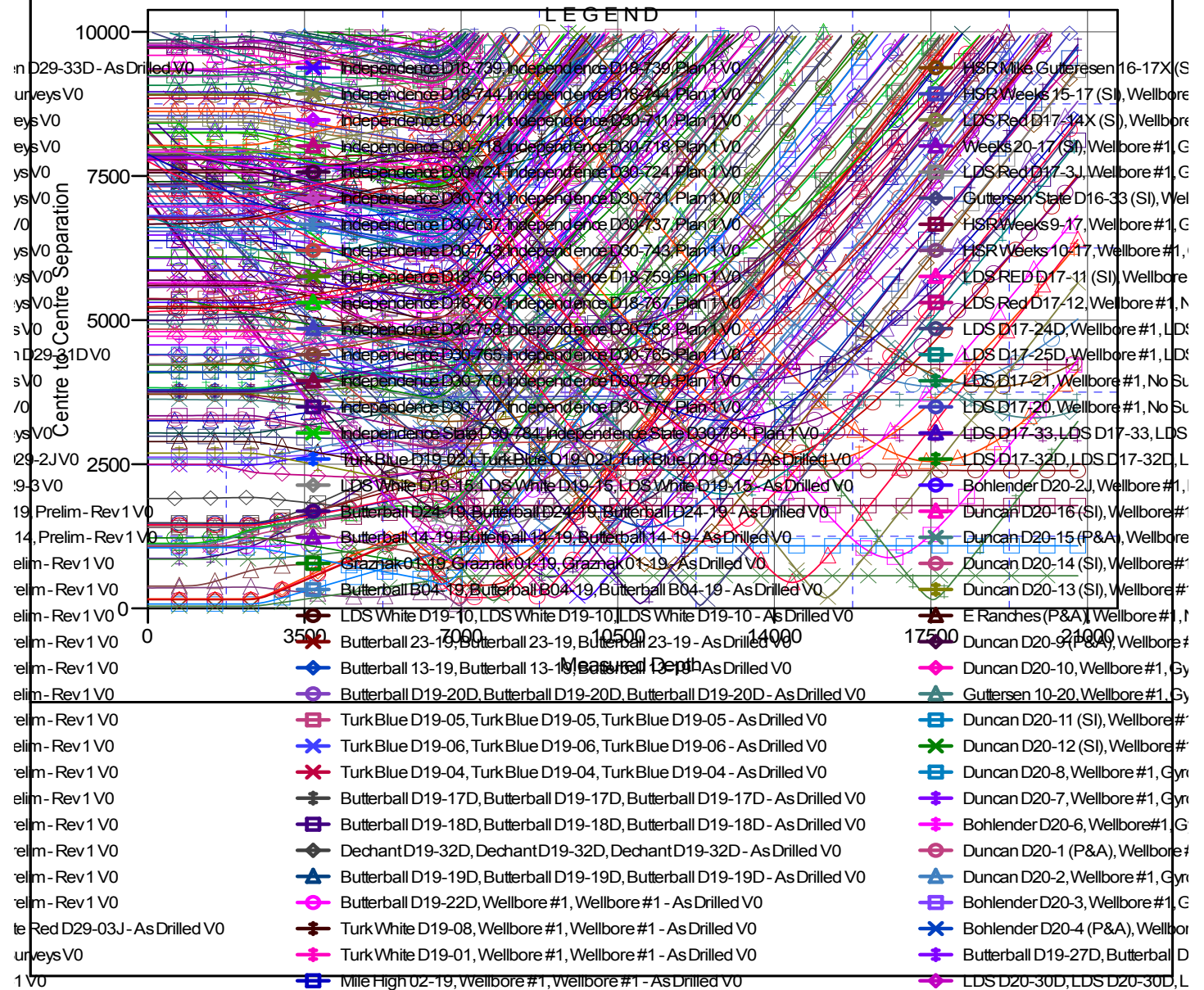
Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen 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:	Prelim - Rev 1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4814.00ft (Original Well Elev)
Offset Depths are relative to Offset Datum
Central Meridian is -105.5000000

Coordinates are relative to: Guttersen Y05-786
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.59°

Ladder Plot



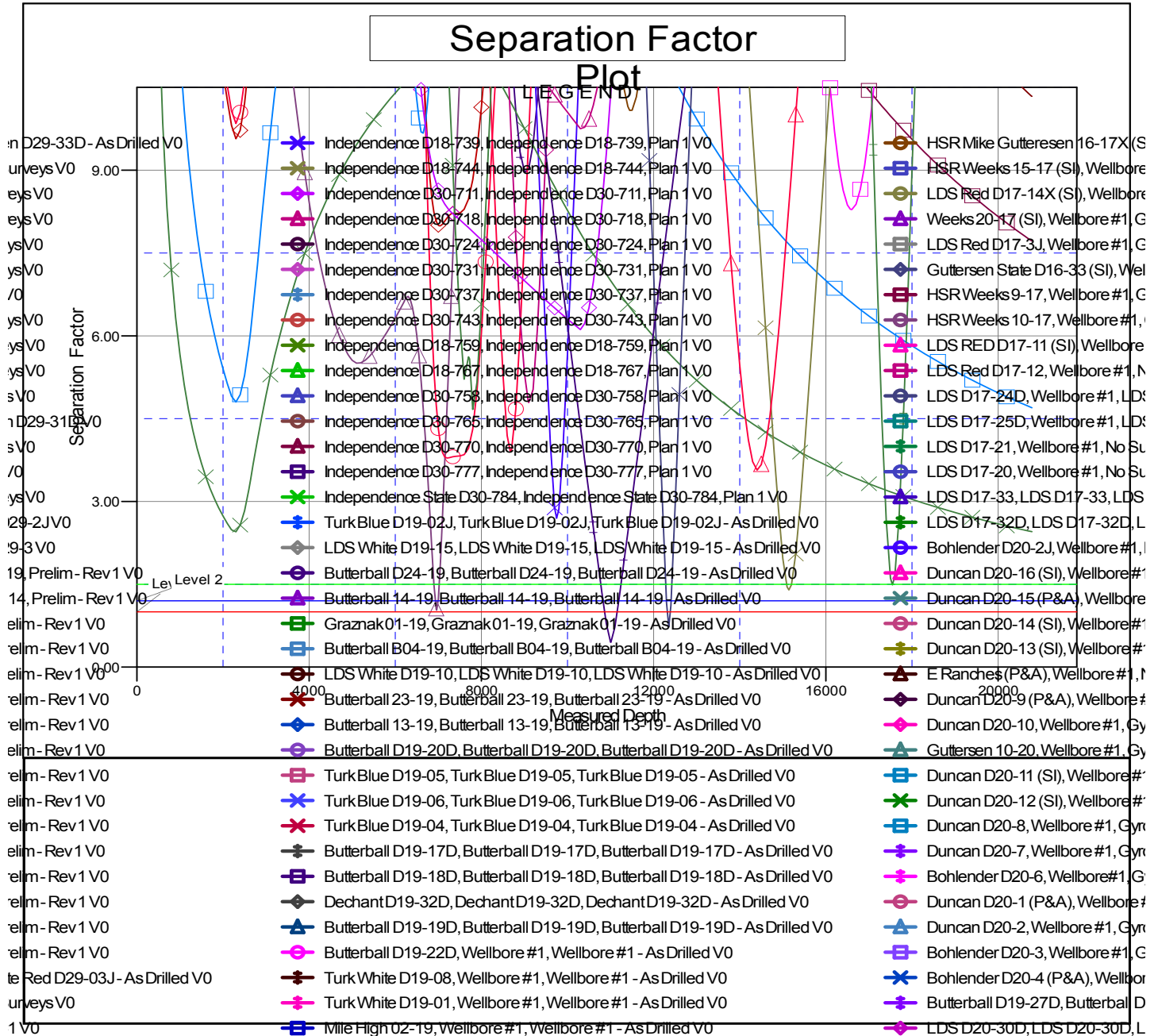
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Offset Depths are relative to Offset Datum
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