

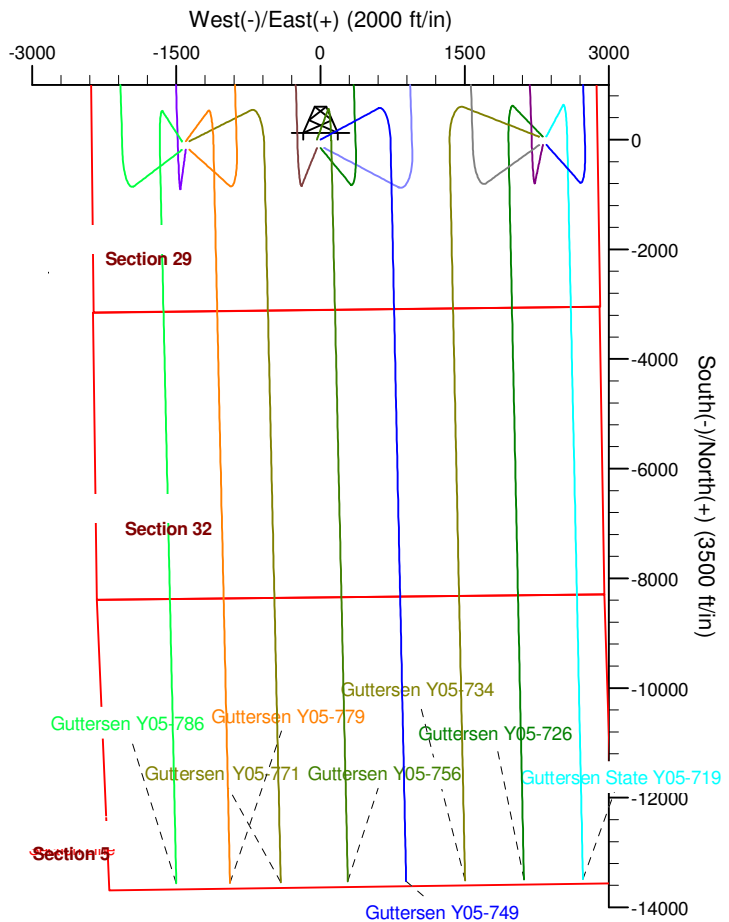
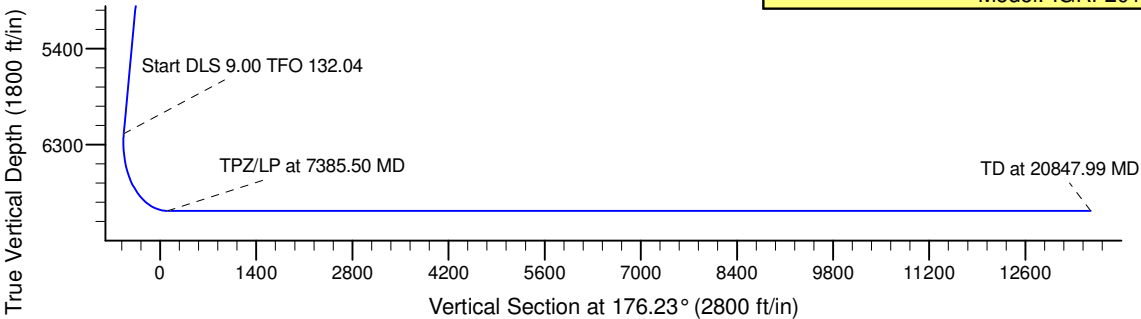
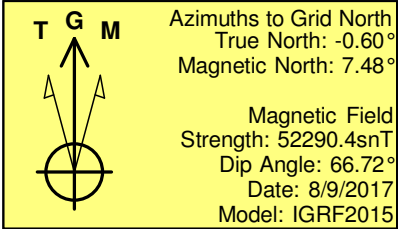
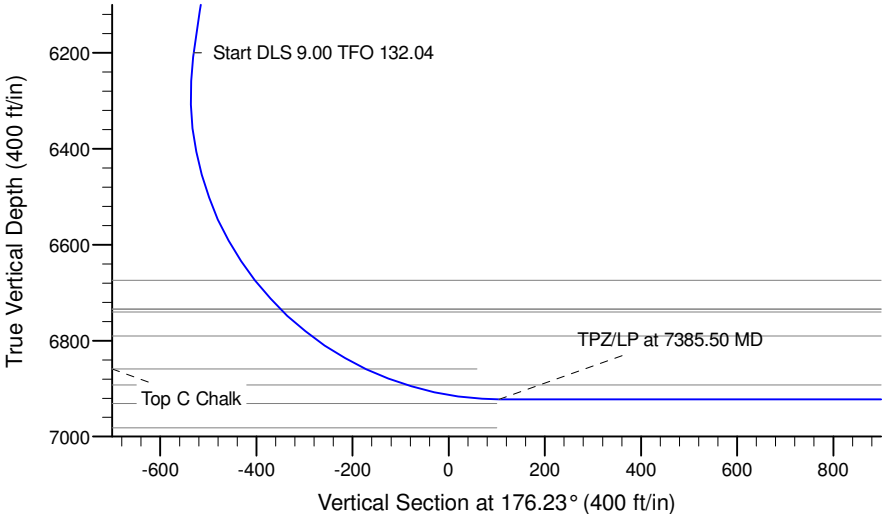
Project: Mustang
Site: D Section 29
Well: Guttersten Y05-749
Wellbore: Guttersten Y05-749
Design: Prelim - Rev 1

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	2835.76	12.72	46.57	2830.56	48.30	51.02	2.00	46.57	-44.84	
4	6290.03	12.72	46.57	6200.12	571.00	603.15	0.00	0.00	-530.07	
5	7385.50	90.00	179.31	6922.00	-57.00	730.30	9.00	132.04	104.93	GUTTERSEN Y05-749 TPZ
6	20847.99	90.00	179.31	6922.00	-13518.52	891.52	0.00	0.00	13547.89	GUTTERSEN Y05-749 BHL



WELL DETAILS: Guttersten Y05-749				
0.00	0.00	Northing 1316129.48	Easting 3258087.24	Latitude 40.1974812 Longitude -104.5760731
Plan: Prelim - Rev 1 (Guttersten Y05-749/Guttersten Y05-749)				
Created By: Colby Baxter		Date: 8:24, April 10 2018		
Checked: _____		Date: _____		
Reviewed: _____		Date: _____		
Approved: _____		Date: _____		

Northern Region - DJ Basin

Mustang

D Section 29

Guttersen Y05-749

Guttersen Y05-749

Plan: Prelim - Rev 1

Standard Survey Report

09 April, 2018

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen Y05-749
Project:	Mustang	TVD Reference:	Well @ 4812.00ft
Site:	D Section 29	MD Reference:	Well @ 4812.00ft
Well:	Guttersen Y05-749	North Reference:	Grid
Wellbore:	Guttersen Y05-749	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 Y05-749					
Well Position	+N/-S	0.00 ft	Northing:	1,316,129.48 usft	Latitude:	40.1974813
	+E/-W	0.00 ft	Easting:	3,258,087.24 usft	Longitude:	-104.5760730
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,782.00 ft

Wellbore	Guttersen Y05-749				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	8/9/2017	8.08	66.72	52,290.41682364

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	176.23	

Survey Tool Program	Date	4/9/2018			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.00	20,847.99	Prelim - Rev 1 (Guttersen Y05-749)	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 Y05-749
Project:	Mustang	TVD Reference:	Well @ 4812.00ft
Site:	D Section 29	MD Reference:	Well @ 4812.00ft
Well:	Guttersen Y05-749	North Reference:	Grid
Wellbore:	Guttersen Y05-749	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	46.57	2,299.98	1.20	1.27	-1.11	2.00	2.00	0.00
2,400.00	4.00	46.57	2,399.84	4.80	5.07	-4.45	2.00	2.00	0.00
2,500.00	6.00	46.57	2,499.45	10.79	11.40	-10.02	2.00	2.00	0.00
2,600.00	8.00	46.57	2,598.70	19.17	20.25	-17.79	2.00	2.00	0.00
2,700.00	10.00	46.57	2,697.47	29.92	31.61	-27.78	2.00	2.00	0.00
2,800.00	12.00	46.57	2,795.62	43.04	45.46	-39.95	2.00	2.00	0.00
2,835.76	12.72	46.57	2,830.56	48.30	51.02	-44.84	2.00	2.00	0.00
2,900.00	12.72	46.57	2,893.22	58.02	61.29	-53.86	0.00	0.00	0.00
3,000.00	12.72	46.57	2,990.77	73.15	77.27	-67.91	0.00	0.00	0.00
3,100.00	12.72	46.57	3,088.31	88.28	93.26	-81.96	0.00	0.00	0.00
3,200.00	12.72	46.57	3,185.86	103.42	109.24	-96.00	0.00	0.00	0.00
3,300.00	12.72	46.57	3,283.41	118.55	125.22	-110.05	0.00	0.00	0.00
3,400.00	12.72	46.57	3,380.96	133.68	141.21	-124.10	0.00	0.00	0.00
3,500.00	12.72	46.57	3,478.50	148.81	157.19	-138.15	0.00	0.00	0.00
3,600.00	12.72	46.57	3,576.05	163.94	173.18	-152.19	0.00	0.00	0.00
3,700.00	12.72	46.57	3,673.60	179.08	189.16	-166.24	0.00	0.00	0.00
3,800.00	12.72	46.57	3,771.15	194.21	205.14	-180.29	0.00	0.00	0.00
3,900.00	12.72	46.57	3,868.70	209.34	221.13	-194.34	0.00	0.00	0.00
4,000.00	12.72	46.57	3,966.24	224.47	237.11	-208.38	0.00	0.00	0.00
4,100.00	12.72	46.57	4,063.79	239.60	253.10	-222.43	0.00	0.00	0.00
4,200.00	12.72	46.57	4,161.34	254.74	269.08	-236.48	0.00	0.00	0.00
4,300.00	12.72	46.57	4,258.89	269.87	285.06	-250.52	0.00	0.00	0.00
4,400.00	12.72	46.57	4,356.43	285.00	301.05	-264.57	0.00	0.00	0.00
4,500.00	12.72	46.57	4,453.98	300.13	317.03	-278.62	0.00	0.00	0.00
4,600.00	12.72	46.57	4,551.53	315.26	333.02	-292.67	0.00	0.00	0.00
4,700.00	12.72	46.57	4,649.08	330.40	349.00	-306.71	0.00	0.00	0.00
4,800.00	12.72	46.57	4,746.62	345.53	364.98	-320.76	0.00	0.00	0.00
4,900.00	12.72	46.57	4,844.17	360.66	380.97	-334.81	0.00	0.00	0.00
5,000.00	12.72	46.57	4,941.72	375.79	396.95	-348.86	0.00	0.00	0.00
5,100.00	12.72	46.57	5,039.27	390.92	412.94	-362.90	0.00	0.00	0.00
5,200.00	12.72	46.57	5,136.81	406.06	428.92	-376.95	0.00	0.00	0.00

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen Y05-749
Project:	Mustang	TVD Reference:	Well @ 4812.00ft
Site:	D Section 29	MD Reference:	Well @ 4812.00ft
Well:	Guttersen Y05-749	North Reference:	Grid
Wellbore:	Guttersen Y05-749	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	12.72	46.57	5,234.36	421.19	444.90	-391.00	0.00	0.00	0.00
5,400.00	12.72	46.57	5,331.91	436.32	460.89	-405.05	0.00	0.00	0.00
5,500.00	12.72	46.57	5,429.46	451.45	476.87	-419.09	0.00	0.00	0.00
5,600.00	12.72	46.57	5,527.00	466.58	492.86	-433.14	0.00	0.00	0.00
5,700.00	12.72	46.57	5,624.55	481.72	508.84	-447.19	0.00	0.00	0.00
5,800.00	12.72	46.57	5,722.10	496.85	524.82	-461.24	0.00	0.00	0.00
5,900.00	12.72	46.57	5,819.65	511.98	540.81	-475.28	0.00	0.00	0.00
6,000.00	12.72	46.57	5,917.19	527.11	556.79	-489.33	0.00	0.00	0.00
6,100.00	12.72	46.57	6,014.74	542.24	572.78	-503.38	0.00	0.00	0.00
6,200.00	12.72	46.57	6,112.29	557.38	588.76	-517.42	0.00	0.00	0.00
6,290.03	12.72	46.57	6,200.12	571.00	603.15	-530.07	0.00	0.00	0.00
6,300.00	12.13	49.74	6,209.85	572.43	604.75	-531.39	9.00	-5.85	31.82
6,400.00	9.50	97.25	6,308.25	578.19	620.98	-536.08	9.00	-2.63	47.51
6,500.00	13.92	137.36	6,406.30	568.28	637.35	-525.11	9.00	4.42	40.11
6,600.00	21.40	154.30	6,501.58	542.95	653.44	-498.77	9.00	7.48	16.94
6,700.00	29.70	162.43	6,591.75	502.81	668.87	-457.70	9.00	8.31	8.13
6,800.00	38.31	167.20	6,674.58	448.86	683.24	-402.92	9.00	8.60	4.78
6,900.00	47.04	170.44	6,748.05	382.41	696.21	-335.77	9.00	8.73	3.23
7,000.00	55.84	172.86	6,810.33	305.12	707.46	-257.91	9.00	8.80	2.42
7,100.00	64.68	174.82	6,859.90	218.88	716.70	-171.25	9.00	8.84	1.96
7,200.00	73.54	176.51	6,895.53	125.82	723.72	-77.92	9.00	8.86	1.69
7,300.00	82.41	178.05	6,916.34	28.23	728.34	19.76	9.00	8.87	1.54
7,385.50	90.00	179.31	6,922.00	-57.00	730.30	104.93	9.00	8.88	1.48
7,400.00	90.00	179.31	6,922.00	-71.50	730.47	119.41	0.00	0.00	0.00
7,500.00	90.00	179.31	6,922.00	-171.49	731.67	219.27	0.00	0.00	0.00
7,600.00	90.00	179.31	6,922.00	-271.48	732.87	319.12	0.00	0.00	0.00
7,700.00	90.00	179.31	6,922.00	-371.48	734.07	418.98	0.00	0.00	0.00
7,800.00	90.00	179.31	6,922.00	-471.47	735.26	518.83	0.00	0.00	0.00
7,900.00	90.00	179.31	6,922.00	-571.46	736.46	618.69	0.00	0.00	0.00
8,000.00	90.00	179.31	6,922.00	-671.45	737.66	718.54	0.00	0.00	0.00
8,100.00	90.00	179.31	6,922.00	-771.45	738.86	818.40	0.00	0.00	0.00
8,200.00	90.00	179.31	6,922.00	-871.44	740.05	918.25	0.00	0.00	0.00
8,300.00	90.00	179.31	6,922.00	-971.43	741.25	1,018.11	0.00	0.00	0.00
8,400.00	90.00	179.31	6,922.00	-1,071.43	742.45	1,117.96	0.00	0.00	0.00
8,500.00	90.00	179.31	6,922.00	-1,171.42	743.65	1,217.82	0.00	0.00	0.00
8,600.00	90.00	179.31	6,922.00	-1,271.41	744.84	1,317.67	0.00	0.00	0.00
8,700.00	90.00	179.31	6,922.00	-1,371.40	746.04	1,417.52	0.00	0.00	0.00
8,800.00	90.00	179.31	6,922.00	-1,471.40	747.24	1,517.38	0.00	0.00	0.00
8,900.00	90.00	179.31	6,922.00	-1,571.39	748.44	1,617.23	0.00	0.00	0.00
9,000.00	90.00	179.31	6,922.00	-1,671.38	749.63	1,717.09	0.00	0.00	0.00
9,100.00	90.00	179.31	6,922.00	-1,771.38	750.83	1,816.94	0.00	0.00	0.00
9,200.00	90.00	179.31	6,922.00	-1,871.37	752.03	1,916.80	0.00	0.00	0.00
9,300.00	90.00	179.31	6,922.00	-1,971.36	753.23	2,016.65	0.00	0.00	0.00

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen Y05-749
Project:	Mustang	TVD Reference:	Well @ 4812.00ft
Site:	D Section 29	MD Reference:	Well @ 4812.00ft
Well:	Guttersen Y05-749	North Reference:	Grid
Wellbore:	Guttersen Y05-749	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	179.31	6,922.00	-2,071.35	754.42	2,116.51	0.00	0.00	0.00
9,500.00	90.00	179.31	6,922.00	-2,171.35	755.62	2,216.36	0.00	0.00	0.00
9,600.00	90.00	179.31	6,922.00	-2,271.34	756.82	2,316.22	0.00	0.00	0.00
9,700.00	90.00	179.31	6,922.00	-2,371.33	758.02	2,416.07	0.00	0.00	0.00
9,800.00	90.00	179.31	6,922.00	-2,471.33	759.21	2,515.93	0.00	0.00	0.00
9,900.00	90.00	179.31	6,922.00	-2,571.32	760.41	2,615.78	0.00	0.00	0.00
10,000.00	90.00	179.31	6,922.00	-2,671.31	761.61	2,715.64	0.00	0.00	0.00
10,100.00	90.00	179.31	6,922.00	-2,771.30	762.81	2,815.49	0.00	0.00	0.00
10,200.00	90.00	179.31	6,922.00	-2,871.30	764.01	2,915.35	0.00	0.00	0.00
10,300.00	90.00	179.31	6,922.00	-2,971.29	765.20	3,015.20	0.00	0.00	0.00
10,400.00	90.00	179.31	6,922.00	-3,071.28	766.40	3,115.06	0.00	0.00	0.00
10,500.00	90.00	179.31	6,922.00	-3,171.28	767.60	3,214.91	0.00	0.00	0.00
10,600.00	90.00	179.31	6,922.00	-3,271.27	768.80	3,314.77	0.00	0.00	0.00
10,700.00	90.00	179.31	6,922.00	-3,371.26	769.99	3,414.62	0.00	0.00	0.00
10,800.00	90.00	179.31	6,922.00	-3,471.25	771.19	3,514.48	0.00	0.00	0.00
10,900.00	90.00	179.31	6,922.00	-3,571.25	772.39	3,614.33	0.00	0.00	0.00
11,000.00	90.00	179.31	6,922.00	-3,671.24	773.59	3,714.19	0.00	0.00	0.00
11,100.00	90.00	179.31	6,922.00	-3,771.23	774.78	3,814.04	0.00	0.00	0.00
11,200.00	90.00	179.31	6,922.00	-3,871.22	775.98	3,913.90	0.00	0.00	0.00
11,300.00	90.00	179.31	6,922.00	-3,971.22	777.18	4,013.75	0.00	0.00	0.00
11,400.00	90.00	179.31	6,922.00	-4,071.21	778.38	4,113.61	0.00	0.00	0.00
11,500.00	90.00	179.31	6,922.00	-4,171.20	779.57	4,213.46	0.00	0.00	0.00
11,600.00	90.00	179.31	6,922.00	-4,271.20	780.77	4,313.32	0.00	0.00	0.00
11,700.00	90.00	179.31	6,922.00	-4,371.19	781.97	4,413.17	0.00	0.00	0.00
11,800.00	90.00	179.31	6,922.00	-4,471.18	783.17	4,513.03	0.00	0.00	0.00
11,900.00	90.00	179.31	6,922.00	-4,571.17	784.36	4,612.88	0.00	0.00	0.00
12,000.00	90.00	179.31	6,922.00	-4,671.17	785.56	4,712.74	0.00	0.00	0.00
12,100.00	90.00	179.31	6,922.00	-4,771.16	786.76	4,812.59	0.00	0.00	0.00
12,200.00	90.00	179.31	6,922.00	-4,871.15	787.96	4,912.45	0.00	0.00	0.00
12,300.00	90.00	179.31	6,922.00	-4,971.15	789.15	5,012.30	0.00	0.00	0.00
12,400.00	90.00	179.31	6,922.00	-5,071.14	790.35	5,112.16	0.00	0.00	0.00
12,500.00	90.00	179.31	6,922.00	-5,171.13	791.55	5,212.01	0.00	0.00	0.00
12,600.00	90.00	179.31	6,922.00	-5,271.12	792.75	5,311.87	0.00	0.00	0.00
12,700.00	90.00	179.31	6,922.00	-5,371.12	793.94	5,411.72	0.00	0.00	0.00
12,800.00	90.00	179.31	6,922.00	-5,471.11	795.14	5,511.58	0.00	0.00	0.00
12,900.00	90.00	179.31	6,922.00	-5,571.10	796.34	5,611.43	0.00	0.00	0.00
13,000.00	90.00	179.31	6,922.00	-5,671.10	797.54	5,711.29	0.00	0.00	0.00
13,100.00	90.00	179.31	6,922.00	-5,771.09	798.73	5,811.14	0.00	0.00	0.00
13,200.00	90.00	179.31	6,922.00	-5,871.08	799.93	5,911.00	0.00	0.00	0.00
13,300.00	90.00	179.31	6,922.00	-5,971.07	801.13	6,010.85	0.00	0.00	0.00
13,400.00	90.00	179.31	6,922.00	-6,071.07	802.33	6,110.71	0.00	0.00	0.00
13,500.00	90.00	179.31	6,922.00	-6,171.06	803.52	6,210.56	0.00	0.00	0.00
13,600.00	90.00	179.31	6,922.00	-6,271.05	804.72	6,310.42	0.00	0.00	0.00

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen Y05-749
Project:	Mustang	TVD Reference:	Well @ 4812.00ft
Site:	D Section 29	MD Reference:	Well @ 4812.00ft
Well:	Guttersen Y05-749	North Reference:	Grid
Wellbore:	Guttersen Y05-749	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	179.31	6,922.00	-6,371.05	805.92	6,410.27	0.00	0.00	0.00
13,800.00	90.00	179.31	6,922.00	-6,471.04	807.12	6,510.12	0.00	0.00	0.00
13,900.00	90.00	179.31	6,922.00	-6,571.03	808.32	6,609.98	0.00	0.00	0.00
14,000.00	90.00	179.31	6,922.00	-6,671.02	809.51	6,709.83	0.00	0.00	0.00
14,100.00	90.00	179.31	6,922.00	-6,771.02	810.71	6,809.69	0.00	0.00	0.00
14,200.00	90.00	179.31	6,922.00	-6,871.01	811.91	6,909.54	0.00	0.00	0.00
14,300.00	90.00	179.31	6,922.00	-6,971.00	813.11	7,009.40	0.00	0.00	0.00
14,400.00	90.00	179.31	6,922.00	-7,071.00	814.30	7,109.25	0.00	0.00	0.00
14,500.00	90.00	179.31	6,922.00	-7,170.99	815.50	7,209.11	0.00	0.00	0.00
14,600.00	90.00	179.31	6,922.00	-7,270.98	816.70	7,308.96	0.00	0.00	0.00
14,700.00	90.00	179.31	6,922.00	-7,370.97	817.90	7,408.82	0.00	0.00	0.00
14,800.00	90.00	179.31	6,922.00	-7,470.97	819.09	7,508.67	0.00	0.00	0.00
14,900.00	90.00	179.31	6,922.00	-7,570.96	820.29	7,608.53	0.00	0.00	0.00
15,000.00	90.00	179.31	6,922.00	-7,670.95	821.49	7,708.38	0.00	0.00	0.00
15,100.00	90.00	179.31	6,922.00	-7,770.95	822.69	7,808.24	0.00	0.00	0.00
15,200.00	90.00	179.31	6,922.00	-7,870.94	823.88	7,908.09	0.00	0.00	0.00
15,300.00	90.00	179.31	6,922.00	-7,970.93	825.08	8,007.95	0.00	0.00	0.00
15,400.00	90.00	179.31	6,922.00	-8,070.92	826.28	8,107.80	0.00	0.00	0.00
15,500.00	90.00	179.31	6,922.00	-8,170.92	827.48	8,207.66	0.00	0.00	0.00
15,600.00	90.00	179.31	6,922.00	-8,270.91	828.67	8,307.51	0.00	0.00	0.00
15,700.00	90.00	179.31	6,922.00	-8,370.90	829.87	8,407.37	0.00	0.00	0.00
15,800.00	90.00	179.31	6,922.00	-8,470.90	831.07	8,507.22	0.00	0.00	0.00
15,900.00	90.00	179.31	6,922.00	-8,570.89	832.27	8,607.08	0.00	0.00	0.00
16,000.00	90.00	179.31	6,922.00	-8,670.88	833.46	8,706.93	0.00	0.00	0.00
16,100.00	90.00	179.31	6,922.00	-8,770.87	834.66	8,806.79	0.00	0.00	0.00
16,200.00	90.00	179.31	6,922.00	-8,870.87	835.86	8,906.64	0.00	0.00	0.00
16,300.00	90.00	179.31	6,922.00	-8,970.86	837.06	9,006.50	0.00	0.00	0.00
16,400.00	90.00	179.31	6,922.00	-9,070.85	838.25	9,106.35	0.00	0.00	0.00
16,500.00	90.00	179.31	6,922.00	-9,170.84	839.45	9,206.21	0.00	0.00	0.00
16,600.00	90.00	179.31	6,922.00	-9,270.84	840.65	9,306.06	0.00	0.00	0.00
16,700.00	90.00	179.31	6,922.00	-9,370.83	841.85	9,405.92	0.00	0.00	0.00
16,800.00	90.00	179.31	6,922.00	-9,470.82	843.04	9,505.77	0.00	0.00	0.00
16,900.00	90.00	179.31	6,922.00	-9,570.82	844.24	9,605.63	0.00	0.00	0.00
17,000.00	90.00	179.31	6,922.00	-9,670.81	845.44	9,705.48	0.00	0.00	0.00
17,100.00	90.00	179.31	6,922.00	-9,770.80	846.64	9,805.34	0.00	0.00	0.00
17,200.00	90.00	179.31	6,922.00	-9,870.79	847.83	9,905.19	0.00	0.00	0.00
17,300.00	90.00	179.31	6,922.00	-9,970.79	849.03	10,005.05	0.00	0.00	0.00
17,400.00	90.00	179.31	6,922.00	-10,070.78	850.23	10,104.90	0.00	0.00	0.00
17,500.00	90.00	179.31	6,922.00	-10,170.77	851.43	10,204.76	0.00	0.00	0.00
17,600.00	90.00	179.31	6,922.00	-10,270.77	852.62	10,304.61	0.00	0.00	0.00
17,700.00	90.00	179.31	6,922.00	-10,370.76	853.82	10,404.47	0.00	0.00	0.00
17,800.00	90.00	179.31	6,922.00	-10,470.75	855.02	10,504.32	0.00	0.00	0.00
17,900.00	90.00	179.31	6,922.00	-10,570.74	856.22	10,604.18	0.00	0.00	0.00
18,000.00	90.00	179.31	6,922.00	-10,670.74	857.42	10,704.03	0.00	0.00	0.00

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen Y05-749
Project:	Mustang	TVD Reference:	Well @ 4812.00ft
Site:	D Section 29	MD Reference:	Well @ 4812.00ft
Well:	Guttersen Y05-749	North Reference:	Grid
Wellbore:	Guttersen Y05-749	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	179.31	6,922.00	-10,770.73	858.61	10,803.89	0.00	0.00	0.00
18,200.00	90.00	179.31	6,922.00	-10,870.72	859.81	10,903.74	0.00	0.00	0.00
18,300.00	90.00	179.31	6,922.00	-10,970.72	861.01	11,003.60	0.00	0.00	0.00
18,400.00	90.00	179.31	6,922.00	-11,070.71	862.21	11,103.45	0.00	0.00	0.00
18,500.00	90.00	179.31	6,922.00	-11,170.70	863.40	11,203.31	0.00	0.00	0.00
18,600.00	90.00	179.31	6,922.00	-11,270.69	864.60	11,303.16	0.00	0.00	0.00
18,700.00	90.00	179.31	6,922.00	-11,370.69	865.80	11,403.02	0.00	0.00	0.00
18,800.00	90.00	179.31	6,922.00	-11,470.68	867.00	11,502.87	0.00	0.00	0.00
18,900.00	90.00	179.31	6,922.00	-11,570.67	868.19	11,602.72	0.00	0.00	0.00
19,000.00	90.00	179.31	6,922.00	-11,670.67	869.39	11,702.58	0.00	0.00	0.00
19,100.00	90.00	179.31	6,922.00	-11,770.66	870.59	11,802.43	0.00	0.00	0.00
19,200.00	90.00	179.31	6,922.00	-11,870.65	871.79	11,902.29	0.00	0.00	0.00
19,300.00	90.00	179.31	6,922.00	-11,970.64	872.98	12,002.14	0.00	0.00	0.00
19,400.00	90.00	179.31	6,922.00	-12,070.64	874.18	12,102.00	0.00	0.00	0.00
19,500.00	90.00	179.31	6,922.00	-12,170.63	875.38	12,201.85	0.00	0.00	0.00
19,600.00	90.00	179.31	6,922.00	-12,270.62	876.58	12,301.71	0.00	0.00	0.00
19,700.00	90.00	179.31	6,922.00	-12,370.62	877.77	12,401.56	0.00	0.00	0.00
19,800.00	90.00	179.31	6,922.00	-12,470.61	878.97	12,501.42	0.00	0.00	0.00
19,900.00	90.00	179.31	6,922.00	-12,570.60	880.17	12,601.27	0.00	0.00	0.00
20,000.00	90.00	179.31	6,922.00	-12,670.59	881.37	12,701.13	0.00	0.00	0.00
20,100.00	90.00	179.31	6,922.00	-12,770.59	882.56	12,800.98	0.00	0.00	0.00
20,200.00	90.00	179.31	6,922.00	-12,870.58	883.76	12,900.84	0.00	0.00	0.00
20,300.00	90.00	179.31	6,922.00	-12,970.57	884.96	13,000.69	0.00	0.00	0.00
20,400.00	90.00	179.31	6,922.00	-13,070.57	886.16	13,100.55	0.00	0.00	0.00
20,500.00	90.00	179.31	6,922.00	-13,170.56	887.35	13,200.40	0.00	0.00	0.00
20,600.00	90.00	179.31	6,922.00	-13,270.55	888.55	13,300.26	0.00	0.00	0.00
20,700.00	90.00	179.31	6,922.00	-13,370.54	889.75	13,400.11	0.00	0.00	0.00
20,800.00	90.00	179.31	6,922.00	-13,470.54	890.95	13,499.97	0.00	0.00	0.00
20,847.99	90.00	179.31	6,922.00	-13,518.52	891.52	13,547.89	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 Y05-749 I - hit/miss target - Shape - Point	0.00	0.01	6,922.00	-57.00	730.30	1,316,072.48	3,258,817.54	40.1973039	-104.5734610
GUTTERSEN Y05-749 E - hit/miss target - Shape - Point	0.00	0.00	6,922.00	-13,518.52	891.52	1,302,610.98	3,258,978.76	40.1603478	-104.5733874

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen Y05-749
Project:	Mustang	TVD Reference:	Well @ 4812.00ft
Site:	D Section 29	MD Reference:	Well @ 4812.00ft
Well:	Guttersen Y05-749	North Reference:	Grid
Wellbore:	Guttersen Y05-749	Survey Calculation Method:	Minimum Curvature
Design:	Prelim - Rev 1	Database:	EDMP

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
564.00	564.00	Pierre				
671.00	671.00	Upper Pierre Aquifer Top				
1,569.00	1,569.00	Upper Pierre Aquifer Base				
3,788.57	3,760.00	Parkman				
4,155.57	4,118.00	Sussex				
4,951.08	4,894.00	Shannon				
6,006.98	5,924.00	Teepee Buttes				
6,799.26	6,674.00	Sharon Springs				
6,879.72	6,734.00	Top A Chalk				
6,879.72	6,734.00	Top A Marl				
6,888.31	6,740.00	Top B Chalk				
6,965.16	6,790.00	Top B Marl				
7,097.92	6,859.00	Top C Chalk				
7,187.94	6,892.00	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	
6290	6200	48	51	Start DLS 9.00 TFO 132.04	
7386	6922	571	603	TPZ/LP at 7385.50 MD	
20,848	6922	-57	730	TD at 20847.99 MD	

Checked By: _____ Approved By: _____ Date: _____

Northern Region - DJ Basin

Mustang

D Section 29

Guttersen Y05-749

Guttersen Y05-749

Prelim - Rev 1

Anticollision Summary Report

09 April, 2018

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersten Y05-749
Project:	Mustang	TVD Reference:	Well @ 4812.00ft
Reference Site:	D Section 29	MD Reference:	Well @ 4812.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersten Y05-749	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersten Y05-749	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	4/9/2018		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	20,847.99	Prelim - Rev 1 (Guttersten Y05-749)	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 Surve						Out of range
Guttersten ST D 16-33 (SI) - Wellbore #1 - No Surveys	6,414.20	6,262.25	8,745.14	8,596.69	58.910	CC, ES
Guttersten ST D 16-33 (SI) - Wellbore #1 - No Surveys	6,950.00	6,720.69	8,951.19	8,792.30	56.338	SF
Guttersten State D 15-31 (PR) - Wellbore #1 - Gyro Surve						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 Sur	100.00	50.66	9,492.09	9,491.87	10,000.000	CC
Guttersten State D 16-32D (SI) - Wellbore #1 - MWD Sur	1,100.00	985.00	9,494.51	9,488.55	1,593.916	ES
Guttersten State D 16-32D (SI) - Wellbore #1 - MWD Sur	6,600.00	3,809.00	9,906.28	9,869.21	267.260	SF
Guttersten State D16-63-1HN - Original Drilling - Original	6,461.06	11,243.02	8,447.74	8,314.34	63.326	CC, ES
Guttersten State D16-63-1HN - Original Drilling - Original	6,650.00	11,243.02	8,476.15	8,341.83	63.102	SF
Guttersten State D16-65-1HN - Original Drilling - Original	6,453.32	11,090.02	9,740.26	9,609.61	74.549	CC, ES
Guttersten State D16-65-1HN - Original Drilling - Original	6,650.00	11,090.02	9,770.99	9,639.46	74.290	SF
Spike ST GWS D 16-01 (SI) - Wellbore #1 - Gyro Survey						Out of range
Spike ST GWS D 16-02 (P&A) - Wellbore #1 - Gyro Surv						Out of range
Spike ST GWS D 16-03 (PR) - Wellbore #1 - No Surveys						Out of range
Spike ST GWS D 16-04 (SI) - Wellbore #1 - No Surveys						Out of range
Spike ST GWS D 16-05 (PR) - Wellbore #1 - Gyro 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	6,421.34	6,343.54	9,563.63	9,518.43	211.585	CC, ES
Spike ST GWS D 16-12 (PA) - Wellbore #1 - Gyro Survey	6,900.00	6,900.00	9,728.57	9,680.26	201.384	SF
Spike State D16-99HZ - Original Drilling - Original Drilling	6,454.49	11,150.02	8,923.45	8,791.96	67.867	CC, ES
Spike State D16-99HZ - Original Drilling - Original Drilling	6,650.00	11,150.02	8,953.83	8,821.43	67.627	SF
Spike State GWS D 16-7J (PR) - Wellbore #1 - No Surve						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 Guttersen Y05-749
Project:	Mustang	TVD Reference:	Well @ 4812.00ft
Reference Site:	D Section 29	MD Reference:	Well @ 4812.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen Y05-749	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen Y05-749	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	100.00	40.41	8,063.20	8,063.01	10,000.000	CC
Butterball D19-27D - Wellbore #1 - Gyro Surveys	800.00	700.00	8,064.04	8,059.14	1,643.772	ES
Butterball D19-27D - Wellbore #1 - Gyro Surveys	6,650.00	6,857.42	8,326.65	8,248.07	105.952	SF
Guttersen State D16-33 (SI) - Wellbore #1 - No Surveys	6,414.20	6,262.25	8,745.14	8,667.28	112.329	CC, ES
Guttersen State D16-33 (SI) - Wellbore #1 - No Surveys	6,950.00	6,720.69	8,951.19	8,868.07	107.692	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 Guttersen 16-17X (SI) - Wellbore #1 - No Su	6,408.07	6,261.21	7,689.04	7,611.20	98.786	CC, ES
HSR Mike Guttersen 16-17X (SI) - Wellbore #1 - No Su	6,900.00	6,693.05	7,866.62	7,783.81	94.990	SF
HSR Weeks 10-17 - Wellbore #1 - Gyro Surveys	6,394.91	6,323.48	8,922.72	8,877.64	197.934	CC
HSR Weeks 10-17 - Wellbore #1 - Gyro Surveys	6,400.00	6,326.19	8,922.74	8,877.63	197.810	ES
HSR Weeks 10-17 - Wellbore #1 - Gyro Surveys	6,800.00	6,700.00	9,047.46	8,999.99	190.571	SF
HSR Weeks 15-17 (SI) - Wellbore #1 - No Surveys	6,390.22	6,241.60	7,620.48	7,542.85	98.162	CC
HSR Weeks 15-17 (SI) - Wellbore #1 - No Surveys	6,400.00	6,251.25	7,620.56	7,542.81	98.012	ES
HSR Weeks 15-17 (SI) - Wellbore #1 - No Surveys	6,900.00	6,691.05	7,814.17	7,731.36	94.367	SF
HSR Weeks 9-17 - Wellbore #1 - Gyro Surveys	6,403.05	6,260.13	9,086.64	9,041.77	202.489	CC, ES
HSR Weeks 9-17 - Wellbore #1 - Gyro Surveys	6,850.00	6,659.67	9,235.86	9,188.47	194.897	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	6,356.61	6,317.17	7,734.25	7,689.22	171.748	CC, ES
LDS D17-13 - Wellbore #1 - Gyro Surveys	6,850.00	6,638.09	7,909.43	7,861.98	166.679	SF
LDS D17-18 (SI) - Wellbore #1 - No Surveys						Out of range
LDS D17-20 - Wellbore #1 - No Surveys	6,367.65	6,220.34	9,564.13	9,486.75	123.599	CC, ES
LDS D17-20 - Wellbore #1 - No Surveys	6,950.00	6,724.69	9,809.04	9,725.88	117.959	SF
LDS D17-21 - Wellbore #1 - No Surveys	6,380.23	6,228.75	9,385.41	9,307.92	121.112	CC, ES
LDS D17-21 - Wellbore #1 - No Surveys	6,950.00	6,720.69	9,623.76	9,540.64	115.775	SF
LDS D17-22 (SI) - Wellbore #1 - No Surveys	6,395.47	6,238.78	9,794.81	9,717.20	126.192	CC
LDS D17-22 (SI) - Wellbore #1 - No Surveys	6,400.00	6,243.25	9,794.83	9,717.16	126.102	ES
LDS D17-22 (SI) - Wellbore #1 - No Surveys	6,900.00	6,683.05	9,984.08	9,901.34	120.676	SF
LDS D17-24D - Wellbore #1 - LDS D17-24D - As Drilled	6,383.32	6,414.56	8,353.37	8,307.32	181.399	CC, ES
LDS D17-24D - Wellbore #1 - LDS D17-24D - As Drilled	6,800.00	6,876.11	8,480.83	8,432.08	173.974	SF
LDS D17-25D - Wellbore #1 - LDS D17-25D - As Drilled	6,361.35	6,394.57	8,747.68	8,692.55	158.648	CC, ES
LDS D17-25D - Wellbore #1 - LDS D17-25D - As Drilled	6,850.00	6,886.69	8,922.86	8,865.26	154.924	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						Out of range
LDS D17-33 - LDS D17-33 - LDS D17-33 - As Drilled	6,335.82	6,000.00	8,800.77	8,756.95	200.873	CC, ES
LDS D17-33 - LDS D17-33 - LDS D17-33 - As Drilled	6,850.00	6,755.72	8,983.20	8,935.39	187.891	SF
LDS D17-7 - Wellbore #1 - No Surveys						Out of range
LDS D20-29D - Wellbore #1 - LDS D20-29D - As Drilled	6,357.31	6,366.52	6,969.77	6,920.05	140.180	CC, ES
LDS D20-29D - Wellbore #1 - LDS D20-29D - As Drilled	6,750.00	6,760.34	7,082.56	7,030.67	136.479	SF
LDS D20-30D - Wellbore #1 - LDS D20-30D - As Drilled	6,349.56	6,407.02	7,479.90	7,433.76	162.095	CC
LDS D20-30D - Wellbore #1 - LDS D20-30D - As Drilled	6,350.00	6,407.40	7,479.90	7,433.75	162.085	ES
LDS D20-30D - Wellbore #1 - LDS D20-30D - As Drilled	6,800.00	6,719.01	7,621.77	7,573.34	157.390	SF
LDS RED D17-11 (SI) - Wellbore #1 - No Surveys	6,376.04	6,225.61	8,961.63	8,884.18	115.703	CC, ES
LDS RED D17-11 (SI) - Wellbore #1 - No Surveys	6,950.00	6,721.69	9,202.54	9,119.41	110.697	SF
LDS Red D17-12 - Wellbore #1 - No Surveys	6,357.41	6,210.24	9,447.23	9,369.98	122.289	CC, ES
LDS Red D17-12 - Wellbore #1 - No Surveys	6,950.00	6,724.69	9,695.08	9,611.93	116.595	SF
LDS Red D17-14X (SI) - Wellbore #1 - No Surveys	6,375.10	6,228.69	7,789.30	7,711.82	100.536	CC, ES
LDS Red D17-14X (SI) - Wellbore #1 - No Surveys	6,900.00	6,693.05	7,992.92	7,910.09	96.503	SF
LDS Red D17-3J - Wellbore #1 - Gyro Surveys	6,360.74	6,244.59	8,224.13	8,179.39	183.837	CC, ES
LDS Red D17-3J - Wellbore #1 - Gyro Surveys	6,800.00	6,641.90	8,365.14	8,317.83	176.804	SF
LDS White D17-1 - Wellbore #1 - Gyro Surveys						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 Y05-749
Project:	Mustang	TVD Reference:	Well @ 4812.00ft
Reference Site:	D Section 29	MD Reference:	Well @ 4812.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersten Y05-749	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersten Y05-749	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						
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	6,369.27	6,900.00	6,341.96	6,285.78	112.885	CC, ES
Thomson D20-31D - Wellbore #1 - Gyro Surveys	6,650.00	7,100.00	6,396.67	6,339.07	111.039	SF
Weeks 20-17 (SI) - Wellbore #1 - Gyro Surveys	6,396.70	6,234.87	8,225.23	8,180.42	183.539	CC
Weeks 20-17 (SI) - Wellbore #1 - Gyro Surveys	6,400.00	6,239.48	8,225.24	8,180.40	183.425	ES
Weeks 20-17 (SI) - Wellbore #1 - Gyro Surveys	6,800.00	6,621.12	8,348.00	8,300.76	176.721	SF
D Section 18						
Horton D18-20D - Horton D18-20D - Horton D18-20D - A						Out of range
Horton D18-22D - Horton D18-22D - Horton D18-22D - A						Out of range
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						Out of range
Mick D18-14 - Mick D18-14 - Mick D18-14 - As Drilled	6,301.24	6,200.00	9,747.14	9,702.84	220.029	CC, ES
Mick D18-14 - Mick D18-14 - Mick D18-14 - As Drilled	6,550.00	6,550.00	9,785.74	9,739.37	211.068	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						Out of range
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	6,315.83	6,043.32	9,997.19	9,953.37	228.174	CC, ES
Scooter D18-10 - Scooter D18-10 - Scooter D18-10 - As	6,350.00	6,082.46	9,997.98	9,953.90	226.828	SF
Scooter D18-15 - Scooter D18-15 - Scooter D18-15 - As	6,333.81	6,389.61	8,975.39	8,930.34	199.239	CC, ES
Scooter D18-15 - Scooter D18-15 - Scooter D18-15 - As	6,950.00	7,145.68	9,202.37	9,153.18	187.086	SF
Scooter D18-16 - Scooter D18-16 - Scooter D18-16 - As	6,336.47	6,194.62	8,393.52	8,316.49	108.976	CC
Scooter D18-16 - Scooter D18-16 - Scooter D18-16 - As	6,350.00	6,207.94	8,393.65	8,316.46	108.742	ES
Scooter D18-16 - Scooter D18-16 - Scooter D18-16 - As	6,900.00	6,697.05	8,605.35	8,522.51	103.877	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	6,345.05	6,345.05	9,318.74	9,273.77	207.242	CC, ES
Scooter D18-4J - Scooter D18-4J - Scooter D18-4J - As	6,850.00	6,658.61	9,495.93	9,448.53	200.323	SF
Scooter D18-78-1HN - Original Drilling - Original Drilling -						Out of range
Scooter D18-78-1HN - Original Drilling - ST01 - Original D						Out of range
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 - A	467.60	372.61	9,699.00	9,696.43	3,773.408	CC
Scooter D18-8JI - Scooter D18-8JI - Scooter D18-8JI - A	700.00	546.82	9,699.61	9,695.60	2,417.870	ES
Scooter D18-8JI - Scooter D18-8JI - Scooter D18-8JI - A	4,300.00	1,700.00	9,999.78	9,978.54	470.700	SF
Scooter D18-9JI - Scooter D18-9JI - Scooter D18-9JI - A	610.57	514.61	9,614.12	9,610.54	2,682.965	CC
Scooter D18-9JI - Scooter D18-9JI - Scooter D18-9JI - A	800.00	651.35	9,614.71	9,609.98	2,029.420	ES
Scooter D18-9JI - Scooter D18-9JI - Scooter D18-9JI - A	6,900.00	6,746.13	9,891.50	9,841.34	197.164	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 Y05-749
Project:	Mustang	TVD Reference:	Well @ 4812.00ft
Reference Site:	D Section 29	MD Reference:	Well @ 4812.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersten Y05-749	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersten Y05-749	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						
Butterball 13-19 - Butterball 13-19 - Butterball 13-19 - As	0.00	0.00	7,981.51			
Butterball 13-19 - Butterball 13-19 - Butterball 13-19 - As	2,300.00	2,268.79	7,989.09	7,973.31	506.447	ES
Butterball 13-19 - Butterball 13-19 - Butterball 13-19 - As	6,950.00	6,820.02	8,382.59	8,334.53	174.422	SF
Butterball 14-19 - Butterball 14-19 - Butterball 14-19 - As	2,428.42	2,641.98	7,345.50	7,327.97	418.964	CC
Butterball 14-19 - Butterball 14-19 - Butterball 14-19 - As	2,500.00	2,714.54	7,345.87	7,327.83	407.217	ES
Butterball 14-19 - Butterball 14-19 - Butterball 14-19 - As	7,100.00	7,051.31	7,821.26	7,772.11	159.123	SF
Butterball 23-19 - Butterball 23-19 - Butterball 23-19 - As	634.96	600.00	6,931.09	6,927.12	1,744.372	CC
Butterball 23-19 - Butterball 23-19 - Butterball 23-19 - As	2,000.00	1,920.23	6,939.83	6,926.34	514.646	ES
Butterball 23-19 - Butterball 23-19 - Butterball 23-19 - As	6,950.00	6,767.14	7,350.06	7,302.20	153.568	SF
Butterball B04-19 - Butterball B04-19 - Butterball B04-19	1,278.23	1,249.24	8,033.23	8,024.69	941.072	CC
Butterball B04-19 - Butterball B04-19 - Butterball B04-19	2,300.00	2,277.44	8,035.24	8,019.45	509.018	ES
Butterball B04-19 - Butterball B04-19 - Butterball B04-19	7,200.00	6,955.52	8,614.60	8,565.82	176.602	SF
Butterball D18-75HN - Original Drilling - Original Drilling -	1,925.92	1,910.00	8,414.43	8,402.22	689.343	CC, ES
Butterball D18-75HN - Original Drilling - Original Drilling -	6,750.00	6,279.00	8,914.34	8,868.60	194.904	SF
Butterball D19-17D - Butterball D19-17D - Butterball D19	6,315.32	6,800.00	7,121.56	6,984.83	52.087	CC, ES
Butterball D19-17D - Butterball D19-17D - Butterball D19	6,450.00	6,900.00	7,133.66	6,996.55	52.029	SF
Butterball D19-18D - Butterball D19-18D - Butterball D19	5,841.26	5,857.97	8,258.04	8,211.65	178.042	CC
Butterball D19-18D - Butterball D19-18D - Butterball D19	6,100.00	6,066.14	8,258.90	8,211.03	172.516	ES
Butterball D19-18D - Butterball D19-18D - Butterball D19	6,900.00	6,785.20	8,462.41	8,410.13	161.871	SF
Butterball D19-19D - Butterball D19-19D - Butterball D19	3,864.51	4,070.83	8,591.32	8,559.60	270.879	CC
Butterball D19-19D - Butterball D19-19D - Butterball D19	3,900.00	4,100.00	8,591.39	8,559.44	268.834	ES
Butterball D19-19D - Butterball D19-19D - Butterball D19	6,950.00	6,861.03	8,857.41	8,806.57	174.232	SF
Butterball D19-20D - Butterball D19-20D - Butterball D19	4,699.04	5,100.00	7,931.34	7,894.94	217.879	CC
Butterball D19-20D - Butterball D19-20D - Butterball D19	4,800.00	5,152.46	7,931.64	7,894.72	214.867	ES
Butterball D19-20D - Butterball D19-20D - Butterball D19	7,000.00	6,985.62	8,206.47	8,156.49	164.170	SF
Butterball D19-22D - Wellbore #1 - Wellbore #1 - As Drill	3,631.07	3,459.04	6,101.92	6,072.45	207.071	CC
Butterball D19-22D - Wellbore #1 - Wellbore #1 - As Drill	5,600.00	5,565.30	6,111.94	6,065.70	132.171	ES
Butterball D19-22D - Wellbore #1 - Wellbore #1 - As Drill	6,750.00	6,687.60	6,239.75	6,186.60	117.389	SF
Butterball D19-75HN - Original Drilling - Original Drilling -	6,298.00	11,767.00	5,717.16	5,604.80	50.881	CC
Butterball D19-75HN - Original Drilling - Original Drilling -	6,300.00	11,767.00	5,717.17	5,604.79	50.876	ES
Butterball D19-75HN - Original Drilling - Original Drilling -	6,600.00	11,767.00	5,743.12	5,629.38	50.491	SF
Butterball D24-19 - Butterball D24-19 - Butterball D24-19	217.88	184.88	6,224.19	6,223.17	6,105.902	CC
Butterball D24-19 - Butterball D24-19 - Butterball D24-19	400.00	328.22	6,224.69	6,222.51	2,865.009	ES
Butterball D24-19 - Butterball D24-19 - Butterball D24-19	7,050.00	6,878.86	6,840.77	6,792.35	141.304	SF
Butterball H24-69HN - Original Drilling - Original Drilling -	0.00	0.00	8,446.14			
Butterball H24-69HN - Original Drilling - Original Drilling -	6,309.26	6,184.00	8,475.56	8,431.56	192.643	ES
Butterball H24-69HN - Original Drilling - Original Drilling -	6,650.00	6,279.00	8,554.08	8,508.70	188.500	SF
Champlin 366 Amoco F 1 - Wellbore #1 - Wellbore #1 - A	569.36	531.36	5,268.49	5,265.00	1,508.741	CC
Champlin 366 Amoco F 1 - Wellbore #1 - Wellbore #1 - A	700.00	633.29	5,268.83	5,264.51	1,220.912	ES
Champlin 366 Amoco F 1 - Wellbore #1 - Wellbore #1 - A	6,850.00	6,676.15	5,565.02	5,517.60	117.369	SF
Dechant D19-32D - Dechant D19-32D - Dechant D19-32	501.28	478.31	8,755.64	8,752.57	2,853.332	CC
Dechant D19-32D - Dechant D19-32D - Dechant D19-32	800.00	700.00	8,756.85	8,751.82	1,741.893	ES
Dechant D19-32D - Dechant D19-32D - Dechant D19-32	6,750.00	7,220.68	9,282.60	9,168.58	81.412	SF
Graznak 01-19 - Graznak 01-19 - Graznak 01-19 - As Dr	2,200.00	2,171.00	7,316.94	7,290.34	275.083	CC
Graznak 01-19 - Graznak 01-19 - Graznak 01-19 - As Dr	2,300.00	2,270.98	7,317.51	7,289.68	262.966	ES
Graznak 01-19 - Graznak 01-19 - Graznak 01-19 - As Dr	7,100.00	6,830.90	7,867.44	7,783.27	93.464	SF
Higgins D19-720 - Original Drilling - Original Drilling - As	937.92	921.94	7,600.79	7,594.94	1,300.237	CC
Higgins D19-720 - Original Drilling - Original Drilling - As	1,000.00	959.62	7,600.89	7,594.75	1,238.369	ES
Higgins D19-720 - Original Drilling - Original Drilling - As	6,650.00	6,560.12	7,801.71	7,758.29	179.660	SF
Higgins D19-720 - Sidetrack Curve/Horizontal - ST01 - A	6,497.16	11,660.02	4,401.23	4,340.91	72.973	CC
Higgins D19-720 - Sidetrack Curve/Horizontal - ST01 - A	6,500.00	11,660.02	4,401.23	4,340.91	72.958	ES
Higgins D19-720 - Sidetrack Curve/Horizontal - ST01 - A	6,700.00	11,660.02	4,421.83	4,360.81	72.475	SF
Independence D18-712 - Independence D18-712 - Plan 1	6,350.52	6,500.00	7,129.53	7,083.28	154.132	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 Y05-749
Project:	Mustang	TVD Reference:	Well @ 4812.00ft
Reference Site:	D Section 29	MD Reference:	Well @ 4812.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen Y05-749	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen Y05-749	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 D18-712 - Independence D18-712 - Plan 1	6,700.00	6,550.00	7,220.33	7,172.87	152.127	SF
Independence D18-717 - Independence D18-717 - Plan 1	6,327.06	6,250.00	7,288.70	7,243.79	162.307	CC, ES
Independence D18-717 - Independence D18-717 - Plan 1	6,600.00	6,300.00	7,342.64	7,296.70	159.828	SF
Independence D18-725 - Independence D18-725 - Plan 1	6,321.86	6,250.00	7,524.97	7,480.34	168.600	CC, ES
Independence D18-725 - Independence D18-725 - Plan 1	6,600.00	6,300.00	7,579.90	7,534.20	165.865	SF
Independence D18-732 - Independence D18-732 - Plan 1	6,294.47	6,011.07	7,724.47	7,680.52	175.748	CC
Independence D18-732 - Independence D18-732 - Plan 1	6,300.00	6,016.33	7,724.49	7,680.50	175.588	ES
Independence D18-732 - Independence D18-732 - Plan 1	6,600.00	6,200.00	7,785.10	7,739.47	170.609	SF
Independence D18-739 - Independence D18-739 - Plan 1	4,078.00	3,651.66	7,820.18	7,793.00	287.723	CC
Independence D18-739 - Independence D18-739 - Plan 1	4,500.00	4,044.57	7,821.69	7,791.51	259.170	ES
Independence D18-739 - Independence D18-739 - Plan 1	6,900.00	6,243.79	8,104.49	8,057.82	173.661	SF
Independence D18-744 - Independence D18-744 - Plan 1	3,237.13	2,756.39	7,843.64	7,822.75	375.391	CC
Independence D18-744 - Independence D18-744 - Plan 1	3,300.00	2,800.00	7,843.80	7,822.52	368.712	ES
Independence D18-744 - Independence D18-744 - Plan 1	6,950.00	5,908.86	8,312.32	8,266.42	181.107	SF
Independence D18-759 - Independence D18-759 - Plan 1	6,297.26	6,324.42	8,674.71	8,629.69	192.688	CC
Independence D18-759 - Independence D18-759 - Plan 1	6,300.00	6,324.67	8,674.71	8,629.68	192.641	ES
Independence D18-759 - Independence D18-759 - Plan 1	6,650.00	6,350.00	8,751.09	8,704.91	189.493	SF
Independence D18-767 - Independence D18-767 - Plan 1	6,249.99	6,222.27	9,023.06	8,978.80	203.864	CC, ES
Independence D18-767 - Independence D18-767 - Plan 1	6,650.00	6,250.00	9,102.74	9,057.11	199.504	SF
Independence D30-711 - Independence D30-711 - Plan 1	6,604.03	14,463.47	3,129.61	3,041.82	35.650	CC, ES
Independence D30-711 - Independence D30-711 - Plan 1	10,500.00	18,060.85	3,176.70	3,048.71	24.820	SF
Independence D30-718 - Independence D30-718 - Plan 1	6,439.82	14,246.12	3,541.39	3,455.37	41.169	CC
Independence D30-718 - Independence D30-718 - Plan 1	6,450.00	14,247.05	3,541.41	3,455.35	41.153	ES
Independence D30-718 - Independence D30-718 - Plan 1	10,600.00	17,906.67	3,640.79	3,512.93	28.474	SF
Independence D30-724 - Independence D30-724 - Plan 1	6,304.01	14,134.78	3,967.83	3,882.93	46.734	CC, ES
Independence D30-724 - Independence D30-724 - Plan 1	10,800.00	17,790.74	4,095.44	3,966.87	31.853	SF
Independence D30-731 - Independence D30-731 - Plan 1	6,242.97	14,101.72	4,377.13	4,293.17	52.138	CC
Independence D30-731 - Independence D30-731 - Plan 1	6,290.03	14,108.90	4,377.37	4,293.16	51.979	ES
Independence D30-731 - Independence D30-731 - Plan 1	10,900.00	17,787.32	4,550.84	4,421.63	35.221	SF
Independence D30-737 - Independence D30-737 - Plan 1	6,167.93	14,204.07	4,779.25	4,695.49	57.057	CC
Independence D30-737 - Independence D30-737 - Plan 1	6,200.00	14,208.90	4,779.36	4,695.39	56.923	ES
Independence D30-737 - Independence D30-737 - Plan 1	11,000.00	17,823.24	4,923.62	4,793.52	37.846	SF
Independence D30-743 - Independence D30-743 - Plan 1	6,105.51	14,237.35	5,177.70	5,094.72	62.396	CC, ES
Independence D30-743 - Independence D30-743 - Plan 1	11,200.00	17,886.63	5,369.17	5,237.85	40.887	SF
Independence D30-758 - Independence D30-758 - Plan 1	5,967.53	14,246.83	5,970.24	5,885.83	70.730	CC, ES
Independence D30-758 - Independence D30-758 - Plan 1	11,300.00	17,840.49	6,152.15	6,021.52	47.095	SF
Independence D30-765 - Independence D30-765 - Plan 1	6,076.68	14,337.94	6,443.87	6,359.75	76.604	CC
Independence D30-765 - Independence D30-765 - Plan 1	6,100.00	14,334.42	6,443.91	6,359.73	76.545	ES
Independence D30-765 - Independence D30-765 - Plan 1	11,500.00	17,973.12	6,642.88	6,510.75	50.274	SF
Independence D30-770 - Independence D30-770 - Plan 1	5,814.99	14,227.33	6,768.22	6,685.15	81.481	CC, ES
Independence D30-770 - Independence D30-770 - Plan 1	11,700.00	17,787.74	7,013.83	6,880.73	52.700	SF
Independence D30-777 - Independence D30-777 - Plan 1	5,764.19	14,262.29	7,201.38	7,119.09	87.516	CC
Independence D30-777 - Independence D30-777 - Plan 1	5,800.00	14,256.90	7,201.47	7,119.05	87.382	ES
Independence D30-777 - Independence D30-777 - Plan 1	11,900.00	17,842.76	7,494.24	7,359.74	55.720	SF
Independence State D30-784 - Independence State D30	5,751.03	14,515.17	7,722.40	7,640.15	93.895	CC
Independence State D30-784 - Independence State D30	5,800.00	14,507.82	7,722.55	7,640.11	93.677	ES
Independence State D30-784 - Independence State D30	12,200.00	18,074.89	8,052.81	7,916.08	58.895	SF
LDS White D19-10 - LDS White D19-10 - LDS White D19	404.94	367.94	6,157.21	6,154.87	2,640.056	CC
LDS White D19-10 - LDS White D19-10 - LDS White D19	2,200.00	2,123.27	6,165.88	6,150.97	413.781	ES
LDS White D19-10 - LDS White D19-10 - LDS White D19	6,900.00	6,737.25	6,503.30	6,455.59	136.306	SF
LDS White D19-15 - LDS White D19-15 - LDS White D19	1,685.60	1,650.61	5,234.01	5,222.61	459.144	CC
LDS White D19-15 - LDS White D19-15 - LDS White D19	2,000.00	1,924.82	5,234.85	5,221.37	388.267	ES
LDS White D19-15 - LDS White D19-15 - LDS White D19	6,900.00	6,686.95	5,717.75	5,670.27	120.419	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 Y05-749
Project:	Mustang	TVD Reference:	Well @ 4812.00ft
Reference Site:	D Section 29	MD Reference:	Well @ 4812.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen Y05-749	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen Y05-749	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						
LDS White D19-16 - Wellbore #1 - Wellbore #1 - As Drill	100.00	49.85	4,261.73	4,261.52	10,000.000	CC
LDS White D19-16 - Wellbore #1 - Wellbore #1 - As Drill	2,500.00	2,475.30	4,267.12	4,249.94	248.317	ES
LDS White D19-16 - Wellbore #1 - Wellbore #1 - As Drill	6,850.00	6,678.74	4,580.33	4,532.94	96.653	SF
Mile High 02-19 - Wellbore #1 - Wellbore #1 - As Drilled	6,296.31	6,179.17	7,004.92	6,960.75	158.596	CC
Mile High 02-19 - Wellbore #1 - Wellbore #1 - As Drilled	6,300.00	6,183.71	7,004.92	6,960.73	158.489	ES
Mile High 02-19 - Wellbore #1 - Wellbore #1 - As Drilled	6,850.00	6,703.89	7,176.43	7,128.90	150.978	SF
Sean D19-09 - Wellbore #1 - Wellbore #1 - As Drilled	6,290.89	6,161.95	5,114.25	4,968.29	35.037	CC
Sean D19-09 - Wellbore #1 - Wellbore #1 - As Drilled	6,300.00	6,170.85	5,114.30	4,968.12	34.987	ES
Sean D19-09 - Wellbore #1 - Wellbore #1 - As Drilled	6,850.00	6,673.61	5,286.03	5,128.27	33.507	SF
Turk Blue D19-02J - Turk Blue D19-02J - Turk Blue D19-	2,046.54	2,021.60	8,797.99	8,784.00	628.875	CC
Turk Blue D19-02J - Turk Blue D19-02J - Turk Blue D19-	2,300.00	2,220.20	8,798.83	8,783.24	564.454	ES
Turk Blue D19-02J - Turk Blue D19-02J - Turk Blue D19-	6,900.00	6,852.58	9,088.88	9,040.77	188.909	SF
Turk Blue D19-04 - Turk Blue D19-04 - Turk Blue D19-04	3,157.20	3,238.11	9,784.50	9,762.31	440.928	CC
Turk Blue D19-04 - Turk Blue D19-04 - Turk Blue D19-04	4,000.00	4,034.61	9,787.75	9,759.70	348.901	ES
Turk Blue D19-04 - Turk Blue D19-04 - Turk Blue D19-04	6,850.00	6,711.59	9,993.67	9,946.13	210.192	SF
Turk Blue D19-05 - Turk Blue D19-05 - Turk Blue D19-05	2,280.25	2,320.71	8,673.63	8,657.75	546.374	CC
Turk Blue D19-05 - Turk Blue D19-05 - Turk Blue D19-05	2,300.00	2,318.02	8,673.65	8,657.71	544.290	ES
Turk Blue D19-05 - Turk Blue D19-05 - Turk Blue D19-05	7,000.00	6,893.50	9,062.44	9,013.99	187.050	SF
Turk Blue D19-06 - Turk Blue D19-06 - Turk Blue D19-06	612.62	575.62	7,761.64	7,757.83	2,040.795	CC
Turk Blue D19-06 - Turk Blue D19-06 - Turk Blue D19-06	2,500.00	2,457.13	7,765.54	7,748.42	453.651	ES
Turk Blue D19-06 - Turk Blue D19-06 - Turk Blue D19-06	7,000.00	7,000.00	8,088.67	8,039.93	165.957	SF
Turk White D19-01 - Wellbore #1 - Wellbore #1 - As Drill	6,324.16	6,152.81	7,184.22	7,139.97	162.359	CC, ES
Turk White D19-01 - Wellbore #1 - Wellbore #1 - As Drill	6,950.00	6,791.56	7,430.41	7,382.40	154.771	SF
Turk White D19-02 - Wellbore #1 - Wellbore #1 - As Drill	6,326.12	6,400.01	8,074.57	8,029.53	179.271	CC, ES
Turk White D19-02 - Wellbore #1 - Wellbore #1 - As Drill	7,000.00	6,794.90	8,342.39	8,294.34	173.639	SF
Turk White D19-08 - Wellbore #1 - Wellbore #1 - As Drill	6,306.11	6,159.79	5,998.60	5,954.46	135.893	CC, ES
Turk White D19-08 - Wellbore #1 - Wellbore #1 - As Drill	6,800.00	6,600.01	6,146.28	6,099.19	130.531	SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen Y05-749
Project:	Mustang	TVD Reference:	Well @ 4812.00ft
Reference Site:	D Section 29	MD Reference:	Well @ 4812.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen Y05-749	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen Y05-749	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	6,346.80	6,211.78	5,640.98	5,563.76	73.050	CC
Bohlender D20-2J - Wellbore #1 - No Surveys	6,350.00	6,214.94	5,640.98	5,563.72	73.013	ES
Bohlender D20-2J - Wellbore #1 - No Surveys	6,800.00	6,630.58	5,786.18	5,704.06	70.459	SF
Bohlender D20-3 - Wellbore #1 - Gyro Surveys	6,367.92	6,236.17	6,385.02	6,340.30	142.787	CC, ES
Bohlender D20-3 - Wellbore #1 - Gyro Surveys	6,900.00	6,719.52	6,593.19	6,545.47	138.167	SF
Bohlender D20-4 (P&A) - Wellbore #1 - No Surveys	6,346.76	6,213.75	6,859.20	6,711.91	46.570	CC
Bohlender D20-4 (P&A) - Wellbore #1 - No Surveys	6,350.00	6,216.94	6,859.21	6,711.84	46.546	ES
Bohlender D20-4 (P&A) - Wellbore #1 - No Surveys	6,900.00	6,706.05	7,071.03	6,912.50	44.605	SF
Bohlender D20-6 - Wellbore#1 - Gyro Surveys	6,359.06	6,183.01	5,054.54	5,010.03	113.573	CC, ES
Bohlender D20-6 - Wellbore#1 - Gyro Surveys	6,750.00	6,592.91	5,167.88	5,120.85	109.874	SF
Butterball D19-27D - Butterball D19-27D - Butterball D19	100.00	40.41	8,063.20	8,063.01	10,000.000	CC
Butterball D19-27D - Butterball D19-27D - Butterball D19	800.00	700.00	8,064.04	8,059.14	1,643.772	ES
Butterball D19-27D - Butterball D19-27D - Butterball D19	6,650.00	6,857.42	8,326.65	8,248.07	105.958	SF
Duncan D20-1 (P&A) - Wellbore #1 - No Surveys	6,414.23	6,279.28	6,622.67	6,473.88	44.510	CC, ES
Duncan D20-1 (P&A) - Wellbore #1 - No Surveys	6,900.00	6,705.05	6,794.04	6,635.54	42.864	SF
Duncan D20-10 - Wellbore #1 - Gyro Surveys	6,407.51	6,297.20	3,319.61	3,274.61	73.755	CC, ES
Duncan D20-10 - Wellbore #1 - Gyro Surveys	6,650.00	6,530.46	3,364.52	3,317.97	72.272	SF
Duncan D20-11 (SI) - Wellbore #1 - No Surveys	6,359.03	6,230.84	3,790.70	3,713.27	48.951	CC, ES
Duncan D20-11 (SI) - Wellbore #1 - No Surveys	6,700.00	6,554.75	3,877.32	3,796.05	47.708	SF
Duncan D20-12 (SI) - Wellbore #1 - No Surveys	6,319.66	6,190.11	4,301.34	4,224.45	55.936	CC, ES
Duncan D20-12 (SI) - Wellbore #1 - No Surveys	6,750.00	6,595.21	4,420.17	4,338.48	54.108	SF
Duncan D20-13 (SI) - Wellbore #1 - No Surveys	4,971.75	4,880.16	3,126.26	3,065.93	51.815	CC
Duncan D20-13 (SI) - Wellbore #1 - No Surveys	5,800.00	5,688.10	3,131.57	3,061.08	44.425	ES
Duncan D20-13 (SI) - Wellbore #1 - No Surveys	6,700.00	6,557.75	3,234.08	3,152.88	39.829	SF
Duncan D20-14 (SI) - Wellbore #1 - Gyro Surveys	6,339.58	6,237.60	2,953.58	2,909.02	66.270	CC
Duncan D20-14 (SI) - Wellbore #1 - Gyro Surveys	6,350.00	6,248.63	2,953.66	2,909.01	66.157	ES
Duncan D20-14 (SI) - Wellbore #1 - Gyro Surveys	6,600.00	6,508.57	2,999.35	2,953.01	64.723	SF
Duncan D20-15 (P&A) - Wellbore #1 - Gyro Surveys	6,389.27	6,253.94	2,277.51	2,232.68	50.796	CC, ES
Duncan D20-15 (P&A) - Wellbore #1 - Gyro Surveys	6,600.00	6,469.05	2,311.42	2,265.18	49.988	SF
Duncan D20-16 (SI) - Wellbore #1 - Gyro Surveys	6,465.62	6,344.44	2,868.98	2,823.73	63.410	CC, ES
Duncan D20-16 (SI) - Wellbore #1 - Gyro Surveys	6,750.00	6,580.71	2,921.97	2,875.09	62.318	SF
Duncan D20-2 - Wellbore #1 - Gyro Surveys	6,400.44	6,350.81	6,304.08	6,258.90	139.530	CC, ES
Duncan D20-2 - Wellbore #1 - Gyro Surveys	6,850.00	6,697.95	6,459.96	6,412.40	135.830	SF
Duncan D20-7 - Wellbore #1 - Gyro Surveys	6,396.84	6,246.37	5,309.82	5,264.97	118.395	CC
Duncan D20-7 - Wellbore #1 - Gyro Surveys	6,400.00	6,248.81	5,309.83	5,264.96	118.342	ES
Duncan D20-7 - Wellbore #1 - Gyro Surveys	6,800.00	6,628.08	5,432.83	5,385.57	114.969	SF
Duncan D20-8 - Wellbore #1 - Gyro Surveys	6,418.31	6,277.96	5,169.11	5,124.15	114.965	CC, ES
Duncan D20-8 - Wellbore #1 - Gyro Surveys	6,750.00	6,619.40	5,248.40	5,201.33	111.508	SF
Duncan D20-9 (P&A) - Wellbore #1 - Gyro Surveys	6,438.12	6,321.96	4,034.73	3,989.60	89.412	CC, ES
Duncan D20-9 (P&A) - Wellbore #1 - Gyro Surveys	6,750.00	6,622.04	4,102.80	4,055.76	87.227	SF
E Ranches (P&A) - Wellbore #1 - No Surveys	6,303.18	6,170.96	2,946.20	2,799.99	20.150	CC, ES
E Ranches (P&A) - Wellbore #1 - No Surveys	6,650.00	6,505.44	3,018.96	2,864.96	19.604	SF
Guttersen 10-20 - Wellbore #1 - Gyro Surveys	6,393.63	6,284.28	3,813.15	3,768.21	84.849	CC
Guttersen 10-20 - Wellbore #1 - Gyro Surveys	6,400.00	6,290.60	3,813.18	3,768.19	84.765	ES
Guttersen 10-20 - Wellbore #1 - Gyro Surveys	6,700.00	6,649.19	3,886.32	3,839.35	82.739	SF
LDS D20-30D - LDS D20-30D - LDS D20-30D - As Drille	6,350.06	6,398.69	7,485.66	7,437.54	155.544	CC, ES
LDS D20-30D - LDS D20-30D - LDS D20-30D - As Drille	6,750.00	6,700.00	7,597.55	7,547.34	151.312	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 Y05-749
Project:	Mustang	TVD Reference:	Well @ 4812.00ft
Reference Site:	D Section 29	MD Reference:	Well @ 4812.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen Y05-749	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen Y05-749	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	7,243.04	6,904.34	5,439.48	5,276.61	33.398	CC
O'SH D 28-7 (P&A) - Wellbore #1 - No Surveys	7,250.00	6,905.83	5,439.49	5,276.59	33.391	ES
O'SH D 28-7 (P&A) - Wellbore #1 - No Surveys	7,350.00	6,919.02	5,442.01	5,278.74	33.332	SF
Spike ST GWS D 28-12 (SI) - Wellbore #1 - Gyro Surve	8,396.55	6,926.76	2,689.10	2,638.29	52.931	CC
Spike ST GWS D 28-12 (SI) - Wellbore #1 - Gyro Surve	8,400.00	6,926.78	2,689.10	2,638.28	52.918	ES
Spike ST GWS D 28-12 (SI) - Wellbore #1 - Gyro Surve	9,000.00	6,931.43	2,755.97	2,702.64	51.677	SF
Guttersen D State 28-29D (PR) - Wellbore #1 - MWD Su	6,582.61	6,538.45	4,015.51	3,969.57	87.407	CC
Guttersen D State 28-29D (PR) - Wellbore #1 - MWD Su	6,600.00	6,558.40	4,015.62	3,969.57	87.199	ES
Guttersen D State 28-29D (PR) - Wellbore #1 - MWD Su	6,950.00	6,812.24	4,069.47	4,021.78	85.343	SF
Guttersen D State 28-30D - Wellbore #1 - Guttersen D S	6,548.03	6,620.93	2,713.46	2,664.02	54.877	CC
Guttersen D State 28-30D - Wellbore #1 - Guttersen D S	6,550.00	6,622.91	2,713.47	2,664.01	54.862	ES
Guttersen D State 28-30D - Wellbore #1 - Guttersen D S	6,800.00	6,809.89	2,747.31	2,696.47	54.035	SF
Guttersen State D28-18D (PR) - Wellbore #1 - MWD Sur	6,897.58	6,804.15	4,706.45	4,655.24	91.911	CC
Guttersen State D28-18D (PR) - Wellbore #1 - MWD Sur	6,900.00	6,805.91	4,706.45	4,655.23	91.892	ES
Guttersen State D28-18D (PR) - Wellbore #1 - MWD Sur	7,250.00	6,970.54	4,737.54	4,685.19	90.503	SF
Guttersen State D28-28D (PR) - Wellbore #1 - MWD Sur	6,624.09	6,544.48	5,116.43	5,068.66	107.116	CC, ES
Guttersen State D28-28D (PR) - Wellbore #1 - MWD Sur	7,050.00	6,856.56	5,178.05	5,128.44	104.365	SF
Guttersen State D28-79HN - Wellbore #1 - Actual	6,850.00	9,899.97	2,303.69	2,215.96	26.260	SF
Guttersen State D28-79HN - Wellbore #1 - Actual	7,125.56	9,708.56	2,285.67	2,200.43	26.815	CC, ES
HSR Guttersen State 7-28 (PR) - Wellbore #1 - Gyro Sur	7,203.43	6,625.42	5,229.37	5,181.58	109.433	CC, ES
HSR Guttersen State 7-28 (PR) - Wellbore #1 - Gyro Sur	9,500.00	6,600.00	5,795.75	5,741.19	106.210	SF
O'SH D 28-1 (SI) - Wellbore #1 - Gyro Surveys	6,939.96	6,797.47	6,521.26	6,473.36	136.131	CC
O'SH D 28-1 (SI) - Wellbore #1 - Gyro Surveys	6,950.00	6,803.18	6,521.28	6,473.34	136.021	ES
O'SH D 28-1 (SI) - Wellbore #1 - Gyro Surveys	10,100.00	6,907.07	7,587.92	7,530.23	131.517	SF
O'SH D 28-2 (SI) - Wellbore #1 - Gyro Surveys	6,798.39	6,670.53	5,622.18	5,575.00	119.160	CC
O'SH D 28-2 (SI) - Wellbore #1 - Gyro Surveys	6,800.00	6,672.85	5,622.18	5,574.98	119.131	ES
O'SH D 28-2 (SI) - Wellbore #1 - Gyro Surveys	7,200.00	6,905.79	5,663.17	5,614.87	117.247	SF
O'SH D 28-8 (SI) - Wellbore #1 - Gyro Surveys	7,279.69	6,810.24	6,789.57	6,741.17	140.278	CC, ES
O'SH D 28-8 (SI) - Wellbore #1 - Gyro Surveys	11,500.00	6,990.34	8,077.85	8,012.95	124.473	SF
Spike ST GWS D 28-4 (SI) - Wellbore #1 - Gyro Surveys	6,621.03	6,519.62	3,174.16	3,127.96	68.715	CC, ES
Spike ST GWS D 28-4 (SI) - Wellbore #1 - Gyro Surveys	6,950.00	6,725.56	3,218.20	3,170.47	67.434	SF
Spike State D28-05 (PR) - Wellbore #1 - Gyro Surveys	7,066.85	6,805.55	2,709.99	2,661.82	56.263	CC, ES
Spike State D28-05 (PR) - Wellbore #1 - Gyro Surveys	7,150.00	6,857.57	2,711.86	2,663.44	56.006	SF
Spike State D28-06 (SI) - Wellbore #1 - Gyro Surveys	7,150.18	6,806.05	4,392.85	4,344.55	90.939	CC, ES
Spike State D28-06 (SI) - Wellbore #1 - Gyro Surveys	7,350.00	6,846.09	4,402.15	4,353.47	90.434	SF
Spike State D28-11 (SI) - Wellbore #1 - Gyro Surveys	8,219.02	7,019.27	4,281.99	4,231.41	84.642	CC, ES
Spike State D28-11 (SI) - Wellbore #1 - Gyro Surveys	9,900.00	7,136.07	4,598.64	4,540.68	79.336	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 Y05-749
Project:	Mustang	TVD Reference:	Well @ 4812.00ft
Reference Site:	D Section 29	MD Reference:	Well @ 4812.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen Y05-749	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen Y05-749	Database:	EDMP
Reference Design:	Prelim - Rev 1	Offset TVD Reference:	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
D Section 29						
Guttersen D29-30D - Wellbore #1 - Design #1	803.33	803.33	2,217.35	2,212.05	418.040	CC
Guttersen D29-30D - Wellbore #1 - Design #1	900.00	883.39	2,217.54	2,211.60	373.483	ES
Guttersen D29-30D - Wellbore #1 - Design #1	6,650.00	6,702.70	3,356.54	3,304.89	64.989	SF
Guttersen D29-31D - Wellbore #1 - Guttersen D29-31D	100.00	70.11	1,763.30	1,763.05	7,012.989	CC
Guttersen D29-31D - Wellbore #1 - Guttersen D29-31D	400.00	362.24	1,764.30	1,762.44	953.258	ES
Guttersen D29-31D - Wellbore #1 - Guttersen D29-31D	6,850.00	6,773.95	2,952.67	2,903.80	60.413	SF
Guttersen D29-33D - Wellbore #1 - Guttersen D29-33D -	886.77	882.77	2,193.89	2,189.21	468.803	CC
Guttersen D29-33D - Wellbore #1 - Guttersen D29-33D -	1,000.00	978.75	2,194.25	2,188.84	405.502	ES
Guttersen D29-33D - Wellbore #1 - Guttersen D29-33D -	9,500.00	7,157.58	2,972.11	2,909.32	47.330	SF
Guttersen D29-65HN - Original Drilling - Original Drilling	7,818.59	9,419.71	133.25	95.35	3.516	CC
Guttersen D29-65HN - Original Drilling - Original Drilling	7,900.00	9,420.84	156.15	91.26	2.406	ES, SF
Guttersen D29-67HN - Original Drilling - Original Drilling	6,733.93	9,221.85	533.79	457.25	6.975	CC
Guttersen D29-67HN - Original Drilling - Original Drilling	6,750.00	9,223.86	534.23	456.38	6.863	ES
Guttersen D29-67HN - Original Drilling - Original Drilling	6,850.00	9,235.12	556.24	471.82	6.589	SF
Guttersen D29-69HN - Original Drilling - Original Drilling	6,550.94	9,340.73	1,675.50	1,591.18	19.870	CC, ES
Guttersen D29-69HN - Original Drilling - Original Drilling	6,700.00	9,357.92	1,699.18	1,612.22	19.540	SF
Guttersen D29-722 - Guttersen D29-722 - Prelim - Rev 1	7,300.00	7,588.10	1,468.26	1,418.36	29.424	SF
Guttersen D29-722 - Guttersen D29-722 - Prelim - Rev 1	7,360.87	7,527.48	1,467.77	1,417.90	29.433	CC, ES
Guttersen D29-730 - Guttersen D29-730 - Prelim - Rev 1	7,100.00	7,704.59	865.53	815.84	17.418	SF
Guttersen D29-730 - Guttersen D29-730 - Prelim - Rev 1	7,250.00	7,553.82	863.30	813.90	17.476	ES
Guttersen D29-730 - Guttersen D29-730 - Prelim - Rev 1	7,264.68	7,539.44	863.29	813.91	17.483	CC
Guttersen D29-738 - Guttersen D29-738 - Prelim - Rev 1	2,200.00	2,206.00	154.04	138.72	10.050	CC, ES
Guttersen D29-738 - Guttersen D29-738 - Prelim - Rev 1	7,803.44	7,215.49	219.73	168.35	4.277	SF
Guttersen D29-746 - Guttersen D29-746 - Prelim - Rev 1	2,200.00	2,194.00	150.03	134.74	9.815	CC, ES
Guttersen D29-746 - Guttersen D29-746 - Prelim - Rev 1	6,900.00	7,805.06	341.62	291.72	6.847	SF
Guttersen D29-754 - Guttersen D29-754 - Prelim - Rev 1	2,200.00	2,194.00	155.23	139.94	10.155	CC, ES
Guttersen D29-754 - Guttersen D29-754 - Prelim - Rev 1	2,300.00	2,289.08	158.15	142.19	9.909	SF
Guttersen D29-770 - Guttersen D29-770 - Prelim - Rev 1	2,200.00	2,198.00	1,375.77	1,360.47	89.922	CC
Guttersen D29-770 - Guttersen D29-770 - Prelim - Rev 1	2,300.00	2,322.72	1,376.30	1,360.23	85.618	ES
Guttersen D29-770 - Guttersen D29-770 - Prelim - Rev 1	6,750.00	7,930.49	1,566.18	1,516.15	31.308	SF
Guttersen D29-778 - Guttersen D29-778 - Prelim - Rev 1	2,200.00	2,198.00	1,412.58	1,397.28	92.328	CC, ES
Guttersen D29-778 - Guttersen D29-778 - Prelim - Rev 1	6,850.00	8,002.95	2,191.08	2,140.95	43.709	SF
Guttersen D29-786 - Guttersen D29-786 - Prelim - Rev 1	2,200.00	2,198.00	1,450.39	1,435.09	94.799	CC, ES
Guttersen D29-786 - Guttersen D29-786 - Prelim - Rev 1	6,800.00	7,915.78	2,757.56	2,707.89	55.525	SF
Guttersen D29-99HZ - Wellbore #1 - MWD Surveys	9,100.00	9,277.23	38.72	-18.20	0.680	Level 1, ES, SF
Guttersen D29-99HZ - Wellbore #1 - MWD Surveys	9,116.89	9,277.17	34.84	-10.15	0.774	Level 1, CC
Guttersen D30-68-1HN - Original Drilling - Original Drilling	1,022.22	1,012.53	2,188.08	2,182.58	397.689	CC, ES
Guttersen D30-68-1HN - Original Drilling - Original Drilling	6,450.00	6,222.01	2,995.95	2,952.30	68.635	SF
Guttersen D30-69-1HN - Original Drilling - Original Drilling	1,193.87	1,181.89	2,196.00	2,189.30	327.766	CC
Guttersen D30-69-1HN - Original Drilling - Original Drilling	1,200.00	1,187.36	2,196.00	2,189.26	325.758	ES
Guttersen D30-69-1HN - Original Drilling - Original Drilling	6,450.00	6,315.01	3,360.10	3,312.50	70.587	SF
Guttersen State D29-714 - Guttersen D29-714 - Prelim -	8,013.90	6,877.43	2,009.32	1,958.87	39.824	CC, ES
Guttersen State D29-714 - Guttersen D29-714 - Prelim -	8,300.00	6,750.00	2,024.26	1,973.10	39.565	SF
Guttersen State Y05-719 - Guttersen Y05-719 - Prelim -	7,385.18	7,360.14	1,838.19	1,788.77	37.192	CC
Guttersen State Y05-719 - Guttersen Y05-719 - Prelim -	20,847.99	20,810.66	1,839.27	1,607.76	7.944	ES, SF
Guttersen Y05-726 - Guttersen Y05-726 - Prelim - Rev 1	7,385.49	7,375.29	1,226.08	1,176.58	24.768	CC
Guttersen Y05-726 - Guttersen Y05-726 - Prelim - Rev 1	20,847.99	20,829.50	1,226.13	994.75	5.299	ES, SF
Guttersen Y05-734 - Guttersen Y05-734 - Prelim - Rev 1	7,385.50	7,440.53	613.04	562.97	12.243	CC
Guttersen Y05-734 - Guttersen Y05-734 - Prelim - Rev 1	20,847.99	20,903.03	613.05	381.57	2.648	ES, SF
Guttersen Y05-756 - Guttersen Y05-756 - Prelim - Rev 1	2,200.00	2,200.00	37.01	21.70	2.418	CC, ES
Guttersen Y05-756 - Guttersen Y05-756 - Prelim - Rev 1	2,300.00	2,300.29	37.90	21.88	2.366	SF
Guttersen Y05-771 - Guttersen Y05-771 - Prelim - Rev 1	20,847.99	20,840.74	1,304.31	1,073.04	5.640	CC, ES, SF
Guttersen Y05-779 - Guttersen Y05-779 - Prelim - Rev 1	2,200.00	2,198.00	1,402.18	1,386.88	91.649	CC

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen Y05-749
Project:	Mustang	TVD Reference:	Well @ 4812.00ft
Reference Site:	D Section 29	MD Reference:	Well @ 4812.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen Y05-749	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen Y05-749	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 29						
Guttersen Y05-779 - Guttersen Y05- 779 - Prelim - Rev 1	2,300.00	2,322.50	1,402.62	1,386.52	87.137	ES
Guttersen Y05-779 - Guttersen Y05- 779 - Prelim - Rev 1	20,847.99	20,869.44	1,834.77	1,603.15	7.921	SF
Guttersen Y05-786 - Guttersen Y05-786 - Prelim - Rev 1	2,200.00	2,202.00	1,440.19	1,424.88	94.045	CC, ES
Guttersen Y05-786 - Guttersen Y05-786 - Prelim - Rev 1	20,847.99	20,771.43	2,390.32	2,159.22	10.343	SF
Jessie D29-1J - Wellbore #1 - Gyro Surveys	6,475.56	6,353.98	911.85	866.56	20.132	CC, ES
Jessie D29-1J - Wellbore #1 - Gyro Surveys	6,550.00	6,425.77	915.37	869.58	19.992	SF
Jessie D29-4J - Wellbore #1 - Gyro Surveys	8,746.75	6,896.85	566.09	513.91	10.848	CC, ES
Jessie D29-4J - Wellbore #1 - Gyro Surveys	8,800.00	6,899.32	568.58	516.04	10.821	SF
Kate Red D29-03J - Kate Red D29-03J - Kate Red D29-0	2,228.41	2,231.07	2,079.61	2,064.23	135.199	CC, ES
Kate Red D29-03J - Kate Red D29-03J - Kate Red D29-0	9,000.00	6,909.37	2,212.85	2,159.97	41.850	SF
Kate Red D29-11 - Wellbore #1 - Gyro Surveys	2,222.31	2,207.83	1,198.16	1,182.89	78.476	CC
Kate Red D29-11 - Wellbore #1 - Gyro Surveys	8,388.96	6,888.51	1,225.21	1,174.52	24.172	ES
Kate Red D29-11 - Wellbore #1 - Gyro Surveys	8,400.00	6,888.40	1,225.26	1,174.55	24.164	SF
Kate Red D29-13 - Wellbore #1 - Gyro Surveys	9,827.16	6,936.95	2,552.73	2,495.44	44.561	CC, ES
Kate Red D29-13 - Wellbore #1 - Gyro Surveys	10,200.00	6,938.87	2,579.81	2,521.00	43.871	SF
Kate Red D29-14 - Wellbore #1 - Gyro Surveys	9,722.01	6,928.32	1,186.93	1,130.25	20.941	CC, ES
Kate Red D29-14 - Wellbore #1 - Gyro Surveys	9,800.00	6,929.25	1,189.49	1,132.59	20.905	SF
Kate Red D29-2J - Wellbore #1 - Kate Red D29-2J	1,369.11	1,334.15	1,764.51	1,755.35	192.557	CC
Kate Red D29-2J - Wellbore #1 - Kate Red D29-2J	2,000.00	1,952.66	1,765.91	1,752.33	130.029	ES
Kate Red D29-2J - Wellbore #1 - Kate Red D29-2J	6,600.00	6,490.61	1,997.35	1,951.21	43.294	SF
Kate Red D29-3 - Wellbore #1 - Kate Red D29-3	6,301.00	6,195.86	1,390.92	1,346.71	31.459	CC, ES
Kate Red D29-3 - Wellbore #1 - Kate Red D29-3	6,450.00	6,325.76	1,404.82	1,359.62	31.081	SF
Kate Red D29-5 - Wellbore #1 - Gyro Surveys	100.00	61.12	1,722.28	1,722.05	7,369.411	CC
Kate Red D29-5 - Wellbore #1 - Gyro Surveys	600.00	557.21	1,725.16	1,721.47	466.866	ES
Kate Red D29-5 - Wellbore #1 - Gyro Surveys	7,200.00	6,898.45	2,443.82	2,395.16	50.224	SF
Kate Red D29-6 - Wellbore #1 - Gyro Surveys	1,898.11	1,862.13	453.96	441.06	35.182	CC
Kate Red D29-6 - Wellbore #1 - Gyro Surveys	2,100.00	2,060.23	454.91	440.60	31.777	ES
Kate Red D29-6 - Wellbore #1 - Gyro Surveys	7,100.00	6,827.64	1,077.67	1,029.39	22.321	SF
Kate White D29-1 - Wellbore #1 - Gyro Surveys	6,547.29	6,436.04	1,993.43	1,947.70	43.596	CC
Kate White D29-1 - Wellbore #1 - Gyro Surveys	6,550.00	6,438.88	1,993.43	1,947.69	43.579	ES
Kate White D29-1 - Wellbore #1 - Gyro Surveys	6,800.00	6,665.72	2,023.51	1,976.32	42.882	SF
Kate White D29-15 - Wellbore #1 - Gyro Surveys	9,617.33	6,923.81	66.63	10.20	1.181	Level 2, CC, ES, SF
Kate White D29-16 - Wellbore #1 - Gyro Surveys	9,702.83	6,905.66	1,470.58	1,413.95	25.965	CC, ES
Kate White D29-16 - Wellbore #1 - Gyro Surveys	9,900.00	6,905.70	1,483.74	1,425.80	25.608	SF
Kate White D29-7 - Wellbore #1 - Gyro Surveys	7,122.15	6,841.74	406.80	358.38	8.402	CC, ES, SF
Kate White D29-8 - Wellbore #1 - Gyro Surveys	7,168.19	6,875.61	1,539.36	1,490.82	31.717	CC, ES
Kate White D29-8 - Wellbore #1 - Gyro Surveys	7,250.00	6,900.24	1,542.30	1,493.58	31.658	SF
Kate White D29-9 (SI) - Wellbore #1 - Gyro Surveys	8,476.58	6,882.49	1,495.75	1,444.62	29.255	CC, ES
Kate White D29-9 (SI) - Wellbore #1 - Gyro Surveys	8,700.00	6,889.57	1,512.33	1,460.18	28.998	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 Y05-749
Project:	Mustang	TVD Reference:	Well @ 4812.00ft
Reference Site:	D Section 29	MD Reference:	Well @ 4812.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen Y05-749	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen Y05-749	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 32						
HP D32-21D - Wellbore #1 - MWD Surveys	13,000.00	7,084.42	414.86	332.73	5.051	ES, SF
HP D32-21D - Wellbore #1 - MWD Surveys	13,002.40	7,084.51	414.86	332.75	5.053	CC
HP D32-23D - Wellbore #1 - MWD Surveys	14,083.18	7,020.78	756.13	667.84	8.564	CC
HP D32-23D - Wellbore #1 - MWD Surveys	14,100.00	7,020.77	756.32	667.77	8.542	ES, SF
HP Farms D 32-22D - Wellbore #1 - MWD Surveys	12,931.52	7,246.81	862.94	773.07	9.602	CC, ES
HP Farms D 32-22D - Wellbore #1 - MWD Surveys	13,000.00	7,247.58	865.65	775.01	9.550	SF
HP Farms D32-03 - Wellbore #1 - Gyro Surveys	11,231.41	6,951.35	982.91	916.79	14.866	CC, ES
HP Farms D32-03 - Wellbore #1 - Gyro Surveys	11,300.00	6,952.73	985.30	919.01	14.863	SF
HP Farms D32-18D - Wellbore #1 - MWD Surveys	11,750.18	7,143.46	376.14	304.42	5.244	CC, ES, SF
HP Farms D32-24D - Wellbore #1 - MWD Surveys	14,348.24	7,210.12	386.84	295.87	4.252	CC, ES, SF
Norris 14-32 - Wellbore #1 - Projection Survey	15,219.68	6,937.00	2,578.55	2,446.92	19.589	CC, ES
Norris 14-32 - Wellbore #1 - Projection Survey	15,400.00	6,937.00	2,584.85	2,452.23	19.491	SF
Norris A Unit 2 - Wellbore #1 - Projection Survey	14,483.03	6,942.00	1,946.97	1,820.94	15.449	CC
Norris A Unit 2 - Wellbore #1 - Projection Survey	14,500.00	6,942.00	1,947.05	1,820.92	15.438	ES
Norris A Unit 2 - Wellbore #1 - Projection Survey	14,600.00	6,942.00	1,950.48	1,823.88	15.407	SF
Norris D32-1 (SI) - Wellbore #1 - Gyro Surveys	11,120.08	6,925.50	1,499.64	1,434.39	22.982	CC, ES
Norris D32-1 (SI) - Wellbore #1 - Gyro Surveys	11,300.00	6,922.68	1,510.39	1,443.76	22.666	SF
Norris D32-10 - Wellbore #1 - Gyro Surveys	13,799.24	6,750.00	235.73	156.27	2.966	CC
Norris D32-10 - Wellbore #1 - Gyro Surveys	13,800.00	6,750.00	235.73	156.25	2.966	ES, SF
Norris D32-15 - Wellbore #1 - Gyro Surveys	15,085.19	6,800.00	203.31	112.45	2.238	CC, ES
Norris D32-15 - Wellbore #1 - Gyro Surveys	15,100.00	6,800.00	203.85	112.64	2.235	SF
Norris D32-1J - Wellbore #1 - Gyro Surveys	11,913.12	6,956.83	1,070.98	1,000.24	15.141	CC, ES
Norris D32-1J - Wellbore #1 - Gyro Surveys	12,000.00	6,954.15	1,074.49	1,002.99	15.026	SF
Norris D32-2 - Wellbore #1 - Gyro Surveys	11,042.23	6,949.41	187.07	122.33	2.890	CC, ES, SF
Norris D32-2J - Wellbore #1 - Gyro Surveys	11,523.15	6,964.40	1,717.01	1,648.93	25.221	CC, ES
Norris D32-2J - Wellbore #1 - Gyro Surveys	11,700.00	6,966.94	1,726.09	1,657.30	25.094	SF
Norris D32-4 (P&A) - Wellbore #1 - No Surveys	11,084.87	6,920.00	2,479.06	2,299.70	13.822	CC
Norris D32-4 (P&A) - Wellbore #1 - No Surveys	11,100.00	6,920.00	2,479.10	2,299.67	13.816	ES
Norris D32-4 (P&A) - Wellbore #1 - No Surveys	11,200.00	6,920.00	2,481.73	2,301.79	13.792	SF
Norris D32-5 - Wellbore #1 - Gyro Surveys	12,429.29	6,916.79	2,451.29	2,377.14	33.059	CC, ES
Norris D32-5 - Wellbore #1 - Gyro Surveys	12,700.00	6,913.83	2,466.19	2,390.72	32.680	SF
Norris D32-6 - Wellbore #1 - Gyro Surveys	12,452.98	6,935.01	1,233.69	1,159.29	16.583	CC, ES
Norris D32-6 - Wellbore #1 - Gyro Surveys	12,500.00	6,935.14	1,234.58	1,160.01	16.555	SF
Norris D32-7 - Wellbore #1 - Gyro Surveys	12,420.80	6,911.28	111.12	36.91	1.497	Level 3, CC, ES, SF
Norris D32-9 (SI) - Wellbore #1 - Gyro Surveys	13,776.04	6,919.88	1,573.20	1,489.10	18.706	CC
Norris D32-9 (SI) - Wellbore #1 - Gyro Surveys	13,800.00	6,919.76	1,573.38	1,489.05	18.657	ES
Norris D32-9 (SI) - Wellbore #1 - Gyro Surveys	14,000.00	6,918.76	1,589.06	1,503.27	18.521	SF
Y Section 05						
Olsen Red Y05-02D - Olsen Red Y05-02D - Olsen Red Y	16,645.38	6,961.02	1,514.51	1,408.16	14.241	CC, ES
Olsen Red Y05-02D - Olsen Red Y05-02D - Olsen Red Y	16,700.00	6,961.94	1,515.49	1,408.90	14.217	SF
Olsen Y5-05JI - Olsen Y5-05JI - Olsen Y5-05JI - As Drille	17,622.91	6,940.00	2,544.47	2,442.45	24.941	CC, ES
Olsen Y5-05JI - Olsen Y5-05JI - Olsen Y5-05JI - As Drille	17,800.00	6,940.00	2,550.62	2,447.66	24.773	SF
Perkins 32-05 - Perkins 32-05 - Perkins 32-05 - As Drille	17,630.81	6,992.00	152.30	1.32	1.009	Level 2, CC, ES, SF
Perkins 42-05 - Perkins 42-05 - Perkins 42-05 - As Drille	17,636.39	7,009.00	1,457.37	1,306.20	9.640	CC, ES
Perkins 42-05 - Perkins 42-05 - Perkins 42-05 - As Drille	17,700.00	7,009.00	1,458.76	1,306.99	9.612	SF
Perkins 43-05 - Perkins 43-05 - Perkins 43-05 - As Drille	18,944.16	7,014.00	1,449.86	1,288.25	8.971	CC, ES
Perkins 43-05 - Perkins 43-05 - Perkins 43-05 - As Drille	19,000.00	7,014.00	1,450.94	1,288.80	8.949	SF
Perkins USX Y05-16 - Perkins USX Y05-16 - Perkins US	19,868.33	6,991.62	912.27	780.15	6.905	CC, ES
Perkins USX Y05-16 - Perkins USX Y05-16 - Perkins US	19,900.00	6,991.81	912.82	780.37	6.892	SF

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

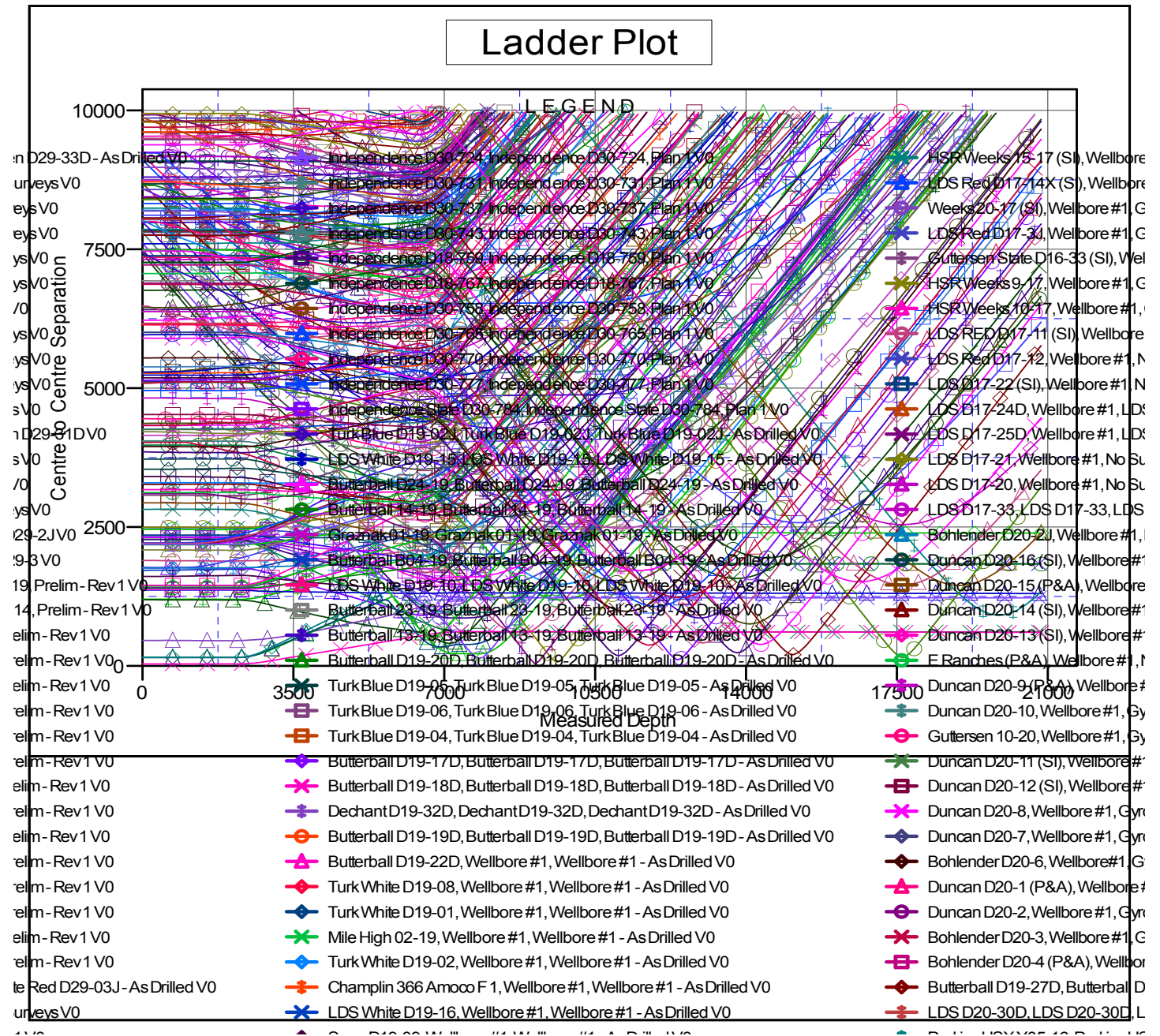
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen Y05-749
Project:	Mustang	TVD Reference:	Well @ 4812.00ft
Reference Site:	D Section 29	MD Reference:	Well @ 4812.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen Y05-749	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen Y05-749	Database:	EDMP
Reference Design:	Prelim - Rev 1	Offset TVD Reference:	Offset Datum

Coordinates are relative to: Guttersen Y05-749

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.60°



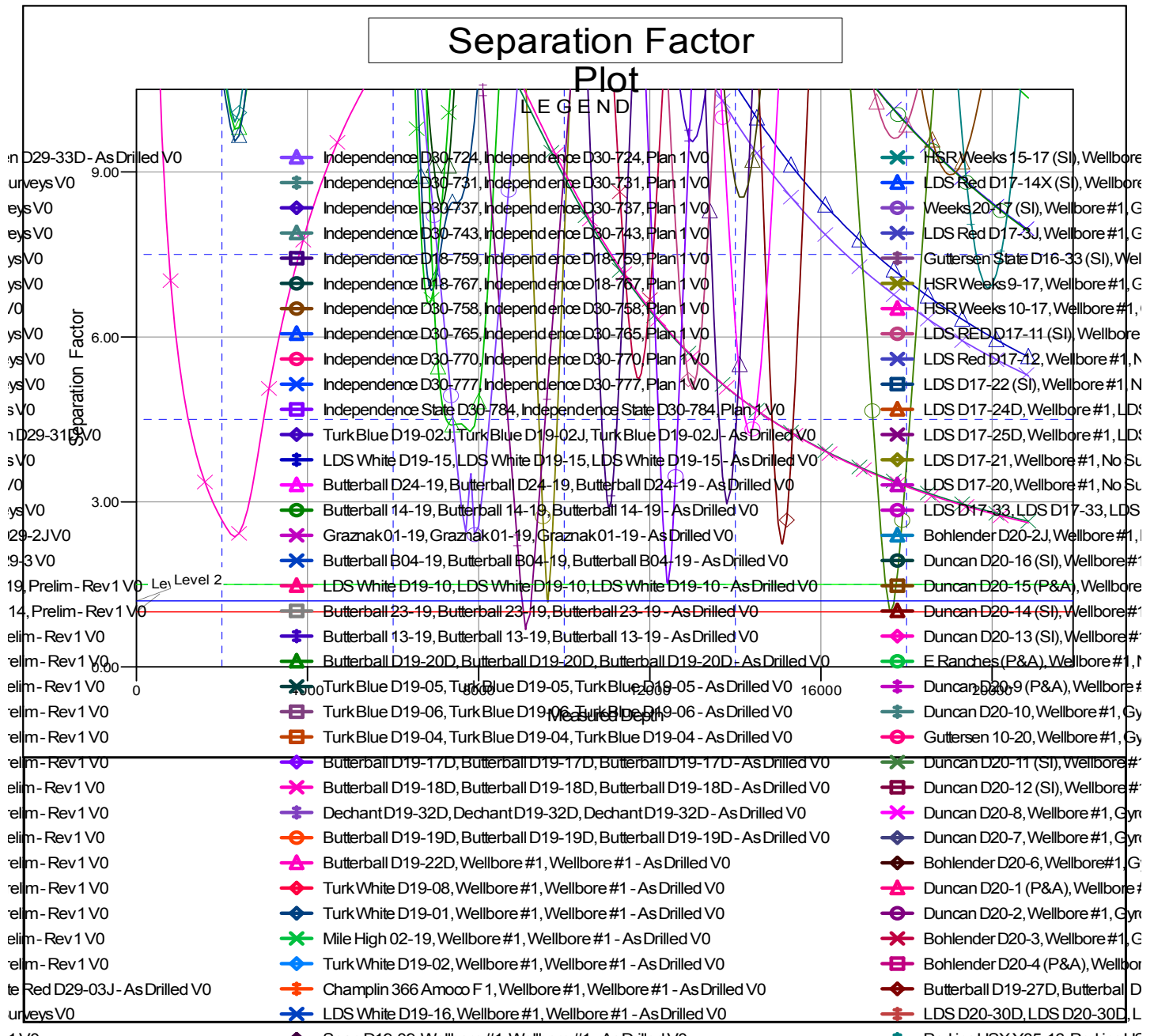
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen Y05-749
Project:	Mustang	TVD Reference:	Well @ 4812.00ft
Reference Site:	D Section 29	MD Reference:	Well @ 4812.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen Y05-749	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen Y05-749	Database:	EDMP
Reference Design:	Prelim - Rev 1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to Well @ 4812.00ft
Offset Depths are relative to Offset Datum
Central Meridian is -105.5000000

Coordinates are relative to: Guttersen Y05-749
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.60°



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