

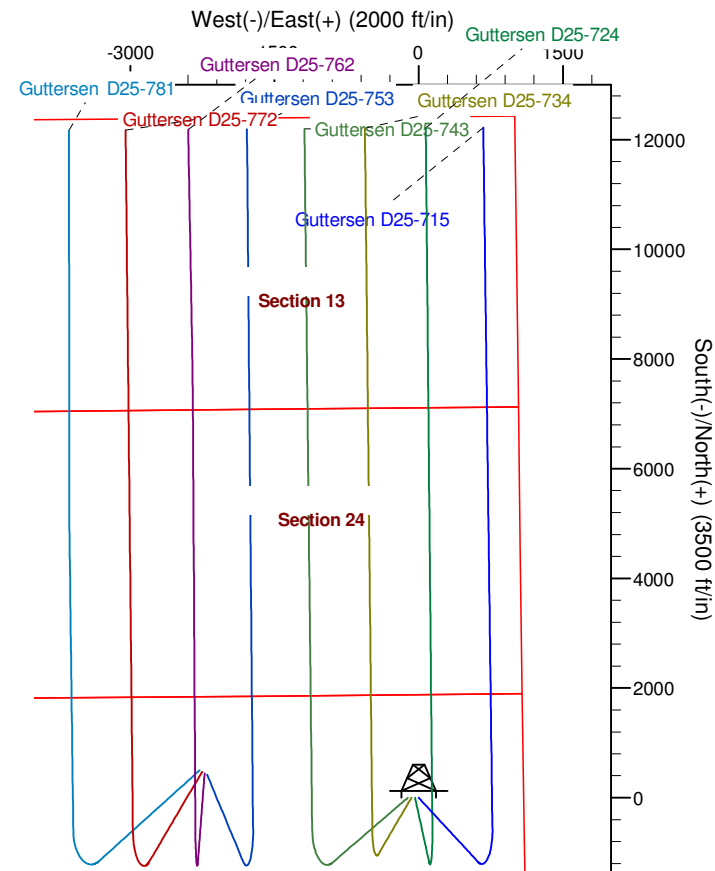
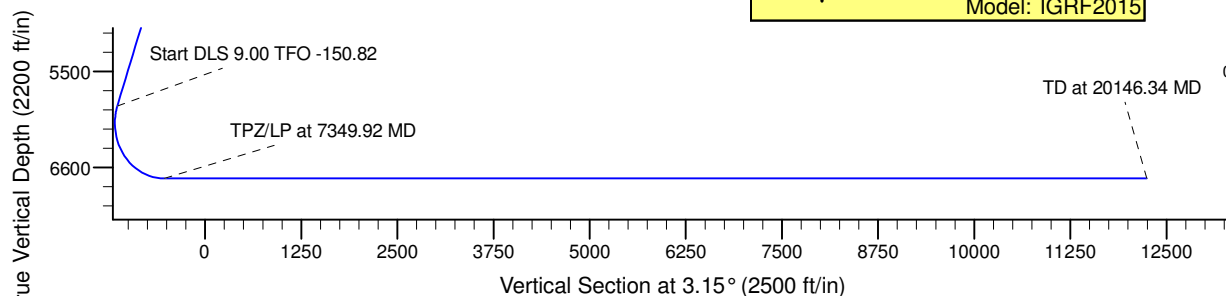
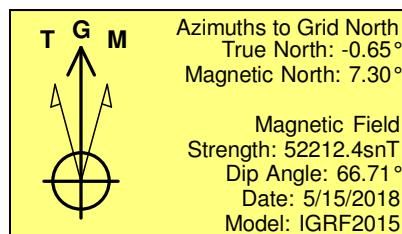
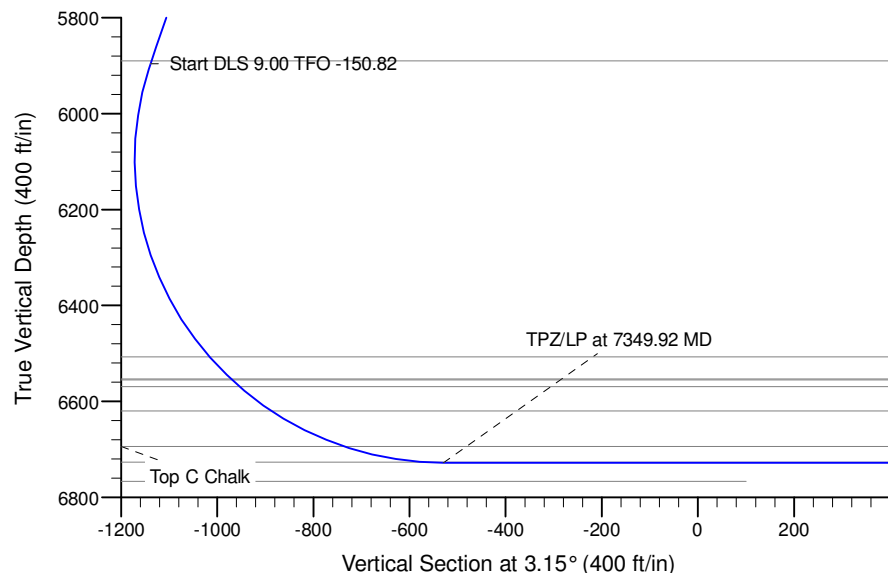
Project: Mustang
Site: D Section 25
Well: Gutteresen D25-715
Wellbore: Wellbore #1
Design: Plan #1

Northern Region - DJ Basin

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

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	2000.00	0.00	0.00	2000.00	0.00	0.00	0.00	0.00	0.00	
3	3081.89	21.64	152.14	3056.36	-178.48	94.33	2.00	152.14	-173.03	
4	6137.65	21.64	152.14	5896.79	-1174.69	620.81	0.00	0.00	-1138.79	
5	7349.92	90.00	359.57	6728.00	-572.02	768.22	9.00	-150.82	-528.93	Gutteresen D25-715 TPZ/LP
6	20146.34	90.00	359.57	6728.00	12224.05	672.97	0.00	0.00	12242.56	Gutteresen D25-715 BHL



WELL DETAILS: Gutteresen D25-715

Northing		Easting		Latitude	Longitude
0.00	1316741.22	3280939.68	4773.00	40.1984779	-104.4942455
Plan: Plan #1 (Gutteresen D25-715/Wellbore #1)					
Created By: Colby Baxter		Date: 9:11, August 15 2018			
Checked: _____		Date: _____			
Reviewed: _____		Date: _____			
Approved: _____		Date: _____			

Northern Region - DJ Basin

Mustang

D Section 25

Guttersen D25-715

Wellbore #1

Plan: Plan #1

Standard Survey Report

15 August, 2018

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D25-715
Project:	Mustang	TVD Reference:	KB @ 4803.00ft
Site:	D Section 25	MD Reference:	KB @ 4803.00ft
Well:	Guttersen D25-715	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #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 25			
Site Position:		Northing:	1,316,029.45 usft	Latitude:	40.1965730
From:	Lat/Long	Easting:	3,279,365.57 usft	Longitude:	-104.4999090
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.65 °

Well		Guttersen D25-715				
Well Position	+N/-S	0.00 ft	Northing:	1,316,741.22 usft	Latitude:	40.1984779
	+E/-W	0.00 ft	Easting:	3,280,939.68 usft	Longitude:	-104.4942454
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,773.00 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	5/15/2018	7.95	66.71	52,212.38059210

Design	Plan #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	3.15	

Survey Tool Program	Date	8/15/2018			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.00	20,146.34	Plan #1 (Wellbore #1)	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 D25-715
Project:	Mustang	TVD Reference:	KB @ 4803.00ft
Site:	D Section 25	MD Reference:	KB @ 4803.00ft
Well:	Guttersen D25-715	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #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	2.00	152.14	2,099.98	-1.54	0.82	-1.50	2.00	2.00	0.00
2,200.00	4.00	152.14	2,199.84	-6.17	3.26	-5.98	2.00	2.00	0.00
2,300.00	6.00	152.14	2,299.45	-13.88	7.33	-13.45	2.00	2.00	0.00
2,400.00	8.00	152.14	2,398.70	-24.65	13.03	-23.90	2.00	2.00	0.00
2,500.00	10.00	152.14	2,497.47	-38.48	20.34	-37.30	2.00	2.00	0.00
2,600.00	12.00	152.14	2,595.62	-55.35	29.25	-53.66	2.00	2.00	0.00
2,700.00	14.00	152.14	2,693.06	-75.24	39.76	-72.94	2.00	2.00	0.00
2,800.00	16.00	152.14	2,789.64	-98.12	51.85	-95.12	2.00	2.00	0.00
2,900.00	18.00	152.14	2,885.27	-123.97	65.51	-120.18	2.00	2.00	0.00
3,000.00	20.00	152.14	2,979.82	-152.75	80.73	-148.08	2.00	2.00	0.00
3,081.89	21.64	152.14	3,056.36	-178.48	94.33	-173.03	2.00	2.00	0.00
3,100.00	21.64	152.14	3,073.19	-184.38	97.44	-178.75	0.00	0.00	0.00
3,200.00	21.64	152.14	3,166.14	-216.99	114.67	-210.35	0.00	0.00	0.00
3,300.00	21.64	152.14	3,259.10	-249.59	131.90	-241.96	0.00	0.00	0.00
3,400.00	21.64	152.14	3,352.05	-282.19	149.13	-273.56	0.00	0.00	0.00
3,500.00	21.64	152.14	3,445.00	-314.79	166.36	-305.17	0.00	0.00	0.00
3,600.00	21.64	152.14	3,537.96	-347.39	183.59	-336.77	0.00	0.00	0.00
3,700.00	21.64	152.14	3,630.91	-379.99	200.82	-368.38	0.00	0.00	0.00
3,800.00	21.64	152.14	3,723.86	-412.59	218.05	-399.98	0.00	0.00	0.00
3,900.00	21.64	152.14	3,816.82	-445.19	235.28	-431.59	0.00	0.00	0.00
4,000.00	21.64	152.14	3,909.77	-477.79	252.51	-463.19	0.00	0.00	0.00
4,100.00	21.64	152.14	4,002.72	-510.40	269.74	-494.80	0.00	0.00	0.00
4,200.00	21.64	152.14	4,095.68	-543.00	286.97	-526.40	0.00	0.00	0.00
4,300.00	21.64	152.14	4,188.63	-575.60	304.20	-558.01	0.00	0.00	0.00
4,400.00	21.64	152.14	4,281.58	-608.20	321.43	-589.61	0.00	0.00	0.00
4,500.00	21.64	152.14	4,374.54	-640.80	338.66	-621.22	0.00	0.00	0.00
4,600.00	21.64	152.14	4,467.49	-673.40	355.88	-652.82	0.00	0.00	0.00
4,700.00	21.64	152.14	4,560.44	-706.00	373.11	-684.43	0.00	0.00	0.00
4,800.00	21.64	152.14	4,653.40	-738.60	390.34	-716.03	0.00	0.00	0.00
4,900.00	21.64	152.14	4,746.35	-771.21	407.57	-747.64	0.00	0.00	0.00
5,000.00	21.64	152.14	4,839.30	-803.81	424.80	-779.24	0.00	0.00	0.00
5,100.00	21.64	152.14	4,932.26	-836.41	442.03	-810.84	0.00	0.00	0.00
5,200.00	21.64	152.14	5,025.21	-869.01	459.26	-842.45	0.00	0.00	0.00

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D25-715
Project:	Mustang	TVD Reference:	KB @ 4803.00ft
Site:	D Section 25	MD Reference:	KB @ 4803.00ft
Well:	Guttersen D25-715	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #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	21.64	152.14	5,118.16	-901.61	476.49	-874.05	0.00	0.00	0.00
5,400.00	21.64	152.14	5,211.12	-934.21	493.72	-905.66	0.00	0.00	0.00
5,500.00	21.64	152.14	5,304.07	-966.81	510.95	-937.26	0.00	0.00	0.00
5,600.00	21.64	152.14	5,397.02	-999.41	528.18	-968.87	0.00	0.00	0.00
5,700.00	21.64	152.14	5,489.98	-1,032.01	545.41	-1,000.47	0.00	0.00	0.00
5,800.00	21.64	152.14	5,582.93	-1,064.62	562.64	-1,032.08	0.00	0.00	0.00
5,900.00	21.64	152.14	5,675.88	-1,097.22	579.87	-1,063.68	0.00	0.00	0.00
6,000.00	21.64	152.14	5,768.84	-1,129.82	597.09	-1,095.29	0.00	0.00	0.00
6,100.00	21.64	152.14	5,861.79	-1,162.42	614.32	-1,126.89	0.00	0.00	0.00
6,137.65	21.64	152.14	5,896.79	-1,174.69	620.81	-1,138.79	0.00	0.00	0.00
6,200.00	16.95	142.73	5,955.63	-1,192.10	631.69	-1,155.58	9.00	-7.52	-15.09
6,300.00	11.28	113.18	6,052.69	-1,207.59	649.55	-1,170.06	9.00	-5.67	-29.55
6,400.00	11.28	65.90	6,150.96	-1,207.44	667.50	-1,168.92	9.00	0.01	-47.29
6,500.00	16.96	36.38	6,248.02	-1,191.67	685.12	-1,152.21	9.00	5.68	-29.51
6,600.00	24.66	23.03	6,341.48	-1,160.66	701.97	-1,120.32	9.00	7.70	-13.36
6,700.00	33.00	15.92	6,429.03	-1,115.18	717.63	-1,074.05	9.00	8.34	-7.11
6,800.00	41.59	11.46	6,508.53	-1,056.35	731.72	-1,014.53	9.00	8.59	-4.46
6,900.00	50.30	8.30	6,578.01	-985.61	743.89	-943.22	9.00	8.71	-3.16
7,000.00	59.08	5.86	6,635.76	-904.70	753.84	-861.90	9.00	8.78	-2.44
7,100.00	67.89	3.83	6,680.36	-815.63	761.33	-772.55	9.00	8.82	-2.03
7,200.00	76.73	2.04	6,710.72	-720.58	766.17	-677.37	9.00	8.84	-1.79
7,300.00	85.58	0.38	6,726.08	-621.89	768.24	-578.72	9.00	8.85	-1.66
7,349.92	90.00	359.57	6,728.00	-572.02	768.22	-528.93	9.00	8.85	-1.62
7,400.00	90.00	359.57	6,728.00	-521.94	767.85	-478.95	0.00	0.00	0.00
7,500.00	90.00	359.57	6,728.00	-421.95	767.11	-379.14	0.00	0.00	0.00
7,600.00	90.00	359.57	6,728.00	-321.95	766.36	-279.34	0.00	0.00	0.00
7,700.00	90.00	359.57	6,728.00	-221.95	765.62	-179.53	0.00	0.00	0.00
7,800.00	90.00	359.57	6,728.00	-121.96	764.87	-79.73	0.00	0.00	0.00
7,900.00	90.00	359.57	6,728.00	-21.96	764.13	20.08	0.00	0.00	0.00
8,000.00	90.00	359.57	6,728.00	78.04	763.38	119.88	0.00	0.00	0.00
8,100.00	90.00	359.57	6,728.00	178.04	762.64	219.69	0.00	0.00	0.00
8,200.00	90.00	359.57	6,728.00	278.03	761.90	319.49	0.00	0.00	0.00
8,300.00	90.00	359.57	6,728.00	378.03	761.15	419.30	0.00	0.00	0.00
8,400.00	90.00	359.57	6,728.00	478.03	760.41	519.10	0.00	0.00	0.00
8,500.00	90.00	359.57	6,728.00	578.03	759.66	618.91	0.00	0.00	0.00
8,600.00	90.00	359.57	6,728.00	678.02	758.92	718.71	0.00	0.00	0.00
8,700.00	90.00	359.57	6,728.00	778.02	758.17	818.52	0.00	0.00	0.00
8,800.00	90.00	359.57	6,728.00	878.02	757.43	918.33	0.00	0.00	0.00
8,900.00	90.00	359.57	6,728.00	978.01	756.69	1,018.13	0.00	0.00	0.00
9,000.00	90.00	359.57	6,728.00	1,078.01	755.94	1,117.94	0.00	0.00	0.00
9,100.00	90.00	359.57	6,728.00	1,178.01	755.20	1,217.74	0.00	0.00	0.00
9,200.00	90.00	359.57	6,728.00	1,278.01	754.45	1,317.55	0.00	0.00	0.00
9,300.00	90.00	359.57	6,728.00	1,378.00	753.71	1,417.35	0.00	0.00	0.00

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D25-715
Project:	Mustang	TVD Reference:	KB @ 4803.00ft
Site:	D Section 25	MD Reference:	KB @ 4803.00ft
Well:	Guttersen D25-715	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #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	359.57	6,728.00	1,478.00	752.96	1,517.16	0.00	0.00	0.00
9,500.00	90.00	359.57	6,728.00	1,578.00	752.22	1,616.96	0.00	0.00	0.00
9,600.00	90.00	359.57	6,728.00	1,677.99	751.47	1,716.77	0.00	0.00	0.00
9,700.00	90.00	359.57	6,728.00	1,777.99	750.73	1,816.57	0.00	0.00	0.00
9,800.00	90.00	359.57	6,728.00	1,877.99	749.99	1,916.38	0.00	0.00	0.00
9,900.00	90.00	359.57	6,728.00	1,977.99	749.24	2,016.18	0.00	0.00	0.00
10,000.00	90.00	359.57	6,728.00	2,077.98	748.50	2,115.99	0.00	0.00	0.00
10,100.00	90.00	359.57	6,728.00	2,177.98	747.75	2,215.79	0.00	0.00	0.00
10,200.00	90.00	359.57	6,728.00	2,277.98	747.01	2,315.60	0.00	0.00	0.00
10,300.00	90.00	359.57	6,728.00	2,377.98	746.26	2,415.40	0.00	0.00	0.00
10,400.00	90.00	359.57	6,728.00	2,477.97	745.52	2,515.21	0.00	0.00	0.00
10,500.00	90.00	359.57	6,728.00	2,577.97	744.77	2,615.01	0.00	0.00	0.00
10,600.00	90.00	359.57	6,728.00	2,677.97	744.03	2,714.82	0.00	0.00	0.00
10,700.00	90.00	359.57	6,728.00	2,777.96	743.29	2,814.62	0.00	0.00	0.00
10,800.00	90.00	359.57	6,728.00	2,877.96	742.54	2,914.43	0.00	0.00	0.00
10,900.00	90.00	359.57	6,728.00	2,977.96	741.80	3,014.23	0.00	0.00	0.00
11,000.00	90.00	359.57	6,728.00	3,077.96	741.05	3,114.04	0.00	0.00	0.00
11,100.00	90.00	359.57	6,728.00	3,177.95	740.31	3,213.84	0.00	0.00	0.00
11,200.00	90.00	359.57	6,728.00	3,277.95	739.56	3,313.65	0.00	0.00	0.00
11,300.00	90.00	359.57	6,728.00	3,377.95	738.82	3,413.45	0.00	0.00	0.00
11,400.00	90.00	359.57	6,728.00	3,477.95	738.08	3,513.26	0.00	0.00	0.00
11,500.00	90.00	359.57	6,728.00	3,577.94	737.33	3,613.06	0.00	0.00	0.00
11,600.00	90.00	359.57	6,728.00	3,677.94	736.59	3,712.87	0.00	0.00	0.00
11,700.00	90.00	359.57	6,728.00	3,777.94	735.84	3,812.67	0.00	0.00	0.00
11,800.00	90.00	359.57	6,728.00	3,877.93	735.10	3,912.48	0.00	0.00	0.00
11,900.00	90.00	359.57	6,728.00	3,977.93	734.35	4,012.28	0.00	0.00	0.00
12,000.00	90.00	359.57	6,728.00	4,077.93	733.61	4,112.09	0.00	0.00	0.00
12,100.00	90.00	359.57	6,728.00	4,177.93	732.86	4,211.89	0.00	0.00	0.00
12,200.00	90.00	359.57	6,728.00	4,277.92	732.12	4,311.70	0.00	0.00	0.00
12,300.00	90.00	359.57	6,728.00	4,377.92	731.38	4,411.50	0.00	0.00	0.00
12,400.00	90.00	359.57	6,728.00	4,477.92	730.63	4,511.31	0.00	0.00	0.00
12,500.00	90.00	359.57	6,728.00	4,577.91	729.89	4,611.11	0.00	0.00	0.00
12,600.00	90.00	359.57	6,728.00	4,677.91	729.14	4,710.92	0.00	0.00	0.00
12,700.00	90.00	359.57	6,728.00	4,777.91	728.40	4,810.72	0.00	0.00	0.00
12,800.00	90.00	359.57	6,728.00	4,877.91	727.65	4,910.53	0.00	0.00	0.00
12,900.00	90.00	359.57	6,728.00	4,977.90	726.91	5,010.34	0.00	0.00	0.00
13,000.00	90.00	359.57	6,728.00	5,077.90	726.17	5,110.14	0.00	0.00	0.00
13,100.00	90.00	359.57	6,728.00	5,177.90	725.42	5,209.95	0.00	0.00	0.00
13,200.00	90.00	359.57	6,728.00	5,277.90	724.68	5,309.75	0.00	0.00	0.00
13,300.00	90.00	359.57	6,728.00	5,377.89	723.93	5,409.56	0.00	0.00	0.00
13,400.00	90.00	359.57	6,728.00	5,477.89	723.19	5,509.36	0.00	0.00	0.00
13,500.00	90.00	359.57	6,728.00	5,577.89	722.44	5,609.17	0.00	0.00	0.00
13,600.00	90.00	359.57	6,728.00	5,677.88	721.70	5,708.97	0.00	0.00	0.00

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D25-715
Project:	Mustang	TVD Reference:	KB @ 4803.00ft
Site:	D Section 25	MD Reference:	KB @ 4803.00ft
Well:	Guttersen D25-715	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #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	359.57	6,728.00	5,777.88	720.95	5,808.78	0.00	0.00	0.00
13,800.00	90.00	359.57	6,728.00	5,877.88	720.21	5,908.58	0.00	0.00	0.00
13,900.00	90.00	359.57	6,728.00	5,977.88	719.47	6,008.39	0.00	0.00	0.00
14,000.00	90.00	359.57	6,728.00	6,077.87	718.72	6,108.19	0.00	0.00	0.00
14,100.00	90.00	359.57	6,728.00	6,177.87	717.98	6,208.00	0.00	0.00	0.00
14,200.00	90.00	359.57	6,728.00	6,277.87	717.23	6,307.80	0.00	0.00	0.00
14,300.00	90.00	359.57	6,728.00	6,377.86	716.49	6,407.61	0.00	0.00	0.00
14,400.00	90.00	359.57	6,728.00	6,477.86	715.74	6,507.41	0.00	0.00	0.00
14,500.00	90.00	359.57	6,728.00	6,577.86	715.00	6,607.22	0.00	0.00	0.00
14,600.00	90.00	359.57	6,728.00	6,677.86	714.26	6,707.02	0.00	0.00	0.00
14,700.00	90.00	359.57	6,728.00	6,777.85	713.51	6,806.83	0.00	0.00	0.00
14,800.00	90.00	359.57	6,728.00	6,877.85	712.77	6,906.63	0.00	0.00	0.00
14,900.00	90.00	359.57	6,728.00	6,977.85	712.02	7,006.44	0.00	0.00	0.00
15,000.00	90.00	359.57	6,728.00	7,077.85	711.28	7,106.24	0.00	0.00	0.00
15,100.00	90.00	359.57	6,728.00	7,177.84	710.53	7,206.05	0.00	0.00	0.00
15,200.00	90.00	359.57	6,728.00	7,277.84	709.79	7,305.85	0.00	0.00	0.00
15,300.00	90.00	359.57	6,728.00	7,377.84	709.04	7,405.66	0.00	0.00	0.00
15,400.00	90.00	359.57	6,728.00	7,477.83	708.30	7,505.46	0.00	0.00	0.00
15,500.00	90.00	359.57	6,728.00	7,577.83	707.56	7,605.27	0.00	0.00	0.00
15,600.00	90.00	359.57	6,728.00	7,677.83	706.81	7,705.07	0.00	0.00	0.00
15,700.00	90.00	359.57	6,728.00	7,777.83	706.07	7,804.88	0.00	0.00	0.00
15,800.00	90.00	359.57	6,728.00	7,877.82	705.32	7,904.68	0.00	0.00	0.00
15,900.00	90.00	359.57	6,728.00	7,977.82	704.58	8,004.49	0.00	0.00	0.00
16,000.00	90.00	359.57	6,728.00	8,077.82	703.83	8,104.29	0.00	0.00	0.00
16,100.00	90.00	359.57	6,728.00	8,177.82	703.09	8,204.10	0.00	0.00	0.00
16,200.00	90.00	359.57	6,728.00	8,277.81	702.34	8,303.90	0.00	0.00	0.00
16,300.00	90.00	359.57	6,728.00	8,377.81	701.60	8,403.71	0.00	0.00	0.00
16,400.00	90.00	359.57	6,728.00	8,477.81	700.86	8,503.51	0.00	0.00	0.00
16,500.00	90.00	359.57	6,728.00	8,577.80	700.11	8,603.32	0.00	0.00	0.00
16,600.00	90.00	359.57	6,728.00	8,677.80	699.37	8,703.12	0.00	0.00	0.00
16,700.00	90.00	359.57	6,728.00	8,777.80	698.62	8,802.93	0.00	0.00	0.00
16,800.00	90.00	359.57	6,728.00	8,877.80	697.88	8,902.73	0.00	0.00	0.00
16,900.00	90.00	359.57	6,728.00	8,977.79	697.13	9,002.54	0.00	0.00	0.00
17,000.00	90.00	359.57	6,728.00	9,077.79	696.39	9,102.35	0.00	0.00	0.00
17,100.00	90.00	359.57	6,728.00	9,177.79	695.65	9,202.15	0.00	0.00	0.00
17,200.00	90.00	359.57	6,728.00	9,277.78	694.90	9,301.96	0.00	0.00	0.00
17,300.00	90.00	359.57	6,728.00	9,377.78	694.16	9,401.76	0.00	0.00	0.00
17,400.00	90.00	359.57	6,728.00	9,477.78	693.41	9,501.57	0.00	0.00	0.00
17,500.00	90.00	359.57	6,728.00	9,577.78	692.67	9,601.37	0.00	0.00	0.00
17,600.00	90.00	359.57	6,728.00	9,677.77	691.92	9,701.18	0.00	0.00	0.00
17,700.00	90.00	359.57	6,728.00	9,777.77	691.18	9,800.98	0.00	0.00	0.00
17,800.00	90.00	359.57	6,728.00	9,877.77	690.43	9,900.79	0.00	0.00	0.00
17,900.00	90.00	359.57	6,728.00	9,977.77	689.69	10,000.59	0.00	0.00	0.00
18,000.00	90.00	359.57	6,728.00	10,077.76	688.95	10,100.40	0.00	0.00	0.00

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D25-715
Project:	Mustang	TVD Reference:	KB @ 4803.00ft
Site:	D Section 25	MD Reference:	KB @ 4803.00ft
Well:	Guttersen D25-715	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #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	359.57	6,728.00	10,177.76	688.20	10,200.20	0.00	0.00	0.00
18,200.00	90.00	359.57	6,728.00	10,277.76	687.46	10,300.01	0.00	0.00	0.00
18,300.00	90.00	359.57	6,728.00	10,377.75	686.71	10,399.81	0.00	0.00	0.00
18,400.00	90.00	359.57	6,728.00	10,477.75	685.97	10,499.62	0.00	0.00	0.00
18,500.00	90.00	359.57	6,728.00	10,577.75	685.22	10,599.42	0.00	0.00	0.00
18,600.00	90.00	359.57	6,728.00	10,677.75	684.48	10,699.23	0.00	0.00	0.00
18,700.00	90.00	359.57	6,728.00	10,777.74	683.74	10,799.03	0.00	0.00	0.00
18,800.00	90.00	359.57	6,728.00	10,877.74	682.99	10,898.84	0.00	0.00	0.00
18,900.00	90.00	359.57	6,728.00	10,977.74	682.25	10,998.64	0.00	0.00	0.00
19,000.00	90.00	359.57	6,728.00	11,077.73	681.50	11,098.45	0.00	0.00	0.00
19,100.00	90.00	359.57	6,728.00	11,177.73	680.76	11,198.25	0.00	0.00	0.00
19,200.00	90.00	359.57	6,728.00	11,277.73	680.01	11,298.06	0.00	0.00	0.00
19,300.00	90.00	359.57	6,728.00	11,377.73	679.27	11,397.86	0.00	0.00	0.00
19,400.00	90.00	359.57	6,728.00	11,477.72	678.52	11,497.67	0.00	0.00	0.00
19,500.00	90.00	359.57	6,728.00	11,577.72	677.78	11,597.47	0.00	0.00	0.00
19,600.00	90.00	359.57	6,728.00	11,677.72	677.04	11,697.28	0.00	0.00	0.00
19,700.00	90.00	359.57	6,728.00	11,777.72	676.29	11,797.08	0.00	0.00	0.00
19,800.00	90.00	359.57	6,728.00	11,877.71	675.55	11,896.89	0.00	0.00	0.00
19,900.00	90.00	359.57	6,728.00	11,977.71	674.80	11,996.69	0.00	0.00	0.00
20,000.00	90.00	359.57	6,728.00	12,077.71	674.06	12,096.50	0.00	0.00	0.00
20,100.00	90.00	359.57	6,728.00	12,177.70	673.31	12,196.30	0.00	0.00	0.00
20,146.34	90.00	359.57	6,728.00	12,224.05	672.97	12,242.56	0.00	0.00	0.00

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Guttersen D25-715 SHL - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	1,316,741.22	3,280,939.68	40.1984779	-104.4942454
Guttersen D25-715 KOP - plan hits target center - Point	0.00	0.00	5,896.79	-1,174.69	620.81	1,315,566.53	3,281,560.49	40.1952341	-104.4920709
Guttersen D25-715 TPZ - plan hits target center - Point	0.00	0.00	6,728.00	-572.02	768.22	1,316,169.20	3,281,707.91	40.1968838	-104.4915188
Guttersen D25-715 BHL - plan misses target center by 21.70ft at 20146.34ft MD (6728.00 TVD, 12224.05 N, 672.97 E) - Point	0.00	0.00	6,728.00	12,225.24	651.30	1,328,966.43	3,281,590.99	40.2320150	-104.4914162

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D25-715
Project:	Mustang	TVD Reference:	KB @ 4803.00ft
Site:	D Section 25	MD Reference:	KB @ 4803.00ft
Well:	Guttersen D25-715	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	EDMP

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
666.00	666.00	Pierre				
666.00	666.00	Upper Pierre Aquifer Top				
1,603.00	1,603.00	Upper Pierre Aquifer Base				
3,685.04	3,617.00	Parkman				
4,139.03	4,039.00	Sussex				
4,338.05	4,224.00	Shannon				
6,132.50	5,892.00	Teepee Buttes				
6,800.63	6,509.00	Sharon Springs				
6,865.09	6,555.00	Top A Chalk				
6,868.04	6,557.00	Top A Marl				
6,889.14	6,571.00	Top B Chalk				
6,974.08	6,622.00	Top B Marl				
7,145.53	6,696.00	Top C Chalk				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
2000	2000	0	0	Start Build 2.00	
6138	5897	-1175	621	Start DLS 9.00 TFO -150.82	
7350	6728	-572	768	TPZ/LP at 7349.92 MD	
20,146	6728	12,224	673	TD at 20146.34 MD	

Checked By: _____ Approved By: _____ Date: _____

Northern Region - DJ Basin

Mustang

D Section 25

Guttersen D25-715

Wellbore #1

Plan #1

Anticollision Summary Report

15 August, 2018

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D25-715
Project:	Mustang	TVD Reference:	KB @ 4803.00ft
Reference Site:	D Section 25	MD Reference:	KB @ 4803.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D25-715	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Reference	Plan #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	8/15/2018		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	20,146.34	Plan #1 (Wellbore #1)	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
D Section 13						
Dalbey D 13-11 (SI) - Wellbore #1 - Gyro Surveys	17,051.22	6,707.93	2,845.02	2,736.86	26.303	CC, ES
Dalbey D 13-11 (SI) - Wellbore #1 - Gyro Surveys	17,400.00	6,707.74	2,866.32	2,756.26	26.044	SF
Dalbey D 13-12 (PR) - Wellbore #1 - Gyro Surveys	16,574.52	6,713.87	3,994.92	3,890.39	38.217	CC
Dalbey D 13-12 (PR) - Wellbore #1 - Gyro Surveys	16,600.00	6,714.30	3,995.00	3,890.28	38.150	ES
Dalbey D 13-12 (PR) - Wellbore #1 - Gyro Surveys	17,200.00	6,720.09	4,043.59	3,935.39	37.373	SF
Dalbey D 13-13 (PR) - Wellbore #1 - No Surveys	15,652.48	6,671.00	4,258.07	4,050.65	20.528	CC
Dalbey D 13-13 (PR) - Wellbore #1 - No Surveys	15,700.00	6,671.00	4,258.34	4,050.57	20.496	ES
Dalbey D 13-13 (PR) - Wellbore #1 - No Surveys	16,100.00	6,671.00	4,281.52	4,071.22	20.359	SF
Dalbey D 13-14 (PA) - Wellbore #1 - Gyro Surveys	15,655.72	6,670.56	3,077.09	2,979.91	31.663	CC, ES
Dalbey D 13-14 (PA) - Wellbore #1 - Gyro Surveys	16,100.00	6,675.81	3,108.99	3,009.33	31.193	SF
Guttersen 12-13 (SI) - Wellbore #1 - Gyro Surveys	18,248.93	6,872.98	4,358.67	4,240.40	36.853	CC
Guttersen 12-13 (SI) - Wellbore #1 - Gyro Surveys	18,300.00	6,872.18	4,358.97	4,240.33	36.742	ES
Guttersen 12-13 (SI) - Wellbore #1 - Gyro Surveys	18,900.00	6,862.80	4,407.02	4,284.98	36.113	SF
Guttersen 13C (PR) - Wellbore #1 - Gyro Surveys	19,015.79	6,699.08	956.00	832.23	7.724	CC, ES, SF
Guttersen 13D (PR) - Wellbore #1 - Gyro Surveys	16,414.10	6,675.87	978.39	875.31	9.492	CC, ES, SF
Guttersen 13N (PR) - Wellbore #1 - Gyro Surveys	19,000.26	6,728.04	2,516.67	2,392.93	20.338	CC, ES
Guttersen 13N (PR) - Wellbore #1 - Gyro Surveys	19,200.00	6,723.61	2,524.58	2,399.75	20.224	SF
Guttersen 13S (PR) - Wellbore #1 - Gyro Surveys	17,757.96	6,696.29	975.08	861.29	8.569	CC, ES
Guttersen 13S (PR) - Wellbore #1 - Gyro Surveys	17,800.00	6,696.53	975.98	862.04	8.565	SF
Guttersen 13T (PR) - Wellbore #1 - Gyro Surveys	15,191.50	6,688.71	1,086.77	992.99	11.588	CC
Guttersen 13T (PR) - Wellbore #1 - Gyro Surveys	15,200.00	6,688.67	1,086.80	992.97	11.583	ES, SF
Guttersen 21-13 (SI) - Wellbore #1 - Gyro Surveys	19,612.52	6,734.01	3,080.14	2,951.60	23.962	CC, ES
Guttersen 21-13 (SI) - Wellbore #1 - Gyro Surveys	19,900.00	6,729.81	3,093.52	2,963.34	23.763	SF
Guttersen 22-13 (SI) - Wellbore #1 - Gyro Surveys	18,355.36	6,720.27	2,933.14	2,814.62	24.747	CC, ES
Guttersen 22-13 (SI) - Wellbore #1 - Gyro Surveys	18,700.00	6,721.32	2,953.32	2,832.94	24.533	SF
Guttersen 31-13 (PR) - Wellbore #1 - Gyro Surveys	19,649.38	6,634.62	1,694.48	1,566.10	13.199	CC, ES
Guttersen 31-13 (PR) - Wellbore #1 - Gyro Surveys	19,700.00	6,634.05	1,695.24	1,566.56	13.175	SF
Guttersen 32-13 (PR) - Wellbore #1 - Gyro Surveys	18,461.79	6,684.74	1,600.92	1,481.66	13.424	CC, ES
Guttersen 32-13 (PR) - Wellbore #1 - Gyro Surveys	18,500.00	6,684.56	1,601.37	1,481.89	13.403	SF
Guttersen 34-13 (PR) - Wellbore #1 - Gyro Surveys	15,701.39	6,682.58	1,722.37	1,624.80	17.653	CC, ES
Guttersen 34-13 (PR) - Wellbore #1 - Gyro Surveys	15,800.00	6,683.29	1,725.19	1,627.08	17.584	SF
Guttersen 41-13 (PR) - Wellbore #1 - Gyro Surveys	19,583.26	6,696.74	296.82	168.28	2.309	CC, ES, SF
Guttersen 42-13 (PR) - Wellbore #1 - Gyro Surveys	18,317.53	6,686.57	209.84	91.47	1.773	CC, ES, SF
Guttersen 43-13 - Wellbore #1 - Wellbore #1 - As Drilled	17,043.55	6,706.45	317.25	209.11	2.934	CC, ES, SF
Guttersen 44-13 - Wellbore #1 - Wellbore #1 - As Drilled	15,692.50	6,700.51	381.40	279.32	3.736	CC, ES, SF
L F Ranch 1-13 (PR) - Wellbore #1 - Gyro Surveys	16,740.80	6,701.61	1,745.24	1,639.34	16.481	CC, ES
L F Ranch 1-13 (PR) - Wellbore #1 - Gyro Surveys	16,900.00	6,702.83	1,752.48	1,645.83	16.433	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 D25-715
Project:	Mustang	TVD Reference:	KB @ 4803.00ft
Reference Site:	D Section 25	MD Reference:	KB @ 4803.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D25-715	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #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 13						
L. F. Ranch 13-4 (SI) - Wellbore #1 - Gyro Surveys	19,261.90	6,992.19	3,956.72	3,828.08	30.759	CC
L. F. Ranch 13-4 (SI) - Wellbore #1 - Gyro Surveys	19,300.00	6,989.97	3,956.90	3,828.03	30.703	ES
L. F. Ranch 13-4 (SI) - Wellbore #1 - Gyro Surveys	19,700.00	6,966.70	3,980.82	3,849.94	30.415	SF
D Section 24						
Dalbey D 24-10 (PR) - Wellbore #1 - Gyro Surveys	11,404.36	6,695.36	1,293.38	1,227.16	19.531	CC, ES
Dalbey D 24-10 (PR) - Wellbore #1 - Gyro Surveys	11,500.00	6,695.40	1,296.92	1,230.25	19.455	SF
Dalbey D 24-15 (SI) - Wellbore #1 - Gyro Surveys	10,445.33	6,675.66	1,765.41	1,705.36	29.399	CC, ES
Dalbey D 24-15 (SI) - Wellbore #1 - Gyro Surveys	10,600.00	6,676.62	1,772.17	1,711.37	29.149	SF
Glazier 2-24 (SI) - Wellbore #1 - Gyro Surveys	13,615.69	6,689.18	642.86	561.02	7.855	CC, ES, SF
Guttersen 11-24 (PR) - Wellbore #1 - Gyro Surveys	14,402.83	6,766.15	4,320.53	4,232.66	49.174	CC, ES
Guttersen 11-24 (PR) - Wellbore #1 - Gyro Surveys	15,300.00	6,766.28	4,412.69	4,319.71	47.455	SF
Guttersen 12-24 (PR) - Wellbore #1 - Gyro Surveys	13,105.93	6,725.93	4,338.96	4,260.83	55.538	CC, ES
Guttersen 12-24 (PR) - Wellbore #1 - Gyro Surveys	14,100.00	6,724.06	4,451.38	4,367.62	53.149	SF
Guttersen 21-24 (PR) - Wellbore #1 - Gyro Surveys	14,413.33	6,735.53	3,002.15	2,914.29	34.168	CC, ES
Guttersen 21-24 (PR) - Wellbore #1 - Gyro Surveys	14,800.00	6,734.30	3,026.95	2,936.87	33.602	SF
Guttersen 22-24 (PR) - Wellbore #1 - Gyro Surveys	13,184.56	6,718.00	2,954.13	2,875.45	37.546	CC
Guttersen 22-24 (PR) - Wellbore #1 - Gyro Surveys	13,200.00	6,717.98	2,954.17	2,875.38	37.497	ES
Guttersen 22-24 (PR) - Wellbore #1 - Gyro Surveys	13,700.00	6,717.49	2,998.76	2,917.32	36.821	SF
Guttersen 24A (PR) - Wellbore #1 - Gyro Surveys	13,740.82	6,711.43	3,631.03	3,548.22	43.844	CC, ES
Guttersen 24A (PR) - Wellbore #1 - Gyro Surveys	14,400.00	6,717.15	3,690.38	3,603.84	42.644	SF
Guttersen 24J (PR) - Wellbore #1 - Gyro Surveys	15,039.95	6,691.82	3,539.22	3,446.69	38.250	CC, ES
Guttersen 24J (PR) - Wellbore #1 - Gyro Surveys	15,600.00	6,686.34	3,583.25	3,487.55	37.441	SF
Guttersen 24N (PR) - Wellbore #1 - MWD Surveys	13,776.12	6,655.37	2,402.60	2,320.88	29.401	CC
Guttersen 24N (PR) - Wellbore #1 - MWD Surveys	13,800.00	6,655.26	2,402.72	2,320.84	29.346	ES
Guttersen 24N (PR) - Wellbore #1 - MWD Surveys	14,100.00	6,653.86	2,424.33	2,340.91	29.060	SF
Guttersen 24S (PR) - Wellbore #1 - MWD Surveys	12,285.37	6,685.67	943.10	871.78	13.224	CC, ES
Guttersen 24S (PR) - Wellbore #1 - MWD Surveys	12,300.00	6,685.56	943.21	871.82	13.213	SF
Guttersen 43-24 (PR) - Wellbore #1 - Gyro Surveys	11,660.46	6,686.27	402.09	334.23	5.925	CC, ES, SF
Guttersen 44-24 (PR) - Wellbore #1 - Gyro Surveys	10,422.39	6,711.67	331.38	271.31	5.517	CC, ES, SF
Karch Blue D 24-12 (PA) - Wellbore #1 - Gyro Surveys	11,927.46	6,706.32	4,286.50	4,216.90	61.588	CC, ES
Karch Blue D 24-12 (PA) - Wellbore #1 - Gyro Surveys	13,000.00	6,706.70	4,418.64	4,343.14	58.522	SF
Karch Blue D 24-14 (PR) - Wellbore #1 - No Surveys	10,397.98	6,690.00	2,724.45	2,554.00	15.985	CC
Karch Blue D 24-14 (PR) - Wellbore #1 - No Surveys	10,400.00	6,690.00	2,724.45	2,553.99	15.983	ES
Karch Blue D 24-14 (PR) - Wellbore #1 - No Surveys	10,600.00	6,690.00	2,731.93	2,560.42	15.929	SF
Karch Blue D24-11 (PA) - Wellbore #1 - Gyro Surveys	11,922.73	6,649.10	2,869.92	2,793.94	37.771	CC, ES
Karch Blue D24-11 (PA) - Wellbore #1 - Gyro Surveys	12,400.00	6,653.85	2,909.33	2,830.74	37.020	SF
Koerner 31-24 (SI) - Wellbore #1 - Gyro Surveys	14,460.95	6,664.17	1,679.07	1,591.10	19.086	CC, ES
Koerner 31-24 (SI) - Wellbore #1 - Gyro Surveys	14,600.00	6,665.01	1,684.82	1,596.14	18.998	SF
Koerner 32-24 (SI) - Wellbore #1 - Gyro Surveys	13,026.55	6,770.48	1,669.34	1,591.42	21.425	CC, ES
Koerner 32-24 (SI) - Wellbore #1 - Gyro Surveys	13,200.00	6,729.48	1,678.33	1,599.73	21.353	SF
Koerner 42-24 (SI) - Wellbore #1 - Gyro Surveys	13,012.03	6,686.13	363.98	286.65	4.706	CC, ES, SF
LF Ranch 1-24 (SI) - Wellbore #1 - Gyro Surveys	10,820.21	6,803.91	3,946.53	3,883.59	62.705	CC, ES
LF Ranch 1-24 (SI) - Wellbore #1 - Gyro Surveys	11,800.00	6,813.20	4,066.32	3,998.29	59.768	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 D25-715
Project:	Mustang	TVD Reference:	KB @ 4803.00ft
Reference Site:	D Section 25	MD Reference:	KB @ 4803.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersten D25-715	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #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 25						
Coors Energy 13-25D (PR) - Wellbore #1 - MWD Survey	0.00	10.25	3,627.36			
Coors Energy 13-25D (PR) - Wellbore #1 - MWD Survey	3,000.00	2,984.62	3,629.61	3,603.58	139.486	ES
Coors Energy 13-25D (PR) - Wellbore #1 - MWD Survey	7,200.00	6,843.65	4,326.48	4,268.84	75.063	SF
Coors Energy 14-25D (PR) - Wellbore #1 - MWD Survey	0.00	11.92	3,658.02			
Coors Energy 14-25D (PR) - Wellbore #1 - MWD Survey	900.00	899.98	3,658.91	3,654.13	765.235	ES
Coors Energy 14-25D (PR) - Wellbore #1 - MWD Survey	6,750.00	6,750.00	4,547.61	4,499.34	94.209	SF
Coors Energy 23-25D (PR) - Wellbore #1 - MWD Survey	5,103.44	5,358.12	2,713.90	2,671.51	64.020	CC, ES
Coors Energy 23-25D (PR) - Wellbore #1 - MWD Survey	6,600.00	6,497.40	2,886.80	2,834.31	54.998	SF
Coors Energy 24-25 (PR) - Wellbore #1 - Gyro Surveys	6,186.10	5,960.03	3,219.59	3,175.33	72.729	CC
Coors Energy 24-25 (PR) - Wellbore #1 - Gyro Surveys	6,200.00	5,975.84	3,219.68	3,175.30	72.543	ES
Coors Energy 24-25 (PR) - Wellbore #1 - Gyro Surveys	6,650.00	6,418.88	3,312.91	3,265.63	70.066	SF
Coors Energy 25HD (PR) - Wellbore #1 - MWD Surveys	216.66	229.36	3,646.92	3,645.96	3,808.999	CC
Coors Energy 25HD (PR) - Wellbore #1 - MWD Surveys	300.00	276.70	3,647.41	3,645.95	2,491.904	ES
Coors Energy 25HD (PR) - Wellbore #1 - MWD Surveys	7,150.00	6,957.36	4,921.40	4,866.63	89.859	SF
Coors Energy 25LD (PR) - Wellbore #1 - MWD Surveys	0.00	11.64	3,665.71			
Coors Energy 25LD (PR) - Wellbore #1 - MWD Surveys	600.00	593.79	3,667.23	3,664.25	1,229.649	ES
Coors Energy 25LD (PR) - Wellbore #1 - MWD Surveys	6,600.00	6,600.00	4,095.81	4,047.81	85.331	SF
Coors Energy 25TD (PR) - Wellbore #1 - MWD Surveys	6,313.82	6,126.99	2,251.16	2,206.79	50.738	CC, ES
Coors Energy 25TD (PR) - Wellbore #1 - MWD Surveys	6,500.00	6,305.45	2,276.79	2,231.23	49.978	SF
Coors Energy 25XD (PR) - Wellbore #1 - MWD Surveys	6,400.96	6,389.11	930.78	874.86	16.644	CC, ES
Coors Energy 25XD (PR) - Wellbore #1 - MWD Surveys	6,450.00	6,436.22	932.63	876.46	16.605	SF
Coors Energy 25YD (PR) - Wellbore #1 - MWD Surveys	6,362.70	6,295.56	2,133.93	2,080.79	40.156	CC, ES
Coors Energy 25YD (PR) - Wellbore #1 - MWD Surveys	6,500.00	6,463.11	2,147.45	2,093.48	39.791	SF
Coors Energy 33-25D (PR) - Wellbore #1 - MWD Survey	5,110.87	5,101.75	1,421.50	1,375.00	30.571	CC, ES
Coors Energy 33-25D (PR) - Wellbore #1 - MWD Survey	6,250.00	6,168.49	1,515.96	1,461.64	27.911	SF
Coors Energy 34-25 (PR) - Wellbore #1 - Gyro Surveys	6,246.99	6,006.72	2,468.17	2,423.63	55.412	CC
Coors Energy 34-25 (PR) - Wellbore #1 - Gyro Surveys	6,250.00	6,009.99	2,468.18	2,423.61	55.383	ES
Coors Energy 34-25 (PR) - Wellbore #1 - Gyro Surveys	6,550.00	6,316.91	2,521.08	2,474.52	54.139	SF
Coors Energy 43-25D (PR) - Wellbore #1 - MWD Survey	6,266.48	6,250.40	312.39	266.06	6.742	CC, ES
Coors Energy 43-25D (PR) - Wellbore #1 - MWD Survey	6,300.00	6,282.36	313.19	266.49	6.707	SF
Coors Energy 44-25D (PR) - Wellbore #1 - MWD Survey	6,338.50	6,164.13	1,536.93	1,489.65	32.513	CC, ES
Coors Energy 44-25D (PR) - Wellbore #1 - MWD Survey	6,450.00	6,272.28	1,546.76	1,498.80	32.252	SF
Dalbey D 25-03 (SI) - Wellbore #1 - Gyro Surveys	1,644.52	1,631.53	2,636.57	2,625.37	235.419	CC
Dalbey D 25-03 (SI) - Wellbore #1 - Gyro Surveys	2,000.00	1,980.49	2,636.84	2,623.15	192.633	ES
Dalbey D 25-03 (SI) - Wellbore #1 - Gyro Surveys	9,400.00	6,831.20	3,336.53	3,281.79	60.947	SF
Dalbey D 25-05 (SI) - Wellbore #1 - Gyro Surveys	483.52	493.51	3,719.23	3,716.18	1,218.864	CC
Dalbey D 25-05 (SI) - Wellbore #1 - Gyro Surveys	2,000.00	1,998.17	3,719.99	3,706.25	270.772	ES
Dalbey D 25-05 (SI) - Wellbore #1 - Gyro Surveys	8,600.00	6,863.53	4,534.68	4,482.64	87.126	SF
Guttersten 11-25 (PR) - Wellbore #1 - MWD Surveys	0.00	0.00	3,648.02			
Guttersten 11-25 (PR) - Wellbore #1 - MWD Surveys	600.00	577.87	3,649.58	3,646.63	1,233.585	ES
Guttersten 11-25 (PR) - Wellbore #1 - MWD Surveys	10,500.00	6,778.96	4,471.14	4,412.74	76.554	SF
Guttersten 22-25 (PR) - Wellbore #1 - MWD Surveys	100.00	86.78	2,057.21	2,056.93	7,317.166	CC
Guttersten 22-25 (PR) - Wellbore #1 - MWD Surveys	2,000.00	1,972.27	2,061.27	2,048.81	165.505	ES
Guttersten 22-25 (PR) - Wellbore #1 - MWD Surveys	8,300.00	6,734.61	2,872.98	2,823.71	58.309	SF
Guttersten 25E (PR) - Wellbore #1 - MWD Surveys	0.00	0.00	4,250.51			
Guttersten 25E (PR) - Wellbore #1 - MWD Surveys	1,800.00	1,766.27	4,255.05	4,243.96	383.782	ES
Guttersten 25E (PR) - Wellbore #1 - MWD Surveys	11,300.00	6,705.28	4,917.40	4,854.53	78.214	SF
Guttersten 25KD (PR) - Wellbore #1 - MWD Surveys	100.00	80.53	1,637.69	1,637.42	6,052.085	CC
Guttersten 25KD (PR) - Wellbore #1 - MWD Surveys	500.00	473.30	1,638.93	1,636.52	679.676	ES
Guttersten 25KD (PR) - Wellbore #1 - MWD Surveys	7,300.00	7,010.89	3,601.92	3,551.98	72.126	SF
Guttersten 25O (PR) - Wellbore #1 - MWD Surveys	1,168.00	1,150.00	1,628.14	1,621.42	242.439	CC
Guttersten 25O (PR) - Wellbore #1 - MWD Surveys	2,200.00	2,186.09	1,628.98	1,615.05	116.916	ES
Guttersten 25O (PR) - Wellbore #1 - MWD Surveys	7,600.00	6,705.57	2,414.43	2,366.30	50.161	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 D25-715
Project:	Mustang	TVD Reference:	KB @ 4803.00ft
Reference Site:	D Section 25	MD Reference:	KB @ 4803.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D25-715	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #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 25						
Guttersen D 25-17 (SI) - Wellbore #1 - Gyro Surveys	184.26	151.26	660.08	659.30	844.429	CC
Guttersen D 25-17 (SI) - Wellbore #1 - Gyro Surveys	400.00	362.18	660.88	658.59	288.325	ES
Guttersen D 25-17 (SI) - Wellbore #1 - Gyro Surveys	8,600.00	6,658.50	1,177.46	1,126.63	23.163	SF
Guttersen D25-724 - Wellbore #1 - Plan #1	2,000.00	1,999.00	37.49	23.62	2.703	CC
Guttersen D25-724 - Wellbore #1 - Plan #1	2,100.00	2,099.14	38.10	23.55	2.618	ES, SF
Guttersen D25-734 - Wellbore #1 - Plan #1	2,000.00	1,999.00	75.00	61.13	5.407	CC, ES
Guttersen D25-734 - Wellbore #1 - Plan #1	2,100.00	2,098.14	76.35	61.80	5.249	SF
Guttersen D25-743 - Wellbore #1 - Plan #1	2,000.00	1,999.00	112.50	98.63	8.111	CC, ES
Guttersen D25-743 - Wellbore #1 - Plan #1	2,100.00	2,096.83	114.24	99.70	7.856	SF
Guttersen D25-753 - Wellbore #1 - Plan #1	2,277.37	2,426.47	2,237.90	2,221.72	138.384	CC
Guttersen D25-753 - Wellbore #1 - Plan #1	2,700.00	3,035.34	2,239.40	2,219.85	114.550	ES
Guttersen D25-753 - Wellbore #1 - Plan #1	20,146.34	20,314.84	2,458.94	2,240.74	11.269	SF
Guttersen D25-762 - Wellbore #1 - Plan #1	2,005.30	2,021.95	2,269.64	2,255.67	162.518	CC, ES
Guttersen D25-762 - Wellbore #1 - Plan #1	20,146.34	20,222.65	3,070.68	2,852.91	14.101	SF
Guttersen D25-772 - Wellbore #1 - Plan #1	1,911.69	1,924.69	2,301.12	2,287.84	173.195	CC
Guttersen D25-772 - Wellbore #1 - Plan #1	2,000.00	2,011.88	2,301.13	2,287.21	165.391	ES
Guttersen D25-772 - Wellbore #1 - Plan #1	20,146.34	20,375.73	3,721.29	3,503.76	17.107	SF
Guttersen D25-781 - Wellbore #1 - Plan #1	1,911.24	1,925.24	2,332.79	2,319.50	175.573	CC
Guttersen D25-781 - Wellbore #1 - Plan #1	2,000.00	2,009.87	2,332.80	2,318.89	167.749	ES
Guttersen D25-781 - Wellbore #1 - Plan #1	20,146.34	20,362.10	4,310.68	4,093.99	19.893	SF
Guttersen State D36-714 - Wellbore #1 - Plan #1	7,174.92	6,977.35	51.23	0.09	1.002	Level 2, CC, ES, SF
Guttersen State D36-724 - Wellbore #1 - Plan #1	2,000.00	2,000.00	154.62	140.75	11.146	CC, ES
Guttersen State D36-724 - Wellbore #1 - Plan #1	2,600.00	2,623.40	186.85	169.00	10.463	SF
Guttersen State D36-733 - Wellbore #1 - Plan #1	2,000.00	2,001.00	167.71	153.83	12.086	CC, ES
Guttersen State D36-733 - Wellbore #1 - Plan #1	2,200.00	2,198.84	174.68	159.43	11.452	SF
Guttersen State D36-743 - Wellbore #1 - Plan #1	2,000.00	2,001.00	187.50	173.63	13.512	CC, ES
Guttersen State D36-743 - Wellbore #1 - Plan #1	2,200.00	2,198.84	194.38	179.13	12.743	SF
Guttersen State D36-752 - Wellbore #1 - Plan #1	2,000.00	2,014.00	2,158.75	2,151.81	311.219	CC, ES
Guttersen State D36-752 - Wellbore #1 - Plan #1	6,600.00	7,405.58	2,402.32	2,363.40	61.730	SF
Guttersen State D36-762 - Wellbore #1 - Plan #1	2,000.00	2,014.00	2,191.19	2,177.27	157.379	CC, ES
Guttersen State D36-762 - Wellbore #1 - Plan #1	6,650.00	7,077.40	3,028.09	2,977.19	59.499	SF
Guttersen State D36-771 - Wellbore #1 - Plan #1	2,000.00	2,014.00	2,223.78	2,209.85	159.719	CC, ES
Guttersen State D36-771 - Wellbore #1 - Plan #1	7,300.00	6,334.29	3,610.91	3,562.92	75.246	SF
Guttersen State D36-781 - Wellbore #1 - Plan #1	1,911.24	1,925.24	2,256.52	2,243.24	169.834	CC
Guttersen State D36-781 - Wellbore #1 - Plan #1	2,000.00	2,009.65	2,256.54	2,242.63	162.271	ES
Guttersen State D36-781 - Wellbore #1 - Plan #1	7,250.00	5,831.44	4,107.76	4,062.22	90.193	SF
Karch Blue D 25-02 (DA) - Wellbore #1 - No Surveys	2,000.00	1,958.00	1,480.23	1,434.13	32.111	CC
Karch Blue D 25-02 (DA) - Wellbore #1 - No Surveys	2,100.00	2,057.98	1,481.95	1,433.51	30.595	ES
Karch Blue D 25-02 (DA) - Wellbore #1 - No Surveys	9,200.00	6,686.00	1,649.38	1,485.32	10.054	SF
Karch Blue D 25-08 (SI) - Wellbore #1 - Gyro Surveys	7,843.25	6,686.37	358.07	308.84	7.274	CC, ES, SF
Karch Blue D25-07 (SI) - Wellbore #1 - Gyro Surveys	100.00	65.36	866.38	866.14	3,610.757	CC
Karch Blue D25-07 (SI) - Wellbore #1 - Gyro Surveys	1,800.00	1,759.08	872.29	860.10	71.526	ES
Karch Blue D25-07 (SI) - Wellbore #1 - Gyro Surveys	7,900.00	6,694.14	1,682.76	1,633.32	34.039	SF
L F Ranch 2-25 (PR) - Wellbore #1 - Gyro Surveys	9,079.26	6,685.18	369.91	316.95	6.984	CC, ES, SF
LF Ranches 1 (PA) - Wellbore #1 - No Surveys	8,787.81	6,690.00	657.11	494.62	4.044	CC, ES
LF Ranches 1 (PA) - Wellbore #1 - No Surveys	8,800.00	6,690.00	657.23	494.69	4.044	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 D25-715
Project:	Mustang	TVD Reference:	KB @ 4803.00ft
Reference Site:	D Section 25	MD Reference:	KB @ 4803.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D25-715	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #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						
DD Section 18						
Guttersen 18D - Wellbore #1 - Wellbore #1 - As Drilled	16,352.52	6,653.93	4,269.03	4,167.44	42.022	CC
Guttersen 18D - Wellbore #1 - Wellbore #1 - As Drilled	16,400.00	6,653.31	4,269.30	4,167.32	41.864	ES
Guttersen 18D - Wellbore #1 - Wellbore #1 - As Drilled	17,200.00	6,642.87	4,352.33	4,245.16	40.611	SF
Guttersen 24-18 - Wellbore #1 - Wellbore #1 - As Drilled	15,703.01	6,701.42	2,389.73	2,292.83	24.661	CC, ES
Guttersen 24-18 - Wellbore #1 - Wellbore #1 - As Drilled	16,000.00	6,701.34	2,408.11	2,309.17	24.339	SF
Guttersen 33-18 - Wellbore #1 - Wellbore #1 - As Drilled	17,116.39	6,718.97	3,673.24	3,564.54	33.795	CC, ES
Guttersen 33-18 - Wellbore #1 - Wellbore #1 - As Drilled	17,700.00	6,714.66	3,719.31	3,606.71	33.031	SF
Guttersen 34-18 - Wellbore #1 - Wellbore #1 - As Drilled	15,675.39	6,724.51	3,601.64	3,505.24	37.362	CC
Guttersen 34-18 - Wellbore #1 - Wellbore #1 - As Drilled	15,700.00	6,724.74	3,601.72	3,505.12	37.284	ES
Guttersen 34-18 - Wellbore #1 - Wellbore #1 - As Drilled	16,300.00	6,730.13	3,655.39	3,554.81	36.344	SF
Guttersen 43-18 - Wellbore #1 - Wellbore #1 - As Drilled	17,116.33	6,729.69	4,870.50	4,759.35	43.819	CC, ES
Guttersen 43-18 - Wellbore #1 - Wellbore #1 - As Drilled	18,100.00	6,725.53	4,968.84	4,851.21	42.242	SF
Guttersen 44-18 - Wellbore #1 - Wellbore #1 - As Drilled	15,747.97	6,703.67	4,944.34	4,847.49	51.053	CC
Guttersen 44-18 - Wellbore #1 - Wellbore #1 - As Drilled	15,800.00	6,703.81	4,944.61	4,847.35	50.835	ES
Guttersen 44-18 - Wellbore #1 - Wellbore #1 - As Drilled	16,900.00	6,706.84	5,076.78	4,972.42	48.648	SF
Karch Blue DD18-03J - Wellbore #1 - Wellbore #1 - As D	16,758.65	6,747.91	1,991.68	1,885.60	18.774	CC, ES
Karch Blue DD18-03J - Wellbore #1 - Wellbore #1 - As D	17,000.00	6,748.02	2,006.25	1,898.59	18.634	SF
Karch Blue DD18-12 - Original Drilling - Original Drilling -	17,136.63	6,689.32	854.46	741.15	7.541	CC, ES
Karch Blue DD18-12 - Original Drilling - Original Drilling -	17,200.00	6,689.59	856.81	743.05	7.532	SF
Karch Blue DD18-13 - Wellbore #1 - Wellbore #1 - As Dr	15,647.39	6,694.70	807.77	710.45	8.300	CC, ES
Karch Blue DD18-13 - Wellbore #1 - Wellbore #1 - As Dr	15,700.00	6,695.67	809.48	711.75	8.282	SF
DD Section 19						
Champlin 366 Amoco B1 (PR) - Wellbore #1 - Gyro Surv	13,388.57	6,640.65	4,604.50	4,524.44	57.512	CC
Champlin 366 Amoco B1 (PR) - Wellbore #1 - Gyro Surv	13,400.00	6,640.18	4,604.51	4,524.37	57.449	ES
Champlin 366 Amoco B1 (PR) - Wellbore #1 - Gyro Surv	14,600.00	6,600.00	4,761.00	4,673.27	54.267	SF
Champlin 366 Amoco D1 (PA) - Wellbore #1 - No Survey	10,779.97	6,710.00	1,982.96	1,809.81	11.452	CC
Champlin 366 Amoco D1 (PA) - Wellbore #1 - No Survey	10,800.00	6,710.00	1,983.06	1,809.77	11.444	ES
Champlin 366 Amoco D1 (PA) - Wellbore #1 - No Survey	10,900.00	6,710.00	1,986.59	1,812.66	11.421	SF
Guttersen 31-19 (PR) - Wellbore #1 - Gyro Surveys	14,381.47	6,694.92	3,680.73	3,593.17	42.035	CC
Guttersen 31-19 (PR) - Wellbore #1 - Gyro Surveys	14,400.00	6,694.61	3,680.78	3,593.07	41.964	ES
Guttersen 31-19 (PR) - Wellbore #1 - Gyro Surveys	15,100.00	6,682.82	3,750.19	3,657.91	40.637	SF
Guttersen 44-19 (SI) - Wellbore #1 - No Surveys	10,522.02	6,755.00	5,015.09	4,842.61	29.076	CC, ES
Guttersen 44-19 (SI) - Wellbore #1 - No Surveys	11,400.00	6,755.00	5,091.36	4,913.52	28.629	SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersten D25-715
Project:	Mustang	TVD Reference:	KB @ 4803.00ft
Reference Site:	D Section 25	MD Reference:	KB @ 4803.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersten D25-715	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #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						
DD Section 30						
Guttersten 11-30 (PR) - Wellbore #1 - Gyro Surveys	9,173.32	6,690.76	967.79	914.30	18.094	CC, ES
Guttersten 11-30 (PR) - Wellbore #1 - Gyro Surveys	9,200.00	6,690.42	968.16	914.54	18.058	SF
Guttersten 12-30 (PR) - Wellbore #1 - Gyro Surveys	7,753.59	6,702.73	887.43	838.22	18.033	CC, ES, SF
Guttersten 22-30 (PR) - Wellbore #1 - Gyro Surveys	7,830.13	6,663.60	2,298.26	2,248.97	46.622	CC, ES
Guttersten 22-30 (PR) - Wellbore #1 - Gyro Surveys	8,000.00	6,658.55	2,304.52	2,254.95	46.489	SF
Guttersten 30 A (PR) - Wellbore #1 - Gyro Surveys	8,456.44	6,679.72	1,696.89	1,646.08	33.397	CC, ES
Guttersten 30 A (PR) - Wellbore #1 - Gyro Surveys	8,600.00	6,680.07	1,702.95	1,651.69	33.217	SF
Karch Blue DD 30-12 (PA) - Wellbore #1 - No Surveys	6,764.03	6,453.99	912.64	758.80	5.932	CC, ES
Karch Blue DD 30-12 (PA) - Wellbore #1 - No Surveys	6,850.00	6,517.63	916.13	760.97	5.905	SF
Karch Blue DD 30-14 (PA) - Wellbore #1 - No Surveys	6,520.55	6,246.60	2,921.97	2,773.27	19.650	CC
Karch Blue DD 30-14 (PA) - Wellbore #1 - No Surveys	6,550.00	6,274.35	2,922.37	2,773.04	19.570	ES
Karch Blue DD 30-14 (PA) - Wellbore #1 - No Surveys	6,850.00	6,523.63	2,973.88	2,819.11	19.214	SF
Karch Blue DD 30-3 J (PA) - Wellbore #1 - No Surveys	6,659.43	6,372.36	2,190.93	2,039.06	14.426	CC
Karch Blue DD 30-3 J (PA) - Wellbore #1 - No Surveys	6,700.00	6,407.03	2,191.51	2,038.87	14.358	ES
Karch Blue DD 30-3 J (PA) - Wellbore #1 - No Surveys	6,900.00	6,556.01	2,212.54	2,056.71	14.198	SF
L F Ranch 2-30 (PR) - Wellbore #1 - Gyro Surveys	8,828.52	6,800.79	2,279.41	2,227.19	43.653	CC, ES
L F Ranch 2-30 (PR) - Wellbore #1 - Gyro Surveys	9,200.00	6,796.83	2,309.48	2,255.84	43.054	SF
State 19 (PA) - Wellbore #1 - NO Surveys	8,476.99	6,757.00	4,506.21	4,343.44	27.684	CC
State 19 (PA) - Wellbore #1 - NO Surveys	8,500.00	6,757.00	4,506.27	4,343.43	27.673	ES
State 19 (PA) - Wellbore #1 - NO Surveys	9,000.00	6,757.00	4,536.46	4,371.81	27.553	SF

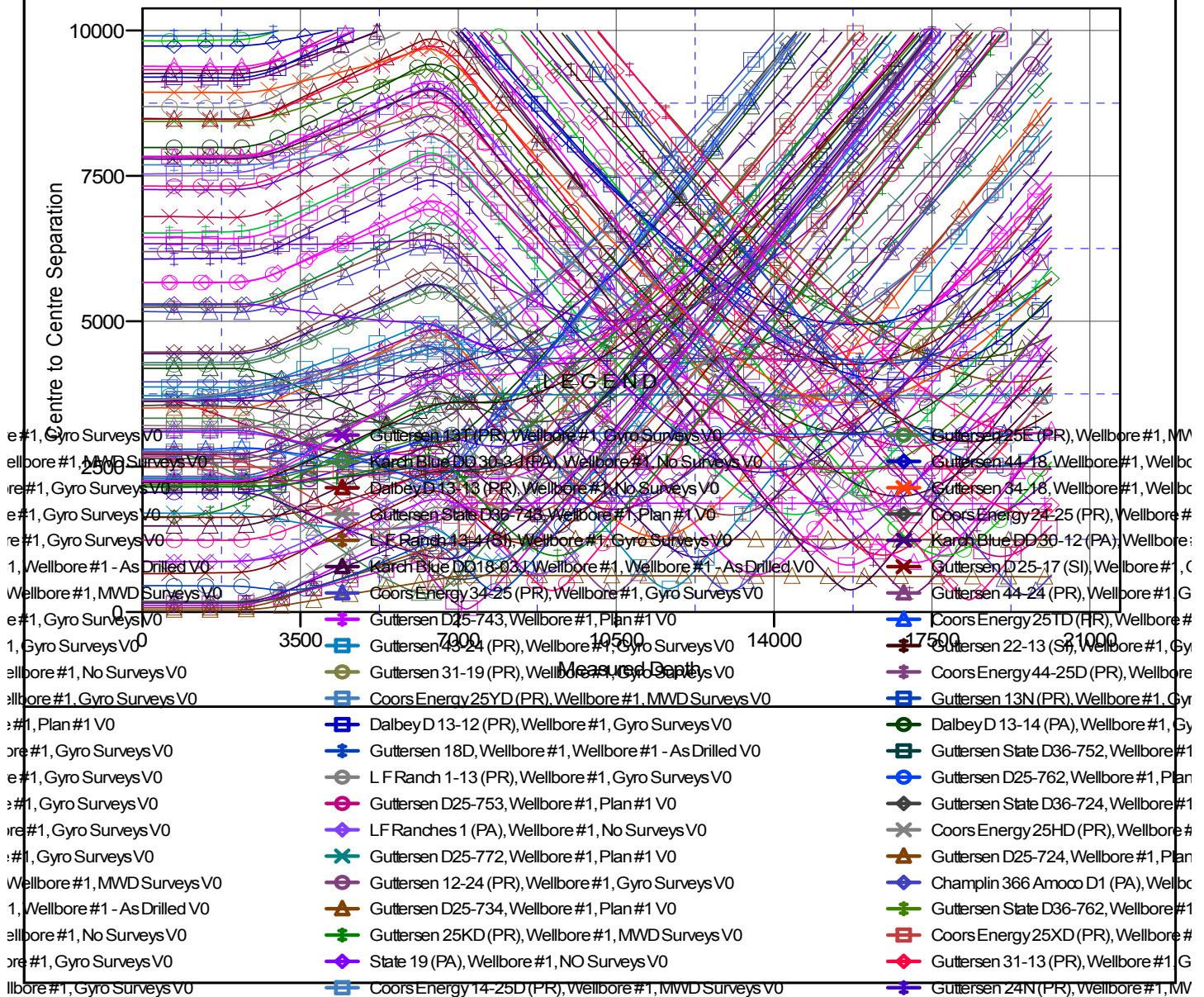
Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D25-715
Project:	Mustang	TVD Reference:	KB @ 4803.00ft
Reference Site:	D Section 25	MD Reference:	KB @ 4803.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D25-715	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to KB @ 4803.00ft
Offset Depths are relative to Offset Datum
Central Meridian is -105.5000000

Coordinates are relative to: Guttersen D25-715
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.65°

Ladder Plot



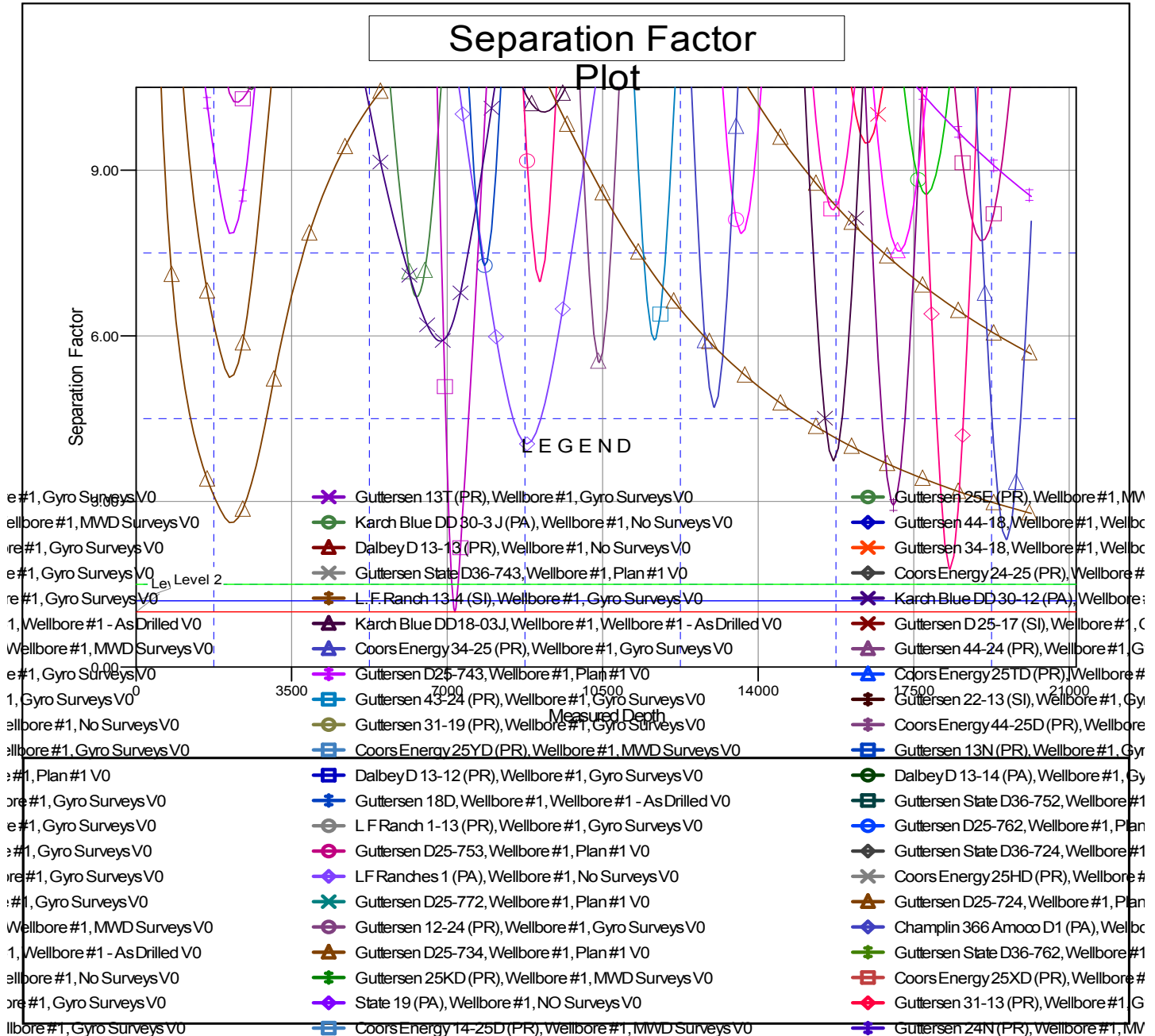
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D25-715
Project:	Mustang	TVD Reference:	KB @ 4803.00ft
Reference Site:	D Section 25	MD Reference:	KB @ 4803.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D25-715	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to KB @ 4803.00ft
Offset Depths are relative to Offset Datum
Central Meridian is -105.5000000

Coordinates are relative to: Guttersen D25-715
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.65°



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