

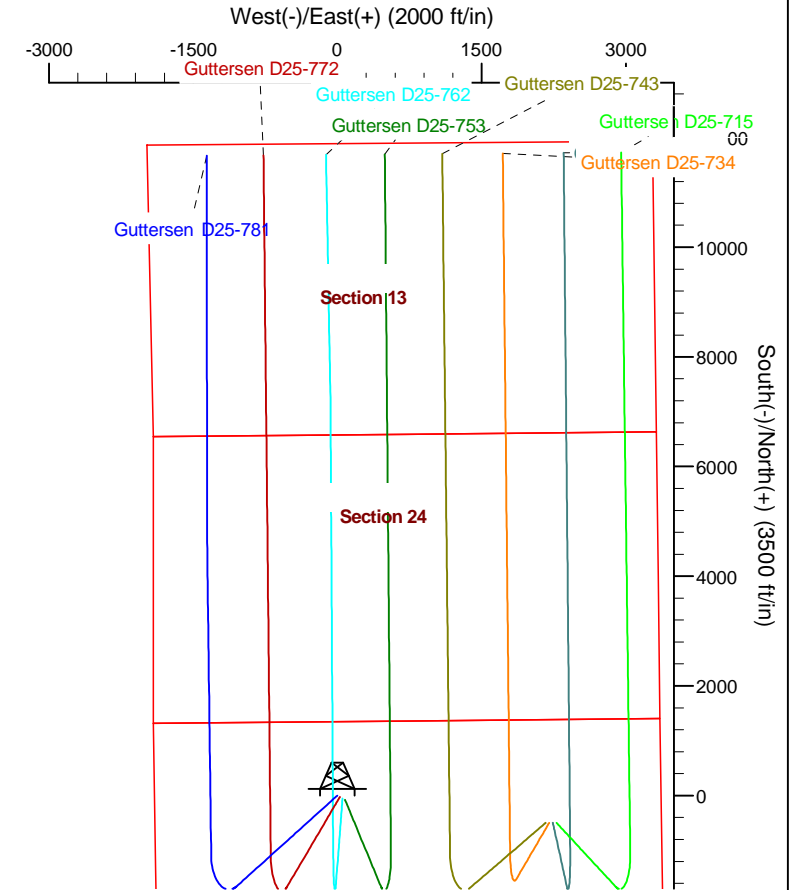
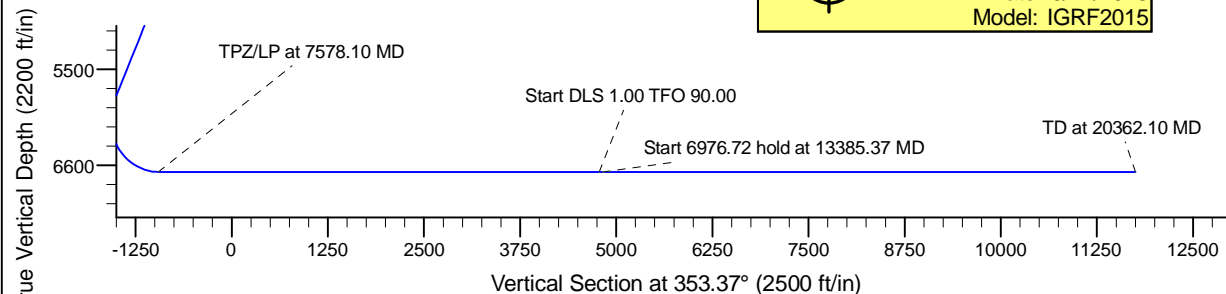
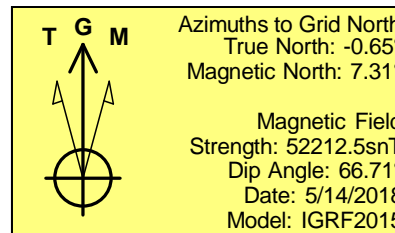
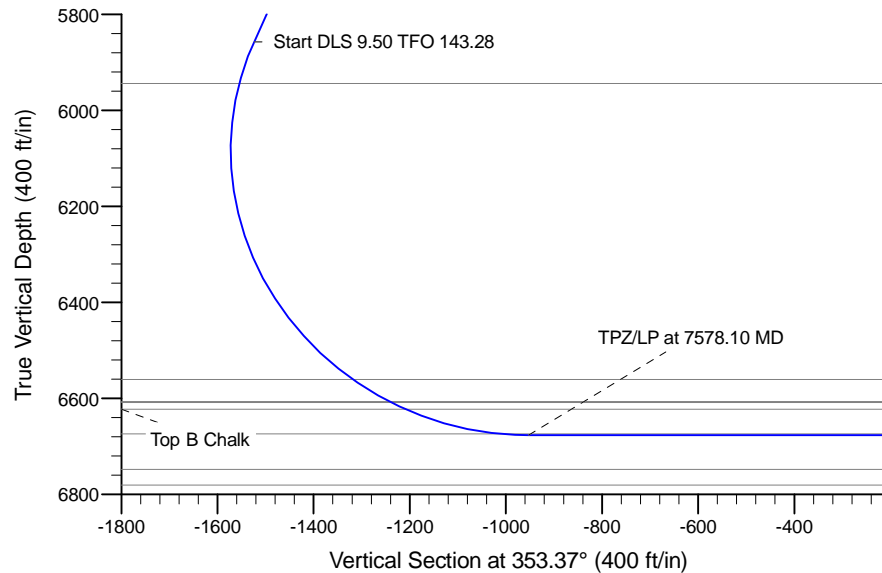
Project: Mustang  
 Site: D Section 25  
 Well: Gutteresen D25-781  
 Wellbore: Wellbore #1  
 Design: Plan #1

# 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	VSec	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	3013.66	30.41	212.33	2966.74	-222.01	-140.52	3.00	212.33	-204.29	
4	6365.53	30.41	212.33	5857.48	-1655.61	-1047.95	0.00	0.00	-1523.47	
5	7578.10	90.00	359.58	6677.00		-1312.22	9.50	143.28	-952.78	Gutteresen D25-781 TPZ/LP
6	13345.10	90.00	359.58	6677.00	4655.03	-1354.81	0.00	0.00	4780.37	
7	13385.37	90.00	359.98	6677.00	4695.30	-1354.96	1.00	90.00	4820.39	
8	20362.10	90.00	359.98	6677.00	11672.02	-1357.45	0.00	0.00	11750.69	Gutteresen D25-781 BHL



WELL DETAILS: Gutteresen D25-781				
0.00	0.00	1317237.37	3278660.27	40.1999105
				-104.5023850
Plan: Plan #1 (Gutteresen D25-781/Wellbore #1)				
Created By: Colby Baxter		Date: 12:09, August 15 2018		
Checked: _____		Date: _____		
Reviewed: _____		Date: _____		
Approved: _____		Date: _____		

# **Northern Region - DJ Basin**

**Mustang**

**D Section 25**

**Guttersen D25-781**

**Wellbore #1**

**Plan: Plan #1**

## **Standard Survey Report**

**15 August, 2018**

# Noble Energy, Inc.

## Survey Report

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Guttersen D25-781
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	KB @ 4817.00ft
<b>Site:</b>	D Section 25	<b>MD Reference:</b>	KB @ 4817.00ft
<b>Well:</b>	Guttersen D25-781	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Plan #1	<b>Database:</b>	EDMP

<b>Project</b>	Mustang, Weld County Colorado		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	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 D25-781				
Well Position	+N/-S	0.00 ft	Northing:	1,317,237.37 usft	Latitude:	40.1999105
	+E/-W	0.00 ft	Easting:	3,278,660.27 usft	Longitude:	-104.5023850
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,787.00 ft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2015	5/14/2018	7.96	66.71	52,212.53852316

<b>Design</b>	Plan #1				
<b>Audit Notes:</b>					
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00	
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	0.00	0.00	0.00	353.37	

<b>Survey Tool Program</b>	<b>Date</b>	8/15/2018			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
0.00	20,362.10	Plan #1 (Wellbore #1)	2_MWD+IFR1+MS	A008Mb: IFR dec & multi-station analysis	

<b>Planned Survey</b>										
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Vertical Section (ft)</b>	<b>Dogleg Rate (°/100ft)</b>	<b>Build Rate (°/100ft)</b>	<b>Turn Rate (°/100ft)</b>	
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

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Guttersen D25-781
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	KB @ 4817.00ft
<b>Site:</b>	D Section 25	<b>MD Reference:</b>	KB @ 4817.00ft
<b>Well:</b>	Guttersen D25-781	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Plan #1	<b>Database:</b>	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	3.00	212.33	2,099.95	-2.21	-1.40	-2.04	3.00	3.00	0.00
2,200.00	6.00	212.33	2,199.63	-8.84	-5.60	-8.13	3.00	3.00	0.00
2,300.00	9.00	212.33	2,298.77	-19.87	-12.58	-18.28	3.00	3.00	0.00
2,400.00	12.00	212.33	2,397.08	-35.26	-22.32	-32.45	3.00	3.00	0.00
2,500.00	15.00	212.33	2,494.31	-54.99	-34.81	-50.60	3.00	3.00	0.00
2,600.00	18.00	212.33	2,590.18	-78.98	-49.99	-72.68	3.00	3.00	0.00
2,700.00	21.00	212.33	2,684.43	-107.18	-67.84	-98.63	3.00	3.00	0.00
2,800.00	24.00	212.33	2,776.81	-139.52	-88.31	-128.38	3.00	3.00	0.00
2,900.00	27.00	212.33	2,867.06	-175.89	-111.33	-161.85	3.00	3.00	0.00
3,000.00	30.00	212.33	2,954.93	-216.20	-136.85	-198.95	3.00	3.00	0.00
3,013.66	30.41	212.33	2,966.74	-222.01	-140.52	-204.29	3.00	3.00	0.00
3,100.00	30.41	212.33	3,041.20	-258.94	-163.90	-238.27	0.00	0.00	0.00
3,200.00	30.41	212.33	3,127.44	-301.71	-190.97	-277.63	0.00	0.00	0.00
3,300.00	30.41	212.33	3,213.68	-344.48	-218.04	-316.98	0.00	0.00	0.00
3,400.00	30.41	212.33	3,299.92	-387.25	-245.12	-356.34	0.00	0.00	0.00
3,500.00	30.41	212.33	3,386.17	-430.02	-272.19	-395.70	0.00	0.00	0.00
3,600.00	30.41	212.33	3,472.41	-472.79	-299.26	-435.05	0.00	0.00	0.00
3,700.00	30.41	212.33	3,558.65	-515.56	-326.33	-474.41	0.00	0.00	0.00
3,800.00	30.41	212.33	3,644.90	-558.33	-353.40	-513.77	0.00	0.00	0.00
3,900.00	30.41	212.33	3,731.14	-601.10	-380.48	-553.12	0.00	0.00	0.00
4,000.00	30.41	212.33	3,817.38	-643.87	-407.55	-592.48	0.00	0.00	0.00
4,100.00	30.41	212.33	3,903.62	-686.64	-434.62	-631.84	0.00	0.00	0.00
4,200.00	30.41	212.33	3,989.87	-729.41	-461.69	-671.19	0.00	0.00	0.00
4,300.00	30.41	212.33	4,076.11	-772.18	-488.77	-710.55	0.00	0.00	0.00
4,400.00	30.41	212.33	4,162.35	-814.95	-515.84	-749.90	0.00	0.00	0.00
4,500.00	30.41	212.33	4,248.59	-857.72	-542.91	-789.26	0.00	0.00	0.00
4,600.00	30.41	212.33	4,334.84	-900.49	-569.98	-828.62	0.00	0.00	0.00
4,700.00	30.41	212.33	4,421.08	-943.26	-597.05	-867.97	0.00	0.00	0.00
4,800.00	30.41	212.33	4,507.32	-986.03	-624.13	-907.33	0.00	0.00	0.00
4,900.00	30.41	212.33	4,593.56	-1,028.80	-651.20	-946.69	0.00	0.00	0.00
5,000.00	30.41	212.33	4,679.81	-1,071.57	-678.27	-986.04	0.00	0.00	0.00
5,100.00	30.41	212.33	4,766.05	-1,114.34	-705.34	-1,025.40	0.00	0.00	0.00
5,200.00	30.41	212.33	4,852.29	-1,157.11	-732.42	-1,064.76	0.00	0.00	0.00

# Noble Energy, Inc.

## Survey Report

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Guttersen D25-781
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	KB @ 4817.00ft
<b>Site:</b>	D Section 25	<b>MD Reference:</b>	KB @ 4817.00ft
<b>Well:</b>	Guttersen D25-781	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Plan #1	<b>Database:</b>	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	30.41	212.33	4,938.54	-1,199.88	-759.49	-1,104.11	0.00	0.00	0.00
5,400.00	30.41	212.33	5,024.78	-1,242.65	-786.56	-1,143.47	0.00	0.00	0.00
5,500.00	30.41	212.33	5,111.02	-1,285.42	-813.63	-1,182.83	0.00	0.00	0.00
5,600.00	30.41	212.33	5,197.26	-1,328.19	-840.70	-1,222.18	0.00	0.00	0.00
5,700.00	30.41	212.33	5,283.51	-1,370.96	-867.78	-1,261.54	0.00	0.00	0.00
5,800.00	30.41	212.33	5,369.75	-1,413.74	-894.85	-1,300.90	0.00	0.00	0.00
5,900.00	30.41	212.33	5,455.99	-1,456.51	-921.92	-1,340.25	0.00	0.00	0.00
6,000.00	30.41	212.33	5,542.23	-1,499.28	-948.99	-1,379.61	0.00	0.00	0.00
6,100.00	30.41	212.33	5,628.48	-1,542.05	-976.07	-1,418.97	0.00	0.00	0.00
6,200.00	30.41	212.33	5,714.72	-1,584.82	-1,003.14	-1,458.32	0.00	0.00	0.00
6,300.00	30.41	212.33	5,800.96	-1,627.59	-1,030.21	-1,497.68	0.00	0.00	0.00
6,365.53	30.41	212.33	5,857.48	-1,655.61	-1,047.95	-1,523.47	0.00	0.00	0.00
6,400.00	27.85	216.53	5,887.59	-1,669.46	-1,057.41	-1,536.13	9.50	-7.43	12.16
6,500.00	21.44	233.54	5,978.55	-1,699.16	-1,086.08	-1,562.32	9.50	-6.41	17.01
6,600.00	17.85	260.01	6,072.89	-1,712.71	-1,115.94	-1,572.33	9.50	-3.59	26.48
6,700.00	18.77	290.44	6,168.05	-1,709.74	-1,146.18	-1,565.89	9.50	0.92	30.43
6,800.00	23.68	313.18	6,261.39	-1,690.34	-1,175.96	-1,543.17	9.50	4.91	22.74
6,900.00	30.72	327.27	6,350.37	-1,655.03	-1,204.48	-1,504.81	9.50	7.04	14.09
7,000.00	38.74	336.26	6,432.54	-1,604.78	-1,230.95	-1,451.84	9.50	8.02	8.99
7,100.00	47.25	342.50	6,505.65	-1,540.98	-1,254.64	-1,385.72	9.50	8.50	6.24
7,200.00	56.00	347.21	6,567.69	-1,465.36	-1,274.90	-1,308.28	9.50	8.76	4.71
7,300.00	64.91	351.03	6,616.96	-1,380.02	-1,291.18	-1,221.62	9.50	8.90	3.81
7,400.00	73.90	354.32	6,652.12	-1,287.27	-1,303.02	-1,128.13	9.50	8.99	3.29
7,500.00	82.93	357.32	6,672.19	-1,189.68	-1,310.12	-1,030.37	9.50	9.03	3.00
7,578.10	90.00	359.58	6,677.00	-1,111.81	-1,312.22	-952.78	9.50	9.05	2.89
7,600.00	90.00	359.58	6,677.00	-1,089.92	-1,312.38	-931.01	0.00	0.00	0.00
7,700.00	90.00	359.58	6,677.00	-989.92	-1,313.12	-831.60	0.00	0.00	0.00
7,800.00	90.00	359.58	6,677.00	-889.92	-1,313.86	-732.19	0.00	0.00	0.00
7,900.00	90.00	359.58	6,677.00	-789.92	-1,314.60	-632.77	0.00	0.00	0.00
8,000.00	90.00	359.58	6,677.00	-689.93	-1,315.34	-533.36	0.00	0.00	0.00
8,100.00	90.00	359.58	6,677.00	-589.93	-1,316.08	-433.95	0.00	0.00	0.00
8,200.00	90.00	359.58	6,677.00	-489.93	-1,316.81	-334.53	0.00	0.00	0.00
8,300.00	90.00	359.58	6,677.00	-389.93	-1,317.55	-235.12	0.00	0.00	0.00
8,400.00	90.00	359.58	6,677.00	-289.94	-1,318.29	-135.71	0.00	0.00	0.00
8,500.00	90.00	359.58	6,677.00	-189.94	-1,319.03	-36.29	0.00	0.00	0.00
8,600.00	90.00	359.58	6,677.00	-89.94	-1,319.77	63.12	0.00	0.00	0.00
8,700.00	90.00	359.58	6,677.00	10.05	-1,320.51	162.53	0.00	0.00	0.00
8,800.00	90.00	359.58	6,677.00	110.05	-1,321.24	261.95	0.00	0.00	0.00
8,900.00	90.00	359.58	6,677.00	210.05	-1,321.98	361.36	0.00	0.00	0.00
9,000.00	90.00	359.58	6,677.00	310.05	-1,322.72	460.77	0.00	0.00	0.00
9,100.00	90.00	359.58	6,677.00	410.04	-1,323.46	560.18	0.00	0.00	0.00
9,200.00	90.00	359.58	6,677.00	510.04	-1,324.20	659.60	0.00	0.00	0.00
9,300.00	90.00	359.58	6,677.00	610.04	-1,324.94	759.01	0.00	0.00	0.00

# Noble Energy, Inc.

## Survey Report

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Guttersen D25-781
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	KB @ 4817.00ft
<b>Site:</b>	D Section 25	<b>MD Reference:</b>	KB @ 4817.00ft
<b>Well:</b>	Guttersen D25-781	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Plan #1	<b>Database:</b>	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	359.58	6,677.00	710.04	-1,325.68	858.42	0.00	0.00	0.00
9,500.00	90.00	359.58	6,677.00	810.03	-1,326.41	957.84	0.00	0.00	0.00
9,600.00	90.00	359.58	6,677.00	910.03	-1,327.15	1,057.25	0.00	0.00	0.00
9,700.00	90.00	359.58	6,677.00	1,010.03	-1,327.89	1,156.66	0.00	0.00	0.00
9,800.00	90.00	359.58	6,677.00	1,110.02	-1,328.63	1,256.08	0.00	0.00	0.00
9,900.00	90.00	359.58	6,677.00	1,210.02	-1,329.37	1,355.49	0.00	0.00	0.00
10,000.00	90.00	359.58	6,677.00	1,310.02	-1,330.11	1,454.90	0.00	0.00	0.00
10,100.00	90.00	359.58	6,677.00	1,410.02	-1,330.84	1,554.32	0.00	0.00	0.00
10,200.00	90.00	359.58	6,677.00	1,510.01	-1,331.58	1,653.73	0.00	0.00	0.00
10,300.00	90.00	359.58	6,677.00	1,610.01	-1,332.32	1,753.14	0.00	0.00	0.00
10,400.00	90.00	359.58	6,677.00	1,710.01	-1,333.06	1,852.56	0.00	0.00	0.00
10,500.00	90.00	359.58	6,677.00	1,810.01	-1,333.80	1,951.97	0.00	0.00	0.00
10,600.00	90.00	359.58	6,677.00	1,910.00	-1,334.54	2,051.38	0.00	0.00	0.00
10,700.00	90.00	359.58	6,677.00	2,010.00	-1,335.28	2,150.79	0.00	0.00	0.00
10,800.00	90.00	359.58	6,677.00	2,110.00	-1,336.01	2,250.21	0.00	0.00	0.00
10,900.00	90.00	359.58	6,677.00	2,209.99	-1,336.75	2,349.62	0.00	0.00	0.00
11,000.00	90.00	359.58	6,677.00	2,309.99	-1,337.49	2,449.03	0.00	0.00	0.00
11,100.00	90.00	359.58	6,677.00	2,409.99	-1,338.23	2,548.45	0.00	0.00	0.00
11,200.00	90.00	359.58	6,677.00	2,509.99	-1,338.97	2,647.86	0.00	0.00	0.00
11,300.00	90.00	359.58	6,677.00	2,609.98	-1,339.71	2,747.27	0.00	0.00	0.00
11,400.00	90.00	359.58	6,677.00	2,709.98	-1,340.44	2,846.69	0.00	0.00	0.00
11,500.00	90.00	359.58	6,677.00	2,809.98	-1,341.18	2,946.10	0.00	0.00	0.00
11,600.00	90.00	359.58	6,677.00	2,909.98	-1,341.92	3,045.51	0.00	0.00	0.00
11,700.00	90.00	359.58	6,677.00	3,009.97	-1,342.66	3,144.93	0.00	0.00	0.00
11,800.00	90.00	359.58	6,677.00	3,109.97	-1,343.40	3,244.34	0.00	0.00	0.00
11,900.00	90.00	359.58	6,677.00	3,209.97	-1,344.14	3,343.75	0.00	0.00	0.00
12,000.00	90.00	359.58	6,677.00	3,309.96	-1,344.87	3,443.17	0.00	0.00	0.00
12,100.00	90.00	359.58	6,677.00	3,409.96	-1,345.61	3,542.58	0.00	0.00	0.00
12,200.00	90.00	359.58	6,677.00	3,509.96	-1,346.35	3,641.99	0.00	0.00	0.00
12,300.00	90.00	359.58	6,677.00	3,609.96	-1,347.09	3,741.40	0.00	0.00	0.00
12,400.00	90.00	359.58	6,677.00	3,709.95	-1,347.83	3,840.82	0.00	0.00	0.00
12,500.00	90.00	359.58	6,677.00	3,809.95	-1,348.57	3,940.23	0.00	0.00	0.00
12,600.00	90.00	359.58	6,677.00	3,909.95	-1,349.31	4,039.64	0.00	0.00	0.00
12,700.00	90.00	359.58	6,677.00	4,009.95	-1,350.04	4,139.06	0.00	0.00	0.00
12,800.00	90.00	359.58	6,677.00	4,109.94	-1,350.78	4,238.47	0.00	0.00	0.00
12,900.00	90.00	359.58	6,677.00	4,209.94	-1,351.52	4,337.88	0.00	0.00	0.00
13,000.00	90.00	359.58	6,677.00	4,309.94	-1,352.26	4,437.30	0.00	0.00	0.00
13,100.00	90.00	359.58	6,677.00	4,409.93	-1,353.00	4,536.71	0.00	0.00	0.00
13,200.00	90.00	359.58	6,677.00	4,509.93	-1,353.74	4,636.12	0.00	0.00	0.00
13,300.00	90.00	359.58	6,677.00	4,609.93	-1,354.47	4,735.54	0.00	0.00	0.00
13,345.10	90.00	359.58	6,677.00	4,655.03	-1,354.81	4,780.37	0.00	0.00	0.00
13,385.37	90.00	359.98	6,677.00	4,695.30	-1,354.96	4,820.39	1.00	0.00	1.00
13,400.00	90.00	359.98	6,677.00	4,709.93	-1,354.97	4,834.92	0.00	0.00	0.00

# Noble Energy, Inc.

## Survey Report

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Guttersen D25-781
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	KB @ 4817.00ft
<b>Site:</b>	D Section 25	<b>MD Reference:</b>	KB @ 4817.00ft
<b>Well:</b>	Guttersen D25-781	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Plan #1	<b>Database:</b>	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)
13,500.00	90.00	359.98	6,677.00	4,809.93	-1,355.00	4,934.26	0.00	0.00	0.00
13,600.00	90.00	359.98	6,677.00	4,909.93	-1,355.04	5,033.59	0.00	0.00	0.00
13,700.00	90.00	359.98	6,677.00	5,009.93	-1,355.08	5,132.93	0.00	0.00	0.00
13,800.00	90.00	359.98	6,677.00	5,109.93	-1,355.11	5,232.26	0.00	0.00	0.00
13,900.00	90.00	359.98	6,677.00	5,209.93	-1,355.15	5,331.59	0.00	0.00	0.00
14,000.00	90.00	359.98	6,677.00	5,309.93	-1,355.18	5,430.93	0.00	0.00	0.00
14,100.00	90.00	359.98	6,677.00	5,409.93	-1,355.22	5,530.26	0.00	0.00	0.00
14,200.00	90.00	359.98	6,677.00	5,509.93	-1,355.25	5,629.60	0.00	0.00	0.00
14,300.00	90.00	359.98	6,677.00	5,609.93	-1,355.29	5,728.93	0.00	0.00	0.00
14,400.00	90.00	359.98	6,677.00	5,709.93	-1,355.32	5,828.27	0.00	0.00	0.00
14,500.00	90.00	359.98	6,677.00	5,809.93	-1,355.36	5,927.60	0.00	0.00	0.00
14,600.00	90.00	359.98	6,677.00	5,909.93	-1,355.40	6,026.94	0.00	0.00	0.00
14,700.00	90.00	359.98	6,677.00	6,009.93	-1,355.43	6,126.27	0.00	0.00	0.00
14,800.00	90.00	359.98	6,677.00	6,109.93	-1,355.47	6,225.61	0.00	0.00	0.00
14,900.00	90.00	359.98	6,677.00	6,209.93	-1,355.50	6,324.94	0.00	0.00	0.00
15,000.00	90.00	359.98	6,677.00	6,309.93	-1,355.54	6,424.28	0.00	0.00	0.00
15,100.00	90.00	359.98	6,677.00	6,409.93	-1,355.57	6,523.61	0.00	0.00	0.00
15,200.00	90.00	359.98	6,677.00	6,509.93	-1,355.61	6,622.94	0.00	0.00	0.00
15,300.00	90.00	359.98	6,677.00	6,609.93	-1,355.64	6,722.28	0.00	0.00	0.00
15,400.00	90.00	359.98	6,677.00	6,709.93	-1,355.68	6,821.61	0.00	0.00	0.00
15,500.00	90.00	359.98	6,677.00	6,809.93	-1,355.72	6,920.95	0.00	0.00	0.00
15,600.00	90.00	359.98	6,677.00	6,909.93	-1,355.75	7,020.28	0.00	0.00	0.00
15,700.00	90.00	359.98	6,677.00	7,009.93	-1,355.79	7,119.62	0.00	0.00	0.00
15,800.00	90.00	359.98	6,677.00	7,109.93	-1,355.82	7,218.95	0.00	0.00	0.00
15,900.00	90.00	359.98	6,677.00	7,209.93	-1,355.86	7,318.29	0.00	0.00	0.00
16,000.00	90.00	359.98	6,677.00	7,309.93	-1,355.89	7,417.62	0.00	0.00	0.00
16,100.00	90.00	359.98	6,677.00	7,409.93	-1,355.93	7,516.96	0.00	0.00	0.00
16,200.00	90.00	359.98	6,677.00	7,509.93	-1,355.96	7,616.29	0.00	0.00	0.00
16,300.00	90.00	359.98	6,677.00	7,609.93	-1,356.00	7,715.63	0.00	0.00	0.00
16,400.00	90.00	359.98	6,677.00	7,709.93	-1,356.04	7,814.96	0.00	0.00	0.00
16,500.00	90.00	359.98	6,677.00	7,809.93	-1,356.07	7,914.29	0.00	0.00	0.00
16,600.00	90.00	359.98	6,677.00	7,909.93	-1,356.11	8,013.63	0.00	0.00	0.00
16,700.00	90.00	359.98	6,677.00	8,009.93	-1,356.14	8,112.96	0.00	0.00	0.00
16,800.00	90.00	359.98	6,677.00	8,109.93	-1,356.18	8,212.30	0.00	0.00	0.00
16,900.00	90.00	359.98	6,677.00	8,209.93	-1,356.21	8,311.63	0.00	0.00	0.00
17,000.00	90.00	359.98	6,677.00	8,309.93	-1,356.25	8,410.97	0.00	0.00	0.00
17,100.00	90.00	359.98	6,677.00	8,409.93	-1,356.29	8,510.30	0.00	0.00	0.00
17,200.00	90.00	359.98	6,677.00	8,509.93	-1,356.32	8,609.64	0.00	0.00	0.00
17,300.00	90.00	359.98	6,677.00	8,609.93	-1,356.36	8,708.97	0.00	0.00	0.00
17,400.00	90.00	359.98	6,677.00	8,709.93	-1,356.39	8,808.31	0.00	0.00	0.00
17,500.00	90.00	359.98	6,677.00	8,809.93	-1,356.43	8,907.64	0.00	0.00	0.00
17,600.00	90.00	359.98	6,677.00	8,909.93	-1,356.46	9,006.98	0.00	0.00	0.00
17,700.00	90.00	359.98	6,677.00	9,009.93	-1,356.50	9,106.31	0.00	0.00	0.00
17,800.00	90.00	359.98	6,677.00	9,109.93	-1,356.53	9,205.64	0.00	0.00	0.00

# Noble Energy, Inc.

## Survey Report

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Guttersen D25-781
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	KB @ 4817.00ft
<b>Site:</b>	D Section 25	<b>MD Reference:</b>	KB @ 4817.00ft
<b>Well:</b>	Guttersen D25-781	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Plan #1	<b>Database:</b>	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)
17,900.00	90.00	359.98	6,677.00	9,209.93	-1,356.57	9,304.98	0.00	0.00	0.00
18,000.00	90.00	359.98	6,677.00	9,309.93	-1,356.61	9,404.31	0.00	0.00	0.00
18,100.00	90.00	359.98	6,677.00	9,409.93	-1,356.64	9,503.65	0.00	0.00	0.00
18,200.00	90.00	359.98	6,677.00	9,509.93	-1,356.68	9,602.98	0.00	0.00	0.00
18,300.00	90.00	359.98	6,677.00	9,609.93	-1,356.71	9,702.32	0.00	0.00	0.00
18,400.00	90.00	359.98	6,677.00	9,709.93	-1,356.75	9,801.65	0.00	0.00	0.00
18,500.00	90.00	359.98	6,677.00	9,809.93	-1,356.78	9,900.99	0.00	0.00	0.00
18,600.00	90.00	359.98	6,677.00	9,909.93	-1,356.82	10,000.32	0.00	0.00	0.00
18,700.00	90.00	359.98	6,677.00	10,009.93	-1,356.85	10,099.66	0.00	0.00	0.00
18,800.00	90.00	359.98	6,677.00	10,109.93	-1,356.89	10,198.99	0.00	0.00	0.00
18,900.00	90.00	359.98	6,677.00	10,209.93	-1,356.93	10,298.33	0.00	0.00	0.00
19,000.00	90.00	359.98	6,677.00	10,309.93	-1,356.96	10,397.66	0.00	0.00	0.00
19,100.00	90.00	359.98	6,677.00	10,409.93	-1,357.00	10,496.99	0.00	0.00	0.00
19,200.00	90.00	359.98	6,677.00	10,509.93	-1,357.03	10,596.33	0.00	0.00	0.00
19,300.00	90.00	359.98	6,677.00	10,609.93	-1,357.07	10,695.66	0.00	0.00	0.00
19,400.00	90.00	359.98	6,677.00	10,709.93	-1,357.10	10,795.00	0.00	0.00	0.00
19,500.00	90.00	359.98	6,677.00	10,809.93	-1,357.14	10,894.33	0.00	0.00	0.00
19,600.00	90.00	359.98	6,677.00	10,909.93	-1,357.17	10,993.67	0.00	0.00	0.00
19,700.00	90.00	359.98	6,677.00	11,009.93	-1,357.21	11,093.00	0.00	0.00	0.00
19,800.00	90.00	359.98	6,677.00	11,109.93	-1,357.25	11,192.34	0.00	0.00	0.00
19,900.00	90.00	359.98	6,677.00	11,209.93	-1,357.28	11,291.67	0.00	0.00	0.00
20,000.00	90.00	359.98	6,677.00	11,309.93	-1,357.32	11,391.01	0.00	0.00	0.00
20,100.00	90.00	359.98	6,677.00	11,409.93	-1,357.35	11,490.34	0.00	0.00	0.00
20,200.00	90.00	359.98	6,677.00	11,509.93	-1,357.39	11,589.68	0.00	0.00	0.00
20,300.00	90.00	359.98	6,677.00	11,609.93	-1,357.42	11,689.01	0.00	0.00	0.00
20,362.10	90.00	359.98	6,677.00	11,672.02	-1,357.45	11,750.69	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 D25-781 SHL - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	1,317,237.37	3,278,660.27	40.1999105	-104.5023850
Guttersen D25-781 KOP - plan hits target center - Point	0.00	0.00	5,857.48	-1,655.61	-1,047.95	1,315,581.76	3,277,612.33	40.1953982	-104.5062028
Guttersen D25-781 BHL - plan hits target center - Point	0.00	0.00	6,677.00	11,672.02	-1,357.45	1,328,909.37	3,277,302.83	40.2319912	-104.5067762
Guttersen D25-781 TPZ/LP - plan hits target center - Point	0.00	0.00	6,677.00	-1,111.81	-1,312.22	1,316,125.56	3,277,348.05	40.1968991	-104.5071269



# Noble Energy, Inc.

## Survey Report

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Gutttersen D25-781
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	KB @ 4817.00ft
<b>Site:</b>	D Section 25	<b>MD Reference:</b>	KB @ 4817.00ft
<b>Well:</b>	Gutttersen D25-781	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Plan #1	<b>Database:</b>	EDMP

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
680.00	680.00	Upper Pierre Aquifer Top				
718.00	718.00	Pierre				
1,617.00	1,617.00	Upper Pierre Aquifer Base				
3,827.95	3,669.00	Parkman				
4,317.27	4,091.00	Sussex				
4,531.78	4,276.00	Shannon				
6,462.61	5,944.00	Teepee Buttes				
7,188.19	6,561.00	Sharon Springs				
7,277.35	6,607.00	Top A Chalk				
7,281.77	6,609.00	Top A Marl				
7,314.59	6,623.00	Top B Chalk				
7,516.46	6,674.00	Top B Marl				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
2000	2000	0	0	Start Build 3.00	
6366	5857	-222	-141	Start DLS 9.50 TFO 143.28	
7578	6677	-1656	-1048	TPZ/LP at 7578.10 MD	
13,345	6677	-1112	-1312	Start DLS 1.00 TFO 90.00	
13,385	6677	4655	-1355	Start 6976.72 hold at 13385.37 MD	
20,362	6677	4695	-1355	TD at 20362.10 MD	

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_

# **Northern Region - DJ Basin**

**Mustang**

**D Section 25**

**Guttersen D25-781**

**Wellbore #1**

**Plan #1**

## **Anticollision Summary Report**

**15 August, 2018**

**Noble Energy, Inc.**  
Anticollision Summary Report

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Gutttersen D25-781
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	KB @ 4817.00ft
<b>Reference Site:</b>	D Section 25	<b>MD Reference:</b>	KB @ 4817.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Gutttersen D25-781	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDMP
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	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	20,362.10	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
Offset Well - Wellbore - Design						
D Section 12						
Gutttersen State D12-01JI - Wellbore #1 - Wellbore #1 - A	20,362.10	7,017.20	6,214.27	6,112.81	61.249	CC, ES, SF
Gutttersen State D12-08JI - Wellbore #1 - Wellbore #1 - A	20,362.10	6,700.01	5,265.23	5,154.17	47.412	CC, ES, SF
D Section 13						
Dalbey D 13-11 (SI) - Wellbore #1 - Gyro Surveys	17,301.05	6,584.23	1,485.94	1,380.12	14.042	CC, ES
Dalbey D 13-11 (SI) - Wellbore #1 - Gyro Surveys	17,400.00	6,584.50	1,489.23	1,383.08	14.030	SF
Dalbey D 13-12 (PR) - Wellbore #1 - Gyro Surveys	16,815.24	6,603.82	339.73	237.48	3.323	CC, ES, SF
Dalbey D 13-13 (PR) - Wellbore #1 - No Surveys	15,892.51	6,606.00	83.74	-120.69	0.410	Level 1, CC, ES, SF
Dalbey D 13-14 (PA) - Wellbore #1 - Gyro Surveys	15,903.52	6,607.12	1,264.74	1,169.39	13.265	CC, ES, SF
Gutttersen 12-13 (SI) - Wellbore #1 - Gyro Surveys	18,492.05	6,593.80	42.50	-72.44	0.370	Level 1, CC, ES, SF
Gutttersen 13C (PR) - Wellbore #1 - Gyro Surveys	19,280.51	6,546.85	3,359.36	3,238.25	27.739	CC
Gutttersen 13C (PR) - Wellbore #1 - Gyro Surveys	19,300.00	6,546.74	3,359.41	3,238.18	27.710	ES
Gutttersen 13C (PR) - Wellbore #1 - Gyro Surveys	19,600.00	6,544.99	3,374.52	3,251.71	27.480	SF
Gutttersen 13D (PR) - Wellbore #1 - Gyro Surveys	16,676.73	6,578.77	3,357.44	3,256.41	33.232	CC
Gutttersen 13D (PR) - Wellbore #1 - Gyro Surveys	16,700.00	6,578.90	3,357.52	3,256.34	33.184	ES
Gutttersen 13D (PR) - Wellbore #1 - Gyro Surveys	17,100.00	6,581.12	3,384.01	3,280.79	32.782	SF
Gutttersen 13N (PR) - Wellbore #1 - Gyro Surveys	19,255.14	6,578.32	1,799.23	1,678.16	14.861	CC, ES
Gutttersen 13N (PR) - Wellbore #1 - Gyro Surveys	19,300.00	6,577.93	1,799.79	1,678.51	14.840	SF
Gutttersen 13S (PR) - Wellbore #1 - Gyro Surveys	18,020.09	6,538.81	3,349.30	3,238.13	30.130	CC, ES
Gutttersen 13S (PR) - Wellbore #1 - Gyro Surveys	18,400.00	6,541.43	3,370.77	3,257.61	29.788	SF
Gutttersen 13T (PR) - Wellbore #1 - Gyro Surveys	15,454.26	6,597.44	3,257.61	3,165.73	35.454	CC, ES
Gutttersen 13T (PR) - Wellbore #1 - Gyro Surveys	15,900.00	6,597.12	3,287.97	3,193.84	34.929	SF
Gutttersen 21-13 (SI) - Wellbore #1 - Gyro Surveys	19,863.26	6,577.94	1,231.30	1,105.46	9.785	CC, ES
Gutttersen 21-13 (SI) - Wellbore #1 - Gyro Surveys	19,900.00	6,577.32	1,231.85	1,105.90	9.780	SF
Gutttersen 22-13 (SI) - Wellbore #1 - Gyro Surveys	18,603.91	6,573.36	1,387.44	1,271.57	11.974	CC, ES, SF
Gutttersen 31-13 (PR) - Wellbore #1 - Gyro Surveys	19,907.30	6,650.04	2,619.40	2,492.56	20.652	CC, ES
Gutttersen 31-13 (PR) - Wellbore #1 - Gyro Surveys	20,100.00	6,647.80	2,626.47	2,498.74	20.562	SF
Gutttersen 32-13 (PR) - Wellbore #1 - Gyro Surveys	18,721.05	6,591.92	2,720.39	2,603.37	23.247	CC, ES
Gutttersen 32-13 (PR) - Wellbore #1 - Gyro Surveys	18,900.00	6,591.12	2,726.27	2,608.32	23.114	SF
Gutttersen 34-13 (PR) - Wellbore #1 - Gyro Surveys	15,958.84	6,606.32	2,618.82	2,523.14	27.369	CC, ES
Gutttersen 34-13 (PR) - Wellbore #1 - Gyro Surveys	16,200.00	6,608.16	2,629.90	2,533.02	27.145	SF
Gutttersen 41-13 (PR) - Wellbore #1 - Gyro Surveys	19,849.62	6,441.41	4,005.69	3,880.65	32.038	CC
Gutttersen 41-13 (PR) - Wellbore #1 - Gyro Surveys	19,900.00	6,441.10	4,006.00	3,880.63	31.953	ES
Gutttersen 41-13 (PR) - Wellbore #1 - Gyro Surveys	20,362.10	6,438.18	4,038.33	3,910.56	31.605	SF
Gutttersen 42-13 (PR) - Wellbore #1 - Gyro Surveys	18,579.24	6,453.78	4,106.23	3,991.10	35.668	CC
Gutttersen 42-13 (PR) - Wellbore #1 - Gyro Surveys	18,600.00	6,454.30	4,106.28	3,991.01	35.623	ES
Gutttersen 42-13 (PR) - Wellbore #1 - Gyro Surveys	19,200.00	6,468.97	4,152.86	4,034.35	35.044	SF

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

**Noble Energy, Inc.**  
Anticollision Summary Report

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Gutttersen D25-781
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	KB @ 4817.00ft
<b>Reference Site:</b>	D Section 25	<b>MD Reference:</b>	KB @ 4817.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Gutttersen D25-781	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDMP
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	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						
Gutttersen 43-13 - Wellbore #1 - Wellbore #1 - As Drilled	16,200.00	16,200.00	4,164.53	4,034.82	32.106	SF
Gutttersen 43-13 - Wellbore #1 - Wellbore #1 - As Drilled	17,309.88	6,621.27	4,013.89	3,907.83	37.844	CC, ES
Gutttersen 44-13 - Wellbore #1 - Wellbore #1 - As Drilled	15,960.05	6,649.18	3,960.21	3,860.94	39.894	CC
Gutttersen 44-13 - Wellbore #1 - Wellbore #1 - As Drilled	16,000.00	6,649.14	3,960.41	3,860.88	39.792	ES
Gutttersen 44-13 - Wellbore #1 - Wellbore #1 - As Drilled	16,600.00	6,648.52	4,011.58	3,908.98	39.100	SF
L F Ranch 1-13 (PR) - Wellbore #1 - Gyro Surveys	16,997.90	6,594.95	2,587.97	2,484.29	24.960	CC
L F Ranch 1-13 (PR) - Wellbore #1 - Gyro Surveys	17,000.00	6,594.96	2,587.97	2,484.27	24.957	ES
L F Ranch 1-13 (PR) - Wellbore #1 - Gyro Surveys	17,200.00	6,596.07	2,595.85	2,491.14	24.792	SF
L. F. Ranch 13-4 (SI) - Wellbore #1 - Gyro Surveys	19,523.60	6,572.88	341.53	218.80	2.783	CC, ES, SF

**Noble Energy, Inc.**  
Anticollision Summary Report

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Guttersen D25-781
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	KB @ 4817.00ft
<b>Reference Site:</b>	D Section 25	<b>MD Reference:</b>	KB @ 4817.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Guttersen D25-781	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDMP
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	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 14						
Spike D 14-09 (SI) - Wellbore #1 - Gyro Surveys	17,434.18	6,623.40	1,072.23	965.13	10.011	CC, ES
Spike D 14-09 (SI) - Wellbore #1 - Gyro Surveys	17,500.00	6,624.06	1,074.25	966.51	9.971	SF
Spike State D 14-13 (SI) - Wellbore #1 - Gyro Surveys	15,812.06	6,729.18	5,217.36	5,122.44	54.964	CC, ES
Spike State D 14-13 (SI) - Wellbore #1 - Gyro Surveys	17,200.00	6,730.24	5,398.82	5,294.59	51.796	SF
Dalbey D 14-1 (SI) - Wellbore #1 - Gyro Surveys	19,856.84	6,631.24	1,364.48	1,238.40	10.823	CC, ES
Dalbey D 14-1 (SI) - Wellbore #1 - Gyro Surveys	20,000.00	6,631.22	1,371.97	1,244.81	10.789	SF
Dalbey D 14-2 (SI) - Wellbore #1 - Gyro Surveys	19,607.98	6,634.79	2,279.63	2,155.54	18.371	CC, ES
Dalbey D 14-2 (SI) - Wellbore #1 - Gyro Surveys	19,800.00	6,636.46	2,287.70	2,162.06	18.207	SF
Dalbey D 14-3 (SI) - Wellbore #1 - Gyro Surveys	19,821.24	6,715.37	3,715.19	3,589.25	29.501	CC, ES
Dalbey D 14-3 (SI) - Wellbore #1 - Gyro Surveys	20,362.10	6,718.59	3,754.35	3,624.52	28.919	SF
Dalbey D 14-6 (SI) - Wellbore #1 - Gyro Surveys	18,656.19	6,657.69	3,918.88	3,802.15	33.572	CC
Dalbey D 14-6 (SI) - Wellbore #1 - Gyro Surveys	18,700.00	6,657.96	3,919.12	3,802.00	33.462	ES
Dalbey D 14-6 (SI) - Wellbore #1 - Gyro Surveys	19,300.00	6,661.51	3,971.41	3,850.06	32.728	SF
Dalbey D 14-7 (SI) - Wellbore #1 - Gyro Surveys	18,526.96	6,674.93	2,661.68	2,546.06	23.019	CC, ES
Dalbey D 14-7 (SI) - Wellbore #1 - Gyro Surveys	18,900.00	6,676.88	2,687.70	2,569.38	22.717	SF
Dalbey D 14-8 (SI) - Wellbore #1 - Gyro Surveys	18,569.81	6,632.65	1,409.16	1,293.27	12.159	CC, ES
Dalbey D 14-8 (SI) - Wellbore #1 - Gyro Surveys	18,700.00	6,633.23	1,415.16	1,298.21	12.100	SF
Guttersen State D 14-23 (SI) - Wellbore #1 - Gyro Survey	16,492.43	6,731.69	1,859.10	1,759.41	18.649	CC
Guttersen State D 14-23 (SI) - Wellbore #1 - Gyro Survey	16,500.00	6,731.63	1,859.12	1,759.35	18.635	ES
Guttersen State D 14-23 (SI) - Wellbore #1 - Gyro Survey	16,700.00	6,729.98	1,870.65	1,769.37	18.470	SF
Guttersen State D 14-24 (PR) - Wellbore #1 - Gyro Surve	16,604.30	6,681.79	3,319.15	3,218.28	32.907	CC, ES
Guttersen State D 14-24 (PR) - Wellbore #1 - Gyro Surve	17,200.00	6,681.66	3,372.18	3,267.11	32.094	SF
Guttersen State D 14-33 (PR) - Wellbore #1 - Gyro Surve	16,667.45	6,809.31	5,581.48	5,479.87	54.932	CC
Guttersen State D 14-33 (PR) - Wellbore #1 - Gyro Surve	16,700.00	6,809.38	5,581.58	5,479.70	54.786	ES
Guttersen State D 14-33 (PR) - Wellbore #1 - Gyro Surve	18,100.00	6,812.77	5,762.39	5,651.13	51.791	SF
HSR-Guttersen State 4-14 (PA) - Wellbore #1 - Gyro Sur	19,790.76	6,695.53	5,188.33	5,062.85	41.348	CC
HSR-Guttersen State 4-14 (PA) - Wellbore #1 - Gyro Sur	19,800.00	6,695.49	5,188.34	5,062.78	41.321	ES
HSR-Guttersen State 4-14 (PA) - Wellbore #1 - Gyro Sur	20,362.10	6,693.31	5,219.70	5,089.78	40.177	SF
HSR-Guttersen State 5-14 (PA) - Wellbore #1 - Gyro Sur	18,594.83	6,655.03	5,154.83	5,038.79	44.424	CC
HSR-Guttersen State 5-14 (PA) - Wellbore #1 - Gyro Sur	18,600.00	6,655.01	5,154.83	5,038.75	44.407	ES
HSR-Guttersen State 5-14 (PA) - Wellbore #1 - Gyro Sur	19,700.00	6,652.29	5,271.97	5,148.32	42.636	SF
Spike D 14-16 (SI) - Wellbore #1 - Gyro Surveys	15,802.19	6,662.24	1,123.21	1,028.65	11.879	CC, ES
Spike D 14-16 (SI) - Wellbore #1 - Gyro Surveys	15,900.00	6,662.21	1,127.46	1,032.05	11.818	SF
Spike State D 14-11 (PR) - Wellbore #1 - Gyro Surveys	17,432.61	6,696.42	3,690.01	3,582.73	34.396	CC, ES
Spike State D 14-11 (PR) - Wellbore #1 - Gyro Surveys	18,100.00	6,693.48	3,749.88	3,637.90	33.486	SF
Spike State D 14-12 (PR) - Wellbore #1 - Gyro Surveys	17,389.11	6,684.02	5,219.90	5,112.96	48.810	CC
Spike State D 14-12 (PR) - Wellbore #1 - Gyro Surveys	17,400.00	6,683.98	5,219.91	5,112.87	48.767	ES
Spike State D 14-12 (PR) - Wellbore #1 - Gyro Surveys	18,600.00	6,680.40	5,358.51	5,243.29	46.507	SF
Spike State D 14-14 (SI) - Wellbore #1 - Gyro Surveys	15,737.33	6,685.49	3,720.07	3,625.78	39.456	CC
Spike State D 14-14 (SI) - Wellbore #1 - Gyro Surveys	15,800.00	6,685.86	3,720.60	3,625.78	39.239	ES
Spike State D 14-14 (SI) - Wellbore #1 - Gyro Surveys	16,500.00	6,689.96	3,797.44	3,697.85	38.131	SF
Spike State D 14-15 (SI) - Wellbore #1 - Gyro Surveys	15,850.24	6,774.91	2,398.77	2,303.78	25.253	CC, ES
Spike State D 14-15 (SI) - Wellbore #1 - Gyro Surveys	16,200.00	6,769.84	2,424.13	2,326.60	24.856	SF
Spike State D14-13J (SI) - Wellbore #1 - Gyro Surveys	16,602.01	6,699.04	4,763.83	4,662.82	47.161	CC, ES
Spike State D14-13J (SI) - Wellbore #1 - Gyro Surveys	17,700.00	6,698.09	4,888.73	4,780.19	45.043	SF
Spike State GWS D 14-10 (SI) - Wellbore #1 - Gyro Surv	17,093.52	6,679.81	2,511.63	2,407.13	24.033	CC
Spike State GWS D 14-10 (SI) - Wellbore #1 - Gyro Surv	17,100.00	6,679.69	2,511.64	2,407.07	24.019	ES
Spike State GWS D 14-10 (SI) - Wellbore #1 - Gyro Surv	17,400.00	6,674.27	2,530.25	2,423.40	23.681	SF

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

**Noble Energy, Inc.**  
Anticollision Summary Report

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Guttersen D25-781
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	KB @ 4817.00ft
<b>Reference Site:</b>	D Section 25	<b>MD Reference:</b>	KB @ 4817.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Guttersen D25-781	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDMP
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	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 23						
Guttersen 23-20 (SI) - Wellbore #1 - Gyro Surveys	12,786.14	6,736.31	4,533.82	4,460.86	62.136	CC
Guttersen 23-20 (SI) - Wellbore #1 - Gyro Surveys	12,800.00	6,736.21	4,533.84	4,460.77	62.049	ES
Guttersen 23-20 (SI) - Wellbore #1 - Gyro Surveys	14,100.00	6,725.95	4,725.30	4,643.95	58.085	SF
Guttersen 23-32 (SI) - Wellbore #1 - Gyro Surveys	13,290.48	6,713.59	2,378.52	2,302.32	31.212	CC
Guttersen 23-32 (SI) - Wellbore #1 - Gyro Surveys	13,300.00	6,713.51	2,378.54	2,302.26	31.181	ES
Guttersen 23-32 (SI) - Wellbore #1 - Gyro Surveys	13,700.00	6,709.99	2,415.83	2,336.82	30.574	SF
Guttersen 23-41 (PR) - Wellbore #1 - Gyro Surveys	14,587.82	6,662.85	1,224.99	1,139.64	14.353	CC
Guttersen 23-41 (PR) - Wellbore #1 - Gyro Surveys	14,600.00	6,662.63	1,225.05	1,139.58	14.333	ES
Guttersen 23-41 (PR) - Wellbore #1 - Gyro Surveys	14,700.00	6,660.86	1,230.11	1,143.81	14.253	SF
Guttersen 31-23 (PR) - Wellbore #1 - Gyro Surveys	14,570.68	6,752.62	2,565.01	2,479.42	29.967	CC
Guttersen 31-23 (PR) - Wellbore #1 - Gyro Surveys	14,600.00	6,752.11	2,565.18	2,479.33	29.880	ES
Guttersen 31-23 (PR) - Wellbore #1 - Gyro Surveys	15,000.00	6,745.22	2,600.68	2,512.01	29.330	SF
Guttersen 42-23 (PR) - Wellbore #1 - Gyro Surveys	13,259.52	6,685.76	1,244.85	1,168.85	16.380	CC, ES
Guttersen 42-23 (PR) - Wellbore #1 - Gyro Surveys	13,385.37	6,684.62	1,251.34	1,174.34	16.252	SF
Guttersen D23-711 - Wellbore #1 - Plan #1	13,371.78	10,739.39	610.83	519.60	6.695	CC
Guttersen D23-711 - Wellbore #1 - Plan #1	20,362.10	17,723.12	627.24	431.79	3.209	ES, SF
Guttersen D35-720 - Wellbore #1 - Plan #1	7,400.00	9,651.43	1,288.52	1,223.72	19.886	SF
Guttersen D35-720 - Wellbore #1 - Plan #1	9,886.29	7,183.55	1,247.83	1,190.10	21.614	CC
Guttersen D35-720 - Wellbore #1 - Plan #1	9,900.00	7,172.32	1,247.84	1,190.07	21.600	ES
Guttersen D35-730 - Wellbore #1 - Plan #1	7,350.00	9,650.45	1,927.46	1,862.51	29.678	SF
Guttersen D35-730 - Wellbore #1 - Plan #1	7,578.10	9,427.76	1,911.56	1,847.98	30.066	ES
Guttersen D35-730 - Wellbore #1 - Plan #1	10,045.66	6,958.08	1,906.56	1,848.95	33.096	CC
Guttersen D35-740 - Wellbore #1 - Plan #1	7,300.00	9,761.49	2,595.17	2,530.04	39.847	SF
Guttersen D35-740 - Wellbore #1 - Plan #1	10,400.56	6,463.96	2,508.25	2,449.07	42.386	CC, ES
Guttersen D35-750 - Wellbore #1 - Plan #1	7,250.00	9,801.58	3,236.62	3,171.39	49.618	SF
Guttersen D35-750 - Wellbore #1 - Plan #1	7,578.10	9,486.32	3,205.30	3,142.03	50.660	ES
Guttersen D35-750 - Wellbore #1 - Plan #1	9,826.03	7,244.47	3,201.05	3,143.55	55.675	CC
Guttersen D35-760 - Wellbore #1 - Plan #1	7,200.00	9,838.21	3,946.24	3,880.90	60.392	SF
Guttersen D35-760 - Wellbore #1 - Plan #1	10,373.66	6,537.11	3,801.10	3,742.74	65.136	CC
Guttersen D35-760 - Wellbore #1 - Plan #1	10,400.00	6,530.47	3,801.18	3,742.68	64.984	ES
Guttersen D35-770 - Wellbore #1 - Plan #1	7,200.00	9,875.00	4,534.75	4,469.86	69.891	SF
Guttersen D35-770 - Wellbore #1 - Plan #1	10,492.32	5,958.36	4,465.68	4,407.09	76.217	CC
Guttersen D35-770 - Wellbore #1 - Plan #1	10,500.00	5,957.57	4,465.69	4,407.05	76.158	ES
Guttersen D35-780 - Wellbore #1 - Plan #1	10,526.51	5,481.60	4,818.82	4,760.62	82.798	CC, ES
Guttersen D35-780 - Wellbore #1 - Plan #1	12,300.00	5,305.01	5,131.42	5,062.74	74.716	SF
Guttersen State D23-721 - Wellbore #1 - Plan #1	13,374.30	10,609.99	1,268.61	1,177.84	13.977	CC
Guttersen State D23-721 - Wellbore #1 - Plan #1	20,362.10	17,570.57	1,282.10	1,086.90	6.568	ES, SF
Guttersen State D23-731 - Wellbore #1 - Plan #1	13,380.42	10,602.23	1,939.64	1,849.11	21.426	CC
Guttersen State D23-731 - Wellbore #1 - Plan #1	20,362.10	17,569.77	1,945.68	1,750.55	9.971	ES, SF
Guttersen State D23-741 - Wellbore #1 - Plan #1	9,576.09	6,568.66	2,557.40	2,500.61	45.033	CC
Guttersen State D23-741 - Wellbore #1 - Plan #1	20,362.10	17,664.22	2,604.40	2,409.79	13.383	ES, SF
Guttersen State D23-751 - Wellbore #1 - Plan #1	13,377.16	10,600.24	3,232.81	3,141.70	35.483	CC
Guttersen State D23-751 - Wellbore #1 - Plan #1	20,362.10	17,575.22	3,243.50	3,047.74	16.569	ES, SF
Guttersen State D23-761 - Wellbore #1 - Plan #1	13,377.14	10,509.17	3,889.72	3,798.85	42.802	CC
Guttersen State D23-761 - Wellbore #1 - Plan #1	20,362.10	17,483.46	3,900.44	3,704.70	19.927	ES, SF
Guttersen State D23-771 - Wellbore #1 - Plan #1	11,212.13	8,509.41	4,491.86	4,425.56	67.754	CC
Guttersen State D23-771 - Wellbore #1 - Plan #1	20,362.10	17,640.35	4,562.59	4,367.73	23.416	ES, SF
Guttersen State D23-781 - Wellbore #1 - Plan #1	9,874.94	5,423.37	4,846.76	4,791.42	87.579	CC
Guttersen State D23-781 - Wellbore #1 - Plan #1	9,900.00	5,415.64	4,846.82	4,791.37	87.404	ES
Guttersen State D23-781 - Wellbore #1 - Plan #1	20,362.10	17,669.83	5,170.55	4,975.42	26.499	SF
Guttersen State D35-790 - Wellbore #1 - Plan #1	7,500.00	9,743.24	611.10	546.02	9.390	SF
Guttersen State D35-790 - Wellbore #1 - Plan #1	9,935.76	7,307.05	592.62	534.15	10.135	CC, ES
Guttersen USX D 23-17 (PR) - Wellbore #1 - Gyro Surve	13,926.62	6,714.67	1,968.72	1,887.94	24.371	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

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Guttersen D25-781
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	KB @ 4817.00ft
<b>Reference Site:</b>	D Section 25	<b>MD Reference:</b>	KB @ 4817.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Guttersen D25-781	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDMP
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	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 23						
Guttersen USX D 23-17 (PR) - Wellbore #1 - Gyro Surve	14,200.00	6,713.86	1,987.61	1,904.81	24.003	SF
Parker Blue D 23-09 (SI) - Wellbore #1 - Gyro Surveys	11,621.71	6,641.40	987.27	922.21	15.175	CC, ES
Parker Blue D 23-09 (SI) - Wellbore #1 - Gyro Surveys	11,700.00	6,640.18	990.37	924.69	15.080	SF
Parker Blue D 23-10 (SI) - Wellbore #1 - Gyro Surveys	11,795.58	6,668.97	2,249.66	2,183.40	33.952	CC
Parker Blue D 23-10 (SI) - Wellbore #1 - Gyro Surveys	11,800.00	6,668.94	2,249.67	2,183.37	33.935	ES
Parker Blue D 23-10 (SI) - Wellbore #1 - Gyro Surveys	12,200.00	6,667.06	2,285.72	2,216.84	33.182	SF
Parker Blue D 23-11 (SI) - Wellbore #1 - Gyro Surveys	12,213.28	6,720.40	3,720.00	3,650.91	53.840	CC, ES
Parker Blue D 23-11 (SI) - Wellbore #1 - Gyro Surveys	13,200.00	6,715.16	3,848.64	3,773.33	51.107	SF
Parker Blue D 23-13 (SI) - Wellbore #1 - Gyro Surveys	11,028.36	6,634.53	5,258.29	5,196.67	85.341	CC, ES
Parker Blue D 23-13 (SI) - Wellbore #1 - Gyro Surveys	13,100.00	6,620.81	5,651.64	5,578.12	76.870	SF
Parker Blue D 23-14 (SI) - Wellbore #1 - Gyro Surveys	10,930.28	6,707.01	3,762.04	3,700.91	61.542	CC, ES
Parker Blue D 23-14 (SI) - Wellbore #1 - Gyro Surveys	12,000.00	6,701.83	3,911.17	3,843.90	58.147	SF
Parker Blue D 23-15 (SI) - Wellbore #1 - Gyro Surveys	10,495.03	6,663.20	2,476.94	2,418.26	42.209	CC
Parker Blue D 23-15 (SI) - Wellbore #1 - Gyro Surveys	10,500.00	6,663.14	2,476.95	2,418.23	42.188	ES
Parker Blue D 23-15 (SI) - Wellbore #1 - Gyro Surveys	11,000.00	6,656.38	2,527.88	2,466.42	41.127	SF
Parker Blue D 23-3J (SI) - Wellbore #1 - Gyro Surveys	12,045.84	6,758.20	4,735.94	4,664.72	66.493	CC
Parker Blue D 23-3J (SI) - Wellbore #1 - Gyro Surveys	12,100.00	6,758.43	4,736.25	4,664.65	66.145	ES
Parker Blue D 23-3J (SI) - Wellbore #1 - Gyro Surveys	13,500.00	6,764.36	4,955.06	4,874.79	61.728	SF
Parker Red D 23-05 (PR) - Wellbore #1 - Gyro Surveys	13,260.61	6,646.84	5,174.74	5,098.59	67.955	CC
Parker Red D 23-05 (PR) - Wellbore #1 - Gyro Surveys	13,300.00	6,646.86	5,174.89	5,098.44	67.689	ES
Parker Red D 23-05 (PR) - Wellbore #1 - Gyro Surveys	14,900.00	6,647.57	5,438.48	5,351.80	62.740	SF
Parker Red D 23-2J (SI) - Wellbore #1 - Gyro Surveys	13,585.31	6,591.24	4,342.03	4,263.65	55.397	CC
Parker Red D 23-2J (SI) - Wellbore #1 - Gyro Surveys	13,600.00	6,591.47	4,342.06	4,263.56	55.314	ES
Parker Red D 23-2J (SI) - Wellbore #1 - Gyro Surveys	14,800.00	6,611.56	4,508.69	4,422.26	52.168	SF
Parker Red D 23-3 (PR) - Wellbore #1 - Gyro Surveys	14,581.07	6,600.00	3,869.03	3,783.46	45.214	CC
Parker Red D 23-3 (PR) - Wellbore #1 - Gyro Surveys	14,600.00	6,600.00	3,869.08	3,783.35	45.130	ES
Parker Red D 23-3 (PR) - Wellbore #1 - Gyro Surveys	15,500.00	6,582.25	3,976.60	3,884.75	43.294	SF
Parker Red D 23-4 (SI) - Wellbore #1 - Gyro Surveys	14,481.58	6,678.24	5,205.46	5,120.50	61.269	CC
Parker Red D 23-4 (SI) - Wellbore #1 - Gyro Surveys	14,500.00	6,678.36	5,205.49	5,120.38	61.162	ES
Parker Red D 23-4 (SI) - Wellbore #1 - Gyro Surveys	16,000.00	6,688.02	5,422.39	5,327.35	57.053	SF
Two E Ranch 1-23 (SI) - Wellbore #1 - Gyro Surveys	11,125.53	6,676.37	1,485.29	1,423.15	23.902	CC, ES
Two E Ranch 1-23 (SI) - Wellbore #1 - Gyro Surveys	11,300.00	6,675.24	1,495.50	1,432.23	23.636	SF

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



**Noble Energy, Inc.**  
Anticollision Summary Report

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Guttersen D25-781
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	KB @ 4817.00ft
<b>Reference Site:</b>	D Section 25	<b>MD Reference:</b>	KB @ 4817.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Guttersen D25-781	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDMP
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	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 24						
Dalbey D 24-10 (PR) - Wellbore #1 - Gyro Surveys	11,644.20	6,600.31	3,065.87	3,000.88	47.171	CC, ES
Dalbey D 24-10 (PR) - Wellbore #1 - Gyro Surveys	12,200.00	6,596.96	3,115.84	3,048.26	46.104	SF
Dalbey D 24-15 (SI) - Wellbore #1 - Gyro Surveys	100.00	36.23	2,362.61	2,362.42	10,000.000	CC
Dalbey D 24-15 (SI) - Wellbore #1 - Gyro Surveys	2,019.15	1,979.90	2,364.73	2,350.99	172.092	ES
Dalbey D 24-15 (SI) - Wellbore #1 - Gyro Surveys	11,100.00	6,627.88	2,627.71	2,566.39	42.854	SF
Glazier 2-24 (SI) - Wellbore #1 - Gyro Surveys	13,881.82	6,594.51	3,712.73	3,632.54	46.301	CC
Glazier 2-24 (SI) - Wellbore #1 - Gyro Surveys	13,900.00	6,594.42	3,712.77	3,632.48	46.237	ES
Glazier 2-24 (SI) - Wellbore #1 - Gyro Surveys	14,500.00	6,591.48	3,763.84	3,680.47	45.143	SF
Guttersen 11-24 (PR) - Wellbore #1 - Gyro Surveys	14,642.30	6,622.30	28.39	-57.35	0.331	Level 1, CC, ES, SF
Guttersen 12-24 (PR) - Wellbore #1 - Gyro Surveys	13,345.10	6,622.99	20.00	-56.48	0.261	Level 1, ES, SF
Guttersen 12-24 (PR) - Wellbore #1 - Gyro Surveys	13,345.46	6,622.99	19.99	-56.44	0.262	Level 1, CC
Guttersen 21-24 (PR) - Wellbore #1 - Gyro Surveys	14,662.21	6,609.96	1,348.41	1,262.41	15.679	CC, ES
Guttersen 21-24 (PR) - Wellbore #1 - Gyro Surveys	14,700.00	6,610.00	1,348.94	1,262.79	15.658	SF
Guttersen 22-24 (PR) - Wellbore #1 - Gyro Surveys	13,433.74	6,606.04	1,404.94	1,327.90	18.235	CC, ES
Guttersen 22-24 (PR) - Wellbore #1 - Gyro Surveys	13,500.00	6,606.20	1,406.51	1,329.20	18.194	SF
Guttersen 24A (PR) - Wellbore #1 - Gyro Surveys	13,984.45	6,604.85	723.52	642.62	8.943	CC, ES
Guttersen 24A (PR) - Wellbore #1 - Gyro Surveys	14,000.00	6,604.96	723.69	642.76	8.942	SF
Guttersen 24J (PR) - Wellbore #1 - Gyro Surveys	15,285.85	6,610.14	806.66	716.05	8.903	CC, ES
Guttersen 24J (PR) - Wellbore #1 - Gyro Surveys	15,300.00	6,610.15	806.78	716.15	8.901	SF
Guttersen 24N (PR) - Wellbore #1 - MWD Surveys	14,029.50	6,626.74	1,952.85	1,872.42	24.280	CC, ES
Guttersen 24N (PR) - Wellbore #1 - MWD Surveys	14,200.00	6,625.75	1,960.28	1,879.13	24.157	SF
Guttersen 24S (PR) - Wellbore #1 - MWD Surveys	12,525.79	6,563.08	3,415.62	3,346.01	49.067	CC, ES
Guttersen 24S (PR) - Wellbore #1 - MWD Surveys	13,200.00	6,557.97	3,481.52	3,408.61	47.751	SF
Guttersen 43-24 (PR) - Wellbore #1 - Gyro Surveys	11,900.21	6,649.81	3,958.03	3,891.05	59.100	CC, ES
Guttersen 43-24 (PR) - Wellbore #1 - Gyro Surveys	12,800.00	6,646.89	4,059.01	3,987.65	56.879	SF
Guttersen 44-24 (PR) - Wellbore #1 - Gyro Surveys	794.46	737.48	3,380.49	3,375.48	673.625	CC
Guttersen 44-24 (PR) - Wellbore #1 - Gyro Surveys	2,000.00	1,942.41	3,382.18	3,368.64	249.721	ES
Guttersen 44-24 (PR) - Wellbore #1 - Gyro Surveys	11,700.00	6,585.52	4,159.44	4,095.58	65.138	SF
Karch Blue D 24-12 (PA) - Wellbore #1 - Gyro Surveys	12,166.81	6,669.95	73.11	4.55	1.066	Level 2, CC, ES, SF
Karch Blue D 24-14 (PR) - Wellbore #1 - No Surveys	10,637.44	6,625.00	1,635.43	1,466.63	9.688	CC, ES
Karch Blue D 24-14 (PR) - Wellbore #1 - No Surveys	10,700.00	6,625.00	1,636.63	1,467.57	9.681	SF
Karch Blue D24-11 (PA) - Wellbore #1 - Gyro Surveys	12,161.92	6,622.43	1,490.27	1,415.27	19.869	CC, ES
Karch Blue D24-11 (PA) - Wellbore #1 - Gyro Surveys	12,300.00	6,623.81	1,496.66	1,421.13	19.816	SF
Koerner 31-24 (SI) - Wellbore #1 - Gyro Surveys	14,719.04	6,631.82	2,671.48	2,584.90	30.856	CC, ES
Koerner 31-24 (SI) - Wellbore #1 - Gyro Surveys	15,000.00	6,634.17	2,686.21	2,598.24	30.536	SF
Koerner 32-24 (SI) - Wellbore #1 - Gyro Surveys	13,266.38	6,511.11	2,685.00	2,609.82	35.713	CC, ES
Koerner 32-24 (SI) - Wellbore #1 - Gyro Surveys	13,700.00	6,510.79	2,717.47	2,640.21	35.172	SF
Koerner 42-24 (SI) - Wellbore #1 - Gyro Surveys	13,252.32	6,621.54	3,995.72	3,919.85	52.665	CC
Koerner 42-24 (SI) - Wellbore #1 - Gyro Surveys	13,300.00	6,621.08	3,996.01	3,919.85	52.468	ES
Koerner 42-24 (SI) - Wellbore #1 - Gyro Surveys	14,100.00	6,613.46	4,079.59	3,999.42	50.892	SF
LF Ranch 1-24 (SI) - Wellbore #1 - Gyro Surveys	11,057.57	6,631.39	409.83	348.50	6.682	CC, ES, SF

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



**Noble Energy, Inc.**  
Anticollision Summary Report

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Guttersen D25-781
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	KB @ 4817.00ft
<b>Reference Site:</b>	D Section 25	<b>MD Reference:</b>	KB @ 4817.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Guttersen D25-781	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDMP
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	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						
Coors Energy 13-25D (PR) - Wellbore #1 - MWD Survey	6,671.57	6,327.38	252.55	197.29	4.570	CC, ES, SF
Coors Energy 14-25D (PR) - Wellbore #1 - MWD Survey	6,653.86	6,272.31	1,538.32	1,486.74	29.822	CC, ES
Coors Energy 14-25D (PR) - Wellbore #1 - MWD Survey	6,750.00	6,373.61	1,545.96	1,493.77	29.621	SF
Coors Energy 23-25D (PR) - Wellbore #1 - MWD Survey	5,812.68	5,583.64	1,146.72	1,096.95	23.040	CC, ES
Coors Energy 23-25D (PR) - Wellbore #1 - MWD Survey	6,300.00	5,968.46	1,183.11	1,129.83	22.205	SF
Coors Energy 24-25 (PR) - Wellbore #1 - Gyro Surveys	6,497.45	5,969.87	2,259.75	2,212.42	47.752	CC
Coors Energy 24-25 (PR) - Wellbore #1 - MWD Surveys	6,500.00	5,971.99	2,259.75	2,212.41	47.731	ES
Coors Energy 24-25 (PR) - Wellbore #1 - Gyro Surveys	6,700.00	6,162.25	2,288.14	2,239.34	46.885	SF
Coors Energy 25HD (PR) - Wellbore #1 - MWD Surveys	6,739.99	6,421.35	1,049.71	990.53	17.736	CC, ES
Coors Energy 25HD (PR) - Wellbore #1 - MWD Surveys	6,800.00	6,478.84	1,052.50	992.97	17.682	SF
Coors Energy 25LD (PR) - Wellbore #1 - MWD Surveys	6,580.84	6,117.85	2,109.95	2,062.44	44.407	CC, ES
Coors Energy 25LD (PR) - Wellbore #1 - MWD Surveys	6,750.00	6,255.75	2,134.24	2,085.55	43.833	SF
Coors Energy 25TD (PR) - Wellbore #1 - MWD Surveys	3,475.95	2,605.00	3,840.85	3,821.00	193.446	CC
Coors Energy 25TD (PR) - Wellbore #1 - MWD Surveys	3,500.00	2,614.73	3,840.91	3,820.93	192.176	ES
Coors Energy 25TD (PR) - Wellbore #1 - MWD Surveys	6,800.00	6,290.84	3,973.99	3,924.26	79.925	SF
Coors Energy 25XD (PR) - Wellbore #1 - MWD Surveys	3,351.36	2,797.24	3,772.65	3,750.03	166.770	CC
Coors Energy 25XD (PR) - Wellbore #1 - MWD Surveys	3,400.00	2,826.17	3,772.84	3,749.84	164.043	ES
Coors Energy 25XD (PR) - Wellbore #1 - MWD Surveys	6,300.00	6,300.00	4,378.48	4,324.54	81.168	SF
Coors Energy 25YD (PR) - Wellbore #1 - MWD Surveys	869.68	902.07	3,823.03	3,818.53	849.104	CC, ES
Coors Energy 25YD (PR) - Wellbore #1 - MWD Surveys	6,300.00	6,300.00	4,700.95	4,652.68	97.394	SF
Coors Energy 33-25D (PR) - Wellbore #1 - MWD Survey	5,233.02	5,325.00	2,366.54	2,321.39	52.414	CC, ES
Coors Energy 33-25D (PR) - Wellbore #1 - MWD Survey	6,600.00	6,269.59	2,552.06	2,495.86	45.410	SF
Coors Energy 34-25 (PR) - Wellbore #1 - Gyro Surveys	6,410.35	5,864.56	2,958.71	2,911.81	63.086	CC, ES
Coors Energy 34-25 (PR) - Wellbore #1 - Gyro Surveys	6,750.00	6,181.13	3,023.79	2,974.47	61.307	SF
Coors Energy 43-25D (PR) - Wellbore #1 - MWD Survey	3,983.79	3,983.79	3,374.23	3,340.18	99.095	CC
Coors Energy 43-25D (PR) - Wellbore #1 - MWD Survey	4,000.00	4,000.00	3,374.33	3,340.10	98.564	ES
Coors Energy 43-25D (PR) - Wellbore #1 - MWD Survey	6,900.00	6,595.91	3,928.72	3,870.35	67.301	SF
Coors Energy 44-25D (PR) - Wellbore #1 - MWD Survey	100.00	70.07	3,814.04	3,813.79	10,000.000	CC
Coors Energy 44-25D (PR) - Wellbore #1 - MWD Survey	3,422.26	2,700.00	3,827.32	3,806.60	184.683	ES
Coors Energy 44-25D (PR) - Wellbore #1 - MWD Survey	6,850.00	6,354.10	4,232.28	4,182.46	84.961	SF
Dalbey D 25-03 (SI) - Wellbore #1 - Gyro Surveys	1,449.35	1,422.36	384.88	375.12	39.436	CC
Dalbey D 25-03 (SI) - Wellbore #1 - Gyro Surveys	2,000.00	1,970.95	386.61	372.97	28.336	ES
Dalbey D 25-03 (SI) - Wellbore #1 - Gyro Surveys	9,100.00	6,605.63	1,084.35	1,032.23	20.807	SF
Dalbey D 25-05 (SI) - Wellbore #1 - Gyro Surveys	8,081.20	6,679.37	114.59	64.19	2.274	CC, ES, SF
Guttersen 11-25 (PR) - Wellbore #1 - MWD Surveys	9,418.67	6,660.14	87.14	34.60	1.658	CC, ES, SF
Guttersen 22-25 (PR) - Wellbore #1 - MWD Surveys	3,129.66	3,036.76	467.92	447.85	23.314	CC, ES
Guttersen 22-25 (PR) - Wellbore #1 - MWD Surveys	3,400.00	3,275.20	486.37	464.40	22.141	SF
Guttersen 25E (PR) - Wellbore #1 - MWD Surveys	10,014.48	6,660.48	314.80	259.35	5.677	CC, ES, SF
Guttersen 25KD (PR) - Wellbore #1 - MWD Surveys	5,100.00	4,976.66	248.64	209.76	6.394	SF
Guttersen 25KD (PR) - Wellbore #1 - MWD Surveys	5,104.11	4,980.14	248.64	209.75	6.395	CC, ES
Guttersen 25O (PR) - Wellbore #1 - MWD Surveys	3,508.27	3,383.86	1,170.99	1,148.05	51.035	CC, ES
Guttersen 25O (PR) - Wellbore #1 - MWD Surveys	7,700.00	6,652.98	1,952.21	1,902.54	39.299	SF
Guttersen D 25-17 (SI) - Wellbore #1 - Gyro Surveys	2,047.30	2,028.09	1,939.00	1,924.97	138.207	CC, ES
Guttersen D 25-17 (SI) - Wellbore #1 - Gyro Surveys	9,200.00	6,724.54	3,217.53	3,164.34	60.499	SF
Guttersen D25-715 - Wellbore #1 - Plan #1	2,000.00	1,986.00	2,332.79	2,318.96	168.765	CC, ES
Guttersen D25-715 - Wellbore #1 - Plan #1	20,362.10	20,122.55	4,310.62	4,094.12	19.911	SF
Guttersen D25-724 - Wellbore #1 - Plan #1	2,000.00	1,985.00	2,296.27	2,282.46	166.167	CC, ES
Guttersen D25-724 - Wellbore #1 - Plan #1	20,362.10	19,964.98	3,711.69	3,495.29	17.152	SF
Guttersen D25-734 - Wellbore #1 - Plan #1	2,000.00	1,985.00	2,259.78	2,245.97	163.526	CC, ES
Guttersen D25-734 - Wellbore #1 - Plan #1	20,362.10	19,985.45	3,084.61	2,868.19	14.253	SF
Guttersen D25-743 - Wellbore #1 - Plan #1	2,000.00	1,985.00	2,223.33	2,209.51	160.888	CC
Guttersen D25-743 - Wellbore #1 - Plan #1	2,900.00	3,212.39	2,227.60	2,206.68	106.492	ES
Guttersen D25-743 - Wellbore #1 - Plan #1	20,362.10	20,120.83	2,449.30	2,233.27	11.338	SF

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

**Noble Energy, Inc.**  
Anticollision Summary Report

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Guttersten D25-781
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	KB @ 4817.00ft
<b>Reference Site:</b>	D Section 25	<b>MD Reference:</b>	KB @ 4817.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Guttersten D25-781	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDMP
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	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 25						
Guttersten D25-753 - Wellbore #1 - Plan #1	2,000.00	2,000.00	112.50	98.63	8.109	CC, ES
Guttersten D25-753 - Wellbore #1 - Plan #1	2,200.00	2,193.40	116.20	101.03	7.663	SF
Guttersten D25-762 - Wellbore #1 - Plan #1	2,000.00	2,000.00	75.00	61.13	5.406	CC
Guttersten D25-762 - Wellbore #1 - Plan #1	2,100.00	2,098.27	75.61	61.06	5.198	ES
Guttersten D25-762 - Wellbore #1 - Plan #1	2,200.00	2,196.51	77.55	62.37	5.109	SF
Guttersten D25-772 - Wellbore #1 - Plan #1	2,000.00	1,999.00	37.50	23.63	2.704	CC
Guttersten D25-772 - Wellbore #1 - Plan #1	2,100.00	2,098.44	37.71	23.16	2.592	ES
Guttersten D25-772 - Wellbore #1 - Plan #1	2,200.00	2,197.89	38.52	23.32	2.535	SF
Guttersten State D36-714 - Wellbore #1 - Plan #1	2,000.00	1,985.00	2,303.61	2,289.79	166.698	CC, ES
Guttersten State D36-714 - Wellbore #1 - Plan #1	7,450.00	5,961.91	4,336.46	4,289.26	91.874	SF
Guttersten State D36-724 - Wellbore #1 - Plan #1	2,000.00	1,986.00	2,266.62	2,252.80	163.978	CC, ES
Guttersten State D36-724 - Wellbore #1 - Plan #1	6,800.00	7,359.76	3,683.15	3,629.86	69.125	SF
Guttersten State D36-733 - Wellbore #1 - Plan #1	2,000.00	1,985.00	2,229.65	2,215.83	161.346	CC, ES
Guttersten State D36-733 - Wellbore #1 - Plan #1	6,800.00	7,363.14	3,064.86	3,011.22	57.136	SF
Guttersten State D36-743 - Wellbore #1 - Plan #1	2,870.56	3,283.76	2,176.51	2,155.57	103.949	CC
Guttersten State D36-743 - Wellbore #1 - Plan #1	2,900.00	3,312.26	2,176.62	2,155.48	102.940	ES
Guttersten State D36-743 - Wellbore #1 - Plan #1	6,750.00	7,441.82	2,444.64	2,390.12	44.839	SF
Guttersten State D36-752 - Wellbore #1 - Plan #1	2,000.00	2,000.00	187.50	180.57	27.032	CC, ES
Guttersten State D36-752 - Wellbore #1 - Plan #1	2,200.00	2,199.63	194.53	186.93	25.587	SF
Guttersten State D36-762 - Wellbore #1 - Plan #1	2,000.00	2,000.00	167.71	153.83	12.089	CC, ES
Guttersten State D36-762 - Wellbore #1 - Plan #1	2,200.00	2,199.63	176.00	160.74	11.537	SF
Guttersten State D36-771 - Wellbore #1 - Plan #1	2,000.00	2,000.00	154.62	140.75	11.146	CC, ES
Guttersten State D36-771 - Wellbore #1 - Plan #1	2,200.00	2,199.63	164.08	148.82	10.755	SF
Guttersten State D36-781 - Wellbore #1 - Plan #1	7,505.02	7,129.05	85.14	28.89	1.514	CC, ES, SF
Karch Blue D 25-02 (DA) - Wellbore #1 - No Surveys	2,000.00	1,944.00	1,547.25	1,501.44	33.771	CC
Karch Blue D 25-02 (DA) - Wellbore #1 - No Surveys	2,100.00	2,043.95	1,549.49	1,501.33	32.176	ES
Karch Blue D 25-02 (DA) - Wellbore #1 - No Surveys	9,500.00	6,621.00	2,716.62	2,553.23	16.627	SF
Karch Blue D 25-08 (SI) - Wellbore #1 - Gyro Surveys	2,017.56	1,976.90	2,775.22	2,761.49	202.138	CC, ES
Karch Blue D 25-08 (SI) - Wellbore #1 - Gyro Surveys	8,600.00	6,695.31	4,035.72	3,983.96	77.970	SF
Karch Blue D25-07 (SI) - Wellbore #1 - Gyro Surveys	2,138.54	2,110.68	1,524.62	1,510.01	104.321	CC
Karch Blue D25-07 (SI) - Wellbore #1 - Gyro Surveys	2,200.00	2,168.53	1,524.85	1,509.83	101.540	ES
Karch Blue D25-07 (SI) - Wellbore #1 - Gyro Surveys	8,300.00	6,620.91	2,687.05	2,636.17	52.818	SF
L F Ranch 2-25 (PR) - Wellbore #1 - Gyro Surveys	100.00	41.28	2,746.63	2,746.43	10,000.000	CC
L F Ranch 2-25 (PR) - Wellbore #1 - Gyro Surveys	2,000.00	1,933.95	2,753.32	2,739.79	203.489	ES
L F Ranch 2-25 (PR) - Wellbore #1 - Gyro Surveys	10,300.00	6,651.23	4,109.22	4,052.32	72.214	SF
LF Ranches 1 (PA) - Wellbore #1 - No Surveys	2,000.00	1,948.00	2,407.63	2,361.74	52.458	CC
LF Ranches 1 (PA) - Wellbore #1 - No Surveys	2,100.00	2,047.95	2,409.35	2,361.12	49.949	ES
LF Ranches 1 (PA) - Wellbore #1 - No Surveys	9,300.00	6,625.00	3,712.89	3,550.14	22.814	SF

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

**Noble Energy, Inc.**  
Anticollision Summary Report

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Guttersen D25-781
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	KB @ 4817.00ft
<b>Reference Site:</b>	D Section 25	<b>MD Reference:</b>	KB @ 4817.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Guttersen D25-781	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDMP
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	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 26						
Adam Red D 26-11 (PR) - Wellbore #1 - Gyro Surveys	7,320.63	6,765.54	4,096.47	4,046.00	81.170	CC, ES
Adam Red D 26-11 (PR) - Wellbore #1 - Gyro Surveys	7,350.00	6,773.11	4,096.82	4,046.34	81.157	SF
Adam Red D 26-12 (PR) - Wellbore #1 - Gyro Surveys	7,350.54	6,655.77	5,283.81	5,226.75	92.588	CC, ES
Adam Red D 26-12 (PR) - Wellbore #1 - Gyro Surveys	7,450.00	6,683.82	5,287.27	5,230.09	92.463	SF
Adam Red D 26-13 (PR) - Wellbore #1 - Gyro Surveys	7,091.03	6,515.08	5,341.90	5,292.59	108.346	CC, ES
Adam Red D 26-13 (PR) - Wellbore #1 - Gyro Surveys	7,300.00	6,647.17	5,359.06	5,309.31	107.723	SF
Adam Red D 26-14 (PR) - Wellbore #1 - Gyro Surveys	7,022.99	6,515.97	4,063.54	4,010.56	76.694	CC, ES
Adam Red D 26-14 (PR) - Wellbore #1 - Gyro Surveys	7,250.00	6,657.40	4,087.10	4,033.32	76.007	SF
Coors Energy 14-25H (PR) - Wellbore #1 - MWD Survey	6,829.93	6,852.37	1,177.22	1,131.68	25.855	CC, ES
Coors Energy 14-25H (PR) - Wellbore #1 - MWD Survey	6,950.00	6,850.48	1,195.08	1,147.64	25.192	SF
Heyde 1-26 (PR) - Wellbore #1 - Gyro Surveys	9,052.62	6,665.59	1,545.22	1,492.58	29.354	CC, ES
Heyde 1-26 (PR) - Wellbore #1 - Gyro Surveys	9,200.00	6,665.31	1,552.24	1,499.16	29.243	SF
Heyde 26ND (PR) - Wellbore #1 - MWD Surveys	8,689.95	6,902.67	3,111.81	3,057.49	57.290	CC
Heyde 26ND (PR) - Wellbore #1 - MWD Surveys	8,700.00	6,902.64	3,111.82	3,057.47	57.252	ES
Heyde 26ND (PR) - Wellbore #1 - MWD Surveys	9,700.00	6,899.42	3,271.62	3,212.44	55.279	SF
Heyde 26RD (PR) - Wellbore #1 - MWD Surveys	9,960.31	6,761.61	1,842.78	1,784.31	31.518	CC, ES
Heyde 26RD (PR) - Wellbore #1 - MWD Surveys	10,300.00	6,757.76	1,873.82	1,813.46	31.040	SF
Heyde 26VD (PR) - Wellbore #1 - MWD Surveys	8,680.46	6,803.54	625.99	571.55	11.498	CC, ES
Heyde 26VD (PR) - Wellbore #1 - MWD Surveys	8,800.00	6,799.01	637.28	581.36	11.397	SF
Heyde 31-26 (PR) - Wellbore #1 - No Surveys	9,336.03	6,698.53	2,803.48	2,749.89	52.309	CC, ES
Heyde 31-26 (PR) - Wellbore #1 - No Surveys	9,900.00	6,699.28	2,859.65	2,803.85	51.256	SF
Heyde 32-26 (SI) - Wellbore #1 - Gyro Surveys	8,040.41	6,759.00	2,644.37	2,593.52	52.008	CC, ES, SF
Heyde 41-26 (PR) - Wellbore #1 - Gyro Surveys	9,542.71	6,682.97	1,168.57	1,114.26	21.519	CC, ES
Heyde 41-26 (PR) - Wellbore #1 - Gyro Surveys	9,600.00	6,681.50	1,169.97	1,115.42	21.448	SF
Heyde 42-26 (PR) - Wellbore #1 - Gyro Surveys	8,086.01	6,678.18	1,240.88	1,190.09	24.428	CC, ES, SF
HSR-Waste Services 10-26 (SI) - Wellbore #1 - No Surve	7,131.13	6,555.24	2,463.92	2,306.06	15.608	CC
HSR-Waste Services 10-26 (SI) - Wellbore #1 - No Surve	7,150.00	6,567.17	2,464.08	2,305.99	15.586	ES
HSR-Waste Services 10-26 (SI) - Wellbore #1 - No Surve	7,250.00	6,623.02	2,470.46	2,311.30	15.523	SF
HSR-Waste Services 15-26 (SI) - Wellbore #1 - No Surve	6,924.63	6,416.33	3,079.68	2,925.53	19.979	CC
HSR-Waste Services 15-26 (SI) - Wellbore #1 - No Surve	6,950.00	6,437.45	3,080.01	2,925.41	19.923	ES
HSR-Waste Services 15-26 (SI) - Wellbore #1 - No Surve	7,150.00	6,583.17	3,106.55	2,948.97	19.713	SF
HSR-Waste Services 16-26 (SI) - Wellbore #1 - Gyro Su	6,805.59	6,303.78	2,087.19	2,040.26	44.479	CC, ES
HSR-Waste Services 16-26 (SI) - Wellbore #1 - Gyro Su	6,950.00	6,418.72	2,101.60	2,054.01	44.160	SF
HSR-Waste Services 9-26 (PA) - Wellbore #1 - Gyro Sur	7,094.28	6,524.09	1,264.69	1,215.49	25.704	CC, ES
HSR-Waste Services 9-26 (PA) - Wellbore #1 - Gyro Sur	7,100.00	6,527.84	1,264.71	1,215.50	25.699	SF
Waste Management 11-26 (PR) - Wellbore #1 - Gyro Sur	9,256.12	6,535.64	5,223.75	5,170.66	98.387	CC, ES
Waste Management 11-26 (PR) - Wellbore #1 - Gyro Sur	11,600.00	6,492.56	5,725.32	5,661.56	89.799	SF
Waste Management 12-26 (PR) - Wellbore #1 - Gyro Sur	7,957.14	6,693.96	5,283.95	5,233.17	104.061	CC, ES
Waste Management 12-26 (PR) - Wellbore #1 - Gyro Sur	10,300.00	6,581.64	5,779.06	5,722.05	101.367	SF
Waste Management 12-26A (PR) - Wellbore #1 - Gyro S	8,519.01	6,684.91	4,639.66	4,588.24	90.234	CC, ES
Waste Management 12-26A (PR) - Wellbore #1 - Gyro S	10,300.00	6,580.16	4,968.83	4,911.58	86.782	SF
Waste Management 21-26 (PR) - Wellbore #1 - Gyro Sur	9,465.76	6,751.62	3,760.15	3,706.00	69.446	CC, ES
Waste Management 21-26 (PR) - Wellbore #1 - Gyro Sur	10,600.00	6,736.95	3,927.47	3,868.40	66.482	SF
Waste Management 22-26 (PR) - Wellbore #1 - Gyro Sur	8,009.00	6,767.61	3,879.76	3,828.85	76.214	CC, ES
Waste Management 22-26 (PR) - Wellbore #1 - Gyro Sur	8,300.00	6,766.37	3,890.66	3,839.58	76.181	SF
Waste Management 26FD (PR) - Wellbore #1 - MWD Su	8,668.48	6,845.20	5,778.45	5,725.50	109.138	CC, ES
Waste Management 26FD (PR) - Wellbore #1 - MWD Su	11,900.00	6,880.10	6,620.56	6,552.40	97.134	SF
Waste Management 26KD (PR) - Wellbore #1 - MWD Su	7,500.00	6,704.30	4,550.48	4,492.79	78.882	SF
Waste Management 26KD (PR) - Wellbore #1 - MWD Su	7,524.34	6,705.69	4,550.28	4,492.60	78.889	CC, ES
Waste Management D 26-25 (SI) - Wellbore #1 - Gyro S	7,170.00	6,690.95	4,548.98	4,499.07	91.157	CC, ES
Waste Management D 26-25 (SI) - Wellbore #1 - Gyro S	7,300.00	6,772.11	4,555.76	4,505.64	90.899	SF
Waste Management 26JD (PR) - Wellbore #1 - MWD Sur	9,946.37	6,758.52	4,511.45	4,451.77	75.593	CC, ES
Waste Mangement 26JD (PR) - Wellbore #1 - MWD Sur	11,600.00	6,760.74	4,804.96	4,736.37	70.054	SF

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

**Noble Energy, Inc.**  
Anticollision Summary Report

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Guttersen D25-781
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	KB @ 4817.00ft
<b>Reference Site:</b>	D Section 25	<b>MD Reference:</b>	KB @ 4817.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Guttersen D25-781	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDMP
<b>Reference Design:</b>	Plan #1	<b>Offset TVD Reference:</b>	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						

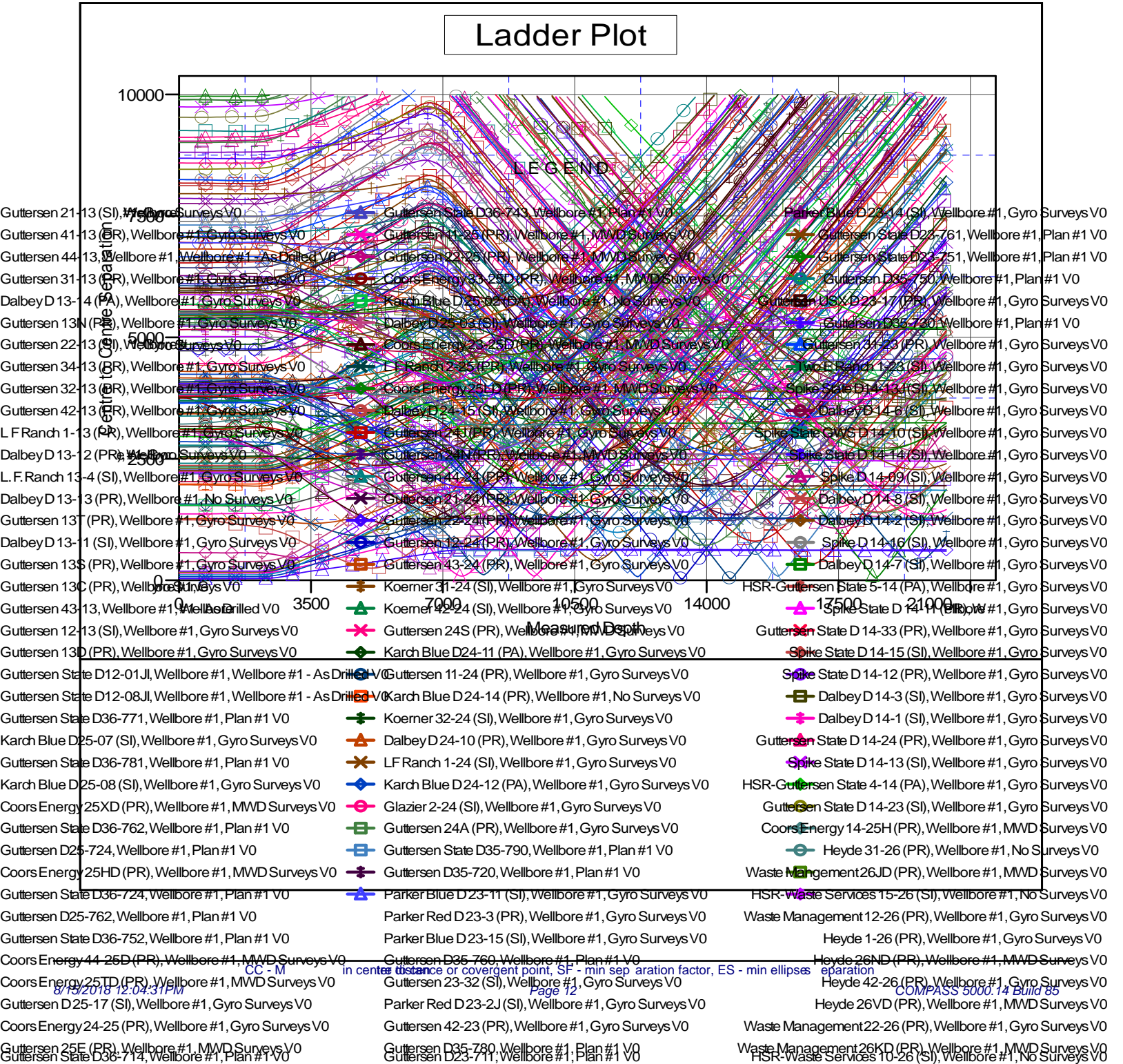


Noble Energy, Inc.  
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D25-781
Project:	Mustang	TVD Reference:	KB @ 4817.00ft
Reference Site:	D Section 25	MD Reference:	KB @ 4817.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D25-781	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 @ 4817.00ft  
Offset Depths are relative to Offset Datum  
Central Meridian is -105.5000000

Coordinates are relative to: Guttersen D25-781  
Coordinate System is US State Plane 1983, Colorado Northern Zone  
Grid Convergence at Surface is: 0.64°



Noble Energy, Inc.  
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D25-781
Project:	Mustang	TVD Reference:	KB @ 4817.00ft
Reference Site:	D Section 25	MD Reference:	KB @ 4817.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D25-781	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 @ 4817.00ft  
Offset Depths are relative to Offset Datum  
Central Meridian is -105.5000000

Coordinates are relative to: Guttersen D25-781  
Coordinate System is US State Plane 1983, Colorado Northern Zone  
Grid Convergence at Surface is: 0.64°

