

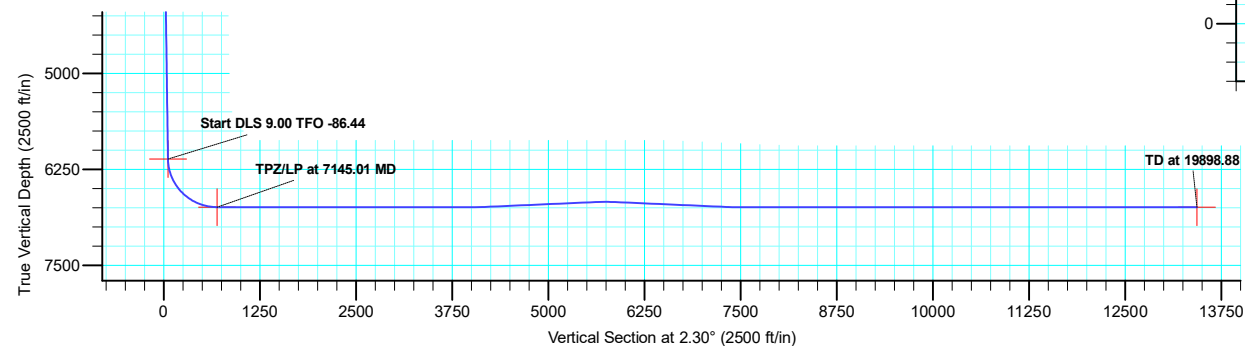
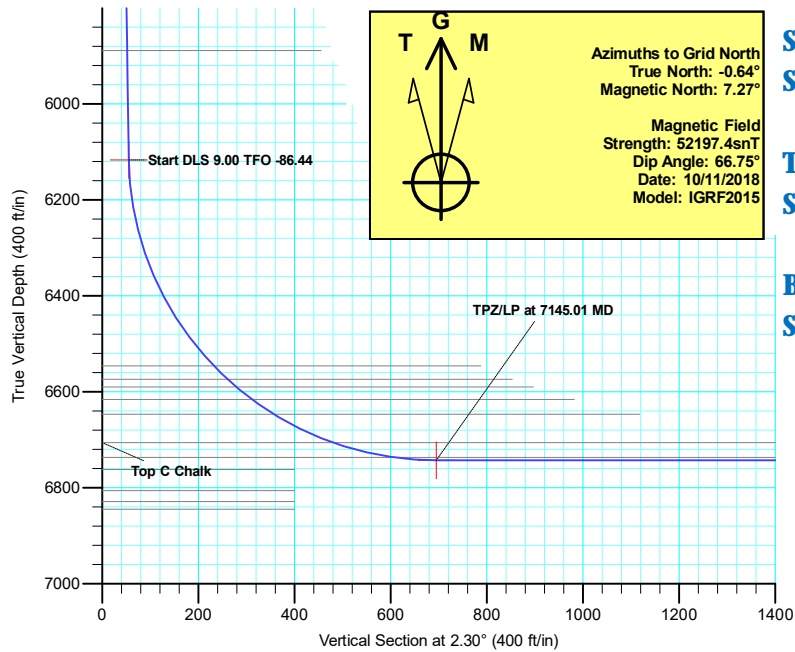
Project: Mustang  
Site: D Section 01  
Well: Guttersen State C36-755  
Wellbore: Wellbore #1  
Design: Plan #1

# 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

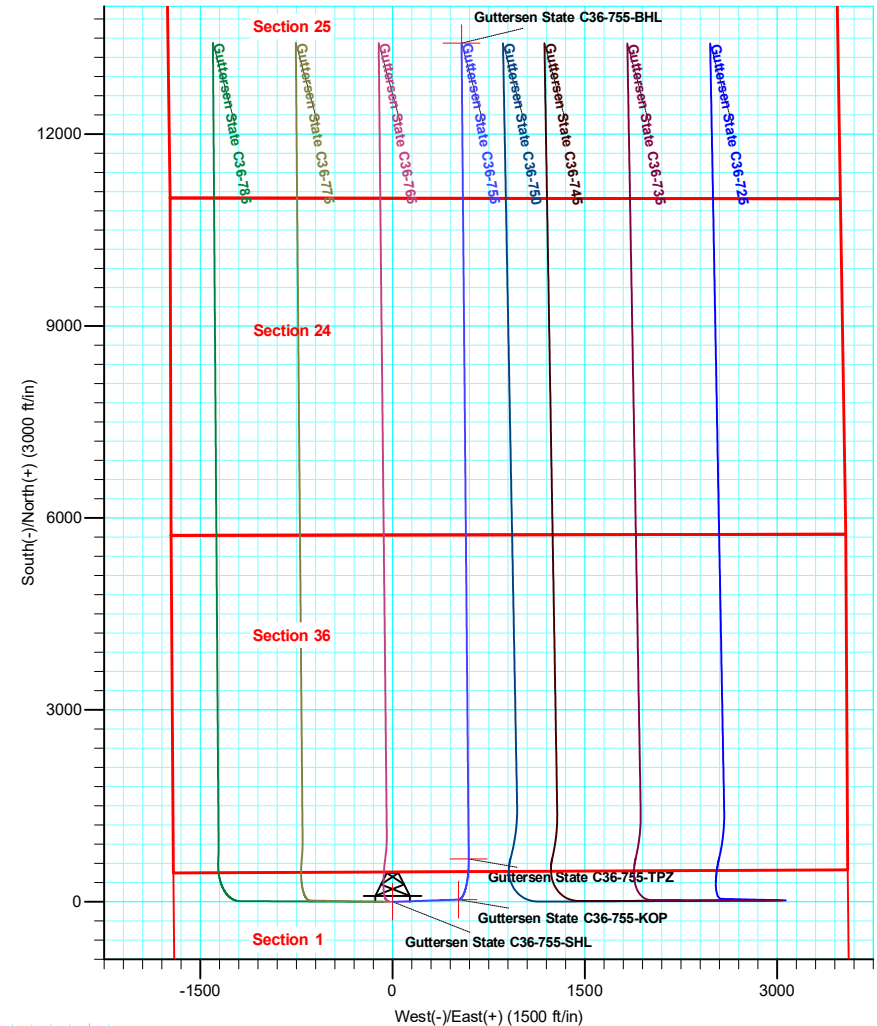
## SECTION DETAILS

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	2374.43	7.49	86.16	2373.36	1.64	24.38	2.00	86.16	2.61	
4	6150.21	7.49	86.16	6116.94	34.62	515.36	0.00	0.00	55.27	
5	7145.01	90.00	359.75	6743.00	671.57	594.71	9.00	-86.44	694.89	Guttersen State C36-755-TPZ
6	10500.00	90.00	359.75	6743.00	4026.53	580.02	0.00	0.00	4046.56	
7	10625.00	92.50	359.75	6740.27	4151.49	579.48	2.00	0.00	4171.39	Guttersen State C36-755-BHL
8	12075.00	92.50	359.75	6677.03	5600.09	573.14	0.00	0.00	5618.58	
9	12325.00	87.50	359.75	6677.03	5850.01	572.04	2.00	180.00	5868.25	Guttersen State C36-755-BHL
10	13775.00	87.50	359.75	6740.27	7298.62	565.70	0.00	0.00	7315.44	
11	13900.00	90.00	359.75	6743.00	7423.58	565.16	2.00	0.00	7440.27	
12	19898.88	90.00	359.75	6743.00	13422.40	538.90	0.00	0.00	13433.21	Guttersen State C36-755-BHL



## WELL DETAILS: Guttersen State C36-755

	Northing	Ground Level:	4746.00	Longitude
0.00	0.00	Easting	3278319.80	-104.5027160
		Latitude	40.2604480	



Plan: Plan #1 (Guttersen State C36-755/Wellbore #1)

Created By: Chad Stich Date: 10:40, October 12 2018

Checked: \_\_\_\_\_ Date: \_\_\_\_\_

Reviewed: \_\_\_\_\_ Date: \_\_\_\_\_

Approved: \_\_\_\_\_ Date: \_\_\_\_\_

# **Northern Region - DJ Basin**

**Mustang**

**D Section 01**

**Guttersen State C36-755**

**Wellbore #1**

**Plan: Plan #1**

## **Standard Planning Report**

**12 October, 2018**

# Noble Energy, Inc.

## Planning Report

<b>Database:</b>	EDMP	<b>Local Co-ordinate Reference:</b>	Well Guttersen State C36-755
<b>Company:</b>	Northern Region - DJ Basin	<b>TVD Reference:</b>	KB @ 4776.00ft
<b>Project:</b>	Mustang	<b>MD Reference:</b>	KB @ 4776.00ft
<b>Site:</b>	D Section 01	<b>North Reference:</b>	Grid
<b>Well:</b>	Guttersen State C36-755	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1		

<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		

<b>Site</b>	D Section 01			
<b>Site Position:</b>		<b>Northing:</b>	1,336,284.99 usft	<b>Latitude:</b> 40.2522405
<b>From:</b> Map		<b>Easting:</b>	3,277,182.91 usft	<b>Longitude:</b> -104.5069099
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b> 0.64 °

<b>Well</b>	Guttersen State C36-755			
<b>Well Position</b>	<b>+N/-S</b>	3,002.86 ft	<b>Northing:</b>	1,339,287.84 usft
	<b>+E/-W</b>	1,136.90 ft	<b>Easting:</b>	3,278,319.81 usft
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>	<b>Ground Level:</b> 4,746.00 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	10/11/2018	7.92	66.75	52,197.36938438

<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	2.30

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,374.43	7.49	86.16	2,373.36	1.64	24.38	2.00	2.00	0.00	86.16	
6,150.21	7.49	86.16	6,116.94	34.62	515.36	0.00	0.00	0.00	0.00	
7,145.01	90.00	359.75	6,743.00	671.57	594.71	9.00	8.29	-8.69	-86.44	Guttersen State C36-
10,500.00	90.00	359.75	6,743.00	4,026.53	580.02	0.00	0.00	0.00	0.00	
10,625.00	92.50	359.75	6,740.27	4,151.49	579.48	2.00	2.00	0.00	0.00	Guttersen State C36-
12,075.00	92.50	359.75	6,677.03	5,600.09	573.14	0.00	0.00	0.00	0.00	
12,325.00	87.50	359.75	6,677.03	5,850.01	572.04	2.00	-2.00	0.00	180.00	Guttersen State C36-
13,775.00	87.50	359.75	6,740.27	7,298.62	565.70	0.00	0.00	0.00	0.00	
13,900.00	90.00	359.75	6,743.00	7,423.58	565.16	2.00	2.00	0.00	0.00	
19,898.88	90.00	359.75	6,743.00	13,422.40	538.90	0.00	0.00	0.00	0.00	Guttersen State C36-

# Noble Energy, Inc.

## Planning Report

<b>Database:</b>	EDMP	<b>Local Co-ordinate Reference:</b>	Well Guttersen State C36-755
<b>Company:</b>	Northern Region - DJ Basin	<b>TVD Reference:</b>	KB @ 4776.00ft
<b>Project:</b>	Mustang	<b>MD Reference:</b>	KB @ 4776.00ft
<b>Site:</b>	D Section 01	<b>North Reference:</b>	Grid
<b>Well:</b>	Guttersen State C36-755	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1		

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
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	86.16	2,099.98	0.12	1.74	0.19	2.00	2.00	0.00
2,200.00	4.00	86.16	2,199.84	0.47	6.96	0.75	2.00	2.00	0.00
2,300.00	6.00	86.16	2,299.45	1.05	15.66	1.68	2.00	2.00	0.00
2,374.43	7.49	86.16	2,373.36	1.64	24.38	2.61	2.00	2.00	0.00
2,400.00	7.49	86.16	2,398.72	1.86	27.70	2.97	0.00	0.00	0.00
2,500.00	7.49	86.16	2,497.86	2.73	40.71	4.37	0.00	0.00	0.00
2,600.00	7.49	86.16	2,597.01	3.61	53.71	5.76	0.00	0.00	0.00
2,700.00	7.49	86.16	2,696.16	4.48	66.71	7.15	0.00	0.00	0.00
2,800.00	7.49	86.16	2,795.31	5.36	79.72	8.55	0.00	0.00	0.00
2,900.00	7.49	86.16	2,894.45	6.23	92.72	9.94	0.00	0.00	0.00
3,000.00	7.49	86.16	2,993.60	7.10	105.73	11.34	0.00	0.00	0.00
3,100.00	7.49	86.16	3,092.75	7.98	118.73	12.73	0.00	0.00	0.00
3,200.00	7.49	86.16	3,191.89	8.85	131.73	14.13	0.00	0.00	0.00
3,300.00	7.49	86.16	3,291.04	9.72	144.74	15.52	0.00	0.00	0.00
3,400.00	7.49	86.16	3,390.19	10.60	157.74	16.92	0.00	0.00	0.00
3,500.00	7.49	86.16	3,489.33	11.47	170.74	18.31	0.00	0.00	0.00
3,600.00	7.49	86.16	3,588.48	12.34	183.75	19.71	0.00	0.00	0.00
3,700.00	7.49	86.16	3,687.63	13.22	196.75	21.10	0.00	0.00	0.00
3,800.00	7.49	86.16	3,786.78	14.09	209.75	22.49	0.00	0.00	0.00
3,900.00	7.49	86.16	3,885.92	14.96	222.76	23.89	0.00	0.00	0.00
4,000.00	7.49	86.16	3,985.07	15.84	235.76	25.28	0.00	0.00	0.00
4,100.00	7.49	86.16	4,084.22	16.71	248.76	26.68	0.00	0.00	0.00
4,200.00	7.49	86.16	4,183.36	17.59	261.77	28.07	0.00	0.00	0.00
4,300.00	7.49	86.16	4,282.51	18.46	274.77	29.47	0.00	0.00	0.00
4,400.00	7.49	86.16	4,381.66	19.33	287.77	30.86	0.00	0.00	0.00
4,500.00	7.49	86.16	4,480.81	20.21	300.78	32.26	0.00	0.00	0.00
4,600.00	7.49	86.16	4,579.95	21.08	313.78	33.65	0.00	0.00	0.00
4,700.00	7.49	86.16	4,679.10	21.95	326.78	35.05	0.00	0.00	0.00
4,800.00	7.49	86.16	4,778.25	22.83	339.79	36.44	0.00	0.00	0.00
4,900.00	7.49	86.16	4,877.39	23.70	352.79	37.83	0.00	0.00	0.00
5,000.00	7.49	86.16	4,976.54	24.57	365.79	39.23	0.00	0.00	0.00
5,100.00	7.49	86.16	5,075.69	25.45	378.80	40.62	0.00	0.00	0.00
5,200.00	7.49	86.16	5,174.84	26.32	391.80	42.02	0.00	0.00	0.00

# Noble Energy, Inc.

## Planning Report

<b>Database:</b>	EDMP	<b>Local Co-ordinate Reference:</b>	Well Guttersten State C36-755
<b>Company:</b>	Northern Region - DJ Basin	<b>TVD Reference:</b>	KB @ 4776.00ft
<b>Project:</b>	Mustang	<b>MD Reference:</b>	KB @ 4776.00ft
<b>Site:</b>	D Section 01	<b>North Reference:</b>	Grid
<b>Well:</b>	Guttersten State C36-755	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1		

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	7.49	86.16	5,273.98	27.19	404.81	43.41	0.00	0.00	0.00
5,400.00	7.49	86.16	5,373.13	28.07	417.81	44.81	0.00	0.00	0.00
5,500.00	7.49	86.16	5,472.28	28.94	430.81	46.20	0.00	0.00	0.00
5,600.00	7.49	86.16	5,571.42	29.82	443.82	47.60	0.00	0.00	0.00
5,700.00	7.49	86.16	5,670.57	30.69	456.82	48.99	0.00	0.00	0.00
5,800.00	7.49	86.16	5,769.72	31.56	469.82	50.39	0.00	0.00	0.00
5,900.00	7.49	86.16	5,868.87	32.44	482.83	51.78	0.00	0.00	0.00
6,000.00	7.49	86.16	5,968.01	33.31	495.83	53.17	0.00	0.00	0.00
6,100.00	7.49	86.16	6,067.16	34.18	508.83	54.57	0.00	0.00	0.00
6,150.21	7.49	86.16	6,116.94	34.62	515.36	55.27	0.00	0.00	0.00
6,200.00	8.96	56.10	6,166.24	37.00	521.82	57.91	9.00	2.95	-60.37
6,250.00	12.03	37.76	6,215.41	43.29	528.24	64.45	9.00	6.14	-36.68
6,300.00	15.79	27.39	6,263.95	53.46	534.57	74.86	9.00	7.53	-20.74
6,350.00	19.86	21.05	6,311.54	67.43	540.75	89.07	9.00	8.13	-12.68
6,400.00	24.07	16.83	6,357.90	85.12	546.75	106.99	9.00	8.43	-8.45
6,450.00	28.37	13.81	6,402.75	106.43	552.54	128.51	9.00	8.60	-6.04
6,500.00	32.72	11.53	6,445.80	131.22	558.08	153.51	9.00	8.70	-4.55
6,550.00	37.10	9.74	6,486.79	159.34	563.34	181.81	9.00	8.76	-3.59
6,600.00	41.51	8.27	6,525.47	190.62	568.28	213.26	9.00	8.81	-2.93
6,650.00	45.93	7.05	6,561.60	224.86	572.87	247.66	9.00	8.84	-2.46
6,700.00	50.36	5.99	6,594.96	261.85	577.08	284.79	9.00	8.86	-2.11
6,750.00	54.80	5.06	6,625.34	301.36	580.89	324.42	9.00	8.88	-1.86
6,800.00	59.24	4.23	6,652.55	343.15	584.28	366.32	9.00	8.89	-1.67
6,850.00	63.69	3.47	6,676.43	386.97	587.22	410.22	9.00	8.90	-1.52
6,900.00	68.15	2.77	6,696.83	432.54	589.70	455.85	9.00	8.91	-1.41
6,950.00	72.60	2.11	6,713.62	479.58	591.69	502.93	9.00	8.91	-1.32
7,000.00	77.06	1.48	6,726.70	527.80	593.20	551.18	9.00	8.92	-1.26
7,050.00	81.52	0.87	6,735.98	576.91	594.20	600.28	9.00	8.92	-1.21
7,100.00	85.98	0.28	6,741.42	626.60	594.70	649.95	9.00	8.92	-1.19
7,145.01	90.00	359.75	6,743.00	671.57	594.71	694.89	9.00	8.92	-1.17
7,200.00	90.00	359.75	6,743.00	726.56	594.47	749.82	0.00	0.00	0.00
7,300.00	90.00	359.75	6,743.00	826.56	594.03	849.72	0.00	0.00	0.00
7,400.00	90.00	359.75	6,743.00	926.56	593.59	949.63	0.00	0.00	0.00
7,500.00	90.00	359.75	6,743.00	1,026.56	593.15	1,049.53	0.00	0.00	0.00
7,600.00	90.00	359.75	6,743.00	1,126.56	592.72	1,149.43	0.00	0.00	0.00
7,700.00	90.00	359.75	6,743.00	1,226.56	592.28	1,249.33	0.00	0.00	0.00
7,800.00	90.00	359.75	6,743.00	1,326.55	591.84	1,349.23	0.00	0.00	0.00
7,900.00	90.00	359.75	6,743.00	1,426.55	591.40	1,449.13	0.00	0.00	0.00
8,000.00	90.00	359.75	6,743.00	1,526.55	590.97	1,549.03	0.00	0.00	0.00
8,100.00	90.00	359.75	6,743.00	1,626.55	590.53	1,648.93	0.00	0.00	0.00
8,200.00	90.00	359.75	6,743.00	1,726.55	590.09	1,748.83	0.00	0.00	0.00
8,300.00	90.00	359.75	6,743.00	1,826.55	589.65	1,848.73	0.00	0.00	0.00
8,400.00	90.00	359.75	6,743.00	1,926.55	589.22	1,948.64	0.00	0.00	0.00
8,500.00	90.00	359.75	6,743.00	2,026.55	588.78	2,048.54	0.00	0.00	0.00
8,600.00	90.00	359.75	6,743.00	2,126.55	588.34	2,148.44	0.00	0.00	0.00
8,700.00	90.00	359.75	6,743.00	2,226.55	587.90	2,248.34	0.00	0.00	0.00
8,800.00	90.00	359.75	6,743.00	2,326.54	587.46	2,348.24	0.00	0.00	0.00
8,900.00	90.00	359.75	6,743.00	2,426.54	587.03	2,448.14	0.00	0.00	0.00
9,000.00	90.00	359.75	6,743.00	2,526.54	586.59	2,548.04	0.00	0.00	0.00
9,100.00	90.00	359.75	6,743.00	2,626.54	586.15	2,647.94	0.00	0.00	0.00
9,200.00	90.00	359.75	6,743.00	2,726.54	585.71	2,747.84	0.00	0.00	0.00
9,300.00	90.00	359.75	6,743.00	2,826.54	585.28	2,847.74	0.00	0.00	0.00
9,400.00	90.00	359.75	6,743.00	2,926.54	584.84	2,947.64	0.00	0.00	0.00
9,500.00	90.00	359.75	6,743.00	3,026.54	584.40	3,047.55	0.00	0.00	0.00

# Noble Energy, Inc.

## Planning Report

<b>Database:</b>	EDMP	<b>Local Co-ordinate Reference:</b>	Well Guttersten State C36-755
<b>Company:</b>	Northern Region - DJ Basin	<b>TVD Reference:</b>	KB @ 4776.00ft
<b>Project:</b>	Mustang	<b>MD Reference:</b>	KB @ 4776.00ft
<b>Site:</b>	D Section 01	<b>North Reference:</b>	Grid
<b>Well:</b>	Guttersten State C36-755	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1		

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)
9,600.00	90.00	359.75	6,743.00	3,126.54	583.96	3,147.45	0.00	0.00	0.00
9,700.00	90.00	359.75	6,743.00	3,226.54	583.53	3,247.35	0.00	0.00	0.00
9,800.00	90.00	359.75	6,743.00	3,326.54	583.09	3,347.25	0.00	0.00	0.00
9,900.00	90.00	359.75	6,743.00	3,426.53	582.65	3,447.15	0.00	0.00	0.00
10,000.00	90.00	359.75	6,743.00	3,526.53	582.21	3,547.05	0.00	0.00	0.00
10,100.00	90.00	359.75	6,743.00	3,626.53	581.77	3,646.95	0.00	0.00	0.00
10,200.00	90.00	359.75	6,743.00	3,726.53	581.34	3,746.85	0.00	0.00	0.00
10,300.00	90.00	359.75	6,743.00	3,826.53	580.90	3,846.75	0.00	0.00	0.00
10,400.00	90.00	359.75	6,743.00	3,926.53	580.46	3,946.65	0.00	0.00	0.00
10,500.00	90.00	359.75	6,743.00	4,026.53	580.02	4,046.56	0.00	0.00	0.00
10,600.00	92.00	359.75	6,741.25	4,126.51	579.59	4,146.44	2.00	2.00	0.00
10,625.00	92.50	359.75	6,740.27	4,151.49	579.48	4,171.39	2.00	2.00	0.00
10,700.00	92.50	359.75	6,737.00	4,226.42	579.15	4,246.25	0.00	0.00	0.00
10,800.00	92.50	359.75	6,732.64	4,326.32	578.71	4,346.05	0.00	0.00	0.00
10,900.00	92.50	359.75	6,728.28	4,426.22	578.27	4,445.86	0.00	0.00	0.00
11,000.00	92.50	359.75	6,723.92	4,526.13	577.84	4,545.66	0.00	0.00	0.00
11,100.00	92.50	359.75	6,719.55	4,626.03	577.40	4,645.47	0.00	0.00	0.00
11,200.00	92.50	359.75	6,715.19	4,725.93	576.96	4,745.28	0.00	0.00	0.00
11,300.00	92.50	359.75	6,710.83	4,825.84	576.53	4,845.08	0.00	0.00	0.00
11,400.00	92.50	359.75	6,706.47	4,925.74	576.09	4,944.89	0.00	0.00	0.00
11,500.00	92.50	359.75	6,702.11	5,025.65	575.65	5,044.69	0.00	0.00	0.00
11,600.00	92.50	359.75	6,697.74	5,125.55	575.21	5,144.50	0.00	0.00	0.00
11,700.00	92.50	359.75	6,693.38	5,225.45	574.78	5,244.31	0.00	0.00	0.00
11,800.00	92.50	359.75	6,689.02	5,325.36	574.34	5,344.11	0.00	0.00	0.00
11,900.00	92.50	359.75	6,684.66	5,425.26	573.90	5,443.92	0.00	0.00	0.00
12,000.00	92.50	359.75	6,680.30	5,525.17	573.46	5,543.72	0.00	0.00	0.00
12,075.00	92.50	359.75	6,677.03	5,600.09	573.14	5,618.58	0.00	0.00	0.00
12,100.00	92.00	359.75	6,676.04	5,625.07	573.03	5,643.53	2.00	-2.00	0.00
12,200.00	90.00	359.75	6,674.30	5,725.05	572.59	5,743.41	2.00	-2.00	0.00
12,300.00	88.00	359.75	6,676.04	5,825.03	572.15	5,843.30	2.00	-2.00	0.00
12,325.00	87.50	359.75	6,677.03	5,850.01	572.04	5,868.25	2.00	-2.00	0.00
12,400.00	87.50	359.75	6,680.30	5,924.94	571.71	5,943.11	0.00	0.00	0.00
12,500.00	87.50	359.75	6,684.66	6,024.84	571.28	6,042.91	0.00	0.00	0.00
12,600.00	87.50	359.75	6,689.02	6,124.75	570.84	6,142.72	0.00	0.00	0.00
12,700.00	87.50	359.75	6,693.38	6,224.65	570.40	6,242.52	0.00	0.00	0.00
12,800.00	87.50	359.75	6,697.74	6,324.56	569.97	6,342.33	0.00	0.00	0.00
12,900.00	87.50	359.75	6,702.11	6,424.46	569.53	6,442.14	0.00	0.00	0.00
13,000.00	87.50	359.75	6,706.47	6,524.36	569.09	6,541.94	0.00	0.00	0.00
13,100.00	87.50	359.75	6,710.83	6,624.27	568.65	6,641.75	0.00	0.00	0.00
13,200.00	87.50	359.75	6,715.19	6,724.17	568.22	6,741.55	0.00	0.00	0.00
13,300.00	87.50	359.75	6,719.55	6,824.07	567.78	6,841.36	0.00	0.00	0.00
13,400.00	87.50	359.75	6,723.92	6,923.98	567.34	6,941.16	0.00	0.00	0.00
13,500.00	87.50	359.75	6,728.28	7,023.88	566.90	7,040.97	0.00	0.00	0.00
13,600.00	87.50	359.75	6,732.64	7,123.79	566.47	7,140.78	0.00	0.00	0.00
13,700.00	87.50	359.75	6,737.00	7,223.69	566.03	7,240.58	0.00	0.00	0.00
13,775.00	87.50	359.75	6,740.27	7,298.62	565.70	7,315.44	0.00	0.00	0.00
13,800.00	88.00	359.75	6,741.25	7,323.60	565.59	7,340.39	2.00	2.00	0.00
13,900.00	90.00	359.75	6,743.00	7,423.58	565.16	7,440.27	2.00	2.00	0.00
14,000.00	90.00	359.75	6,743.00	7,523.58	564.72	7,540.17	0.00	0.00	0.00
14,100.00	90.00	359.75	6,743.00	7,623.58	564.28	7,640.08	0.00	0.00	0.00
14,200.00	90.00	359.75	6,743.00	7,723.57	563.84	7,739.98	0.00	0.00	0.00
14,300.00	90.00	359.75	6,743.00	7,823.57	563.40	7,839.88	0.00	0.00	0.00
14,400.00	90.00	359.75	6,743.00	7,923.57	562.97	7,939.78	0.00	0.00	0.00
14,500.00	90.00	359.75	6,743.00	8,023.57	562.53	8,039.68	0.00	0.00	0.00

# Noble Energy, Inc.

## Planning Report

<b>Database:</b>	EDMP	<b>Local Co-ordinate Reference:</b>	Well Guttersten State C36-755
<b>Company:</b>	Northern Region - DJ Basin	<b>TVD Reference:</b>	KB @ 4776.00ft
<b>Project:</b>	Mustang	<b>MD Reference:</b>	KB @ 4776.00ft
<b>Site:</b>	D Section 01	<b>North Reference:</b>	Grid
<b>Well:</b>	Guttersten State C36-755	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1		

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)
14,600.00	90.00	359.75	6,743.00	8,123.57	562.09	8,139.58	0.00	0.00	0.00
14,700.00	90.00	359.75	6,743.00	8,223.57	561.65	8,239.48	0.00	0.00	0.00
14,800.00	90.00	359.75	6,743.00	8,323.57	561.22	8,339.38	0.00	0.00	0.00
14,900.00	90.00	359.75	6,743.00	8,423.57	560.78	8,439.28	0.00	0.00	0.00
15,000.00	90.00	359.75	6,743.00	8,523.57	560.34	8,539.18	0.00	0.00	0.00
15,100.00	90.00	359.75	6,743.00	8,623.57	559.90	8,639.09	0.00	0.00	0.00
15,200.00	90.00	359.75	6,743.00	8,723.56	559.47	8,738.99	0.00	0.00	0.00
15,300.00	90.00	359.75	6,743.00	8,823.56	559.03	8,838.89	0.00	0.00	0.00
15,400.00	90.00	359.75	6,743.00	8,923.56	558.59	8,938.79	0.00	0.00	0.00
15,500.00	90.00	359.75	6,743.00	9,023.56	558.15	9,038.69	0.00	0.00	0.00
15,600.00	90.00	359.75	6,743.00	9,123.56	557.71	9,138.59	0.00	0.00	0.00
15,700.00	90.00	359.75	6,743.00	9,223.56	557.28	9,238.49	0.00	0.00	0.00
15,800.00	90.00	359.75	6,743.00	9,323.56	556.84	9,338.39	0.00	0.00	0.00
15,900.00	90.00	359.75	6,743.00	9,423.56	556.40	9,438.29	0.00	0.00	0.00
16,000.00	90.00	359.75	6,743.00	9,523.56	555.96	9,538.19	0.00	0.00	0.00
16,100.00	90.00	359.75	6,743.00	9,623.56	555.53	9,638.10	0.00	0.00	0.00
16,200.00	90.00	359.75	6,743.00	9,723.56	555.09	9,738.00	0.00	0.00	0.00
16,300.00	90.00	359.75	6,743.00	9,823.55	554.65	9,837.90	0.00	0.00	0.00
16,400.00	90.00	359.75	6,743.00	9,923.55	554.21	9,937.80	0.00	0.00	0.00
16,500.00	90.00	359.75	6,743.00	10,023.55	553.78	10,037.70	0.00	0.00	0.00
16,600.00	90.00	359.75	6,743.00	10,123.55	553.34	10,137.60	0.00	0.00	0.00
16,700.00	90.00	359.75	6,743.00	10,223.55	552.90	10,237.50	0.00	0.00	0.00
16,800.00	90.00	359.75	6,743.00	10,323.55	552.46	10,337.40	0.00	0.00	0.00
16,900.00	90.00	359.75	6,743.00	10,423.55	552.02	10,437.30	0.00	0.00	0.00
17,000.00	90.00	359.75	6,743.00	10,523.55	551.59	10,537.20	0.00	0.00	0.00
17,100.00	90.00	359.75	6,743.00	10,623.55	551.15	10,637.10	0.00	0.00	0.00
17,200.00	90.00	359.75	6,743.00	10,723.55	550.71	10,737.01	0.00	0.00	0.00
17,300.00	90.00	359.75	6,743.00	10,823.54	550.27	10,836.91	0.00	0.00	0.00
17,400.00	90.00	359.75	6,743.00	10,923.54	549.84	10,936.81	0.00	0.00	0.00
17,500.00	90.00	359.75	6,743.00	11,023.54	549.40	11,036.71	0.00	0.00	0.00
17,600.00	90.00	359.75	6,743.00	11,123.54	548.96	11,136.61	0.00	0.00	0.00
17,700.00	90.00	359.75	6,743.00	11,223.54	548.52	11,236.51	0.00	0.00	0.00
17,800.00	90.00	359.75	6,743.00	11,323.54	548.09	11,336.41	0.00	0.00	0.00
17,900.00	90.00	359.75	6,743.00	11,423.54	547.65	11,436.31	0.00	0.00	0.00
18,000.00	90.00	359.75	6,743.00	11,523.54	547.21	11,536.21	0.00	0.00	0.00
18,100.00	90.00	359.75	6,743.00	11,623.54	546.77	11,636.11	0.00	0.00	0.00
18,200.00	90.00	359.75	6,743.00	11,723.54	546.33	11,736.02	0.00	0.00	0.00
18,300.00	90.00	359.75	6,743.00	11,823.54	545.90	11,835.92	0.00	0.00	0.00
18,400.00	90.00	359.75	6,743.00	11,923.53	545.46	11,935.82	0.00	0.00	0.00
18,500.00	90.00	359.75	6,743.00	12,023.53	545.02	12,035.72	0.00	0.00	0.00
18,600.00	90.00	359.75	6,743.00	12,123.53	544.58	12,135.62	0.00	0.00	0.00
18,700.00	90.00	359.75	6,743.00	12,223.53	544.15	12,235.52	0.00	0.00	0.00
18,800.00	90.00	359.75	6,743.00	12,323.53	543.71	12,335.42	0.00	0.00	0.00
18,900.00	90.00	359.75	6,743.00	12,423.53	543.27	12,435.32	0.00	0.00	0.00
19,000.00	90.00	359.75	6,743.00	12,523.53	542.83	12,535.22	0.00	0.00	0.00
19,100.00	90.00	359.75	6,743.00	12,623.53	542.40	12,635.12	0.00	0.00	0.00
19,200.00	90.00	359.75	6,743.00	12,723.53	541.96	12,735.03	0.00	0.00	0.00
19,300.00	90.00	359.75	6,743.00	12,823.53	541.52	12,834.93	0.00	0.00	0.00
19,400.00	90.00	359.75	6,743.00	12,923.52	541.08	12,934.83	0.00	0.00	0.00
19,500.00	90.00	359.75	6,743.00	13,023.52	540.64	13,034.73	0.00	0.00	0.00
19,600.00	90.00	359.75	6,743.00	13,123.52	540.21	13,134.63	0.00	0.00	0.00
19,700.00	90.00	359.75	6,743.00	13,223.52	539.77	13,234.53	0.00	0.00	0.00
19,800.00	90.00	359.75	6,743.00	13,323.52	539.33	13,334.43	0.00	0.00	0.00
19,898.88	90.00	359.75	6,743.00	13,422.40	538.90	13,433.21	0.00	0.00	0.00

# Noble Energy, Inc.

## Planning Report

<b>Database:</b>	EDMP	<b>Local Co-ordinate Reference:</b>	Well Guttersten State C36-755
<b>Company:</b>	Northern Region - DJ Basin	<b>TVD Reference:</b>	KB @ 4776.00ft
<b>Project:</b>	Mustang	<b>MD Reference:</b>	KB @ 4776.00ft
<b>Site:</b>	D Section 01	<b>North Reference:</b>	Grid
<b>Well:</b>	Guttersten State C36-755	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1		

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)

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
Guttersten State C36-755 - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	1,339,287.84	3,278,319.81	40.2604480	-104.5027160
Guttersten State C36-755 - plan hits target center - Point	0.00	0.00	6,116.94	34.62	515.36	1,339,322.46	3,278,835.17	40.2605271	-104.5008681
Guttersten State C36-755 - plan hits target center - Point	0.00	0.00	6,743.00	13,422.40	538.90	1,352,710.21	3,278,858.70	40.2972745	-104.5002429
Guttersten State C36-755 - plan hits target center - Point	0.00	0.00	6,743.00	671.57	594.71	1,339,959.41	3,278,914.51	40.2622730	-104.5005581

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
332.00	332.00	Pierre				
606.00	606.00	Upper Pierre Aquifer Top				
1,540.00	1,540.00	Upper Pierre Aquifer Base				
2,664.54	2,661.00	Parkman				
3,975.72	3,961.00	Sussex				
4,820.93	4,799.00	Shannon				
5,920.31	5,889.00	Teepee Buttes				
6,627.95	6,546.00	Sharon Springs				
6,668.08	6,574.00	Top A Chalk				
6,692.28	6,590.00	Top A Marl				
6,734.08	6,616.00	Top B Chalk				
6,789.29	6,647.00	Top B Marl				
6,925.96	6,706.00	Top C Chalk				
7,057.17	6,737.00	Top C Marl				

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
2,000.00	2,000.00	0.00	0.00	Start Build 2.00
6,150.21	6,116.94	34.62	515.36	Start DLS 9.00 TFO -86.44
7,145.01	6,743.00	671.57	594.71	TPZ/LP at 7145.01 MD
19,898.88	6,743.00	13,422.40	538.90	TD at 19898.88



# **Northern Region - DJ Basin**

**Mustang**

**D Section 01**

**Guttersen State C36-755**

**Wellbore #1**

**Plan #1**

## **Anticollision Summary Report**

**12 October, 2018**

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

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Guttersten State C36-755
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	KB @ 4776.00ft
<b>Reference Site:</b>	D Section 01	<b>MD Reference:</b>	KB @ 4776.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Guttersten State C36-755	<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:	MD Interval 100.00ft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 10,000.00 ft	Error Surface:	Pedal Curve
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program		Date	10/11/2018		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.00	19,898.88	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
C Section 24						
Elise State C24-08 (TA) - Wellbore #1 - No Surveys	19,898.88	6,664.00	2,533.76	2,161.02	6.798	CC, ES, SF
Elise State C24-11 (PR) - Wellbore #1 - No Surveys	19,571.86	6,660.00	167.08	-207.13	0.446	Level 1, CC, ES, SF
Elise State C24-18 (SI) - Wellbore #1 - No Surveys	19,898.88	6,644.00	1,667.84	1,370.18	5.603	CC, ES, SF
Elise State C24-19 (SI) - Wellbore #1 - Gyro Surveys	19,898.88	6,673.69	1,778.34	1,687.39	19.554	CC, ES, SF
Elise State C24-20 (PR) - Wellbore #1 - No Surveys	19,898.88	6,680.00	1,051.99	677.73	2.811	CC, ES, SF
Elise State C24-21 (SI) - Wellbore #1 - No Surveys	19,898.88	6,657.00	512.28	152.57	1.424	Level 3, CC, ES, SF
Elise State C24-22 (PR) - Wellbore #1 - No Surveys	19,898.88	6,675.00	1,704.95	1,329.13	4.537	CC, ES, SF
Elise State C24-23 (PR) - Wellbore #1 - No Surveys	18,786.43	6,685.00	1,620.84	1,251.92	4.393	CC
Elise State C24-23 (PR) - Wellbore #1 - No Surveys	18,800.00	6,685.00	1,620.89	1,251.85	4.392	ES, SF
Elise State C24-24 (SI) - Wellbore #1 - No Surveys	18,772.85	6,677.00	187.95	-180.28	0.510	Level 1, CC, ES, SF
Spike ST GWS C24-05 (PR) - Wellbore #1 - Gyro Survey	19,898.88	6,651.17	1,822.83	1,698.86	14.704	CC, ES, SF
Spike ST GWS C24-07 (SI) - Wellbore #1 - Gyro Surveys	19,898.88	6,669.47	1,382.16	1,267.72	12.078	CC, ES, SF
Spike ST GWS C24-13 (PA) - Wellbore #1 - Gyro Survey	18,174.98	6,650.88	1,653.37	1,531.69	13.589	CC, ES
Spike ST GWS C24-13 (PA) - Wellbore #1 - Gyro Survey	18,300.00	6,652.62	1,658.09	1,535.85	13.565	SF
Spike ST GWS C24-14 (SI) - Wellbore #1 - Gyro Surveys	18,129.85	6,676.22	421.52	300.15	3.473	CC, ES, SF
Spike ST GWS C24-15 (PR) - Wellbore #1 - Gyro Survey	18,259.96	6,673.55	853.56	731.12	6.971	CC, ES
Spike ST GWS C24-15 (PR) - Wellbore #1 - Gyro Survey	18,300.00	6,674.36	854.50	731.73	6.960	SF
Spike ST GWS C24-16 (SI) - Wellbore #1 - Gyro Surveys	18,163.71	6,663.13	2,248.52	2,126.77	18.469	CC
Spike ST GWS C24-16 (SI) - Wellbore #1 - Gyro Surveys	18,200.00	6,664.72	2,248.81	2,126.74	18.423	ES
Spike ST GWS C24-16 (SI) - Wellbore #1 - Gyro Surveys	18,400.00	6,673.47	2,260.87	2,137.48	18.322	SF
Spike State GWS C24-01 (PA) - Wellbore #1 - No Survey	19,898.88	6,664.00	3,121.97	2,774.64	8.988	CC, ES, SF
Spike State GWS C24-02 (SI) - Wellbore #1 - No Survey	19,898.88	6,654.00	2,367.86	2,050.54	7.462	CC, ES, SF
Spike State GWS C24-03 (SI) - Wellbore #1 - No Survey	19,898.88	6,626.00	2,176.97	1,877.34	7.266	CC, ES, SF
Spike State GWS C24-04 (SI) - Wellbore #1 - No Survey	19,898.88	6,624.00	2,687.03	2,350.11	7.975	CC, ES, SF
Spike State GWS C24-06 (PA) - Wellbore #1 - No Survey	19,898.88	6,648.00	910.77	597.44	2.907	CC, ES, SF
Spike State GWS C24-09 (SI) - Wellbore #1 - No Survey	19,355.26	6,682.00	2,113.68	1,740.33	5.661	CC, ES
Spike State GWS C24-09 (SI) - Wellbore #1 - No Survey	19,400.00	6,682.00	2,114.15	1,740.41	5.657	SF
Spike State GWS C24-10 (PR) - Wellbore #1 - No Surveys	19,448.62	6,667.00	977.44	603.94	2.617	CC, ES, SF
Spike State GWS C24-11J (PA) - Wellbore #1 - No Surveys	18,801.19	6,689.00	987.47	618.27	2.675	CC, ES, SF
Spike State GWS C24-12 (SI) - Wellbore #1 - No Survey	19,471.27	6,672.00	1,552.74	1,178.86	4.153	CC, ES
Spike State GWS C24-12 (SI) - Wellbore #1 - No Survey	19,500.00	6,672.00	1,553.00	1,178.95	4.152	SF
Spike State GWS C24-8J (PA) - Wellbore #1 - No Survey	19,898.88	6,644.00	2,181.59	1,834.64	6.288	CC, ES, SF
State C24-28 (PR) - Wellbore #1 - No Surveys	19,898.88	6,625.00	2,695.16	2,398.48	9.084	CC, ES, SF
State C24-99HZ - Wellbore #1 - Original Drilling	19,898.88	8,386.50	1,203.63	1,112.06	13.145	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 Guttersten State C36-755
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	KB @ 4776.00ft
<b>Reference Site:</b>	D Section 01	<b>MD Reference:</b>	KB @ 4776.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Guttersten State C36-755	<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						
C Section 25						
Booth 14-25 (SI) - Wellbore #1 - No Surveys	12,842.83	6,665.61	415.08	93.54	1.291	Level 3, CC, ES, SF
Booth 9-25 (SI) - Wellbore #1 - No Surveys	14,186.02	6,729.00	2,292.63	1,958.36	6.859	CC
Booth 9-25 (SI) - Wellbore #1 - No Surveys	14,200.00	6,729.00	2,292.67	1,958.28	6.856	ES
Booth 9-25 (SI) - Wellbore #1 - No Surveys	14,300.00	6,729.00	2,295.46	1,960.27	6.848	SF
Booth C 25-19 (PR) - Wellbore #1 - No Surveys	16,259.24	6,680.00	969.76	621.37	2.784	CC, ES, SF
UNI UPR C 25-5 (SI) - Wellbore #1 - Gyro Surveys	15,471.89	6,646.42	1,717.97	1,617.63	17.121	CC, ES
UNI UPR C 25-5 (SI) - Wellbore #1 - Gyro Surveys	15,600.00	6,649.56	1,722.74	1,621.74	17.057	SF
UNI UPR C 25-6 (PR) - Wellbore #1 - No Surveys	15,599.75	6,682.00	348.95	247.52	3.440	CC
UNI UPR C 25-6 (PR) - Wellbore #1 - No Surveys	15,600.00	6,682.00	348.95	247.52	3.440	ES, SF
UNI-UPR C 25-3 (PR) - Wellbore #1 - Gyro Surveys	16,864.70	6,669.23	435.66	324.30	3.912	CC, ES, SF
UNI-UPRR 4-25 (PR) - Wellbore #1 - Gyro Surveys	16,755.73	6,653.14	1,761.07	1,650.64	15.947	CC, ES
UNI-UPRR 4-25 (PR) - Wellbore #1 - Gyro Surveys	16,900.00	6,653.68	1,766.97	1,655.85	15.902	SF
UPRR 66 Amoco 1 (SI) - Wellbore #1 - No Surveys	13,199.91	6,688.19	1,965.81	1,640.68	6.046	CC
UPRR 66 Amoco 1 (SI) - Wellbore #1 - No Surveys	13,200.00	6,688.19	1,965.81	1,640.68	6.046	ES
UPRR 66 Amoco 1 (SI) - Wellbore #1 - No Surveys	13,300.00	6,707.45	1,968.35	1,641.65	6.025	SF
UPV 25-114 (PA) - Wellbore #1 - Gyro Surveys	16,833.78	6,815.65	2,258.87	2,147.38	20.260	CC, ES
UPV 25-114 (PA) - Wellbore #1 - Gyro Surveys	17,100.00	6,814.70	2,274.50	2,161.18	20.070	SF
UPV 25-214 (PR) - Wellbore #1 - Gyro Surveys	17,055.21	6,707.16	835.03	722.07	7.392	CC, ES
UPV 25-214 (PR) - Wellbore #1 - Gyro Surveys	17,100.00	6,707.55	836.23	722.90	7.379	SF
UPV 25-714 (PR) - Wellbore #1 - No Surveys	15,831.10	6,728.00	1,496.34	1,149.33	4.312	CC, ES
UPV 25-714 (PR) - Wellbore #1 - No Surveys	15,900.00	6,728.00	1,497.93	1,150.35	4.310	SF
UPV 25-814 (PA) - Wellbore #1 - Gyro Surveys	15,521.10	6,649.11	2,557.38	2,456.49	25.348	CC, ES
UPV 25-814 (PA) - Wellbore #1 - Gyro Surveys	15,900.00	6,649.82	2,585.29	2,481.87	24.997	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 State C36-755
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	KB @ 4776.00ft
<b>Reference Site:</b>	D Section 01	<b>MD Reference:</b>	KB @ 4776.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Guttersten State C36-755	<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
<b>Offset Well - Wellbore - Design</b>						
C Section 36						
Ava State C36-18 (SI) - Wellbore #1 - No Surveys	10,934.46	6,686.78	381.02	72.23	1.234	Level 3, CC, ES, SF
Ava State C36-20 (PR) - Wellbore #1 - No Surveys	9,382.18	6,707.00	1,001.31	701.61	3.341	CC, ES
Ava State C36-20 (PR) - Wellbore #1 - No Surveys	9,400.00	6,707.00	1,001.47	701.70	3.341	SF
Ava State C36-21 (SI) - Wellbore #1 - No Surveys	9,687.52	6,702.00	225.27	-76.02	0.748	Level 1, CC, ES, SF
Ava State C36-22 (SI) - Wellbore #1 - No Surveys	9,529.90	6,719.00	1,556.62	1,255.59	5.171	CC, ES
Ava State C36-22 (SI) - Wellbore #1 - No Surveys	9,600.00	6,719.00	1,558.20	1,256.70	5.168	SF
Ava State C36-24 (PR) - Wellbore #1 - No Surveys	8,222.63	6,708.00	375.76	81.80	1.278	Level 3, CC, ES, SF
Ava State C36-31 (PR) - Wellbore #1 - No Surveys	10,813.91	6,672.03	2,147.94	1,840.56	6.988	CC, ES
Ava State C36-31 (PR) - Wellbore #1 - No Surveys	10,900.00	6,668.28	2,149.66	1,841.94	6.986	SF
Booth CC31-68-1HN (PR) - Original Drilling - Original Dri	11,256.52	6,128.00	2,932.27	2,864.51	43.276	CC, ES
Booth CC31-68-1HN (PR) - Original Drilling - Original Dri	11,800.00	6,128.00	2,982.21	2,911.08	41.929	SF
Booth State C36-69HN (PR) - Original Drilling - Original D	12,100.00	9,146.62	60.56	-19.02	0.761	Level 1, ES, SF
Booth State C36-69HN (PR) - Original Drilling - Original D	12,133.06	9,146.39	50.93	-13.20	0.794	Level 1, CC
Booth State CC30-79HN (PR) - Original Drilling - Original	16,918.88	11,026.00	3,012.54	2,836.34	17.097	CC, ES
Booth State CC30-79HN (PR) - Original Drilling - Original	17,200.00	11,026.00	3,025.63	2,847.32	16.969	SF
Booth State CC31-69HN (PR) - Original Drilling - Original	12,155.65	6,128.00	3,192.82	3,120.69	44.265	CC, ES
Booth State CC31-69HN (PR) - Original Drilling - Original	12,900.00	6,128.00	3,285.43	3,208.27	42.583	SF
State 36-0414 (PR) - Wellbore #1 - No Surveys	10,986.44	6,672.51	1,232.47	923.88	3.994	CC, ES
State 36-0414 (PR) - Wellbore #1 - No Surveys	11,000.00	6,671.92	1,232.54	923.91	3.994	SF
State 36-0714 (SI) - Wellbore #1 - No Surveys	10,206.17	6,711.00	840.62	535.73	2.757	CC, ES, SF
State 36-1014 (SI) - Wellbore #1 - No Surveys	8,919.79	6,707.00	782.56	485.39	2.633	CC, ES, SF
State 36-1114 (PR) - Wellbore #1 - No Surveys	8,728.49	6,704.00	331.82	35.73	1.121	Level 2, CC, ES, SF
State 36-1214 (PR) - Wellbore #1 - No Surveys	8,873.14	6,711.00	1,817.99	1,521.12	6.124	CC, ES
State 36-1214 (PR) - Wellbore #1 - No Surveys	8,900.00	6,711.00	1,818.19	1,521.20	6.122	SF
State 36-1414 (PR) - Wellbore #1 - No Surveys	7,417.44	6,702.00	325.31	34.21	1.118	Level 2, CC, ES, SF
State 36-1514 (PR) - Wellbore #1 - No Surveys	7,961.66	6,702.00	1,302.69	1,009.98	4.450	CC, ES
State 36-1514 (PR) - Wellbore #1 - No Surveys	8,000.00	6,702.00	1,303.26	1,010.38	4.450	SF
State 36-1614 (PR) - Wellbore #1 - No Surveys	7,431.51	6,741.00	2,073.85	1,781.16	7.086	CC, ES
State 36-1614 (PR) - Wellbore #1 - No Surveys	7,500.00	6,741.00	2,074.98	1,782.11	7.085	SF
State 36-214 (SI) - Wellbore #1 - No Surveys	11,421.07	6,661.55	985.68	674.47	3.167	CC, ES, SF
State 36-314 (SI) - Wellbore #1 - No Surveys	11,447.83	6,650.38	312.02	1.06	1.003	Level 2, CC, ES, SF
State 36-614 (PR) - Wellbore #1 - No Surveys	10,438.59	6,685.00	319.03	13.67	1.045	Level 2, CC, ES, SF
State 36-814 (SI) - Wellbore #1 - No Surveys	10,446.26	6,730.00	2,309.81	2,002.60	7.519	CC, ES
State 36-814 (SI) - Wellbore #1 - No Surveys	10,600.00	6,728.25	2,314.92	2,006.69	7.510	SF
State 36-914 (PR) - Wellbore #1 - No Surveys	8,736.23	6,738.00	2,097.67	1,800.19	7.051	CC, ES
State 36-914 (PR) - Wellbore #1 - No Surveys	8,800.00	6,738.00	2,098.64	1,800.81	7.046	SF
State B14-36 (PA) - Wellbore #1 - No Surveys	7,990.47	6,705.00	1,387.78	1,094.84	4.737	CC, ES
State B14-36 (PA) - Wellbore #1 - No Surveys	8,000.00	6,705.00	1,387.81	1,094.84	4.737	SF
State B41-36 (SI) - Wellbore #1 - No Surveys	11,181.54	6,706.00	1,986.58	1,675.28	6.382	CC
State B41-36 (SI) - Wellbore #1 - No Surveys	11,200.00	6,706.81	1,986.66	1,675.19	6.378	ES, SF
State C36-01 (SI) - Wellbore #1 - No Surveys	11,745.15	6,669.41	2,490.21	2,176.35	7.934	CC, ES
State C36-01 (SI) - Wellbore #1 - No Surveys	11,900.00	6,662.66	2,495.01	2,180.24	7.927	SF
State C36-04 (PR) - Wellbore #1 - No Surveys	11,583.95	6,647.44	1,839.26	1,527.45	5.899	CC, ES
State C36-04 (PR) - Wellbore #1 - No Surveys	11,600.00	6,646.74	1,839.33	1,527.46	5.898	SF
State C36-13 (SI) - Wellbore #1 - No Surveys	2,000.00	1,977.00	1,565.40	1,481.39	18.632	CC
State C36-13 (SI) - Wellbore #1 - No Surveys	2,200.00	2,176.84	1,570.69	1,477.99	16.943	ES
State C36-13 (SI) - Wellbore #1 - No Surveys	7,422.69	6,720.00	1,844.38	1,552.55	6.320	SF
State C36-15 (PR) - Wellbore #1 - No Surveys	7,418.94	6,719.00	790.17	498.39	2.708	CC, ES, SF
State C36-32D (SI) - Wellbore #1 - As Drilled	9,502.73	6,888.94	2,249.50	2,187.47	36.262	CC, ES
State C36-32D (SI) - Wellbore #1 - As Drilled	9,900.00	6,891.74	2,284.31	2,219.74	35.379	SF
State C36-33D (SI) - Wellbore #1 - Original Drilling	8,242.58	6,790.91	2,229.03	2,177.92	43.611	CC, ES
State C36-33D (SI) - Wellbore #1 - Original Drilling	8,500.00	6,789.78	2,243.85	2,191.99	43.272	SF
State C36-99HZ (PR) - Wellbore #1 - As Drilled	8,400.00	8,043.74	147.57	88.26	2.488	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 State C36-755
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	KB @ 4776.00ft
<b>Reference Site:</b>	D Section 01	<b>MD Reference:</b>	KB @ 4776.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Guttersen State C36-755	<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
C Section 36						
State C36-99HZ (PR) - Wellbore #1 - As Drilled	8,500.00	8,037.19	103.76	69.15	2.998	ES
State C36-99HZ (PR) - Wellbore #1 - As Drilled	8,505.29	8,036.84	103.63	69.32	3.021	CC
State D01-30D (SI) - Wellbore #1 - Original Drilling	3,106.75	3,503.62	1,948.33	1,917.20	62.589	CC
State D01-30D (SI) - Wellbore #1 - Original Drilling	3,200.00	3,577.16	1,949.08	1,916.92	60.604	ES
State D01-30D (SI) - Wellbore #1 - Original Drilling	6,700.00	6,979.92	2,354.25	2,293.25	38.595	SF

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

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Guttersten State C36-755
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	KB @ 4776.00ft
<b>Reference Site:</b>	D Section 01	<b>MD Reference:</b>	KB @ 4776.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Guttersten State C36-755	<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
<b>Offset Well - Wellbore - Design</b>						
D Section 01						
Abbey D 1-3 (PR) - Wellbore #1 - No Surveys	4,071.93	4,025.38	205.66	32.33	1.187	Level 2, CC
Abbey D 1-3 (PR) - Wellbore #1 - No Surveys	4,600.00	4,548.95	216.87	20.66	1.105	Level 2, ES
Abbey D 1-3 (PR) - Wellbore #1 - No Surveys	4,700.00	4,648.10	221.35	20.81	1.104	Level 2, SF
Abbey D 1-4 (PR) - Wellbore #1 - No Surveys	2,000.00	1,957.00	1,088.51	1,005.30	13.081	CC
Abbey D 1-4 (PR) - Wellbore #1 - No Surveys	2,100.00	2,056.98	1,090.25	1,002.68	12.451	ES
Abbey D 1-4 (PR) - Wellbore #1 - No Surveys	6,500.00	6,402.80	1,661.44	1,384.34	5.996	SF
Abbey D 1-5 (PR) - Wellbore #1 - No Surveys	2,000.00	1,955.00	1,900.30	1,817.17	22.858	CC
Abbey D 1-5 (PR) - Wellbore #1 - No Surveys	2,200.00	2,154.84	1,904.74	1,812.92	20.743	ES
Abbey D 1-5 (PR) - Wellbore #1 - No Surveys	6,400.00	6,312.90	2,321.56	2,048.26	8.494	SF
Abbey D 1-6 (PR) - Wellbore #1 - No Surveys	3,836.61	3,808.07	1,634.91	1,471.12	9.982	CC
Abbey D 1-6 (PR) - Wellbore #1 - No Surveys	6,200.00	6,151.24	1,665.60	1,399.44	6.258	ES
Abbey D 1-6 (PR) - Wellbore #1 - No Surveys	6,300.00	6,248.95	1,683.49	1,413.05	6.225	SF
Abbey D 1-7JI (SI) - Wellbore #1 - No Surveys	6,200.82	6,148.05	1,865.84	1,599.94	7.017	CC, ES
Abbey D 1-7JI (SI) - Wellbore #1 - No Surveys	6,400.00	6,338.90	1,892.14	1,617.92	6.900	SF
Abbey D01-08J1 - Abbey D01-08J1 OH - As-Drilled	6,288.44	6,233.11	2,679.95	2,636.10	61.118	CC
Abbey D01-08J1 - Abbey D01-08J1 OH - As-Drilled	6,300.00	6,245.52	2,680.00	2,636.07	61.003	ES
Abbey D01-08J1 - Abbey D01-08J1 OH - As-Drilled	6,600.00	6,471.50	2,721.07	2,675.39	59.570	SF
Abbey D01-08J1 (PR) - Wellbore #1 - No Surveys	6,286.53	6,241.95	2,720.52	2,450.63	10.080	CC
Abbey D01-08J1 (PR) - Wellbore #1 - No Surveys	6,300.00	6,254.95	2,720.59	2,450.14	10.059	ES
Abbey D01-08J1 (PR) - Wellbore #1 - No Surveys	6,600.00	6,516.47	2,762.71	2,480.84	9.802	SF
Abbey D01-18 (SI) - Wellbore #1 - No Surveys	6,200.00	6,140.24	950.98	685.33	3.580	CC, ES
Abbey D01-18 (SI) - Wellbore #1 - No Surveys	6,300.00	6,237.95	962.73	692.81	3.567	SF
Abbey D01-19 (TA) - Wellbore #1 - No Surveys	2,000.00	1,972.00	1,183.26	1,099.44	14.117	CC
Abbey D01-19 (TA) - Wellbore #1 - No Surveys	2,300.00	2,271.45	1,188.89	1,092.05	12.277	ES
Abbey D01-19 (TA) - Wellbore #1 - No Surveys	6,300.00	6,235.95	1,475.25	1,205.34	5.466	SF
Abbey D01-23 (PR) - Wellbore #1 - No Surveys	6,200.00	6,209.76	3,887.76	3,619.38	14.486	CC, ES
Abbey D01-23 (PR) - Wellbore #1 - No Surveys	6,600.00	6,549.47	4,004.64	3,721.37	14.137	SF
Abbey D01-27 (SI) - Wellbore #1 - No Surveys	6,822.11	6,649.53	1,597.45	1,309.65	5.551	CC, ES
Abbey D01-27 (SI) - Wellbore #1 - No Surveys	6,900.00	6,682.83	1,599.70	1,310.40	5.529	SF
Abbey D01-28 (SI) - Wellbore #1 - No Surveys	6,678.65	6,549.07	502.46	219.06	1.773	CC
Abbey D01-28 (SI) - Wellbore #1 - No Surveys	6,700.00	6,562.96	502.79	218.77	1.770	ES, SF
Abbey D01-29 (SI) - Wellbore #1 - No Surveys	2,000.00	1,971.00	497.59	413.82	5.940	CC
Abbey D01-29 (SI) - Wellbore #1 - No Surveys	2,200.00	2,170.84	502.94	410.48	5.439	ES
Abbey D01-29 (SI) - Wellbore #1 - No Surveys	6,800.00	6,623.55	986.21	699.49	3.440	SF
Abbey D01-32D - Wellbore #1 - Wellbore #1 - As Drilled	358.45	351.48	1,888.51	1,886.47	924.574	CC
Abbey D01-32D - Wellbore #1 - Wellbore #1 - As Drilled	800.00	782.19	1,889.92	1,884.81	369.860	ES
Abbey D01-32D - Wellbore #1 - Wellbore #1 - As Drilled	6,500.00	6,642.92	3,096.07	3,049.78	66.888	SF
Guttersten D01-31D (PR) - Guttersten D01-31D OH - As-D	2,029.39	2,037.24	1,860.04	1,844.94	123.187	CC, ES
Guttersten D01-31D (PR) - Guttersten D01-31D OH - As-D	6,500.00	6,583.52	2,541.04	2,491.19	50.975	SF
Guttersten D12-715 - Wellbore #1 - Plan #1	7,096.98	6,839.48	2,625.60	2,576.68	53.673	CC, ES
Guttersten D12-715 - Wellbore #1 - Plan #1	7,100.00	6,837.12	2,625.60	2,576.69	53.673	SF
Guttersten D12-725 - Wellbore #1 - Plan #1	6,937.11	7,009.37	1,986.74	1,937.70	40.513	CC, ES, SF
Guttersten D12-735 - Wellbore #1 - Plan #1	6,900.00	7,250.00	1,340.98	1,291.08	26.876	SF
Guttersten D12-735 - Wellbore #1 - Plan #1	6,917.63	7,238.96	1,340.88	1,290.99	26.880	CC, ES
Guttersten D12-745 - Wellbore #1 - Plan #1	6,800.00	7,474.26	699.88	648.66	13.666	SF
Guttersten D12-745 - Wellbore #1 - Plan #1	6,888.87	7,421.06	695.97	645.05	13.668	CC, ES
Guttersten D12-750 - Wellbore #1 - Plan #1	6,983.33	7,521.88	388.34	336.06	7.429	CC, ES, SF
Guttersten D12-755 - Wellbore #1 - Plan #1	6,791.72	7,070.09	49.47	0.43	1.009	Level 2, CC, ES, SF
Guttersten D12-765 - Wellbore #1 - Plan #1	2,000.00	2,001.00	151.49	137.62	10.917	CC
Guttersten D12-765 - Wellbore #1 - Plan #1	2,200.00	2,201.16	152.22	136.93	9.956	ES
Guttersten D12-765 - Wellbore #1 - Plan #1	2,600.00	2,596.01	164.82	146.73	9.108	SF
Guttersten D12-770 - Wellbore #1 - Plan #1	2,000.00	2,001.00	156.53	142.66	11.280	CC
Guttersten D12-770 - Wellbore #1 - Plan #1	2,100.00	2,101.02	156.93	142.34	10.759	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 Guttersten State C36-755
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	KB @ 4776.00ft
<b>Reference Site:</b>	D Section 01	<b>MD Reference:</b>	KB @ 4776.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Guttersten State C36-755	<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 01						
Guttersten D12-770 - Wellbore #1 - Plan #1	2,400.00	2,397.72	164.94	148.25	9.885	SF
Guttersten D12-775 - Wellbore #1 - Plan #1	2,000.00	2,001.00	164.23	150.35	11.835	CC
Guttersten D12-775 - Wellbore #1 - Plan #1	2,100.00	2,101.02	164.85	150.26	11.302	ES
Guttersten D12-775 - Wellbore #1 - Plan #1	2,400.00	2,397.72	175.86	159.18	10.540	SF
Guttersten D12-785 - Wellbore #1 - Plan #1	2,000.00	1,999.00	174.70	160.83	12.596	CC, ES
Guttersten D12-785 - Wellbore #1 - Plan #1	2,200.00	2,187.68	184.08	168.87	12.104	SF
Guttersten State C36-725 - Wellbore #1 - Plan #1	6,932.66	6,839.34	1,936.17	1,888.36	40.498	CC
Guttersten State C36-725 - Wellbore #1 - Plan #1	19,898.88	19,866.28	1,939.82	1,715.21	8.636	ES, SF
Guttersten State C36-735 - Wellbore #1 - Plan #1	7,002.74	7,100.00	1,291.64	1,242.63	26.356	CC
Guttersten State C36-735 - Wellbore #1 - Plan #1	19,898.88	20,021.33	1,293.25	1,068.39	5.751	ES, SF
Guttersten State C36-745 - Wellbore #1 - Plan #1	7,021.19	7,354.79	643.43	593.31	12.839	CC
Guttersten State C36-745 - Wellbore #1 - Plan #1	19,898.88	20,241.03	647.09	422.14	2.877	ES, SF
Guttersten State C36-750 - Wellbore #1 - Plan #1	7,014.04	7,558.61	327.08	275.07	6.289	CC
Guttersten State C36-750 - Wellbore #1 - Plan #1	19,898.88	20,472.10	335.54	107.94	1.474	Level 3, ES, SF
Guttersten State C36-765 - Wellbore #1 - Plan #1	2,000.00	2,000.00	22.33	8.45	1.609	CC, ES, SF
Guttersten State C36-775 - Wellbore #1 - Plan #1	2,000.00	2,000.00	44.93	31.06	3.239	CC, ES, SF
Guttersten State C36-785 - Wellbore #1 - Plan #1	2,000.00	2,000.00	67.54	53.67	4.869	CC, ES, SF
HSR-Guttersten 11-1 (PR) - Wellbore #1 - No Surveys	2,775.38	2,768.90	2,809.31	2,690.91	23.726	CC
HSR-Guttersten 11-1 (PR) - Wellbore #1 - No Surveys	6,200.00	6,164.24	2,846.48	2,579.80	10.674	ES
HSR-Guttersten 11-1 (PR) - Wellbore #1 - No Surveys	6,400.00	6,355.90	2,896.73	2,621.68	10.532	SF
HSR-Guttersten 12-1 (PR) - Wellbore #1 - No Surveys	2,000.00	1,948.00	3,015.33	2,932.47	36.392	CC
HSR-Guttersten 12-1 (PR) - Wellbore #1 - No Surveys	2,300.00	2,247.45	3,021.84	2,925.96	31.518	ES
HSR-Guttersten 12-1 (PR) - Wellbore #1 - No Surveys	6,500.00	6,406.20	3,367.91	3,090.52	12.141	SF
HSR-Guttersten 14-1 (SI) - Wellbore #1 - No Surveys	2,000.00	1,978.00	4,150.23	4,066.18	49.374	CC
HSR-Guttersten 14-1 (SI) - Wellbore #1 - No Surveys	6,200.00	6,144.24	4,187.58	3,921.70	15.750	ES
HSR-Guttersten 14-1 (SI) - Wellbore #1 - No Surveys	6,500.00	6,423.80	4,284.00	4,005.93	15.406	SF
HSR-Guttersten 15-1 (SI) - Wellbore #1 - Wellbore #1	6,200.00	6,182.24	4,531.10	4,263.77	16.949	CC, ES
HSR-Guttersten 15-1 (SI) - Wellbore #1 - Wellbore #1	6,600.00	6,541.47	4,667.01	4,384.02	16.492	SF
HSR-Guttersten 16-1 (SI) - Wellbore #1 - No Surveys	6,200.00	6,203.76	5,048.48	4,780.35	18.828	CC, ES
HSR-Guttersten 16-1 (SI) - Wellbore #1 - No Surveys	6,600.00	6,555.47	5,158.68	4,875.18	18.197	SF
Keisha White D01-01 - Wellbore #1 - Wellbore #1 - As D	6,610.71	6,532.34	2,296.34	2,250.46	50.056	CC, ES
Keisha White D01-01 - Wellbore #1 - Wellbore #1 - As D	6,900.00	6,691.61	2,320.87	2,273.71	49.213	SF
Keisha White D01-07 (PR) - Wellbore #1 - No Surveys	6,200.00	6,149.24	2,466.50	2,200.53	9.273	CC, ES
Keisha White D01-07 (PR) - Wellbore #1 - No Surveys	6,400.00	6,340.90	2,499.57	2,225.23	9.111	SF
Keisha White D01-08 (PR) - Wellbore #1 - No Surveys	6,225.91	6,208.22	3,246.37	2,978.02	12.097	CC, ES
Keisha White D01-08 (PR) - Wellbore #1 - No Surveys	6,600.00	6,525.47	3,325.99	3,043.74	11.784	SF
UPV 1-2J4 (PR) - Wellbore #1 - No Surveys	6,335.17	6,280.54	1,495.78	1,224.19	5.508	CC
UPV 1-2J4 (PR) - Wellbore #1 - No Surveys	6,400.00	6,340.90	1,497.31	1,223.08	5.460	ES
UPV 1-2J4 (PR) - Wellbore #1 - No Surveys	6,600.00	6,508.47	1,523.37	1,241.83	5.411	SF
Woody D01-09 - Wellbore #1 - Wellbore #1 - As Drilled	6,223.06	6,264.14	3,923.06	3,879.34	89.748	CC, ES
Woody D01-09 - Wellbore #1 - Wellbore #1 - As Drilled	6,600.00	6,593.76	4,008.27	3,962.19	86.977	SF
Woody D01-10 (PR) - Wellbore #1 - No Surveys	6,200.00	6,182.24	2,948.58	2,681.26	11.030	CC, ES
Woody D01-10 (PR) - Wellbore #1 - No Surveys	6,500.00	6,461.80	3,028.43	2,748.90	10.834	SF

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

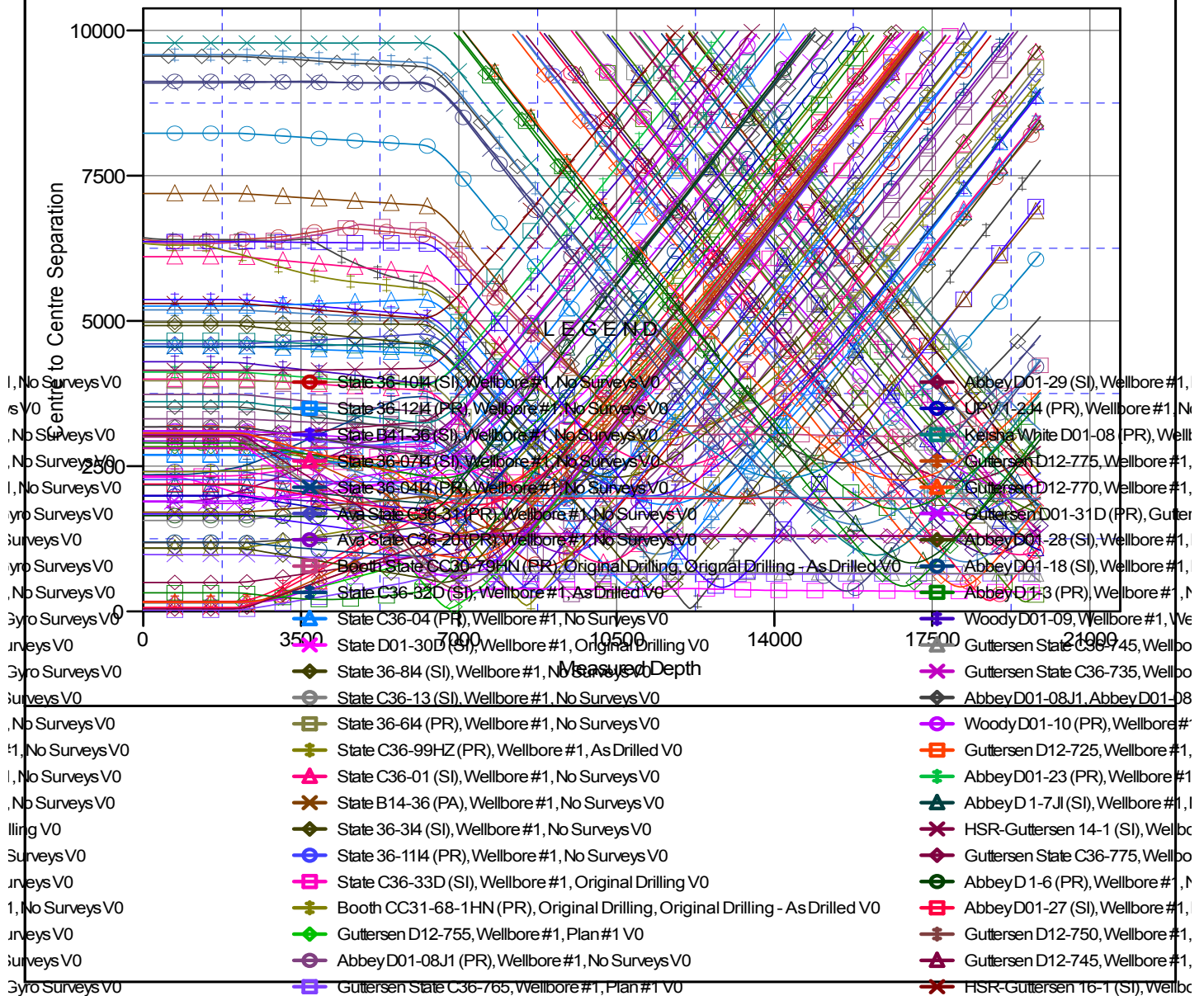
**Noble Energy, Inc.**  
**Anticollision Summary Report**

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Gutteresen State C36-755
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	KB @ 4776.00ft
<b>Reference Site:</b>	D Section 01	<b>MD Reference:</b>	KB @ 4776.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Gutteresen State C36-755	<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 Depths are relative to KB @ 4776.00ft  
Offset Depths are relative to Offset Datum  
Central Meridian is -105.5000000

Coordinates are relative to: Gutteresen State C36-755  
Coordinate System is US State Plane 1983, Colorado Northern Zone  
Grid Convergence at Surface is: 0.64°

## Ladder Plot



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

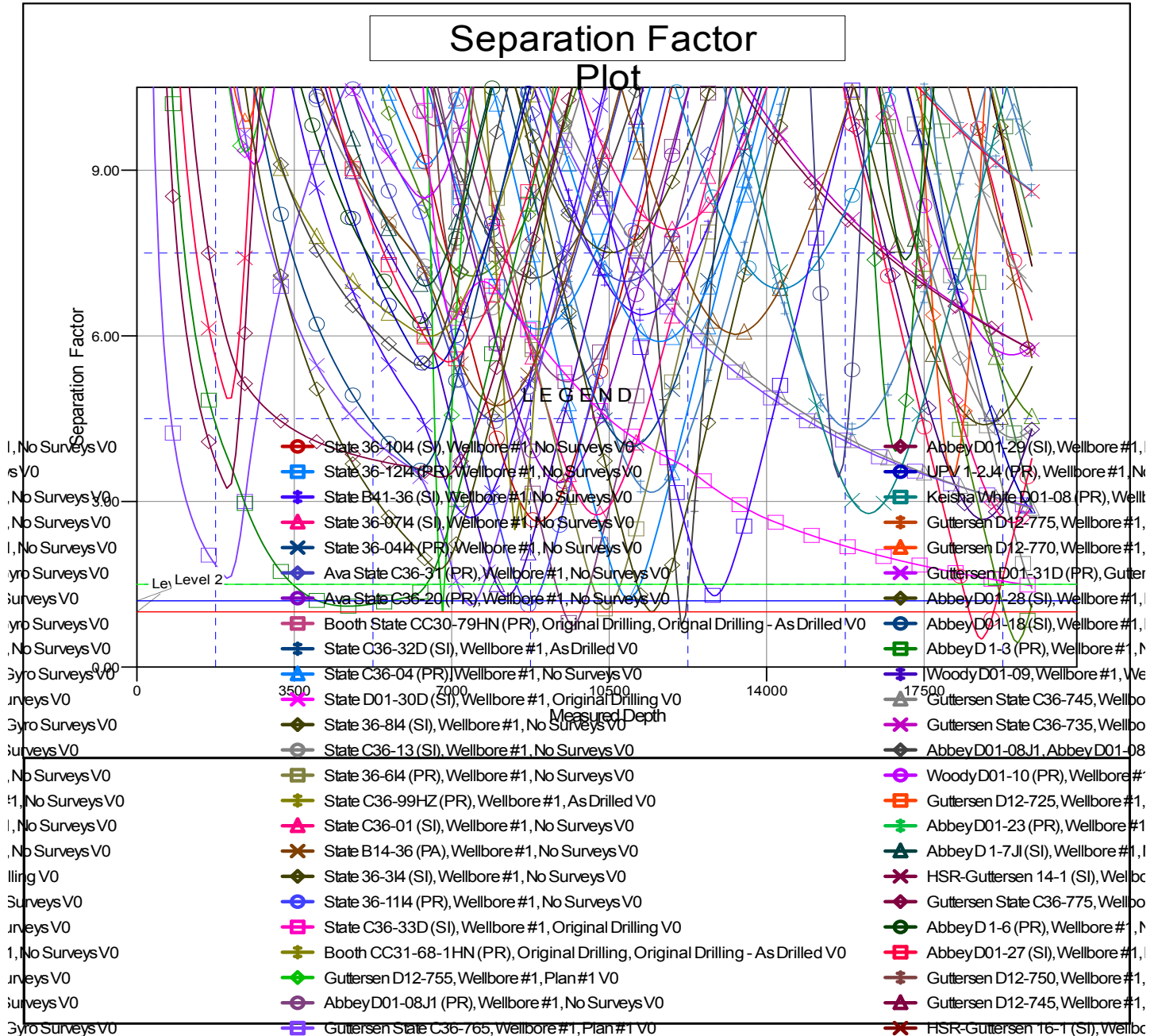


**Noble Energy, Inc.**  
**Anticollision Summary Report**

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Guttersten State C36-755
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	KB @ 4776.00ft
<b>Reference Site:</b>	D Section 01	<b>MD Reference:</b>	KB @ 4776.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Guttersten State C36-755	<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 Depths are relative to KB @ 4776.00ft  
Offset Depths are relative to Offset Datum  
Central Meridian is -105.5000000

Coordinates are relative to: Guttersten State C36-755  
Coordinate System is US State Plane 1983, Colorado Northern Zone  
Grid Convergence at Surface is: 0.64°



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