

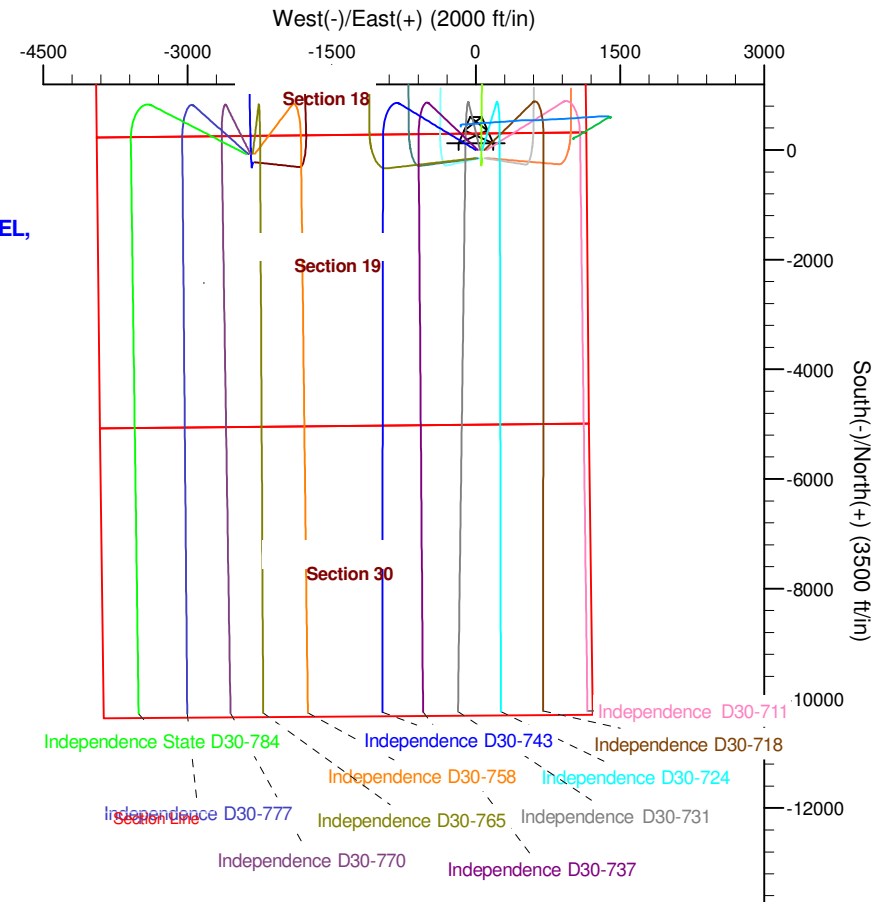
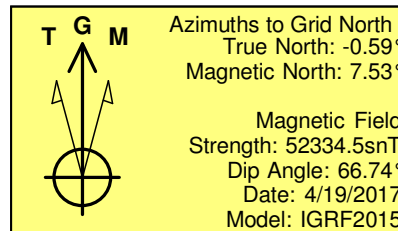
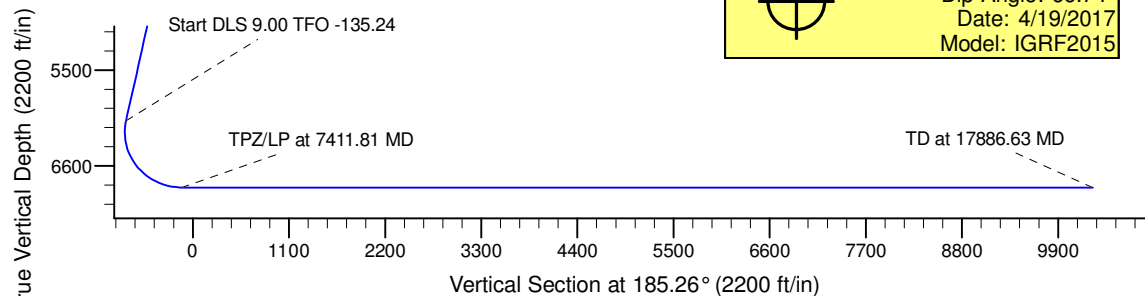
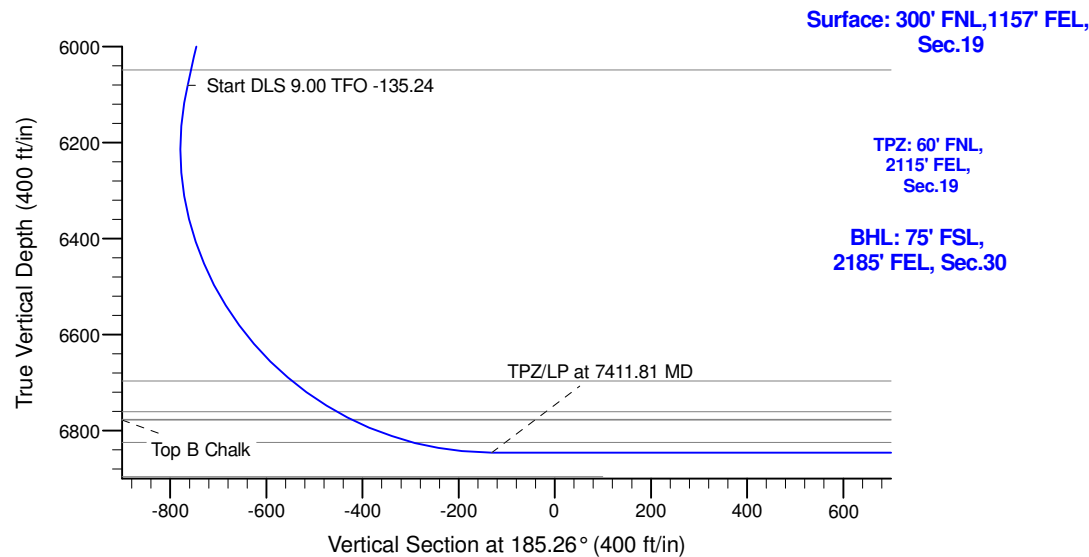
Project: Mustang  
Site: D Section 19  
Well: Independence D30-743  
Wellbore: Independence D30-743  
Design: Plan 1

# 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	2200.00	0.00	0.00	2200.00	0.00	0.00	0.00	0.00	0.00	
3	3132.95	18.66	316.81	3116.55	109.78	-103.06	2.00	316.81	-99.88	
4	6262.00	18.66	316.81	6081.13	839.67	-788.22	0.00	0.00	-763.91	
5	7411.81	90.00	180.03	6846.00	220.68	-965.37	9.00	-135.24	-131.29	Independence D30-743 TPZ
6	17886.63	90.00	180.03	6846.00	-10254.14	-970.26	0.00	0.00	10299.91	Independence D30-743 BHL



## WELL DETAILS: Independence D30-743

	Northing	Easting	Latitude	Longitude
0.00	0.00	1323279.78	4771.00 40.2172099	-104.5885800

Plan: Plan 1 (Independence D30-743/Independence D30-743)

Created By: Colby Baxter Date: 16:08, February 20 2018

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

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

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

# **Northern Region - DJ Basin**

**Mustang**

**D Section 19**

**Independence D30-743**

**Independence D30-743**

**Plan: Plan 1**

## **Standard Survey Report**

**20 February, 2018**

# Noble Energy, Inc.

## Survey Report

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Independence D30-743
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	Well @ 4801.00ft
<b>Site:</b>	D Section 19	<b>MD Reference:</b>	Well @ 4801.00ft
<b>Well:</b>	Independence D30-743	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Independence D30-743	<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 19			
Site Position:		Northing:	1,318,926.35 usft	Latitude:	40.2052853
From:	Map	Easting:	3,253,617.62 usft	Longitude:	-104.5919702
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.59 °

Well	Independence D30-743					
Well Position	+N/-S	0.00 ft	Northing:	1,323,279.78 usft	Latitude:	40.2172100
	+E/-W	0.00 ft	Easting:	3,254,519.84 usft	Longitude:	-104.5885800
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,771.00 ft

<b>Wellbore</b>	Independence D30-743				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2015	4/19/2017	8.12	66.74	52,334.45888086

<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	185.26	

<b>Survey Tool Program</b>	<b>Date</b>	2/20/2018			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
0.00	17,886.63	Plan 1 (Independence D30-743)	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 Independence D30-743
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	Well @ 4801.00ft
<b>Site:</b>	D Section 19	<b>MD Reference:</b>	Well @ 4801.00ft
<b>Well:</b>	Independence D30-743	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Independence D30-743	<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	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	2.00	316.81	2,299.98	1.27	-1.19	-1.16	2.00	2.00	0.00
2,400.00	4.00	316.81	2,399.84	5.09	-4.78	-4.63	2.00	2.00	0.00
2,500.00	6.00	316.81	2,499.45	11.44	-10.74	-10.41	2.00	2.00	0.00
2,600.00	8.00	316.81	2,598.70	20.33	-19.08	-18.49	2.00	2.00	0.00
2,700.00	10.00	316.81	2,697.47	31.73	-29.79	-28.87	2.00	2.00	0.00
2,800.00	12.00	316.81	2,795.62	45.64	-42.85	-41.52	2.00	2.00	0.00
2,900.00	14.00	316.81	2,893.06	62.04	-58.24	-56.45	2.00	2.00	0.00
3,000.00	16.00	316.81	2,989.64	80.91	-75.95	-73.61	2.00	2.00	0.00
3,100.00	18.00	316.81	3,085.27	102.23	-95.96	-93.00	2.00	2.00	0.00
3,132.95	18.66	316.81	3,116.55	109.78	-103.06	-99.88	2.00	2.00	0.00
3,200.00	18.66	316.81	3,180.07	125.42	-117.74	-114.11	0.00	0.00	0.00
3,300.00	18.66	316.81	3,274.82	148.75	-139.63	-135.33	0.00	0.00	0.00
3,400.00	18.66	316.81	3,369.56	172.08	-161.53	-156.55	0.00	0.00	0.00
3,500.00	18.66	316.81	3,464.30	195.40	-183.43	-177.77	0.00	0.00	0.00
3,600.00	18.66	316.81	3,559.05	218.73	-205.33	-198.99	0.00	0.00	0.00
3,700.00	18.66	316.81	3,653.79	242.05	-227.22	-220.21	0.00	0.00	0.00
3,800.00	18.66	316.81	3,748.54	265.38	-249.12	-241.44	0.00	0.00	0.00
3,900.00	18.66	316.81	3,843.28	288.71	-271.02	-262.66	0.00	0.00	0.00
4,000.00	18.66	316.81	3,938.02	312.03	-292.91	-283.88	0.00	0.00	0.00
4,100.00	18.66	316.81	4,032.77	335.36	-314.81	-305.10	0.00	0.00	0.00
4,200.00	18.66	316.81	4,127.51	358.69	-336.71	-326.32	0.00	0.00	0.00
4,300.00	18.66	316.81	4,222.26	382.01	-358.60	-347.54	0.00	0.00	0.00
4,400.00	18.66	316.81	4,317.00	405.34	-380.50	-368.77	0.00	0.00	0.00
4,500.00	18.66	316.81	4,411.74	428.66	-402.40	-389.99	0.00	0.00	0.00
4,600.00	18.66	316.81	4,506.49	451.99	-424.29	-411.21	0.00	0.00	0.00
4,700.00	18.66	316.81	4,601.23	475.32	-446.19	-432.43	0.00	0.00	0.00
4,800.00	18.66	316.81	4,695.98	498.64	-468.09	-453.65	0.00	0.00	0.00
4,900.00	18.66	316.81	4,790.72	521.97	-489.99	-474.87	0.00	0.00	0.00
5,000.00	18.66	316.81	4,885.46	545.30	-511.88	-496.09	0.00	0.00	0.00
5,100.00	18.66	316.81	4,980.21	568.62	-533.78	-517.32	0.00	0.00	0.00
5,200.00	18.66	316.81	5,074.95	591.95	-555.68	-538.54	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 Independence D30-743
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	Well @ 4801.00ft
<b>Site:</b>	D Section 19	<b>MD Reference:</b>	Well @ 4801.00ft
<b>Well:</b>	Independence D30-743	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Independence D30-743	<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	18.66	316.81	5,169.69	615.27	-577.57	-559.76	0.00	0.00	0.00
5,400.00	18.66	316.81	5,264.44	638.60	-599.47	-580.98	0.00	0.00	0.00
5,500.00	18.66	316.81	5,359.18	661.93	-621.37	-602.20	0.00	0.00	0.00
5,600.00	18.66	316.81	5,453.93	685.25	-643.26	-623.42	0.00	0.00	0.00
5,700.00	18.66	316.81	5,548.67	708.58	-665.16	-644.65	0.00	0.00	0.00
5,800.00	18.66	316.81	5,643.41	731.91	-687.06	-665.87	0.00	0.00	0.00
5,900.00	18.66	316.81	5,738.16	755.23	-708.95	-687.09	0.00	0.00	0.00
6,000.00	18.66	316.81	5,832.90	778.56	-730.85	-708.31	0.00	0.00	0.00
6,100.00	18.66	316.81	5,927.65	801.88	-752.75	-729.53	0.00	0.00	0.00
6,200.00	18.66	316.81	6,022.39	825.21	-774.65	-750.75	0.00	0.00	0.00
6,262.00	18.66	316.81	6,081.13	839.67	-788.22	-763.91	0.00	0.00	0.00
6,300.00	16.40	308.25	6,117.37	847.43	-796.60	-770.87	9.00	-5.94	-22.51
6,400.00	13.06	274.73	6,214.24	857.12	-818.99	-778.47	9.00	-3.34	-33.52
6,500.00	15.21	238.27	6,311.40	851.14	-841.46	-770.46	9.00	2.15	-36.46
6,600.00	21.25	216.52	6,406.44	829.64	-863.45	-747.03	9.00	6.03	-21.75
6,700.00	28.82	204.88	6,497.04	793.14	-884.41	-708.76	9.00	7.57	-11.64
6,800.00	36.99	197.90	6,580.95	742.54	-903.84	-656.59	9.00	8.18	-6.98
6,900.00	45.45	193.19	6,656.12	679.09	-921.25	-591.82	9.00	8.45	-4.71
7,000.00	54.04	189.68	6,720.69	604.35	-936.22	-516.02	9.00	8.60	-3.50
7,100.00	62.72	186.88	6,773.08	520.16	-948.37	-431.07	9.00	8.68	-2.81
7,200.00	71.45	184.48	6,811.99	428.60	-957.41	-339.07	9.00	8.73	-2.40
7,300.00	80.20	182.32	6,836.46	331.92	-963.11	-242.26	9.00	8.75	-2.16
7,400.00	88.96	180.27	6,845.89	232.49	-965.34	-143.05	9.00	8.77	-2.05
7,411.81	90.00	180.03	6,846.00	220.68	-965.37	-131.29	9.00	8.77	-2.03
7,500.00	90.00	180.03	6,846.00	132.49	-965.41	-43.47	0.00	0.00	0.00
7,600.00	90.00	180.03	6,846.00	32.49	-965.46	56.12	0.00	0.00	0.00
7,700.00	90.00	180.03	6,846.00	-67.51	-965.51	155.70	0.00	0.00	0.00
7,800.00	90.00	180.03	6,846.00	-167.51	-965.55	255.28	0.00	0.00	0.00
7,900.00	90.00	180.03	6,846.00	-267.51	-965.60	354.87	0.00	0.00	0.00
8,000.00	90.00	180.03	6,846.00	-367.51	-965.65	454.45	0.00	0.00	0.00
8,100.00	90.00	180.03	6,846.00	-467.51	-965.69	554.03	0.00	0.00	0.00
8,200.00	90.00	180.03	6,846.00	-567.51	-965.74	653.62	0.00	0.00	0.00
8,300.00	90.00	180.03	6,846.00	-667.51	-965.79	753.20	0.00	0.00	0.00
8,400.00	90.00	180.03	6,846.00	-767.51	-965.83	852.78	0.00	0.00	0.00
8,500.00	90.00	180.03	6,846.00	-867.51	-965.88	952.37	0.00	0.00	0.00
8,600.00	90.00	180.03	6,846.00	-967.51	-965.93	1,051.95	0.00	0.00	0.00
8,700.00	90.00	180.03	6,846.00	-1,067.51	-965.97	1,151.54	0.00	0.00	0.00
8,800.00	90.00	180.03	6,846.00	-1,167.51	-966.02	1,251.12	0.00	0.00	0.00
8,900.00	90.00	180.03	6,846.00	-1,267.51	-966.07	1,350.70	0.00	0.00	0.00
9,000.00	90.00	180.03	6,846.00	-1,367.51	-966.11	1,450.29	0.00	0.00	0.00
9,100.00	90.00	180.03	6,846.00	-1,467.51	-966.16	1,549.87	0.00	0.00	0.00
9,200.00	90.00	180.03	6,846.00	-1,567.51	-966.21	1,649.45	0.00	0.00	0.00
9,300.00	90.00	180.03	6,846.00	-1,667.51	-966.25	1,749.04	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 Independence D30-743
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	Well @ 4801.00ft
<b>Site:</b>	D Section 19	<b>MD Reference:</b>	Well @ 4801.00ft
<b>Well:</b>	Independence D30-743	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Independence D30-743	<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	180.03	6,846.00	-1,767.51	-966.30	1,848.62	0.00	0.00	0.00
9,500.00	90.00	180.03	6,846.00	-1,867.51	-966.35	1,948.20	0.00	0.00	0.00
9,600.00	90.00	180.03	6,846.00	-1,967.51	-966.39	2,047.79	0.00	0.00	0.00
9,700.00	90.00	180.03	6,846.00	-2,067.51	-966.44	2,147.37	0.00	0.00	0.00
9,800.00	90.00	180.03	6,846.00	-2,167.51	-966.49	2,246.95	0.00	0.00	0.00
9,900.00	90.00	180.03	6,846.00	-2,267.51	-966.53	2,346.54	0.00	0.00	0.00
10,000.00	90.00	180.03	6,846.00	-2,367.51	-966.58	2,446.12	0.00	0.00	0.00
10,100.00	90.00	180.03	6,846.00	-2,467.51	-966.63	2,545.70	0.00	0.00	0.00
10,200.00	90.00	180.03	6,846.00	-2,567.51	-966.67	2,645.29	0.00	0.00	0.00
10,300.00	90.00	180.03	6,846.00	-2,667.51	-966.72	2,744.87	0.00	0.00	0.00
10,400.00	90.00	180.03	6,846.00	-2,767.51	-966.77	2,844.46	0.00	0.00	0.00
10,500.00	90.00	180.03	6,846.00	-2,867.51	-966.81	2,944.04	0.00	0.00	0.00
10,600.00	90.00	180.03	6,846.00	-2,967.51	-966.86	3,043.62	0.00	0.00	0.00
10,700.00	90.00	180.03	6,846.00	-3,067.51	-966.91	3,143.21	0.00	0.00	0.00
10,800.00	90.00	180.03	6,846.00	-3,167.51	-966.95	3,242.79	0.00	0.00	0.00
10,900.00	90.00	180.03	6,846.00	-3,267.51	-967.00	3,342.37	0.00	0.00	0.00
11,000.00	90.00	180.03	6,846.00	-3,367.51	-967.05	3,441.96	0.00	0.00	0.00
11,100.00	90.00	180.03	6,846.00	-3,467.51	-967.09	3,541.54	0.00	0.00	0.00
11,200.00	90.00	180.03	6,846.00	-3,567.51	-967.14	3,641.12	0.00	0.00	0.00
11,300.00	90.00	180.03	6,846.00	-3,667.51	-967.19	3,740.71	0.00	0.00	0.00
11,400.00	90.00	180.03	6,846.00	-3,767.51	-967.23	3,840.29	0.00	0.00	0.00
11,500.00	90.00	180.03	6,846.00	-3,867.51	-967.28	3,939.87	0.00	0.00	0.00
11,600.00	90.00	180.03	6,846.00	-3,967.51	-967.33	4,039.46	0.00	0.00	0.00
11,700.00	90.00	180.03	6,846.00	-4,067.51	-967.37	4,139.04	0.00	0.00	0.00
11,800.00	90.00	180.03	6,846.00	-4,167.51	-967.42	4,238.62	0.00	0.00	0.00
11,900.00	90.00	180.03	6,846.00	-4,267.51	-967.47	4,338.21	0.00	0.00	0.00
12,000.00	90.00	180.03	6,846.00	-4,367.51	-967.51	4,437.79	0.00	0.00	0.00
12,100.00	90.00	180.03	6,846.00	-4,467.51	-967.56	4,537.38	0.00	0.00	0.00
12,200.00	90.00	180.03	6,846.00	-4,567.51	-967.61	4,636.96	0.00	0.00	0.00
12,300.00	90.00	180.03	6,846.00	-4,667.51	-967.65	4,736.54	0.00	0.00	0.00
12,400.00	90.00	180.03	6,846.00	-4,767.51	-967.70	4,836.13	0.00	0.00	0.00
12,500.00	90.00	180.03	6,846.00	-4,867.51	-967.75	4,935.71	0.00	0.00	0.00
12,600.00	90.00	180.03	6,846.00	-4,967.51	-967.79	5,035.29	0.00	0.00	0.00
12,700.00	90.00	180.03	6,846.00	-5,067.51	-967.84	5,134.88	0.00	0.00	0.00
12,800.00	90.00	180.03	6,846.00	-5,167.51	-967.89	5,234.46	0.00	0.00	0.00
12,900.00	90.00	180.03	6,846.00	-5,267.51	-967.93	5,334.04	0.00	0.00	0.00
13,000.00	90.00	180.03	6,846.00	-5,367.51	-967.98	5,433.63	0.00	0.00	0.00
13,100.00	90.00	180.03	6,846.00	-5,467.51	-968.03	5,533.21	0.00	0.00	0.00
13,200.00	90.00	180.03	6,846.00	-5,567.51	-968.07	5,632.79	0.00	0.00	0.00
13,300.00	90.00	180.03	6,846.00	-5,667.51	-968.12	5,732.38	0.00	0.00	0.00
13,400.00	90.00	180.03	6,846.00	-5,767.51	-968.17	5,831.96	0.00	0.00	0.00
13,500.00	90.00	180.03	6,846.00	-5,867.51	-968.21	5,931.54	0.00	0.00	0.00
13,600.00	90.00	180.03	6,846.00	-5,967.51	-968.26	6,031.13	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 Independence D30-743
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	Well @ 4801.00ft
<b>Site:</b>	D Section 19	<b>MD Reference:</b>	Well @ 4801.00ft
<b>Well:</b>	Independence D30-743	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Independence D30-743	<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)
13,700.00	90.00	180.03	6,846.00	-6,067.51	-968.31	6,130.71	0.00	0.00	0.00
13,800.00	90.00	180.03	6,846.00	-6,167.51	-968.35	6,230.30	0.00	0.00	0.00
13,900.00	90.00	180.03	6,846.00	-6,267.51	-968.40	6,329.88	0.00	0.00	0.00
14,000.00	90.00	180.03	6,846.00	-6,367.51	-968.45	6,429.46	0.00	0.00	0.00
14,100.00	90.00	180.03	6,846.00	-6,467.51	-968.49	6,529.05	0.00	0.00	0.00
14,200.00	90.00	180.03	6,846.00	-6,567.51	-968.54	6,628.63	0.00	0.00	0.00
14,300.00	90.00	180.03	6,846.00	-6,667.51	-968.59	6,728.21	0.00	0.00	0.00
14,400.00	90.00	180.03	6,846.00	-6,767.51	-968.63	6,827.80	0.00	0.00	0.00
14,500.00	90.00	180.03	6,846.00	-6,867.51	-968.68	6,927.38	0.00	0.00	0.00
14,600.00	90.00	180.03	6,846.00	-6,967.51	-968.73	7,026.96	0.00	0.00	0.00
14,700.00	90.00	180.03	6,846.00	-7,067.51	-968.77	7,126.55	0.00	0.00	0.00
14,800.00	90.00	180.03	6,846.00	-7,167.51	-968.82	7,226.13	0.00	0.00	0.00
14,900.00	90.00	180.03	6,846.00	-7,267.51	-968.87	7,325.71	0.00	0.00	0.00
15,000.00	90.00	180.03	6,846.00	-7,367.51	-968.91	7,425.30	0.00	0.00	0.00
15,100.00	90.00	180.03	6,846.00	-7,467.51	-968.96	7,524.88	0.00	0.00	0.00
15,200.00	90.00	180.03	6,846.00	-7,567.51	-969.01	7,624.46	0.00	0.00	0.00
15,300.00	90.00	180.03	6,846.00	-7,667.51	-969.05	7,724.05	0.00	0.00	0.00
15,400.00	90.00	180.03	6,846.00	-7,767.51	-969.10	7,823.63	0.00	0.00	0.00
15,500.00	90.00	180.03	6,846.00	-7,867.51	-969.15	7,923.22	0.00	0.00	0.00
15,600.00	90.00	180.03	6,846.00	-7,967.51	-969.19	8,022.80	0.00	0.00	0.00
15,700.00	90.00	180.03	6,846.00	-8,067.51	-969.24	8,122.38	0.00	0.00	0.00
15,800.00	90.00	180.03	6,846.00	-8,167.51	-969.29	8,221.97	0.00	0.00	0.00
15,900.00	90.00	180.03	6,846.00	-8,267.51	-969.33	8,321.55	0.00	0.00	0.00
16,000.00	90.00	180.03	6,846.00	-8,367.51	-969.38	8,421.13	0.00	0.00	0.00
16,100.00	90.00	180.03	6,846.00	-8,467.51	-969.43	8,520.72	0.00	0.00	0.00
16,200.00	90.00	180.03	6,846.00	-8,567.51	-969.47	8,620.30	0.00	0.00	0.00
16,300.00	90.00	180.03	6,846.00	-8,667.51	-969.52	8,719.88	0.00	0.00	0.00
16,400.00	90.00	180.03	6,846.00	-8,767.51	-969.57	8,819.47	0.00	0.00	0.00
16,500.00	90.00	180.03	6,846.00	-8,867.51	-969.61	8,919.05	0.00	0.00	0.00
16,600.00	90.00	180.03	6,846.00	-8,967.51	-969.66	9,018.63	0.00	0.00	0.00
16,700.00	90.00	180.03	6,846.00	-9,067.51	-969.71	9,118.22	0.00	0.00	0.00
16,800.00	90.00	180.03	6,846.00	-9,167.51	-969.75	9,217.80	0.00	0.00	0.00
16,900.00	90.00	180.03	6,846.00	-9,267.51	-969.80	9,317.38	0.00	0.00	0.00
17,000.00	90.00	180.03	6,846.00	-9,367.51	-969.85	9,416.97	0.00	0.00	0.00
17,100.00	90.00	180.03	6,846.00	-9,467.51	-969.89	9,516.55	0.00	0.00	0.00
17,200.00	90.00	180.03	6,846.00	-9,567.51	-969.94	9,616.14	0.00	0.00	0.00
17,300.00	90.00	180.03	6,846.00	-9,667.51	-969.99	9,715.72	0.00	0.00	0.00
17,400.00	90.00	180.03	6,846.00	-9,767.51	-970.03	9,815.30	0.00	0.00	0.00
17,500.00	90.00	180.03	6,846.00	-9,867.51	-970.08	9,914.89	0.00	0.00	0.00
17,600.00	90.00	180.03	6,846.00	-9,967.51	-970.13	10,014.47	0.00	0.00	0.00
17,700.00	90.00	180.03	6,846.00	-10,067.51	-970.17	10,114.05	0.00	0.00	0.00
17,800.00	90.00	180.03	6,846.00	-10,167.51	-970.22	10,213.64	0.00	0.00	0.00
17,886.63	90.00	180.03	6,846.00	-10,254.14	-970.26	10,299.91	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 Independence D30-743
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	Well @ 4801.00ft
<b>Site:</b>	D Section 19	<b>MD Reference:</b>	Well @ 4801.00ft
<b>Well:</b>	Independence D30-743	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Independence D30-743	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Plan 1	<b>Database:</b>	EDMP

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
Independence D30-743	0.00	0.01	6,846.00	-10,254.14	-970.26	1,313,025.66	3,253,549.58	40.1890900	-104.5924300
- plan hits target center									
- Point									
Independence D30-743	0.00	0.01	6,846.00	220.68	-965.37	1,323,500.46	3,253,554.47	40.2178429	-104.5920286
- plan hits target center									
- Point									

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
498.00	498.00	Pierre				
662.00	662.00	Upper Pierre Aquifer Top				
1,560.00	1,560.00	Upper Pierre Aquifer Base				
3,743.49	3,695.00	Parkman				
4,167.80	4,097.00	Sussex				
4,995.29	4,881.00	Shannon				
6,228.09	6,049.00	Teepee Buttes				
6,961.19	6,697.00	Sharon Springs				
7,074.59	6,761.00	Top A Chalk				
7,108.67	6,777.00	Top A Marl				
7,110.91	6,778.00	Top B Chalk				
7,245.68	6,825.00	Top B Marl				

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
2200	2200	0	0	Start Build 2.00
6262	6081	110	-103	Start DLS 9.00 TFO -135.24
7412	6846	840	-788	TPZ/LP at 7411.81 MD
17,887	6846	221	-965	TD at 17886.63 MD

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



# **Northern Region - DJ Basin**

**Mustang**

**D Section 19**

**Independence D30-743**

**Independence D30-743**

**Plan 1**

## **Anticollision Summary Report**

**20 February, 2018**

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

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Independence D30-743
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	Well @ 4801.00ft
<b>Reference Site:</b>	D Section 19	<b>MD Reference:</b>	Well @ 4801.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Independence D30-743	<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>	Independence D30-743	<b>Database:</b>	EDMP
<b>Reference Design:</b>	Plan 1	<b>Offset TVD Reference:</b>	Offset Datum

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

<b>Survey Tool Program</b>	<b>Date</b> 2/20/2018			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.00	17,886.63	Plan 1 (Independence D30-743)	2_MWD+IFR1+MS	A008Mb: IFR dec & multi-station analysis

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
D Section 07						
Dechant 07-01-17 - Dechant 07-01-17 - Dechant 07-01-1	6,407.77	6,255.31	9,825.69	9,780.20	215.964	CC, ES
Dechant 07-01-17 - Dechant 07-01-17 - Dechant 07-01-1	6,850.00	6,637.82	9,970.94	9,923.01	208.015	SF
Dechant 07-11 - Dechant 07-11 - Dechant 07-11 - As Dril	6,387.80	6,100.00	9,471.74	9,426.68	210.227	CC, ES
Dechant 07-11 - Dechant 07-11 - Dechant 07-11 - As Dril	6,850.00	6,456.91	9,631.87	9,584.39	202.861	SF
Dechant 07-13 - Dechant 07-13 - Dechant 07-13 - As Dri	6,406.93	6,131.62	8,061.88	8,016.70	178.459	CC, ES
Dechant 07-13 - Dechant 07-13 - Dechant 07-13 - As Dri	6,800.00	6,492.44	8,179.91	8,132.44	172.334	SF
Dechant 07-14 - Dechant 07-14 - Dechant 07-14 - As Dri	6,389.17	6,184.70	8,055.43	7,977.63	103.535	CC
Dechant 07-14 - Dechant 07-14 - Dechant 07-14 - As Dri	6,400.00	6,195.24	8,055.52	7,977.58	103.359	ES
Dechant 07-14 - Dechant 07-14 - Dechant 07-14 - As Dri	6,900.00	6,637.12	8,247.70	8,164.74	99.414	SF
Dechant 07-15 - Dechant 07-15 - Dechant 07-15 - As Dri	6,404.18	6,211.31	8,722.04	8,644.00	111.774	CC, ES
Dechant 07-15 - Dechant 07-15 - Dechant 07-15 - As Dri	6,950.00	6,682.84	8,942.27	8,858.91	107.272	SF
Dechant 18-07 - Dechant 18-07 - Dechant 18-07 - As Dri	6,454.23	6,456.26	8,978.17	8,932.00	194.432	CC, ES
Dechant 18-07 - Dechant 18-07 - Dechant 18-07 - As Dri	6,900.00	6,791.03	9,127.51	9,079.11	188.589	SF
Dechant D07-09 - Dechant D07-09 - Dechant D07-09 - A	6,391.37	6,253.85	6,863.06	6,817.54	150.790	CC, ES
Dechant D07-09 - Dechant D07-09 - Dechant D07-09 - A	6,800.00	6,636.58	6,987.73	6,939.80	145.795	SF
Dechant D07-10 - Dechant D07-10 - Dechant D07-10 - A	6,401.07	6,137.23	6,595.80	6,550.66	146.105	CC, ES
Dechant D07-10 - Dechant D07-10 - Dechant D07-10 - A	6,800.00	6,510.27	6,718.38	6,670.88	141.455	SF
Dechant D07-11 - Dechant D07-11 - Dechant D07-11 - A	6,432.19	6,151.81	6,868.25	6,823.08	152.081	CC, ES
Dechant D07-11 - Dechant D07-11 - Dechant D07-11 - A	6,800.00	6,453.09	6,969.85	6,922.66	147.683	SF
Dechant D07-12 - Dechant D07-12 - Dechant D07-12 - A	6,448.60	6,076.69	7,115.77	7,070.85	158.396	CC
Dechant D07-12 - Dechant D07-12 - Dechant D07-12 - A	6,450.00	6,077.33	7,115.77	7,070.84	158.370	ES
Dechant D07-12 - Dechant D07-12 - Dechant D07-12 - A	6,700.00	6,700.00	7,157.79	7,110.04	149.905	SF
Dechant D07-13 - Dechant D07-13 - Dechant D07-13 - A	6,464.95	6,200.00	5,944.27	5,898.95	131.157	CC, ES
Dechant D07-13 - Dechant D07-13 - Dechant D07-13 - A	6,800.00	6,542.44	6,020.55	5,973.18	127.091	SF
Dechant D07-14 - Dechant D07-14 - Dechant D07-14 - A	6,428.77	6,101.27	5,570.37	5,525.38	123.807	CC, ES
Dechant D07-14 - Dechant D07-14 - Dechant D07-14 - A	6,800.00	6,486.85	5,671.94	5,624.60	119.811	SF
Dechant D07-15 - Dechant D07-15 - Dechant D07-15 - A	6,408.95	6,165.24	5,242.98	5,197.72	115.833	CC, ES
Dechant D07-15 - Dechant D07-15 - Dechant D07-15 - A	6,800.00	6,533.60	5,361.23	5,313.66	112.709	SF
Dechant D07-16 - Dechant D07-16 - Dechant D07-16 - A	6,371.28	6,130.65	5,583.03	5,537.84	123.563	CC, ES
Dechant D07-16 - Dechant D07-16 - Dechant D07-16 - A	6,850.00	6,602.24	5,749.94	5,701.91	119.721	SF
Dechant D07-20 - Dechant D07-20 - Dechant D07-20 - A	6,458.05	6,375.57	7,486.37	7,440.52	163.268	CC, ES
Dechant D07-20 - Dechant D07-20 - Dechant D07-20 - A	6,850.00	6,575.44	7,603.96	7,556.37	159.804	SF
Dechant D07-21 - Dechant D07-21 - Dechant D07-21 - A	6,418.24	6,162.13	7,167.93	7,122.73	158.575	CC, ES
Dechant D07-21 - Dechant D07-21 - Dechant D07-21 - A	7,300.00	7,300.00	7,691.58	7,641.09	152.334	SF
Dechant D07-22 - Dechant D07-22 - Dechant D07-22 - A	6,396.64	6,159.27	7,282.21	7,236.97	160.989	CC
Dechant D07-22 - Dechant D07-22 - Dechant D07-22 - A	6,400.00	6,161.66	7,282.22	7,236.96	160.913	ES
Dechant D07-22 - Dechant D07-22 - Dechant D07-22 - A	6,800.00	6,428.55	7,408.43	7,361.18	156.778	SF

CC - Min centre to center distance or covergent 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 Independence D30-743
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	Well @ 4801.00ft
<b>Reference Site:</b>	D Section 19	<b>MD Reference:</b>	Well @ 4801.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Independence D30-743	<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>	Independence D30-743	<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 07						
Dechant D07-23 - Dechant D07-23 - Dechant D07-23 - A	6,384.69	6,074.06	5,819.46	5,774.55	129.579	CC, ES
Dechant D07-23 - Dechant D07-23 - Dechant D07-23 - A	6,700.00	6,315.50	5,897.16	5,850.47	126.291	SF
Dechant D07-24 - Dechant D07-24 - Dechant D07-24 - A	6,423.03	6,200.00	6,062.94	6,017.53	133.536	CC, ES
Dechant D07-24 - Dechant D07-24 - Dechant D07-24 - A	6,750.00	6,420.35	6,147.69	6,100.59	130.526	SF
Dechant D07-25 - Dechant D07-25 - Dechant D07-25 - A	6,466.93	6,408.24	6,374.57	6,328.53	138.453	CC, ES
Dechant D07-25 - Dechant D07-25 - Dechant D07-25 - A	6,800.00	6,573.41	6,460.41	6,412.85	135.843	SF
Dechant D07-32 - Dechant D07-32 - Dechant D07-32 - A	6,464.58	6,228.05	7,818.80	7,773.34	172.002	CC, ES
Dechant D07-32 - Dechant D07-32 - Dechant D07-32 - A	6,900.00	6,500.00	7,954.98	7,907.51	167.578	SF
Dechant D07-33 - Dechant D07-33 - Dechant D07-33 - A	6,444.87	5,897.21	6,767.75	6,723.36	152.459	CC
Dechant D07-33 - Dechant D07-33 - Dechant D07-33 - A	6,450.00	5,914.31	6,767.77	6,723.30	152.194	ES
Dechant D07-33 - Dechant D07-33 - Dechant D07-33 - A	6,850.00	6,400.79	6,873.21	6,826.02	145.638	SF
Dechant D18-27D - Dechant D18-27D - Dechant D18-27	6,388.80	6,600.00	4,695.01	4,581.26	41.275	CC, ES
Dechant D18-27D - Dechant D18-27D - Dechant D18-27	6,500.00	6,709.63	4,704.81	4,590.48	41.151	SF
Dechant D18-30D - Wellbore #1 - Wellbore #1- As Drilled	6,500.33	6,679.15	5,694.34	5,584.36	51.777	CC, ES
Dechant D18-30D - Wellbore #1 - Wellbore #1- As Drilled	6,700.00	6,842.12	5,721.23	5,610.25	51.554	SF
HSR Barbour 04-07 - HSR Barbour 04-07 - HSR Barbour	6,449.84	6,294.61	9,893.82	9,848.21	216.939	CC
HSR Barbour 04-07 - HSR Barbour 04-07 - HSR Barbour	6,450.00	6,294.76	9,893.82	9,848.21	216.934	ES
HSR Barbour 04-07 - HSR Barbour 04-07 - HSR Barbour	6,800.00	6,657.03	9,983.81	9,936.06	209.060	SF
HSR Parkman 06-07 - HSR Parkman 06-07 - HSR Parkm	6,458.87	6,536.11	7,989.28	7,942.75	171.702	CC, ES
HSR Parkman 06-07 - HSR Parkman 06-07 - HSR Parkm	6,800.00	6,748.70	8,078.72	8,030.53	167.648	SF
HSR Petrie 03-07 - HSR Petrie 03-07 - HSR Petrie 03-07	6,426.42	6,131.56	9,591.79	9,546.61	212.298	CC, ES
HSR Petrie 03-07 - HSR Petrie 03-07 - HSR Petrie 03-07	7,050.00	7,050.00	9,872.71	9,823.05	198.805	SF
HSR Safran 05-07 - HSR Safran 05-07 - HSR Safran 05-	6,449.20	6,131.14	8,379.48	8,334.25	185.261	CC
HSR Safran 05-07 - HSR Safran 05-07 - HSR Safran 05-	6,450.00	6,132.26	8,379.48	8,334.24	185.234	ES
HSR Safran 05-07 - HSR Safran 05-07 - HSR Safran 05-	6,900.00	6,681.42	8,520.10	8,471.94	176.943	SF
Two E Ranch 07-01 - Two E Ranch 07-01 - Two E Ranch	6,415.19	6,266.63	9,303.21	9,257.64	204.170	CC, ES
Two E Ranch 07-01 - Two E Ranch 07-01 - Two E Ranch	6,850.00	6,554.75	9,449.07	9,401.40	198.209	SF
Two E Ranches 1 - Two E Ranches 1 - Two E Ranches 1	6,298.79	4,625.00	8,129.64	8,066.29	128.326	CC
Two E Ranches 1 - Two E Ranches 1 - Two E Ranches 1	6,300.00	4,625.00	8,129.64	8,066.29	128.318	ES
Two E Ranches 1 - Two E Ranches 1 - Two E Ranches 1	6,500.00	4,625.00	8,163.53	8,099.63	127.736	SF

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

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Independence D30-743
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	Well @ 4801.00ft
<b>Reference Site:</b>	D Section 19	<b>MD Reference:</b>	Well @ 4801.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Independence D30-743	<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>	Independence D30-743	<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 17						
Butterball D19-27D - Wellbore #1 - Gyro Surveys	5,168.27	5,388.75	598.94	555.80	13.884	CC
Butterball D19-27D - Wellbore #1 - Gyro Surveys	5,300.00	5,507.46	601.06	555.05	13.062	ES
Butterball D19-27D - Wellbore #1 - Gyro Surveys	5,900.00	6,025.76	662.54	604.80	11.474	SF
Guttersen State D16-33 (SI) - Wellbore #1 - No Surveys	2,200.00	2,151.00	6,687.16	6,660.74	253.067	CC
Guttersen State D16-33 (SI) - Wellbore #1 - No Surveys	2,300.00	2,250.98	6,687.95	6,660.30	241.855	ES
Guttersen State D16-33 (SI) - Wellbore #1 - No Surveys	7,250.00	6,777.07	7,528.52	7,444.26	89.350	SF
HSR LDS 6-17 (SI) - Wellbore #1 - No Surveys	4,785.34	4,631.08	4,629.96	4,572.20	80.149	CC
HSR LDS 6-17 (SI) - Wellbore #1 - No Surveys	5,300.00	5,118.69	4,632.89	4,568.80	72.291	ES
HSR LDS 6-17 (SI) - Wellbore #1 - No Surveys	6,800.00	6,529.95	4,804.85	4,722.97	58.680	SF
HSR LDS B5-17 (SI) - Wellbore #1 - No Surveys	6,287.75	6,055.64	3,939.90	3,863.55	51.603	CC
HSR LDS B5-17 (SI) - Wellbore #1 - No Surveys	6,300.00	6,067.37	3,939.99	3,863.49	51.502	ES
HSR LDS B5-17 (SI) - Wellbore #1 - No Surveys	6,700.00	6,447.04	4,038.84	3,957.80	49.833	SF
HSR Mike Guttersen 16-17X (SI) - Wellbore #1 - No Su	2,200.00	2,156.00	5,809.89	5,783.42	219.505	CC
HSR Mike Guttersen 16-17X (SI) - Wellbore #1 - No Su	2,300.00	2,255.98	5,810.86	5,783.16	209.807	ES
HSR Mike Guttersen 16-17X (SI) - Wellbore #1 - No Su	7,300.00	6,792.46	6,722.49	6,638.11	79.668	SF
HSR Weeks 10-17 - Wellbore #1 - Gyro Surveys	2,350.73	2,367.37	5,002.72	4,986.44	307.259	CC
HSR Weeks 10-17 - Wellbore #1 - Gyro Surveys	2,400.00	2,400.00	5,002.95	4,986.38	301.924	ES
HSR Weeks 10-17 - Wellbore #1 - Gyro Surveys	7,100.00	6,682.56	5,649.52	5,601.30	117.150	SF
HSR Weeks 15-17 (SI) - Wellbore #1 - No Surveys	2,200.00	2,154.00	4,561.88	4,535.43	172.467	CC
HSR Weeks 15-17 (SI) - Wellbore #1 - No Surveys	2,300.00	2,253.98	4,562.76	4,535.08	164.846	ES
HSR Weeks 15-17 (SI) - Wellbore #1 - No Surveys	7,250.00	6,780.07	5,442.05	5,357.79	64.587	SF
HSR Weeks 9-17 - Wellbore #1 - Gyro Surveys	2,101.02	2,048.03	6,061.34	6,047.04	423.961	CC
HSR Weeks 9-17 - Wellbore #1 - Gyro Surveys	2,200.00	2,134.85	6,061.46	6,046.51	405.356	ES
HSR Weeks 9-17 - Wellbore #1 - Gyro Surveys	6,950.00	6,663.43	6,687.19	6,639.20	139.355	SF
HSR-LDS 3-17 (SI) - Wellbore #1 - No Surveys	6,285.57	6,047.56	5,554.43	5,478.17	72.828	CC
HSR-LDS 3-17 (SI) - Wellbore #1 - No Surveys	6,300.00	6,061.37	5,554.56	5,478.11	72.659	ES
HSR-LDS 3-17 (SI) - Wellbore #1 - No Surveys	6,850.00	6,563.75	5,732.74	5,650.42	69.636	SF
HSR-LDS 4-17 (SI) - Wellbore #1 - No Surveys	6,318.91	6,081.55	4,719.16	4,642.43	61.505	CC, ES
HSR-LDS 4-17 (SI) - Wellbore #1 - No Surveys	6,750.00	6,485.96	4,838.18	4,756.67	59.354	SF
LDS 18-17 (SI) - Wellbore #1 - No Surveys	6,274.71	6,042.21	4,842.64	4,766.47	63.583	CC, ES
LDS 18-17 (SI) - Wellbore #1 - No Surveys	6,800.00	6,529.95	4,992.98	4,911.04	60.933	SF
LDS D17-13 - Wellbore #1 - Gyro Surveys	2,679.23	2,739.48	1,790.05	1,771.30	95.477	CC
LDS D17-13 - Wellbore #1 - Gyro Surveys	2,700.00	2,759.23	1,790.08	1,771.19	94.756	ES
LDS D17-13 - Wellbore #1 - Gyro Surveys	6,900.00	6,578.25	2,417.54	2,370.09	50.953	SF
LDS D17-18 (SI) - Wellbore #1 - No Surveys	4,338.50	4,205.73	5,837.76	5,785.49	111.673	CC
LDS D17-18 (SI) - Wellbore #1 - No Surveys	5,000.00	4,832.46	5,841.60	5,781.22	96.753	ES
LDS D17-18 (SI) - Wellbore #1 - No Surveys	6,900.00	6,603.12	6,073.33	5,990.66	73.466	SF
LDS D17-20 - Wellbore #1 - No Surveys	3,872.65	3,772.36	3,728.45	3,681.78	79.886	CC
LDS D17-20 - Wellbore #1 - No Surveys	4,300.00	4,177.26	3,730.96	3,679.09	71.933	ES
LDS D17-20 - Wellbore #1 - No Surveys	6,750.00	6,494.96	3,933.16	3,851.73	48.301	SF
LDS D17-21 - Wellbore #1 - No Surveys	2,200.00	2,151.00	4,556.61	4,530.19	172.439	CC
LDS D17-21 - Wellbore #1 - No Surveys	2,600.00	2,549.70	4,559.30	4,527.98	145.574	ES
LDS D17-21 - Wellbore #1 - No Surveys	6,900.00	6,607.12	4,990.69	4,908.10	60.427	SF
LDS D17-22 (SI) - Wellbore #1 - No Surveys	2,200.00	2,146.00	5,934.20	5,907.82	224.943	CC
LDS D17-22 (SI) - Wellbore #1 - No Surveys	2,400.00	2,345.84	5,935.50	5,906.67	205.852	ES
LDS D17-22 (SI) - Wellbore #1 - No Surveys	7,050.00	6,694.50	6,501.07	6,417.56	77.851	SF
LDS D17-24D - Wellbore #1 - LDS D17-24D - As Drilled	3,561.13	4,061.77	4,267.62	4,235.87	134.406	CC
LDS D17-24D - Wellbore #1 - LDS D17-24D - As Drilled	3,600.00	4,088.03	4,267.70	4,235.63	133.067	ES
LDS D17-24D - Wellbore #1 - LDS D17-24D - As Drilled	6,900.00	6,761.17	4,742.77	4,688.92	88.085	SF
LDS D17-25D - Wellbore #1 - LDS D17-25D - As Drilled	5,012.27	5,419.85	3,337.79	3,298.54	85.038	CC, ES
LDS D17-25D - Wellbore #1 - LDS D17-25D - As Drilled	6,650.00	6,647.87	3,530.70	3,481.33	71.514	SF
LDS D17-31D - LDS D17-31D - LDS D17-31D - As Drille	519.42	474.43	3,257.21	3,254.09	1,046.562	CC
LDS D17-31D - LDS D17-31D - LDS D17-31D - As Drille	800.00	735.61	3,258.25	3,253.23	647.868	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 Independence D30-743
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	Well @ 4801.00ft
<b>Reference Site:</b>	D Section 19	<b>MD Reference:</b>	Well @ 4801.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Independence D30-743	<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>	Independence D30-743	<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 17						
LDS D17-31D - LDS D17-31D - LDS D17-31D - As Drille	6,650.00	6,634.75	3,979.06	3,925.44	74.210	SF
LDS D17-32D - LDS D17-32D - LDS D17-32D - As Drille	6,292.02	6,083.11	2,956.31	2,910.46	64.472	CC
LDS D17-32D - LDS D17-32D - LDS D17-32D - As Drille	6,300.00	6,092.91	2,956.35	2,910.44	64.386	ES
LDS D17-32D - LDS D17-32D - LDS D17-32D - As Drille	6,600.00	6,405.80	3,013.15	2,965.27	62.937	SF
LDS D17-33 - LDS D17-33 - LDS D17-33 - As Drilled	4,042.07	3,957.03	2,077.31	2,049.20	73.900	CC
LDS D17-33 - LDS D17-33 - LDS D17-33 - As Drilled	4,100.00	4,004.97	2,077.50	2,048.99	72.891	SF
LDS D17-33 - LDS D17-33 - LDS D17-33 - As Drilled	6,650.00	6,263.46	2,359.70	2,313.75	51.355	SF
LDS D17-7 - Wellbore #1 - No Surveys	2,200.00	2,145.00	5,657.07	5,630.69	214.509	CC
LDS D17-7 - Wellbore #1 - No Surveys	2,800.00	2,740.62	5,660.08	5,626.39	167.986	ES
LDS D17-7 - Wellbore #1 - No Surveys	6,950.00	6,634.84	6,041.08	5,958.13	72.832	SF
LDS D20-29D - Wellbore #1 - LDS D20-29D - As Drilled	100.00	75.00	1,545.04	1,544.79	5,994.393	CC
LDS D20-29D - Wellbore #1 - LDS D20-29D - As Drilled	800.00	758.63	1,545.54	1,541.43	375.980	ES
LDS D20-29D - Wellbore #1 - LDS D20-29D - As Drilled	8,300.00	6,973.71	3,521.19	3,468.76	67.159	SF
LDS D20-30D - Wellbore #1 - LDS D20-30D - As Drilled	3,935.97	4,217.05	1,455.86	1,427.93	52.128	CC, ES
LDS D20-30D - Wellbore #1 - LDS D20-30D - As Drilled	7,400.00	6,894.06	1,981.18	1,931.86	40.168	SF
LDS RED D17-11 (SI) - Wellbore #1 - No Surveys	2,200.00	2,152.00	4,019.42	3,992.99	152.059	CC
LDS RED D17-11 (SI) - Wellbore #1 - No Surveys	2,500.00	2,451.45	4,021.51	3,991.41	133.566	ES
LDS RED D17-11 (SI) - Wellbore #1 - No Surveys	6,900.00	6,608.12	4,505.83	4,423.26	54.574	SF
LDS Red D17-12 - Wellbore #1 - No Surveys	4,957.79	4,800.47	2,896.05	2,836.11	48.317	CC
LDS Red D17-12 - Wellbore #1 - No Surveys	5,300.00	5,124.69	2,898.12	2,833.98	45.185	ES
LDS Red D17-12 - Wellbore #1 - No Surveys	6,650.00	6,407.44	3,011.60	2,931.12	37.421	SF
LDS Red D17-14X (SI) - Wellbore #1 - No Surveys	2,200.00	2,156.00	3,516.98	3,490.51	132.876	CC
LDS Red D17-14X (SI) - Wellbore #1 - No Surveys	2,300.00	2,255.98	3,517.68	3,489.98	127.009	ES
LDS Red D17-14X (SI) - Wellbore #1 - No Surveys	7,150.00	6,750.28	4,326.35	4,242.40	51.533	SF
LDS Red D17-3J - Wellbore #1 - Gyro Surveys	2,331.77	2,320.23	2,491.22	2,475.17	155.139	CC
LDS Red D17-3J - Wellbore #1 - Gyro Surveys	2,400.00	2,377.23	2,491.52	2,475.02	151.013	ES
LDS Red D17-3J - Wellbore #1 - Gyro Surveys	6,850.00	6,598.67	3,042.81	2,995.18	63.889	SF
LDS White D17-1 - Wellbore #1 - Gyro Surveys	100.00	36.96	7,622.00	7,621.80	10,000.000	CC
LDS White D17-1 - Wellbore #1 - Gyro Surveys	2,800.00	2,750.40	7,625.93	7,606.71	396.959	ES
LDS White D17-1 - Wellbore #1 - Gyro Surveys	6,950.00	6,533.55	7,942.04	7,894.34	166.500	SF
LDS White D17-2 - Wellbore #1 - No Surveys	4,706.79	4,549.67	6,629.50	6,572.76	116.837	CC
LDS White D17-2 - Wellbore #1 - No Surveys	5,500.00	5,301.18	6,634.36	6,567.87	99.779	ES
LDS White D17-2 - Wellbore #1 - No Surveys	6,950.00	6,631.84	6,881.55	6,798.56	82.922	SF
LDS White D17-8 - Wellbore #1 - No Surveys	2,200.00	2,140.00	6,731.17	6,704.84	255.661	CC
LDS White D17-8 - Wellbore #1 - No Surveys	2,400.00	2,339.84	6,732.38	6,703.60	233.914	ES
LDS White D17-8 - Wellbore #1 - No Surveys	7,050.00	6,688.50	7,278.78	7,195.31	87.205	SF
Thomson D20-31D - Wellbore #1 - Gyro Surveys	2,725.40	2,968.12	1,296.58	1,269.61	48.072	CC, ES
Thomson D20-31D - Wellbore #1 - Gyro Surveys	8,744.89	7,132.91	1,966.68	1,899.86	29.433	SF
Weeks 20-17 (SI) - Wellbore #1 - Gyro Surveys	2,317.51	2,342.49	5,244.50	5,228.38	325.361	CC, ES
Weeks 20-17 (SI) - Wellbore #1 - Gyro Surveys	7,200.00	6,772.32	6,019.02	5,970.39	123.758	SF

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

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Independence D30-743
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	Well @ 4801.00ft
<b>Reference Site:</b>	D Section 19	<b>MD Reference:</b>	Well @ 4801.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Independence D30-743	<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>	Independence D30-743	<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 18						
Horton D18-20D - Horton D18-20D - Horton D18-20D - A	619.39	593.40	2,292.47	2,288.58	589.742	CC
Horton D18-20D - Horton D18-20D - Horton D18-20D - A	900.00	861.34	2,293.56	2,287.74	393.592	ES
Horton D18-20D - Horton D18-20D - Horton D18-20D - A	7,000.00	7,065.68	2,796.56	2,725.18	39.176	SF
Horton D18-22D - Horton D18-22D - Horton D18-22D - A	6,360.62	6,257.24	2,049.08	2,000.34	42.039	CC, ES
Horton D18-22D - Horton D18-22D - Horton D18-22D - A	6,500.00	6,387.05	2,063.90	2,014.37	41.675	SF
LSWD 1 - LSWD 1 - LSWD 1 - As Drilled	6,445.62	6,262.67	4,307.22	4,228.80	54.924	CC
LSWD 1 - LSWD 1 - LSWD 1 - As Drilled	6,450.00	6,266.93	4,307.23	4,228.76	54.887	ES
LSWD 1 - LSWD 1 - LSWD 1 - As Drilled	6,750.00	6,543.96	4,377.59	4,295.88	53.575	SF
Mick D18-03 - Mick D18-03 - Mick D18-03 - As Drilled	6,470.61	6,428.68	4,398.34	4,352.35	95.624	CC, ES
Mick D18-03 - Mick D18-03 - Mick D18-03 - As Drilled	6,750.00	6,640.76	4,459.27	4,411.74	93.814	SF
Mick D18-04 - Wellbore #1 - Wellbore #1- As Drilled	6,493.39	6,254.53	4,947.22	4,901.80	108.933	CC
Mick D18-04 - Wellbore #1 - Wellbore #1- As Drilled	6,500.00	6,262.89	4,947.24	4,901.78	108.814	ES
Mick D18-04 - Wellbore #1 - Wellbore #1- As Drilled	6,850.00	6,603.86	5,031.22	4,983.73	105.947	SF
Mick D18-05 - Wellbore #1 - Wellbore #1- As Drilled	6,518.03	6,236.03	3,879.20	3,833.81	85.466	CC, ES
Mick D18-05 - Wellbore #1 - Wellbore #1- As Drilled	6,800.00	6,454.78	3,928.07	3,881.16	83.736	SF
Mick D18-06 - Mick D18-06 - Mick D18-06 - As Drilled	6,469.58	6,282.42	3,116.40	3,070.83	68.382	CC, ES
Mick D18-06 - Mick D18-06 - Mick D18-06 - As Drilled	6,700.00	6,497.34	3,156.19	3,109.19	67.158	SF
Mick D18-11 - Mick D18-11 - Mick D18-11 - As Drilled	6,550.29	6,324.13	1,737.00	1,691.32	38.025	CC, ES
Mick D18-11 - Mick D18-11 - Mick D18-11 - As Drilled	6,700.00	6,445.93	1,751.00	1,704.45	37.615	SF
Mick D18-12 - Wellbore #1 - Wellbore #1- As Drilled	6,635.38	6,422.64	2,744.62	2,698.40	59.387	CC, ES
Mick D18-12 - Wellbore #1 - Wellbore #1- As Drilled	6,850.00	6,591.14	2,766.29	2,718.99	58.474	SF
Mick D18-13 - Wellbore #1 - Wellbore #1- As Drilled	7,035.14	6,793.51	2,403.46	2,355.21	49.813	CC, ES
Mick D18-13 - Wellbore #1 - Wellbore #1- As Drilled	7,150.00	6,848.64	2,408.59	2,360.04	49.608	SF
Mick D18-14 - Mick D18-14 - Mick D18-14 - As Drilled	6,926.56	6,641.67	1,197.86	1,150.13	25.092	CC, ES
Mick D18-14 - Mick D18-14 - Mick D18-14 - As Drilled	7,000.00	6,687.46	1,200.38	1,152.38	25.008	SF
Mick D18-19 - Mick D18-19 - Mick D18-19 - As Drilled	6,488.62	6,283.98	3,987.10	3,941.56	87.550	CC, ES
Mick D18-19 - Mick D18-19 - Mick D18-19 - As Drilled	6,750.00	6,450.70	4,037.79	3,990.88	86.086	SF
Mick D18-25 - Mick D18-25 - Mick D18-25 - As Drilled	6,710.83	6,427.33	1,885.50	1,839.00	40.547	CC, ES
Mick D18-25 - Mick D18-25 - Mick D18-25 - As Drilled	6,900.00	6,572.50	1,901.01	1,853.62	40.109	SF
Scooter D18-02 - Scooter D18-02 - Scooter D18-02 - As	6,420.47	6,257.79	3,990.12	3,944.63	87.722	CC, ES
Scooter D18-02 - Scooter D18-02 - Scooter D18-02 - As	6,650.00	6,415.82	4,033.03	3,986.26	86.218	SF
Scooter D18-07 - Scooter D18-07 - Scooter D18-07 - As	6,453.51	6,428.67	2,715.61	2,669.63	59.052	CC, ES
Scooter D18-07 - Scooter D18-07 - Scooter D18-07 - As	6,650.00	6,604.49	2,746.41	2,699.20	58.177	SF
Scooter D18-10 - Scooter D18-10 - Scooter D18-10 - As	6,402.63	6,164.13	1,199.01	1,153.83	26.538	CC, ES
Scooter D18-10 - Scooter D18-10 - Scooter D18-10 - As	6,500.00	6,261.46	1,206.80	1,160.94	26.314	SF
Scooter D18-15 - Scooter D18-15 - Scooter D18-15 - As	6,331.75	6,127.31	88.83	43.92	1.978	CC, ES, SF
Scooter D18-16 - Scooter D18-16 - Scooter D18-16 - As	3,800.71	3,709.21	1,033.35	987.50	22.541	CC
Scooter D18-16 - Scooter D18-16 - Scooter D18-16 - As	3,900.00	3,803.28	1,033.84	986.79	21.977	ES
Scooter D18-16 - Scooter D18-16 - Scooter D18-16 - As	6,300.00	6,077.37	1,306.75	1,230.65	17.171	SF
Scooter D18-17 JI - Scooter D18-17 JI - Scooter D18-17	6,381.29	6,275.81	3,350.58	3,295.39	60.709	CC, ES
Scooter D18-17 JI - Scooter D18-17 JI - Scooter D18-17	6,600.00	6,489.10	3,387.38	3,330.96	60.043	SF
Scooter D18-1JI - Scooter D18-1JI - Scooter D18-1JI - A	6,354.56	6,445.21	4,066.61	3,979.95	46.923	CC, ES
Scooter D18-1JI - Scooter D18-1JI - Scooter D18-1JI - A	6,450.00	6,532.49	4,073.54	3,986.60	46.853	SF
Scooter D18-4J - Scooter D18-4J - Scooter D18-4J - As	6,282.23	6,074.68	1,356.81	1,312.31	30.491	CC, ES
Scooter D18-4J - Scooter D18-4J - Scooter D18-4J - As	6,450.00	6,246.41	1,373.06	1,327.34	30.034	SF
Scooter D18-78-1HN - Original Drilling - Original Drilling -	6,473.64	6,284.00	5,030.66	4,986.66	114.339	CC, ES
Scooter D18-78-1HN - Original Drilling - Original Drilling -	6,650.00	6,417.97	5,053.55	5,008.99	113.415	SF
Scooter D18-78-1HN - Original Drilling - ST01 - Original D	7,100.00	11,297.00	2,021.51	1,918.83	19.687	SF
Scooter D18-78-1HN - Original Drilling - ST01 - Original D	7,125.47	11,297.00	2,021.18	1,918.58	19.699	CC, ES
Scooter D18-79-1HN - Original Drilling - Original Drilling -	7,138.14	11,265.00	2,666.99	2,561.79	25.350	CC, ES
Scooter D18-79-1HN - Original Drilling - Original Drilling -	7,150.00	11,265.00	2,667.05	2,561.84	25.349	SF
Scooter D18-79HN - Original Drilling - Original Drilling - A	7,179.70	11,410.00	3,088.13	2,982.49	29.233	CC, ES
Scooter D18-79HN - Original Drilling - Original Drilling - A	7,250.00	11,410.00	3,090.04	2,984.29	29.218	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 Independence D30-743
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	Well @ 4801.00ft
<b>Reference Site:</b>	D Section 19	<b>MD Reference:</b>	Well @ 4801.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Independence D30-743	<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>	Independence D30-743	<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 18						
Scooter D18-8JI - Scooter D18-8JI - Scooter D18-8JI - A	470.24	386.24	1,934.36	1,931.73	736.110	CC
Scooter D18-8JI - Scooter D18-8JI - Scooter D18-8JI - A	700.00	598.81	1,935.11	1,930.92	461.535	ES
Scooter D18-8JI - Scooter D18-8JI - Scooter D18-8JI - A	6,600.00	6,320.18	3,068.16	3,018.38	61.639	SF
Scooter D18-9JI - Scooter D18-9JI - Scooter D18-9JI - A	590.96	505.97	1,864.08	1,860.60	535.228	CC
Scooter D18-9JI - Scooter D18-9JI - Scooter D18-9JI - A	800.00	706.69	1,864.72	1,859.79	378.264	ES
Scooter D18-9JI - Scooter D18-9JI - Scooter D18-9JI - A	6,500.00	6,269.13	2,153.91	2,107.56	46.468	SF
Shianne D18-29D - Shianne D18-29D - Shianne D18-29D	6,464.37	6,332.65	4,972.08	4,924.27	104.007	CC, ES
Shianne D18-29D - Shianne D18-29D - Shianne D18-29D	6,850.00	6,726.92	5,078.02	5,027.95	101.413	SF



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

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Independence D30-743
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	Well @ 4801.00ft
<b>Reference Site:</b>	D Section 19	<b>MD Reference:</b>	Well @ 4801.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Independence D30-743	<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>	Independence D30-743	<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 19						
Butterball 13-19 - Butterball 13-19 - Butterball 13-19 - As	10,650.63	6,863.38	2,241.09	2,180.09	36.738	CC, ES
Butterball 13-19 - Butterball 13-19 - Butterball 13-19 - As	11,100.00	6,856.00	2,285.69	2,221.69	35.714	SF
Butterball 14-19 - Butterball 14-19 - Butterball 14-19 - As	11,996.04	6,899.02	2,137.93	2,068.08	30.607	CC
Butterball 14-19 - Butterball 14-19 - Butterball 14-19 - As	12,000.00	6,899.00	2,137.94	2,068.05	30.593	ES
Butterball 14-19 - Butterball 14-19 - Butterball 14-19 - As	12,400.00	6,896.48	2,175.76	2,103.04	29.917	SF
Butterball 23-19 - Butterball 23-19 - Butterball 23-19 - As	10,693.33	6,831.49	1,087.86	1,026.67	17.777	CC
Butterball 23-19 - Butterball 23-19 - Butterball 23-19 - As	10,700.00	6,831.44	1,087.88	1,026.63	17.760	ES
Butterball 23-19 - Butterball 23-19 - Butterball 23-19 - As	10,800.00	6,830.76	1,093.08	1,031.01	17.611	SF
Butterball B04-19 - Butterball B04-19 - Butterball B04-19	11,343.09	6,848.23	2,693.41	2,628.03	41.193	CC, ES
Butterball B04-19 - Butterball B04-19 - Butterball B04-19	12,000.00	6,853.35	2,772.36	2,702.60	39.739	SF
Butterball D18-75HN - Original Drilling - Original Drilling -	7,100.00	6,895.00	441.06	391.67	8.931	SF
Butterball D18-75HN - Original Drilling - Original Drilling -	7,120.21	6,884.68	440.66	391.34	8.934	CC, ES
Butterball D19-17D - Butterball D19-17D - Butterball D19	4,700.00	5,087.22	1,254.46	1,119.66	9.306	SF
Butterball D19-17D - Butterball D19-17D - Butterball D19	8,384.39	7,424.61	1,033.65	978.87	18.870	CC, ES
Butterball D19-18D - Butterball D19-18D - Butterball D19	8,390.02	6,914.28	727.84	677.06	14.332	CC, ES
Butterball D19-18D - Butterball D19-18D - Butterball D19	8,500.00	6,914.41	736.10	684.52	14.269	SF
Butterball D19-19D - Butterball D19-19D - Butterball D19	8,970.77	6,911.70	1,732.36	1,677.84	31.775	CC, ES
Butterball D19-19D - Butterball D19-19D - Butterball D19	9,300.00	6,910.77	1,763.37	1,706.82	31.181	SF
Butterball D19-20D - Butterball D19-20D - Butterball D19	9,941.81	6,968.68	1,596.96	1,538.36	27.253	CC, ES
Butterball D19-20D - Butterball D19-20D - Butterball D19	10,100.00	6,967.81	1,604.77	1,545.64	27.136	SF
Butterball D19-22D - Wellbore #1 - Wellbore #1 - As Drill	9,900.00	6,897.81	784.08	724.95	13.260	ES, SF
Butterball D19-22D - Wellbore #1 - Wellbore #1 - As Drill	9,906.20	6,897.76	784.05	724.95	13.267	CC
Butterball D19-75HN - Original Drilling - Original Drilling -	8,126.34	7,063.31	153.23	102.47	3.019	CC, ES
Butterball D19-75HN - Original Drilling - Original Drilling -	12,813.40	11,773.16	362.67	221.58	2.570	SF
Butterball D24-19 - Butterball D24-19 - Butterball D24-19	11,934.41	6,842.85	1,086.06	1,016.75	15.669	CC, ES
Butterball D24-19 - Butterball D24-19 - Butterball D24-19	12,100.00	6,841.79	1,098.61	1,027.97	15.553	SF
Butterball H24-69HN - Original Drilling - Original Drilling -	7,200.00	6,886.76	99.00	61.01	2.606	SF
Butterball H24-69HN - Original Drilling - Original Drilling -	7,243.69	6,896.18	90.46	55.95	2.621	CC, ES
Champlin 366 Amoco F 1 - Wellbore #1 - Wellbore #1 - A	11,015.98	6,818.71	780.19	716.96	12.340	CC, ES, SF
Dechant D19-32D - Dechant D19-32D - Dechant D19-32	335.58	323.59	2,541.34	2,539.41	1,318.135	CC
Dechant D19-32D - Dechant D19-32D - Dechant D19-32	400.00	369.17	2,541.58	2,539.26	1,096.267	ES
Dechant D19-32D - Dechant D19-32D - Dechant D19-32	11,300.00	7,426.73	3,287.42	3,159.39	25.678	SF
Graznak 01-19 - Graznak 01-19 - Graznak 01-19 - As Dr	11,382.68	6,828.00	1,943.84	1,842.31	19.144	CC
Graznak 01-19 - Graznak 01-19 - Graznak 01-19 - As Dr	11,400.00	6,828.00	1,943.92	1,842.24	19.118	ES
Graznak 01-19 - Graznak 01-19 - Graznak 01-19 - As Dr	11,600.00	6,828.00	1,955.95	1,852.75	18.953	SF
Higgins D19-720 - Original Drilling - Original Drilling - As	2,689.47	2,780.40	735.42	718.98	44.748	CC
Higgins D19-720 - Original Drilling - Original Drilling - As	2,700.00	2,790.39	735.44	718.93	44.556	ES
Higgins D19-720 - Original Drilling - Original Drilling - As	4,900.00	4,892.28	1,011.52	979.45	31.534	SF
Higgins D19-720 - Sidetrack Curve/Horizontal - ST01 - A	2,689.47	2,780.40	735.42	718.98	44.748	CC
Higgins D19-720 - Sidetrack Curve/Horizontal - ST01 - A	2,700.00	2,790.39	735.44	718.93	44.556	ES
Higgins D19-720 - Sidetrack Curve/Horizontal - ST01 - A	12,300.00	11,660.02	1,562.04	1,473.15	17.573	SF
Independence D18-712 - Independence D18-712 - Plan 1	2,200.00	2,198.00	186.50	171.20	12.190	CC, ES
Independence D18-712 - Independence D18-712 - Plan 1	2,300.00	2,293.53	189.39	173.41	11.848	SF
Independence D18-717 - Independence D18-717 - Plan 1	2,200.00	2,199.00	174.04	158.74	11.373	CC, ES
Independence D18-717 - Independence D18-717 - Plan 1	2,300.00	2,294.69	176.95	160.96	11.068	SF
Independence D18-725 - Independence D18-725 - Plan 1	2,200.00	2,201.00	162.57	147.26	10.618	CC, ES
Independence D18-725 - Independence D18-725 - Plan 1	2,400.00	2,401.16	169.17	152.43	10.107	SF
Independence D18-732 - Independence D18-732 - Plan 1	2,200.00	2,201.00	155.12	139.81	10.131	CC, ES
Independence D18-732 - Independence D18-732 - Plan 1	2,400.00	2,398.84	161.37	144.64	9.645	SF
Independence D18-739 - Independence D18-739 - Plan 1	2,200.00	2,202.00	150.62	135.30	9.835	CC, ES
Independence D18-739 - Independence D18-739 - Plan 1	7,500.00	7,137.76	281.70	231.24	5.583	SF
Independence D18-744 - Independence D18-744 - Plan 1	7,524.98	7,138.03	134.53	83.50	2.636	CC, ES, SF
Independence D18-759 - Independence D18-759 - Plan 1	7,400.00	7,169.61	798.32	748.66	16.075	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 Independence D30-743
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	Well @ 4801.00ft
<b>Reference Site:</b>	D Section 19	<b>MD Reference:</b>	Well @ 4801.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Independence D30-743	<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>	Independence D30-743	<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 19						
Independence D18-759 - Independence D18-759 - Plan 1	7,405.85	7,164.60	798.31	748.65	16.076	CC, ES
Independence D18-767 - Independence D18-767 - Plan 1	7,400.00	7,132.06	1,377.77	1,328.49	27.954	SF
Independence D18-767 - Independence D18-767 - Plan 1	7,583.32	6,960.22	1,376.00	1,326.79	27.963	CC, ES
Independence D30-711 - Independence D30-711 - Plan 1	2,200.00	2,197.00	111.70	96.41	7.303	CC, ES
Independence D30-711 - Independence D30-711 - Plan 1	2,300.00	2,294.44	113.97	97.98	7.126	SF
Independence D30-718 - Independence D30-718 - Plan 1	2,200.00	2,196.00	89.36	74.07	5.844	CC, ES
Independence D30-718 - Independence D30-718 - Plan 1	2,300.00	2,294.46	91.35	75.36	5.711	SF
Independence D30-724 - Independence D30-724 - Plan 1	2,200.00	2,195.00	67.02	51.73	4.384	CC, ES
Independence D30-724 - Independence D30-724 - Plan 1	2,300.00	2,294.58	68.49	52.49	4.280	SF
Independence D30-731 - Independence D30-731 - Plan 1	2,200.00	2,196.00	44.68	29.39	2.922	CC, ES
Independence D30-731 - Independence D30-731 - Plan 1	2,300.00	2,296.18	45.66	29.65	2.853	SF
Independence D30-737 - Independence D30-737 - Plan 1	2,200.00	2,198.00	22.34	7.04	1.460	Level 3, CC
Independence D30-737 - Independence D30-737 - Plan 1	2,300.00	2,298.39	22.67	6.66	1.416	Level 3, ES
Independence D30-737 - Independence D30-737 - Plan 1	2,400.00	2,398.78	23.61	6.89	1.413	Level 3, SF
Independence D30-758 - Independence D30-758 - Plan 1	17,886.63	17,837.87	776.66	595.76	4.293	CC, ES, SF
Independence D30-765 - Independence D30-765 - Plan 1	17,886.63	17,964.37	1,253.40	1,073.41	6.964	CC, ES, SF
Independence D30-770 - Independence D30-770 - Plan 1	17,886.63	17,785.53	1,581.37	1,400.34	8.736	CC, ES, SF
Independence D30-777 - Independence D30-777 - Plan 1	17,886.63	17,832.21	2,031.05	1,850.19	11.230	CC, ES, SF
Independence State D30-784 - Independence State D30	3,542.25	3,052.44	2,345.93	2,323.18	103.089	CC
Independence State D30-784 - Independence State D30	3,600.00	3,100.00	2,346.23	2,323.11	101.454	ES
Independence State D30-784 - Independence State D30	17,886.63	18,068.86	2,537.85	2,357.10	14.041	SF
LDS White D19-10 - LDS White D19-10 - LDS White D19	10,584.05	6,820.89	34.79	-25.72	0.575	Level 1, CC, ES, SF
LDS White D19-15 - LDS White D19-15 - LDS White D19	11,995.77	6,823.42	42.61	-27.21	0.610	Level 1, CC, ES, SF
LDS White D19-16 - Wellbore #1 - Wellbore #1 - As Drill	11,951.55	6,822.61	1,331.87	1,262.45	19.185	CC, ES
LDS White D19-16 - Wellbore #1 - Wellbore #1 - As Drill	12,000.00	6,822.56	1,332.75	1,263.16	19.149	SF
Mile High 02-19 - Wellbore #1 - Wellbore #1 - As Drilled	8,993.32	6,817.19	465.94	413.59	8.902	CC, ES, SF
Sean D19-09 - Wellbore #1 - Wellbore #1 - As Drilled	10,480.95	6,818.00	1,638.50	1,465.85	9.490	CC, ES
Sean D19-09 - Wellbore #1 - Wellbore #1 - As Drilled	10,500.00	6,818.00	1,638.61	1,465.89	9.487	SF
Turk Blue D19-02J - Turk Blue D19-02J - Turk Blue D19-	8,332.09	6,855.11	1,535.17	1,484.97	30.580	CC, ES
Turk Blue D19-02J - Turk Blue D19-02J - Turk Blue D19-	8,500.00	6,855.79	1,544.33	1,493.53	30.401	SF
Turk Blue D19-04 - Turk Blue D19-04 - Turk Blue D19-04	7,910.90	6,844.56	2,406.41	2,357.04	48.742	CC, ES
Turk Blue D19-04 - Turk Blue D19-04 - Turk Blue D19-04	8,300.00	6,842.23	2,437.66	2,387.32	48.419	SF
Turk Blue D19-05 - Turk Blue D19-05 - Turk Blue D19-05	9,558.08	6,907.24	2,369.05	2,314.01	43.041	CC, ES
Turk Blue D19-05 - Turk Blue D19-05 - Turk Blue D19-05	10,100.00	6,894.86	2,430.21	2,372.09	41.814	SF
Turk Blue D19-06 - Turk Blue D19-06 - Turk Blue D19-06	9,465.91	6,829.98	1,107.11	1,052.69	20.342	CC, ES
Turk Blue D19-06 - Turk Blue D19-06 - Turk Blue D19-06	9,600.00	6,829.40	1,115.20	1,059.90	20.168	SF
Turk White D19-01 - Wellbore #1 - Wellbore #1 - As Drill	1,806.91	1,777.93	749.40	737.12	61.040	CC
Turk White D19-01 - Wellbore #1 - Wellbore #1 - As Drill	2,204.02	2,176.05	750.58	735.49	49.738	ES
Turk White D19-01 - Wellbore #1 - Wellbore #1 - As Drill	8,000.00	6,819.33	1,593.15	1,543.75	32.251	SF
Turk White D19-02 - Wellbore #1 - Wellbore #1 - As Drill	7,880.86	6,808.43	133.97	84.83	2.726	CC, ES, SF
Turk White D19-08 - Wellbore #1 - Wellbore #1 - As Drill	9,444.68	6,820.85	1,489.03	1,434.66	27.387	CC, ES
Turk White D19-08 - Wellbore #1 - Wellbore #1 - As Drill	9,500.00	6,820.43	1,490.06	1,435.53	27.326	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 Independence D30-743
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	Well @ 4801.00ft
<b>Reference Site:</b>	D Section 19	<b>MD Reference:</b>	Well @ 4801.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Independence D30-743	<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>	Independence D30-743	<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 20						
Bohlender D20-2J - Wellbore #1 - No Surveys	2,200.00	2,167.00	2,516.46	2,489.89	94.731	CC, ES
Bohlender D20-2J - Wellbore #1 - No Surveys	9,300.00	6,813.00	3,134.71	3,045.54	35.152	SF
Bohlender D20-3 - Wellbore #1 - Gyro Surveys	2,218.38	2,206.69	3,124.99	3,109.71	204.574	CC, ES
Bohlender D20-3 - Wellbore #1 - Gyro Surveys	8,800.00	6,804.70	4,127.12	4,076.04	80.795	SF
Bohlender D20-4 (P&A) - Wellbore #1 - No Surveys	2,200.00	2,169.00	1,716.31	1,665.28	33.631	CC
Bohlender D20-4 (P&A) - Wellbore #1 - No Surveys	2,300.00	2,268.98	1,717.63	1,664.24	32.172	ES
Bohlender D20-4 (P&A) - Wellbore #1 - No Surveys	7,900.00	6,815.00	2,674.55	2,512.68	16.522	SF
Bohlender D20-6 - Wellbore#1 - Gyro Surveys	2,212.98	2,192.19	3,549.98	3,534.80	233.815	CC, ES
Bohlender D20-6 - Wellbore#1 - Gyro Surveys	10,400.00	6,753.98	4,231.48	4,173.82	73.380	SF
Butterball D19-27D - Butterball D19-27D - Butterball D19	5,168.27	5,388.75	598.94	555.80	13.884	CC
Butterball D19-27D - Butterball D19-27D - Butterball D19	5,300.00	5,507.46	601.06	555.05	13.063	ES
Butterball D19-27D - Butterball D19-27D - Butterball D19	5,900.00	6,025.76	662.54	604.80	11.474	SF
Duncan D20-1 (P&A) - Wellbore #1 - No Surveys	2,200.00	2,168.00	5,880.18	5,829.16	115.267	CC
Duncan D20-1 (P&A) - Wellbore #1 - No Surveys	2,300.00	2,267.98	5,881.41	5,828.04	110.203	ES
Duncan D20-1 (P&A) - Wellbore #1 - No Surveys	8,600.00	6,814.00	6,890.19	6,726.81	42.173	SF
Duncan D20-10 - Wellbore #1 - Gyro Surveys	10,933.76	6,827.19	5,727.31	5,664.54	91.234	CC, ES
Duncan D20-10 - Wellbore #1 - Gyro Surveys	13,000.00	6,833.33	6,088.63	6,015.38	83.118	SF
Duncan D20-11 (SI) - Wellbore #1 - No Surveys	10,540.98	6,820.00	4,169.71	4,073.55	43.362	CC, ES
Duncan D20-11 (SI) - Wellbore #1 - No Surveys	11,300.00	6,820.00	4,238.23	4,138.34	42.430	SF
Duncan D20-12 (SI) - Wellbore #1 - No Surveys	10,603.28	6,818.00	2,793.38	2,696.86	28.942	CC, ES
Duncan D20-12 (SI) - Wellbore #1 - No Surveys	10,900.00	6,818.00	2,809.09	2,711.22	28.703	SF
Duncan D20-13 (SI) - Wellbore #1 - No Surveys	12,139.71	6,823.00	2,778.15	2,671.53	26.056	CC, ES
Duncan D20-13 (SI) - Wellbore #1 - No Surveys	12,400.00	6,823.00	2,790.32	2,682.38	25.852	SF
Duncan D20-14 (SI) - Wellbore #1 - Gyro Surveys	11,589.92	6,721.35	3,789.24	3,722.83	57.054	CC
Duncan D20-14 (SI) - Wellbore #1 - Gyro Surveys	11,600.00	6,721.45	3,789.26	3,722.78	57.004	ES
Duncan D20-14 (SI) - Wellbore #1 - Gyro Surveys	12,500.00	6,730.58	3,896.99	3,826.08	54.958	SF
Duncan D20-15 (P&A) - Wellbore #1 - Gyro Surveys	11,925.82	6,792.69	5,269.73	5,200.59	76.218	CC, ES
Duncan D20-15 (P&A) - Wellbore #1 - Gyro Surveys	13,500.00	6,785.30	5,499.82	5,422.46	71.092	SF
Duncan D20-16 (SI) - Wellbore #1 - Gyro Surveys	11,925.49	6,782.48	6,913.24	6,844.19	100.113	CC
Duncan D20-16 (SI) - Wellbore #1 - Gyro Surveys	12,000.00	6,783.00	6,913.64	6,844.12	99.438	ES
Duncan D20-16 (SI) - Wellbore #1 - Gyro Surveys	17,000.00	17,000.00	8,575.70	8,449.55	67.982	SF
Duncan D20-2 - Wellbore #1 - Gyro Surveys	2,048.58	2,008.22	4,443.21	4,429.26	318.411	CC
Duncan D20-2 - Wellbore #1 - Gyro Surveys	2,200.00	2,121.74	4,443.88	4,428.98	298.417	ES
Duncan D20-2 - Wellbore #1 - Gyro Surveys	10,000.00	6,800.00	5,807.21	5,752.04	105.266	SF
Duncan D20-7 - Wellbore #1 - Gyro Surveys	2,207.53	2,178.54	4,920.69	4,905.57	325.569	CC, ES
Duncan D20-7 - Wellbore #1 - Gyro Surveys	11,300.00	6,813.80	6,187.42	6,125.61	100.105	SF
Duncan D20-8 - Wellbore #1 - Gyro Surveys	1,983.14	1,970.39	6,024.86	6,011.25	442.692	CC
Duncan D20-8 - Wellbore #1 - Gyro Surveys	2,200.00	2,155.62	6,025.26	6,010.21	400.521	ES
Duncan D20-8 - Wellbore #1 - Gyro Surveys	12,600.00	6,840.48	7,555.51	7,486.77	109.903	SF
Duncan D20-9 (P&A) - Wellbore #1 - Gyro Surveys	2,205.07	2,186.14	6,609.94	6,594.80	436.675	CC, ES
Duncan D20-9 (P&A) - Wellbore #1 - Gyro Surveys	13,500.00	6,857.05	7,467.41	7,391.90	98.904	SF
E Ranches (P&A) - Wellbore #1 - No Surveys	11,924.82	6,815.00	3,278.62	3,096.72	18.025	CC, ES
E Ranches (P&A) - Wellbore #1 - No Surveys	12,200.00	6,815.00	3,290.15	3,106.78	17.943	SF
Guttersen 10-20 - Wellbore #1 - Gyro Surveys	2,223.29	2,226.72	5,119.74	5,104.39	333.536	CC, ES
Guttersen 10-20 - Wellbore #1 - Gyro Surveys	12,200.00	6,781.13	5,535.30	5,467.87	82.085	SF
LDS D20-30D - LDS D20-30D - LDS D20-30D - As Drille	3,947.25	4,214.01	1,458.25	1,428.52	49.047	CC
LDS D20-30D - LDS D20-30D - LDS D20-30D - As Drille	4,000.00	4,246.49	1,458.68	1,428.48	48.298	ES
LDS D20-30D - LDS D20-30D - LDS D20-30D - As Drille	7,350.00	6,877.15	1,979.20	1,928.40	38.959	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 Independence D30-743
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	Well @ 4801.00ft
<b>Reference Site:</b>	D Section 19	<b>MD Reference:</b>	Well @ 4801.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Independence D30-743	<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>	Independence D30-743	<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 29						
Guttersen D29-30D - Wellbore #1 - Design #1	12,693.17	7,012.26	2,226.57	2,144.59	27.157	CC
Guttersen D29-30D - Wellbore #1 - Design #1	12,700.00	7,012.26	2,226.59	2,144.55	27.142	ES
Guttersen D29-30D - Wellbore #1 - Design #1	12,900.00	7,012.26	2,236.16	2,152.99	26.888	SF
Guttersen D29-31D - Wellbore #1 - Guttersen D29-31D	13,931.33	6,911.88	2,305.11	2,219.49	26.923	CC, ES
Guttersen D29-31D - Wellbore #1 - Guttersen D29-31D	14,200.00	6,912.49	2,320.72	2,233.56	26.627	SF
Guttersen D29-33D - Wellbore #1 - Guttersen D29-33D -	16,578.12	7,022.70	2,343.02	2,231.52	21.014	CC
Guttersen D29-33D - Wellbore #1 - Guttersen D29-33D -	16,600.00	7,022.68	2,343.12	2,231.50	20.992	ES
Guttersen D29-33D - Wellbore #1 - Guttersen D29-33D -	16,700.00	7,022.60	2,346.19	2,234.11	20.934	SF
Guttersen D29-65HN - Original Drilling - Original Drilling	15,286.44	6,335.65	2,485.66	2,396.90	28.002	CC
Guttersen D29-65HN - Original Drilling - Original Drilling	15,300.00	6,332.36	2,485.70	2,396.87	27.983	ES
Guttersen D29-65HN - Original Drilling - Original Drilling	15,500.00	6,305.05	2,494.56	2,404.82	27.797	SF
Guttersen D29-67HN - Original Drilling - Original Drilling	13,924.80	6,274.34	2,606.25	2,527.92	33.275	CC, ES
Guttersen D29-67HN - Original Drilling - Original Drilling	14,300.00	6,272.01	2,633.11	2,552.85	32.809	SF
Guttersen D29-69HN - Original Drilling - Original Drilling	12,673.71	6,411.01	2,603.84	2,526.90	33.841	CC
Guttersen D29-69HN - Original Drilling - Original Drilling	12,700.00	6,411.01	2,603.97	2,526.86	33.767	ES
Guttersen D29-69HN - Original Drilling - Original Drilling	13,000.00	6,411.01	2,624.20	2,545.47	33.330	SF
Guttersen D29-722 - Guttersen D29-722 - Prelim - Rev 1	5,642.50	15,504.83	6,430.64	6,335.93	67.900	CC
Guttersen D29-722 - Guttersen D29-722 - Prelim - Rev 1	5,700.00	15,508.82	6,430.88	6,335.88	67.697	ES
Guttersen D29-722 - Guttersen D29-722 - Prelim - Rev 1	6,500.00	15,654.61	6,485.85	6,386.43	65.240	SF
Guttersen D29-730 - Guttersen D29-730 - Prelim - Rev 1	5,653.41	15,414.24	5,804.48	5,709.29	60.980	CC
Guttersen D29-730 - Guttersen D29-730 - Prelim - Rev 1	5,700.00	15,425.29	5,804.65	5,709.21	60.815	ES
Guttersen D29-730 - Guttersen D29-730 - Prelim - Rev 1	6,450.00	15,575.82	5,856.87	5,757.71	59.066	SF
Guttersen D29-738 - Guttersen D29-738 - Prelim - Rev 1	5,923.93	15,699.87	5,215.04	5,120.57	55.203	CC
Guttersen D29-738 - Guttersen D29-738 - Prelim - Rev 1	6,000.00	15,717.92	5,215.56	5,120.51	54.870	ES
Guttersen D29-738 - Guttersen D29-738 - Prelim - Rev 1	6,550.00	15,783.91	5,252.26	5,153.73	53.307	SF
Guttersen D29-746 - Guttersen D29-746 - Prelim - Rev 1	5,925.95	15,413.24	4,616.42	4,521.29	48.531	CC, ES
Guttersen D29-746 - Guttersen D29-746 - Prelim - Rev 1	6,500.00	15,505.39	4,651.40	4,552.74	47.143	SF
Guttersen D29-754 - Guttersen D29-754 - Prelim - Rev 1	6,284.38	15,713.69	4,089.37	3,990.79	41.482	CC
Guttersen D29-754 - Guttersen D29-754 - Prelim - Rev 1	6,300.00	15,716.66	4,089.40	3,990.73	41.443	ES
Guttersen D29-754 - Guttersen D29-754 - Prelim - Rev 1	6,550.00	15,712.48	4,098.80	3,999.17	41.143	SF
Guttersen D29-770 - Guttersen D29-770 - Prelim - Rev 1	6,224.25	15,516.80	3,427.24	3,330.67	35.489	CC
Guttersen D29-770 - Guttersen D29-770 - Prelim - Rev 1	6,262.00	15,525.74	3,427.44	3,330.56	35.382	ES
Guttersen D29-770 - Guttersen D29-770 - Prelim - Rev 1	6,550.00	15,529.45	3,443.45	3,345.02	34.984	SF
Guttersen D29-778 - Guttersen D29-778 - Prelim - Rev 1	6,453.26	15,675.97	2,853.96	2,754.72	28.758	CC, ES
Guttersen D29-778 - Guttersen D29-778 - Prelim - Rev 1	6,600.00	15,650.27	2,857.88	2,758.23	28.681	SF
Guttersen D29-786 - Guttersen D29-786 - Prelim - Rev 1	6,486.15	15,554.70	2,267.15	2,167.59	22.771	CC, ES
Guttersen D29-786 - Guttersen D29-786 - Prelim - Rev 1	6,550.00	15,544.34	2,268.08	2,168.42	22.759	SF
Guttersen D29-99HZ - Wellbore #1 - MWD Surveys	16,646.09	6,321.01	2,704.81	2,602.89	26.539	CC, ES
Guttersen D29-99HZ - Wellbore #1 - MWD Surveys	16,900.00	6,321.01	2,716.70	2,613.31	26.275	SF
Guttersen D30-68-1HN - Original Drilling - Original Drilling	13,656.03	8,882.30	60.10	-14.12	0.810	Level 1, CC, ES, SF
Guttersen D30-69-1HN - Original Drilling - Original Drilling	12,900.00	8,835.58	63.94	-11.54	0.847	Level 1, ES, SF
Guttersen D30-69-1HN - Original Drilling - Original Drilling	12,917.87	8,835.66	61.39	-6.34	0.906	Level 1, CC
Guttersen State D29-714 - Guttersen D29-714 - Prelim -	5,602.05	15,583.72	6,988.77	6,895.34	74.795	CC
Guttersen State D29-714 - Guttersen D29-714 - Prelim -	5,700.00	15,606.96	6,989.42	6,895.32	74.275	ES
Guttersen State D29-714 - Guttersen D29-714 - Prelim -	17,800.00	6,450.00	7,596.77	7,488.93	70.449	SF
Guttersen Y05-719 - Guttersen Y05-719 - Prelim - Rev 1	14,178.76	6,542.23	7,085.99	7,001.32	83.686	CC
Guttersen Y05-719 - Guttersen Y05-719 - Prelim - Rev 1	14,200.00	6,548.61	7,086.02	7,001.17	83.514	ES
Guttersen Y05-719 - Guttersen Y05-719 - Prelim - Rev 1	17,886.63	10,343.57	7,142.58	7,015.65	56.271	SF
Guttersen Y05-726 - Guttersen Y05-726 - Prelim - Rev 1	14,687.03	7,239.66	6,491.88	6,401.55	71.876	CC
Guttersen Y05-726 - Guttersen Y05-726 - Prelim - Rev 1	14,800.00	7,300.00	6,492.30	6,401.09	71.182	ES
Guttersen Y05-726 - Guttersen Y05-726 - Prelim - Rev 1	17,886.63	10,358.80	6,530.51	6,403.49	51.413	SF
Guttersen Y05-734 - Guttersen Y05-734 - Prelim - Rev 1	14,769.28	7,385.57	5,879.50	5,787.87	64.165	CC
Guttersen Y05-734 - Guttersen Y05-734 - Prelim - Rev 1	14,800.00	7,400.00	5,879.52	5,787.66	64.002	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 Independence D30-743
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	Well @ 4801.00ft
<b>Reference Site:</b>	D Section 19	<b>MD Reference:</b>	Well @ 4801.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Independence D30-743	<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>	Independence D30-743	<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 29						
Guttersen Y05-734 - Guttersen Y05-734 - Prelim - Rev 1	17,886.63	10,424.05	5,917.47	5,790.08	46.451	SF
Guttersen Y05-749 - Guttersen Y05-749 - Prelim - Rev 1	14,237.35	6,105.51	5,177.70	5,094.72	62.396	CC
Guttersen Y05-749 - Guttersen Y05-749 - Prelim - Rev 1	14,300.00	6,103.98	5,178.07	5,094.68	62.091	ES
Guttersen Y05-749 - Guttersen Y05-749 - Prelim - Rev 1	17,886.63	10,369.02	5,304.47	5,177.49	41.771	SF
Guttersen Y05-756 - Guttersen Y05-756 - Prelim - Rev 1	14,336.47	6,727.11	4,637.64	4,551.26	53.686	CC
Guttersen Y05-756 - Guttersen Y05-756 - Prelim - Rev 1	14,400.00	6,762.53	4,637.94	4,550.98	53.338	ES
Guttersen Y05-756 - Guttersen Y05-756 - Prelim - Rev 1	17,886.63	10,303.16	4,689.57	4,562.83	37.002	SF
Guttersen Y05-771 - Guttersen Y05-771 - Prelim - Rev 1	14,246.47	6,282.45	3,870.38	3,786.72	46.263	CC, ES
Guttersen Y05-771 - Guttersen Y05-771 - Prelim - Rev 1	17,886.63	10,357.32	3,991.58	3,864.66	31.451	SF
Guttersen Y05-779 - Guttersen Y05- 779 - Prelim - Rev 1	14,293.77	6,676.90	3,399.82	3,313.94	39.587	CC
Guttersen Y05-779 - Guttersen Y05- 779 - Prelim - Rev 1	14,300.00	6,679.13	3,399.83	3,313.90	39.564	ES
Guttersen Y05-779 - Guttersen Y05- 779 - Prelim - Rev 1	17,886.63	10,386.41	3,467.43	3,340.40	27.296	SF
Guttersen Y05-786 - Guttersen Y05-786 - Prelim - Rev 1	14,692.79	7,128.96	2,864.62	2,774.43	31.763	CC
Guttersen Y05-786 - Guttersen Y05-786 - Prelim - Rev 1	14,800.00	7,217.93	2,865.04	2,773.91	31.440	ES
Guttersen Y05-786 - Guttersen Y05-786 - Prelim - Rev 1	17,886.63	10,287.98	2,905.67	2,778.92	22.924	SF
Jessie D29-1J - Wellbore #1 - Gyro Surveys	13,517.02	6,789.06	5,765.14	5,684.69	71.659	CC, ES
Jessie D29-1J - Wellbore #1 - Gyro Surveys	15,200.00	6,799.16	6,005.76	5,916.09	66.975	SF
Jessie D29-4J - Wellbore #1 - Gyro Surveys	16,182.47	6,671.62	5,845.18	5,745.05	58.377	CC
Jessie D29-4J - Wellbore #1 - Gyro Surveys	16,200.00	6,672.09	5,845.20	5,744.95	58.304	ES
Jessie D29-4J - Wellbore #1 - Gyro Surveys	17,600.00	6,715.68	6,014.43	5,906.18	55.559	SF
Kate Red D29-03J - Kate Red D29-03J - Kate Red D29-0	16,231.56	6,831.22	3,084.62	2,983.34	30.458	CC, ES
Kate Red D29-03J - Kate Red D29-03J - Kate Red D29-0	16,600.00	6,830.22	3,106.55	3,003.40	30.119	SF
Kate Red D29-11 - Wellbore #1 - Gyro Surveys	15,856.13	6,872.65	4,054.29	3,955.73	41.135	CC
Kate Red D29-11 - Wellbore #1 - Gyro Surveys	15,900.00	6,872.20	4,054.53	3,955.68	41.018	ES
Kate Red D29-11 - Wellbore #1 - Gyro Surveys	16,500.00	6,866.11	4,105.10	4,003.11	40.252	SF
Kate Red D29-13 - Wellbore #1 - Gyro Surveys	17,310.03	6,819.24	2,743.56	2,633.94	25.026	CC, ES
Kate Red D29-13 - Wellbore #1 - Gyro Surveys	17,600.00	6,820.58	2,758.84	2,647.81	24.846	SF
Kate Red D29-14 - Wellbore #1 - Gyro Surveys	17,187.44	6,848.83	4,108.47	3,999.67	37.759	CC
Kate Red D29-14 - Wellbore #1 - Gyro Surveys	17,200.00	6,848.98	4,108.49	3,999.60	37.730	ES
Kate Red D29-14 - Wellbore #1 - Gyro Surveys	17,800.00	6,956.63	4,153.79	4,041.51	36.994	SF
Kate Red D29-2J - Wellbore #1 - Kate Red D29-2J	13,624.65	6,777.77	3,291.79	3,210.60	40.546	CC, ES
Kate Red D29-2J - Wellbore #1 - Kate Red D29-2J	14,100.00	6,778.08	3,325.93	3,242.28	39.760	SF
Kate Red D29-3 - Wellbore #1 - Kate Red D29-3	13,212.32	6,800.41	4,174.28	4,096.01	53.332	CC, ES
Kate Red D29-3 - Wellbore #1 - Kate Red D29-3	14,100.00	6,803.61	4,267.62	4,184.68	51.456	SF
Kate Red D29-5 - Wellbore #1 - Gyro Surveys	14,542.08	6,779.08	2,817.39	2,729.38	32.015	CC, ES
Kate Red D29-5 - Wellbore #1 - Gyro Surveys	14,900.00	6,777.61	2,840.03	2,750.28	31.643	SF
Kate Red D29-6 - Wellbore #1 - Gyro Surveys	14,565.96	6,814.54	4,175.14	4,086.71	47.212	CC
Kate Red D29-6 - Wellbore #1 - Gyro Surveys	14,600.00	6,814.61	4,175.28	4,086.62	47.094	ES
Kate Red D29-6 - Wellbore #1 - Gyro Surveys	15,400.00	6,816.16	4,257.63	4,164.81	45.868	SF
Kate White D29-1 - Wellbore #1 - Gyro Surveys	13,126.95	6,840.89	6,844.19	6,766.35	87.930	CC
Kate White D29-1 - Wellbore #1 - Gyro Surveys	13,200.00	6,841.08	6,844.58	6,766.25	87.387	ES
Kate White D29-1 - Wellbore #1 - Gyro Surveys	15,500.00	6,846.83	7,243.91	7,152.96	79.643	SF
Kate White D29-15 - Wellbore #1 - Gyro Surveys	17,069.47	6,636.43	5,351.88	5,245.03	50.089	CC
Kate White D29-15 - Wellbore #1 - Gyro Surveys	17,100.00	6,636.36	5,351.97	5,244.90	49.990	ES
Kate White D29-15 - Wellbore #1 - Gyro Surveys	17,886.63	6,634.56	5,413.90	5,302.17	48.455	SF
Kate White D29-16 - Wellbore #1 - Gyro Surveys	17,136.01	6,769.70	6,764.63	6,656.57	62.601	CC
Kate White D29-16 - Wellbore #1 - Gyro Surveys	17,200.00	6,769.79	6,764.93	6,656.41	62.339	ES
Kate White D29-16 - Wellbore #1 - Gyro Surveys	17,886.63	6,770.75	6,806.14	6,693.14	60.227	SF
Kate White D29-7 - Wellbore #1 - Gyro Surveys	14,549.32	6,781.59	5,659.68	5,571.51	64.191	CC
Kate White D29-7 - Wellbore #1 - Gyro Surveys	14,600.00	6,781.72	5,659.90	5,571.39	63.943	ES
Kate White D29-7 - Wellbore #1 - Gyro Surveys	16,000.00	6,785.08	5,842.64	5,746.42	60.725	SF
Kate White D29-8 - Wellbore #1 - Gyro Surveys	14,510.76	6,893.97	6,793.06	6,704.66	76.842	CC
Kate White D29-8 - Wellbore #1 - Gyro Surveys	14,600.00	6,896.28	6,793.65	6,704.62	76.308	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 Independence D30-743
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	Well @ 4801.00ft
<b>Reference Site:</b>	D Section 19	<b>MD Reference:</b>	Well @ 4801.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Independence D30-743	<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>	Independence D30-743	<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 29						
Kate White D29-8 - Wellbore #1 - Gyro Surveys	16,600.00	6,940.42	7,106.93	7,006.74	70.936	SF
Kate White D29-9 (SI) - Wellbore #1 - Gyro Surveys	15,903.42	6,691.63	6,773.60	6,675.50	69.051	CC
Kate White D29-9 (SI) - Wellbore #1 - Gyro Surveys	16,000.00	6,694.80	6,774.29	6,675.49	68.570	ES
Kate White D29-9 (SI) - Wellbore #1 - Gyro Surveys	17,800.00	6,793.21	7,033.63	6,924.33	64.352	SF



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

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Independence D30-743
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	Well @ 4801.00ft
<b>Reference Site:</b>	D Section 19	<b>MD Reference:</b>	Well @ 4801.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Independence D30-743	<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>	Independence D30-743	<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 30						
Adams D30-27D - Adams D30-27D - Adams D30-27D - A	12,479.85	6,906.11	677.24	601.34	8.923	CC, ES, SF
Adams D30-29D - Wellbore #1 - Wellbore #1 - As Drilled	12,748.87	6,916.11	1,664.01	1,588.06	21.911	CC, ES
Adams D30-29D - Wellbore #1 - Wellbore #1 - As Drilled	13,000.00	6,917.66	1,682.85	1,604.94	21.600	SF
Adams D30-30D - Adams D30-30D - Adams D30-30D - A	12,595.88	7,305.03	3,006.63	2,928.28	38.376	CC
Adams D30-30D - Adams D30-30D - Adams D30-30D - A	12,600.00	7,305.03	3,006.63	2,928.28	38.371	ES
Adams D30-30D - Adams D30-30D - Adams D30-30D - A	14,600.00	7,305.71	3,613.35	3,494.21	30.327	SF
Adams D30-31D - Adams D30-31D - Adams D30-31D - A	13,885.44	7,285.94	2,711.74	2,599.30	24.119	CC
Adams D30-31D - Adams D30-31D - Adams D30-31D - A	14,000.00	7,286.34	2,714.15	2,597.83	23.333	ES
Adams D30-31D - Adams D30-31D - Adams D30-31D - A	15,000.00	7,290.07	2,931.85	2,789.06	20.532	SF
Corbin D30-23D - Corbin D30-23D - Corbin D30-23D - As	16,700.00	7,202.70	962.32	831.02	7.329	SF
Corbin D30-23D - Corbin D30-23D - Corbin D30-23D - As	16,900.00	7,204.20	935.56	812.77	7.619	ES
Corbin D30-23D - Corbin D30-23D - Corbin D30-23D - As	16,926.96	7,204.41	935.17	813.74	7.701	CC
Corbin Red D30-04J - Corbin Red D30-04J - Corbin Red	16,309.88	6,827.54	573.67	471.94	5.639	CC, ES, SF
Corbin Red D30-09 - Corbin Red D30-09 - Corbin Red D	15,930.19	6,792.21	1,558.82	1,460.25	15.813	CC, ES
Corbin Red D30-09 - Corbin Red D30-09 - Corbin Red D	16,000.00	6,793.42	1,560.39	1,461.50	15.780	SF
Corbin Red D30-15 - Corbin Red D30-15 - Corbin Red D	17,289.17	6,849.55	229.80	120.09	2.095	CC, ES, SF
Corbin Red D30-16 - Corbin Red D30-16 - Corbin Red D	17,365.77	6,854.19	1,464.44	1,354.14	13.277	CC, ES
Corbin Red D30-16 - Corbin Red D30-16 - Corbin Red D	17,400.00	6,853.97	1,464.84	1,354.40	13.264	SF
Dechant D30-17D - Dechant D30-17D - Dechant D30-17	14,275.16	7,284.54	763.74	641.64	6.255	CC
Dechant D30-17D - Dechant D30-17D - Dechant D30-17	14,300.00	7,284.46	764.14	640.39	6.175	ES
Dechant D30-17D - Dechant D30-17D - Dechant D30-17	14,500.00	7,283.79	796.14	662.98	5.978	SF
Dechant D30-20D - Dechant D30-20D - Dechant D30-20	15,248.58	6,926.91	1,685.38	1,588.62	17.419	CC, ES
Dechant D30-20D - Dechant D30-20D - Dechant D30-20	15,500.00	6,927.02	1,704.03	1,604.49	17.119	SF
Dechant D30-24D - Dechant D30-24D - Dechant D30-24	16,667.79	6,980.82	512.69	403.66	4.702	CC, ES
Dechant D30-24D - Dechant D30-24D - Dechant D30-24	16,700.00	6,982.14	513.70	404.20	4.691	SF
Dechant D30-25D - Dechant D30-25D - Dechant D30-25	16,640.82	7,058.84	1,692.32	1,577.63	14.756	CC, ES
Dechant D30-25D - Dechant D30-25D - Dechant D30-25	16,700.00	7,060.18	1,693.35	1,578.58	14.754	SF
Dechant D31-27D - Dechant D31-27D - Dechant D31-27	17,827.13	7,154.78	872.43	755.06	7.433	CC, ES
Dechant D31-27D - Dechant D31-27D - Dechant D31-27	17,886.63	7,154.38	874.46	755.34	7.341	SF
Dechant D31-28D - Dechant D31-28D - Dechant D31-28	17,787.31	6,880.42	536.03	422.31	4.714	CC
Dechant D31-28D - Dechant D31-28D - Dechant D31-28	17,800.00	6,880.55	536.18	422.30	4.709	ES, SF
Dechant D31-29D - Dechant D31-29D - Dechant D31-29	17,886.63	6,966.88	1,711.93	1,596.08	14.777	CC, ES, SF
Dechant D31-77HN - Original Drilling - Original Drilling - A	17,886.63	6,617.18	1,167.56	1,057.50	10.608	CC, ES, SF
Hanson D30-11 - Hanson D30-11 - Hanson D30-11 - As D	15,846.05	6,875.04	1,137.92	1,039.70	11.586	CC, ES
Hanson D30-11 - Hanson D30-11 - Hanson D30-11 - As D	15,900.00	6,874.59	1,139.19	1,040.44	11.536	SF
Hanson D30-12 - Hanson D30-12 - Hanson D30-12 - As	15,751.22	6,842.78	2,301.96	2,204.35	23.584	CC, ES
Hanson D30-12 - Hanson D30-12 - Hanson D30-12 - As	16,100.00	6,838.84	2,328.23	2,228.03	23.238	SF
Hanson D30-13 - Hanson D30-13 - Hanson D30-13 - As	17,328.53	6,869.97	2,411.55	2,301.59	21.931	CC, ES
Hanson D30-13 - Hanson D30-13 - Hanson D30-13 - As	17,600.00	6,870.46	2,426.78	2,314.70	21.653	SF
Hanson D30-14 - Hanson D30-14 - Hanson D30-14 - As	17,243.42	6,945.88	939.33	830.50	8.631	CC, ES
Hanson D30-14 - Hanson D30-14 - Hanson D30-14 - As	17,300.00	6,947.59	941.03	831.69	8.606	SF
Hettinger C Unit 1 - Hettinger C Unit 1 - Hettinger C Unit	13,447.66	6,794.09	1,084.63	1,004.84	13.593	CC, ES
Hettinger C Unit 1 - Hettinger C Unit 1 - Hettinger C Unit	13,500.00	6,793.54	1,085.89	1,005.95	13.583	SF
Hettinger D30-02 - Hettinger D30-02 - Hettinger D30-02 -	13,139.72	6,824.00	173.51	59.75	1.525	CC, ES, SF
Hettinger D30-03 - Hettinger D30-03 - Hettinger D30-03 -	13,117.20	6,844.16	1,179.98	1,102.31	15.192	CC, ES
Hettinger D30-03 - Hettinger D30-03 - Hettinger D30-03 -	13,200.00	6,844.07	1,182.88	1,104.44	15.079	SF
Hettinger D30-04 - Hettinger D30-04 - Hettinger D30-04 -	13,090.60	6,887.93	2,346.35	2,268.81	30.259	CC
Hettinger D30-04 - Hettinger D30-04 - Hettinger D30-04 -	13,100.00	6,887.92	2,346.37	2,268.74	30.227	ES
Hettinger D30-04 - Hettinger D30-04 - Hettinger D30-04 -	13,500.00	6,887.50	2,381.80	2,301.26	29.573	SF
Hettinger D30-05 - Hettinger D30-05 - Hettinger D30-05 -	14,871.71	6,826.78	2,312.69	2,221.87	25.462	CC
Hettinger D30-05 - Hettinger D30-05 - Hettinger D30-05 -	14,900.00	6,826.85	2,312.87	2,221.78	25.391	ES
Hettinger D30-05 - Hettinger D30-05 - Hettinger D30-05 -	15,200.00	6,827.60	2,335.88	2,242.53	25.024	SF
Hettinger D30-06 - Hettinger D30-06 - Hettinger D30-06 -	14,819.31	6,852.14	1,122.88	1,032.49	12.424	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 Independence D30-743
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	Well @ 4801.00ft
<b>Reference Site:</b>	D Section 19	<b>MD Reference:</b>	Well @ 4801.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Independence D30-743	<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>	Independence D30-743	<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 30						
Hettinger D30-06 - Hettinger D30-06 - Hettinger D30-06 -	14,900.00	6,851.57	1,125.77	1,034.62	12.351	SF
Hettinger D30-08 - Hettinger D30-08 - Hettinger D30-08 -	14,700.52	6,841.33	1,367.45	1,277.86	15.263	CC, ES
Hettinger D30-08 - Hettinger D30-08 - Hettinger D30-08 -	14,800.00	6,841.37	1,371.06	1,281.17	15.252	SF
Leslie E Hanson Gas Unit 1 - Leslie E Hanson Gas Unit	16,711.27	6,842.00	1,935.83	1,794.77	13.723	CC, ES
Leslie E Hanson Gas Unit 1 - Leslie E Hanson Gas Unit	16,900.00	6,842.00	1,945.01	1,802.39	13.638	SF
McWilliams D29-32 - McWilliams D29-32 - McWilliams D	15,181.17	6,787.11	2,052.85	1,959.98	22.104	CC
McWilliams D29-32 - McWilliams D29-32 - McWilliams D	15,200.00	6,787.24	2,052.94	1,959.96	22.080	ES
McWilliams D29-32 - McWilliams D29-32 - McWilliams D	15,300.00	6,787.91	2,056.29	1,962.83	22.003	SF
McWilliams D30-07 - McWilliams D30-07 - McWilliams D	14,471.13	6,832.00	184.14	60.41	1.488	Level 3, CC, ES, SF
McWilliams D30-18 - McWilliams D30-18 - McWilliams D	13,988.50	6,846.27	483.79	399.83	5.762	CC
McWilliams D30-18 - McWilliams D30-18 - McWilliams D	14,000.00	6,846.16	483.93	399.80	5.752	ES, SF
McWilliams D30-19 - McWilliams D30-19 - McWilliams D	13,954.22	6,854.57	1,667.72	1,582.08	19.474	CC, ES
McWilliams D30-19 - McWilliams D30-19 - McWilliams D	14,200.00	6,853.32	1,685.74	1,598.21	19.259	SF
McWilliams D30-21 - McWilliams D30-21 - McWilliams D	15,580.65	6,842.71	137.17	41.01	1.426	Level 3, CC, ES, SF
McWilliams D30-22 - McWilliams D30-22 - McWilliams D	15,201.18	6,831.68	704.66	611.35	7.552	CC, ES, SF

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

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Independence D30-743
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	Well @ 4801.00ft
<b>Reference Site:</b>	D Section 19	<b>MD Reference:</b>	Well @ 4801.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Independence D30-743	<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>	Independence D30-743	<b>Database:</b>	EDMP
<b>Reference Design:</b>	Plan 1	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to Well @ 4801.00ft

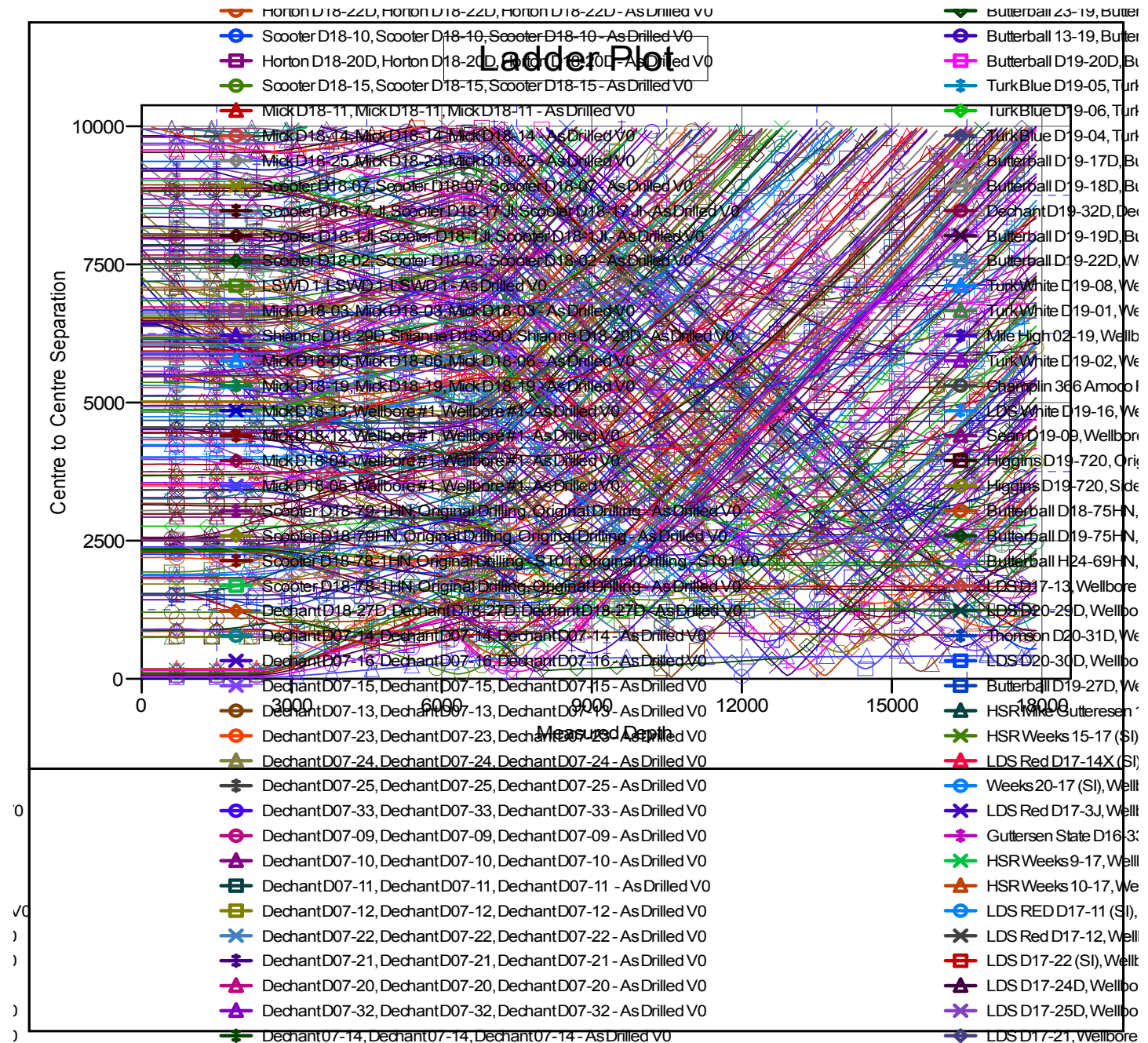
Coordinates are relative to: Independence D30-743

Offset Depths are relative to Offset Datum

Coordinate System is US State Plane 1983, Colorado Northern Zone

Central Meridian is -105.5000000

Grid Convergence at Surface is: 0.59°



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

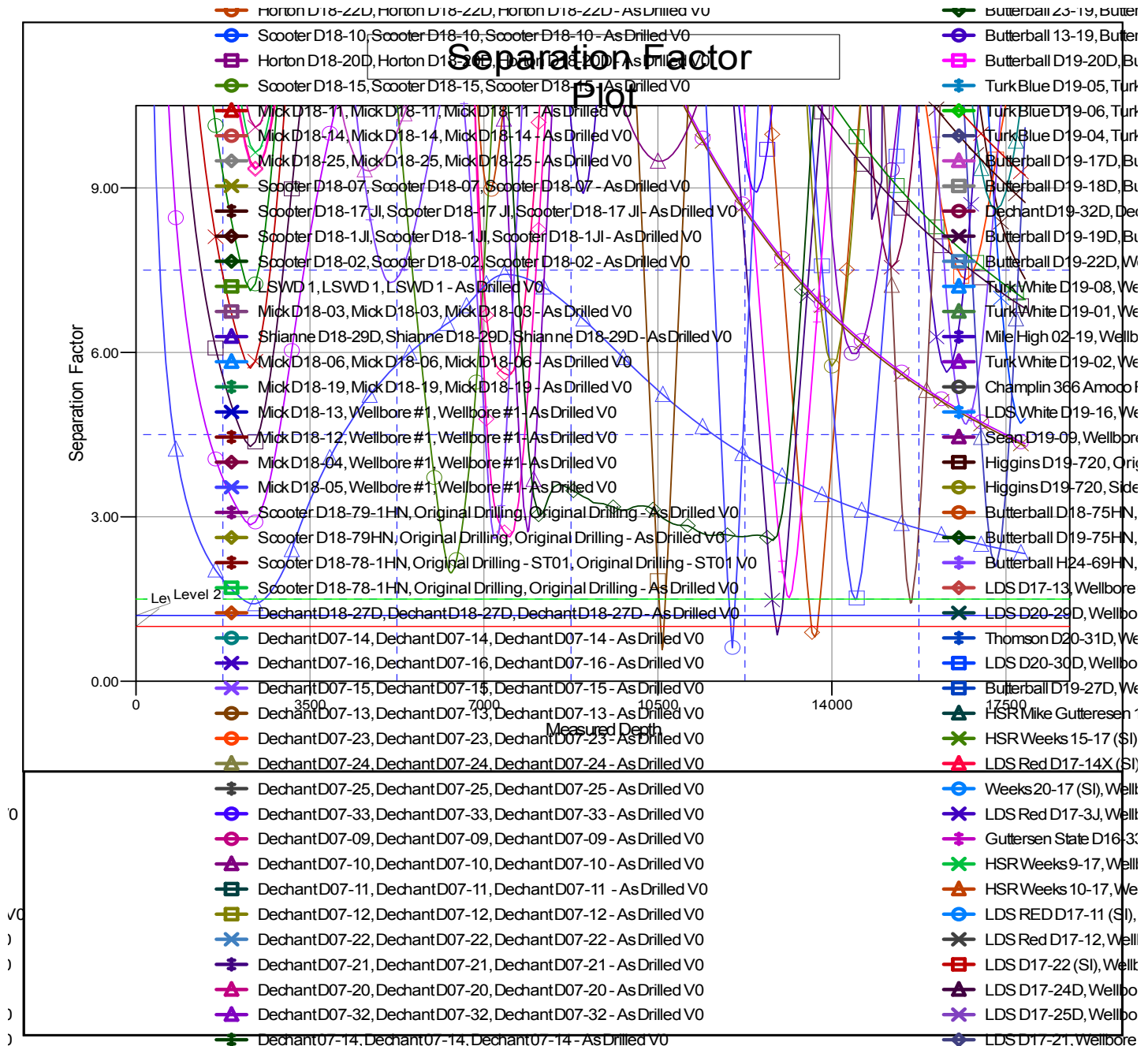


**Noble Energy, Inc.**  
**Anticollision Summary Report**

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Independence D30-743
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	Well @ 4801.00ft
<b>Reference Site:</b>	D Section 19	<b>MD Reference:</b>	Well @ 4801.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Independence D30-743	<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>	Independence D30-743	<b>Database:</b>	EDMP
<b>Reference Design:</b>	Plan 1	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to Well @ 4801.00ft  
Offset Depths are relative to Offset Datum  
Central Meridian is -105.5000000

Coordinates are relative to: Independence D30-743  
Coordinate System is US State Plane 1983, Colorado Northern Zone  
Grid Convergence at Surface is: 0.59°



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