

Project: Mustang  
Site: H Section 01  
Well: Shelton H3-675  
Wellbore: Wellbore #1  
Design: Plan #1

# Northern Region - DJ Basin

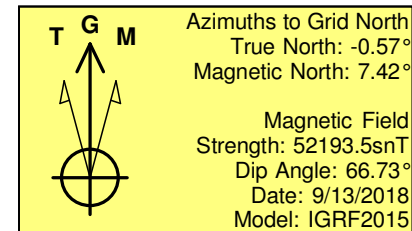
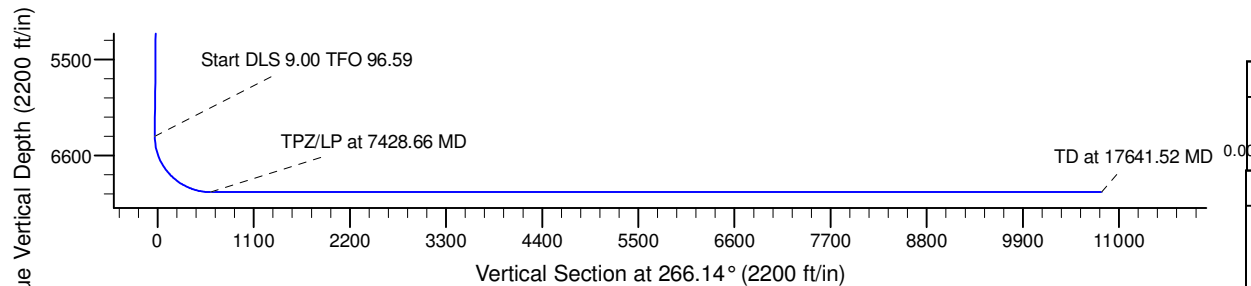
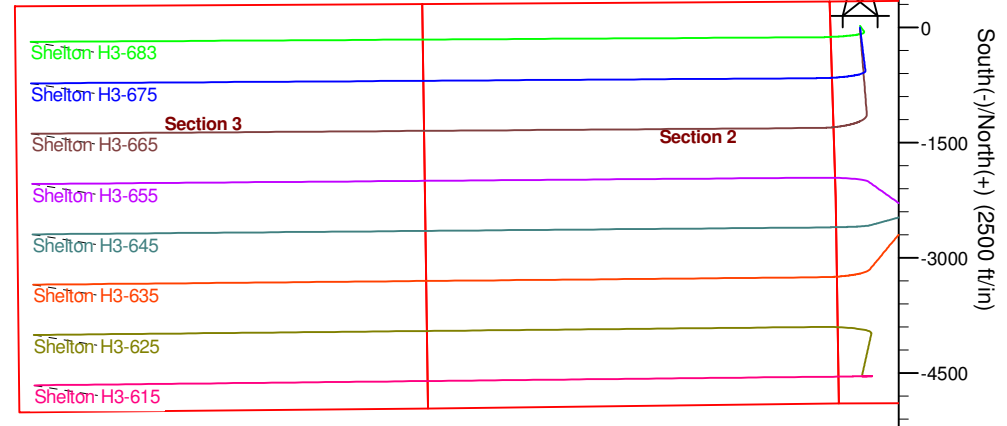
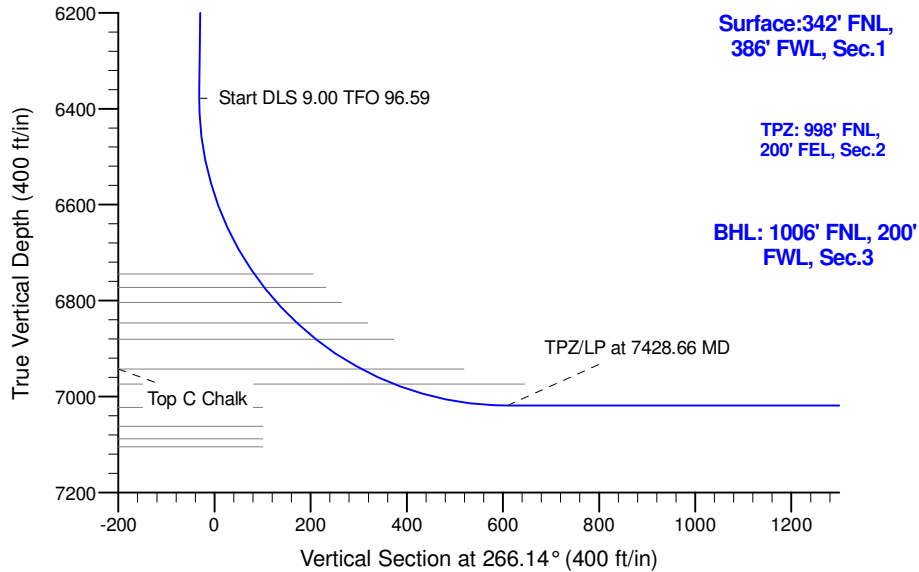
Geodetic System: US State Plane 1983  
Datum: North American Datum 1983  
Ellipsoid: GRS 1980  
Zone: Colorado Northern Zone  
System Datum: Mean Sea Level

## 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	2200.00	0.00	0.00	2200.00	0.00	0.00	0.00	0.00	0.00	
3	2607.38	8.15	172.97	2606.01	-28.70	3.54	2.00	172.97	-1.60	
4	6418.21	8.15	172.97	6378.37	-564.72	69.67	0.00	0.00	-31.49	
5	7428.66	90.00	269.62	7019.00	-660.01	-566.25	9.00	96.59	609.40	TPZ Shelton H3-675
6	17641.52	90.00	269.62	7019.00	-727.29	-10778.88	0.00	0.00	10803.39	BHL Shelton H3-675

West(-)/East(+) (2500 ft/in)

-9000 -7500 -6000 -4500 -3000 -1500 0



## WELL DETAILS: Shelton H3-675

North	East	Lat	Long
0.00	0.00	4824.00	40.2605640
1338984.97	3245726.19	40.2605640	-104.6195090

## Plan: Plan #1 (Shelton H3-675/Wellbore #1)

Created By: Colby Baxter Date: 10:06, October 01 2018

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

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

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

# **Northern Region - DJ Basin**

**Mustang**

**H Section 01**

**Shelton H3-675**

**Wellbore #1**

**Plan: Plan #1**

## **Standard Survey Report**

**01 October, 2018**

# Noble Energy, Inc.

## Survey Report

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Shelton H3-675
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	KB @ 4854.00ft
<b>Site:</b>	H Section 01	<b>MD Reference:</b>	KB @ 4854.00ft
<b>Well:</b>	Shelton H3-675	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Plan #1	<b>Database:</b>	EDMP

<b>Project</b>	Mustang, Weld County Colorado		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Colorado Northern Zone		

Site	H Section 01				
Site Position:		Northing:	1,334,244.42 usft	Latitude:	40.2479754
From:	Map	Easting:	3,229,641.33 usft	Longitude:	-104.6772988
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.53 °

Well	Shelton H3-675					
Well Position	+N/-S	0.00 ft	Northing:	1,338,984.97 usft	Latitude:	40.2605640
	+E/-W	0.00 ft	Easting:	3,245,726.20 usft	Longitude:	-104.6195090
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,824.00 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	9/13/2018	7.99	66.73	52,193.49412894

<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	266.14	

<b>Survey Tool Program</b>	<b>Date</b>	10/1/2018			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
0.00	17,641.52	Plan #1 (Wellbore #1)	2_MWD+IFR1+MS	A008Mb: IFR dec & multi-station analysis	

<b>Planned Survey</b>										
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Vertical Section (ft)</b>	<b>Dogleg Rate (°/100ft)</b>	<b>Build Rate (°/100ft)</b>	<b>Turn Rate (°/100ft)</b>	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00	
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00	
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00	
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00	

# Noble Energy, Inc.

## Survey Report

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Shelton H3-675
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	KB @ 4854.00ft
<b>Site:</b>	H Section 01	<b>MD Reference:</b>	KB @ 4854.00ft
<b>Well:</b>	Shelton H3-675	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Plan #1	<b>Database:</b>	EDMP

### Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	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	172.97	2,299.98	-1.73	0.21	-0.10	2.00	2.00	0.00
2,400.00	4.00	172.97	2,399.84	-6.93	0.85	-0.39	2.00	2.00	0.00
2,500.00	6.00	172.97	2,499.45	-15.58	1.92	-0.87	2.00	2.00	0.00
2,600.00	8.00	172.97	2,598.70	-27.67	3.41	-1.54	2.00	2.00	0.00
2,607.38	8.15	172.97	2,606.01	-28.70	3.54	-1.60	2.00	2.00	0.00
2,700.00	8.15	172.97	2,697.69	-41.73	5.15	-2.33	0.00	0.00	0.00
2,800.00	8.15	172.97	2,796.68	-55.79	6.88	-3.11	0.00	0.00	0.00
2,900.00	8.15	172.97	2,895.67	-69.86	8.62	-3.90	0.00	0.00	0.00
3,000.00	8.15	172.97	2,994.67	-83.92	10.35	-4.68	0.00	0.00	0.00
3,100.00	8.15	172.97	3,093.66	-97.99	12.09	-5.46	0.00	0.00	0.00
3,200.00	8.15	172.97	3,192.65	-112.06	13.82	-6.25	0.00	0.00	0.00
3,300.00	8.15	172.97	3,291.64	-126.12	15.56	-7.03	0.00	0.00	0.00
3,400.00	8.15	172.97	3,390.63	-140.19	17.29	-7.82	0.00	0.00	0.00
3,500.00	8.15	172.97	3,489.62	-154.25	19.03	-8.60	0.00	0.00	0.00
3,600.00	8.15	172.97	3,588.61	-168.32	20.76	-9.39	0.00	0.00	0.00
3,700.00	8.15	172.97	3,687.60	-182.38	22.50	-10.17	0.00	0.00	0.00
3,800.00	8.15	172.97	3,786.59	-196.45	24.24	-10.95	0.00	0.00	0.00
3,900.00	8.15	172.97	3,885.58	-210.52	25.97	-11.74	0.00	0.00	0.00
4,000.00	8.15	172.97	3,984.57	-224.58	27.71	-12.52	0.00	0.00	0.00
4,100.00	8.15	172.97	4,083.56	-238.65	29.44	-13.31	0.00	0.00	0.00
4,200.00	8.15	172.97	4,182.55	-252.71	31.18	-14.09	0.00	0.00	0.00
4,300.00	8.15	172.97	4,281.54	-266.78	32.91	-14.88	0.00	0.00	0.00
4,400.00	8.15	172.97	4,380.53	-280.84	34.65	-15.66	0.00	0.00	0.00
4,500.00	8.15	172.97	4,479.52	-294.91	36.38	-16.45	0.00	0.00	0.00
4,600.00	8.15	172.97	4,578.52	-308.98	38.12	-17.23	0.00	0.00	0.00
4,700.00	8.15	172.97	4,677.51	-323.04	39.85	-18.01	0.00	0.00	0.00
4,800.00	8.15	172.97	4,776.50	-337.11	41.59	-18.80	0.00	0.00	0.00
4,900.00	8.15	172.97	4,875.49	-351.17	43.32	-19.58	0.00	0.00	0.00
5,000.00	8.15	172.97	4,974.48	-365.24	45.06	-20.37	0.00	0.00	0.00
5,100.00	8.15	172.97	5,073.47	-379.31	46.79	-21.15	0.00	0.00	0.00
5,200.00	8.15	172.97	5,172.46	-393.37	48.53	-21.94	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 Shelton H3-675
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	KB @ 4854.00ft
<b>Site:</b>	H Section 01	<b>MD Reference:</b>	KB @ 4854.00ft
<b>Well:</b>	Shelton H3-675	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Plan #1	<b>Database:</b>	EDMP

### Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,300.00	8.15	172.97	5,271.45	-407.44	50.26	-22.72	0.00	0.00	0.00
5,400.00	8.15	172.97	5,370.44	-421.50	52.00	-23.50	0.00	0.00	0.00
5,500.00	8.15	172.97	5,469.43	-435.57	53.73	-24.29	0.00	0.00	0.00
5,600.00	8.15	172.97	5,568.42	-449.63	55.47	-25.07	0.00	0.00	0.00
5,700.00	8.15	172.97	5,667.41	-463.70	57.20	-25.86	0.00	0.00	0.00
5,800.00	8.15	172.97	5,766.40	-477.77	58.94	-26.64	0.00	0.00	0.00
5,900.00	8.15	172.97	5,865.39	-491.83	60.67	-27.43	0.00	0.00	0.00
6,000.00	8.15	172.97	5,964.38	-505.90	62.41	-28.21	0.00	0.00	0.00
6,100.00	8.15	172.97	6,063.37	-519.96	64.15	-29.00	0.00	0.00	0.00
6,200.00	8.15	172.97	6,162.37	-534.03	65.88	-29.78	0.00	0.00	0.00
6,300.00	8.15	172.97	6,261.36	-548.09	67.62	-30.56	0.00	0.00	0.00
6,400.00	8.15	172.97	6,360.35	-562.16	69.35	-31.35	0.00	0.00	0.00
6,418.21	8.15	172.97	6,378.37	-564.72	69.67	-31.49	0.00	0.00	0.00
6,500.00	10.32	218.26	6,459.20	-576.24	65.84	-26.89	9.00	2.65	55.37
6,600.00	17.37	242.58	6,556.31	-590.18	47.00	-7.16	9.00	7.05	24.33
6,700.00	25.65	252.40	6,649.30	-603.62	13.05	27.61	9.00	8.28	9.81
6,800.00	34.28	257.58	6,735.86	-616.25	-35.17	76.58	9.00	8.63	5.18
6,900.00	43.04	260.86	6,813.88	-627.75	-96.49	138.53	9.00	8.77	3.28
7,000.00	51.87	263.21	6,881.44	-637.84	-169.39	211.95	9.00	8.83	2.35
7,100.00	60.74	265.05	6,936.86	-646.26	-252.08	295.02	9.00	8.87	1.84
7,200.00	69.63	266.60	6,978.78	-652.82	-342.52	385.69	9.00	8.89	1.54
7,300.00	78.54	267.97	7,006.17	-657.35	-438.48	481.74	9.00	8.90	1.37
7,400.00	87.45	269.26	7,018.36	-659.73	-537.60	580.80	9.00	8.91	1.29
7,428.66	90.00	269.62	7,019.00	-660.01	-566.25	609.40	9.00	8.91	1.27
7,500.00	90.00	269.62	7,019.00	-660.48	-637.59	680.61	0.00	0.00	0.00
7,600.00	90.00	269.62	7,019.00	-661.14	-737.59	780.42	0.00	0.00	0.00
7,700.00	90.00	269.62	7,019.00	-661.80	-837.58	880.24	0.00	0.00	0.00
7,800.00	90.00	269.62	7,019.00	-662.46	-937.58	980.05	0.00	0.00	0.00
7,900.00	90.00	269.62	7,019.00	-663.12	-1,037.58	1,079.87	0.00	0.00	0.00
8,000.00	90.00	269.62	7,019.00	-663.78	-1,137.58	1,179.68	0.00	0.00	0.00
8,100.00	90.00	269.62	7,019.00	-664.44	-1,237.58	1,279.50	0.00	0.00	0.00
8,200.00	90.00	269.62	7,019.00	-665.09	-1,337.57	1,379.31	0.00	0.00	0.00
8,300.00	90.00	269.62	7,019.00	-665.75	-1,437.57	1,479.13	0.00	0.00	0.00
8,400.00	90.00	269.62	7,019.00	-666.41	-1,537.57	1,578.94	0.00	0.00	0.00
8,500.00	90.00	269.62	7,019.00	-667.07	-1,637.57	1,678.76	0.00	0.00	0.00
8,600.00	90.00	269.62	7,019.00	-667.73	-1,737.56	1,778.57	0.00	0.00	0.00
8,700.00	90.00	269.62	7,019.00	-668.39	-1,837.56	1,878.39	0.00	0.00	0.00
8,800.00	90.00	269.62	7,019.00	-669.05	-1,937.56	1,978.21	0.00	0.00	0.00
8,900.00	90.00	269.62	7,019.00	-669.71	-2,037.56	2,078.02	0.00	0.00	0.00
9,000.00	90.00	269.62	7,019.00	-670.36	-2,137.56	2,177.84	0.00	0.00	0.00
9,100.00	90.00	269.62	7,019.00	-671.02	-2,237.55	2,277.65	0.00	0.00	0.00
9,200.00	90.00	269.62	7,019.00	-671.68	-2,337.55	2,377.47	0.00	0.00	0.00
9,300.00	90.00	269.62	7,019.00	-672.34	-2,437.55	2,477.28	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 Shelton H3-675
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	KB @ 4854.00ft
<b>Site:</b>	H Section 01	<b>MD Reference:</b>	KB @ 4854.00ft
<b>Well:</b>	Shelton H3-675	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Plan #1	<b>Database:</b>	EDMP

### Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
9,400.00	90.00	269.62	7,019.00	-673.00	-2,537.55	2,577.10	0.00	0.00	0.00
9,500.00	90.00	269.62	7,019.00	-673.66	-2,637.55	2,676.91	0.00	0.00	0.00
9,600.00	90.00	269.62	7,019.00	-674.32	-2,737.54	2,776.73	0.00	0.00	0.00
9,700.00	90.00	269.62	7,019.00	-674.98	-2,837.54	2,876.54	0.00	0.00	0.00
9,800.00	90.00	269.62	7,019.00	-675.63	-2,937.54	2,976.36	0.00	0.00	0.00
9,900.00	90.00	269.62	7,019.00	-676.29	-3,037.54	3,076.17	0.00	0.00	0.00
10,000.00	90.00	269.62	7,019.00	-676.95	-3,137.53	3,175.99	0.00	0.00	0.00
10,100.00	90.00	269.62	7,019.00	-677.61	-3,237.53	3,275.80	0.00	0.00	0.00
10,200.00	90.00	269.62	7,019.00	-678.27	-3,337.53	3,375.62	0.00	0.00	0.00
10,300.00	90.00	269.62	7,019.00	-678.93	-3,437.53	3,475.44	0.00	0.00	0.00
10,400.00	90.00	269.62	7,019.00	-679.59	-3,537.53	3,575.25	0.00	0.00	0.00
10,500.00	90.00	269.62	7,019.00	-680.25	-3,637.52	3,675.07	0.00	0.00	0.00
10,600.00	90.00	269.62	7,019.00	-680.90	-3,737.52	3,774.88	0.00	0.00	0.00
10,700.00	90.00	269.62	7,019.00	-681.56	-3,837.52	3,874.70	0.00	0.00	0.00
10,800.00	90.00	269.62	7,019.00	-682.22	-3,937.52	3,974.51	0.00	0.00	0.00
10,900.00	90.00	269.62	7,019.00	-682.88	-4,037.51	4,074.33	0.00	0.00	0.00
11,000.00	90.00	269.62	7,019.00	-683.54	-4,137.51	4,174.14	0.00	0.00	0.00
11,100.00	90.00	269.62	7,019.00	-684.20	-4,237.51	4,273.96	0.00	0.00	0.00
11,200.00	90.00	269.62	7,019.00	-684.86	-4,337.51	4,373.77	0.00	0.00	0.00
11,300.00	90.00	269.62	7,019.00	-685.52	-4,437.51	4,473.59	0.00	0.00	0.00
11,400.00	90.00	269.62	7,019.00	-686.18	-4,537.50	4,573.40	0.00	0.00	0.00
11,500.00	90.00	269.62	7,019.00	-686.83	-4,637.50	4,673.22	0.00	0.00	0.00
11,600.00	90.00	269.62	7,019.00	-687.49	-4,737.50	4,773.03	0.00	0.00	0.00
11,700.00	90.00	269.62	7,019.00	-688.15	-4,837.50	4,872.85	0.00	0.00	0.00
11,800.00	90.00	269.62	7,019.00	-688.81	-4,937.50	4,972.67	0.00	0.00	0.00
11,900.00	90.00	269.62	7,019.00	-689.47	-5,037.49	5,072.48	0.00	0.00	0.00
12,000.00	90.00	269.62	7,019.00	-690.13	-5,137.49	5,172.30	0.00	0.00	0.00
12,100.00	90.00	269.62	7,019.00	-690.79	-5,237.49	5,272.11	0.00	0.00	0.00
12,200.00	90.00	269.62	7,019.00	-691.45	-5,337.49	5,371.93	0.00	0.00	0.00
12,300.00	90.00	269.62	7,019.00	-692.10	-5,437.48	5,471.74	0.00	0.00	0.00
12,400.00	90.00	269.62	7,019.00	-692.76	-5,537.48	5,571.56	0.00	0.00	0.00
12,500.00	90.00	269.62	7,019.00	-693.42	-5,637.48	5,671.37	0.00	0.00	0.00
12,600.00	90.00	269.62	7,019.00	-694.08	-5,737.48	5,771.19	0.00	0.00	0.00
12,700.00	90.00	269.62	7,019.00	-694.74	-5,837.48	5,871.00	0.00	0.00	0.00
12,800.00	90.00	269.62	7,019.00	-695.40	-5,937.47	5,970.82	0.00	0.00	0.00
12,900.00	90.00	269.62	7,019.00	-696.06	-6,037.47	6,070.63	0.00	0.00	0.00
13,000.00	90.00	269.62	7,019.00	-696.72	-6,137.47	6,170.45	0.00	0.00	0.00
13,100.00	90.00	269.62	7,019.00	-697.37	-6,237.47	6,270.26	0.00	0.00	0.00
13,200.00	90.00	269.62	7,019.00	-698.03	-6,337.47	6,370.08	0.00	0.00	0.00
13,300.00	90.00	269.62	7,019.00	-698.69	-6,437.46	6,469.90	0.00	0.00	0.00
13,400.00	90.00	269.62	7,019.00	-699.35	-6,537.46	6,569.71	0.00	0.00	0.00
13,500.00	90.00	269.62	7,019.00	-700.01	-6,637.46	6,669.53	0.00	0.00	0.00
13,600.00	90.00	269.62	7,019.00	-700.67	-6,737.46	6,769.34	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 Shelton H3-675
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	KB @ 4854.00ft
<b>Site:</b>	H Section 01	<b>MD Reference:</b>	KB @ 4854.00ft
<b>Well:</b>	Shelton H3-675	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Plan #1	<b>Database:</b>	EDMP

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
13,700.00	90.00	269.62	7,019.00	-701.33	-6,837.45	6,869.16	0.00	0.00	0.00
13,800.00	90.00	269.62	7,019.00	-701.99	-6,937.45	6,968.97	0.00	0.00	0.00
13,900.00	90.00	269.62	7,019.00	-702.64	-7,037.45	7,068.79	0.00	0.00	0.00
14,000.00	90.00	269.62	7,019.00	-703.30	-7,137.45	7,168.60	0.00	0.00	0.00
14,100.00	90.00	269.62	7,019.00	-703.96	-7,237.45	7,268.42	0.00	0.00	0.00
14,200.00	90.00	269.62	7,019.00	-704.62	-7,337.44	7,368.23	0.00	0.00	0.00
14,300.00	90.00	269.62	7,019.00	-705.28	-7,437.44	7,468.05	0.00	0.00	0.00
14,400.00	90.00	269.62	7,019.00	-705.94	-7,537.44	7,567.86	0.00	0.00	0.00
14,500.00	90.00	269.62	7,019.00	-706.60	-7,637.44	7,667.68	0.00	0.00	0.00
14,600.00	90.00	269.62	7,019.00	-707.26	-7,737.43	7,767.49	0.00	0.00	0.00
14,700.00	90.00	269.62	7,019.00	-707.91	-7,837.43	7,867.31	0.00	0.00	0.00
14,800.00	90.00	269.62	7,019.00	-708.57	-7,937.43	7,967.13	0.00	0.00	0.00
14,900.00	90.00	269.62	7,019.00	-709.23	-8,037.43	8,066.94	0.00	0.00	0.00
15,000.00	90.00	269.62	7,019.00	-709.89	-8,137.43	8,166.76	0.00	0.00	0.00
15,100.00	90.00	269.62	7,019.00	-710.55	-8,237.42	8,266.57	0.00	0.00	0.00
15,200.00	90.00	269.62	7,019.00	-711.21	-8,337.42	8,366.39	0.00	0.00	0.00
15,300.00	90.00	269.62	7,019.00	-711.87	-8,437.42	8,466.20	0.00	0.00	0.00
15,400.00	90.00	269.62	7,019.00	-712.53	-8,537.42	8,566.02	0.00	0.00	0.00
15,500.00	90.00	269.62	7,019.00	-713.18	-8,637.42	8,665.83	0.00	0.00	0.00
15,600.00	90.00	269.62	7,019.00	-713.84	-8,737.41	8,765.65	0.00	0.00	0.00
15,700.00	90.00	269.62	7,019.00	-714.50	-8,837.41	8,865.46	0.00	0.00	0.00
15,800.00	90.00	269.62	7,019.00	-715.16	-8,937.41	8,965.28	0.00	0.00	0.00
15,900.00	90.00	269.62	7,019.00	-715.82	-9,037.41	9,065.09	0.00	0.00	0.00
16,000.00	90.00	269.62	7,019.00	-716.48	-9,137.40	9,164.91	0.00	0.00	0.00
16,100.00	90.00	269.62	7,019.00	-717.14	-9,237.40	9,264.72	0.00	0.00	0.00
16,200.00	90.00	269.62	7,019.00	-717.80	-9,337.40	9,364.54	0.00	0.00	0.00
16,300.00	90.00	269.62	7,019.00	-718.46	-9,437.40	9,464.35	0.00	0.00	0.00
16,400.00	90.00	269.62	7,019.00	-719.11	-9,537.40	9,564.17	0.00	0.00	0.00
16,500.00	90.00	269.62	7,019.00	-719.77	-9,637.39	9,663.99	0.00	0.00	0.00
16,600.00	90.00	269.62	7,019.00	-720.43	-9,737.39	9,763.80	0.00	0.00	0.00
16,700.00	90.00	269.62	7,019.00	-721.09	-9,837.39	9,863.62	0.00	0.00	0.00
16,800.00	90.00	269.62	7,019.00	-721.75	-9,937.39	9,963.43	0.00	0.00	0.00
16,900.00	90.00	269.62	7,019.00	-722.41	-10,037.38	10,063.25	0.00	0.00	0.00
17,000.00	90.00	269.62	7,019.00	-723.07	-10,137.38	10,163.06	0.00	0.00	0.00
17,100.00	90.00	269.62	7,019.00	-723.73	-10,237.38	10,262.88	0.00	0.00	0.00
17,200.00	90.00	269.62	7,019.00	-724.38	-10,337.38	10,362.69	0.00	0.00	0.00
17,300.00	90.00	269.62	7,019.00	-725.04	-10,437.38	10,462.51	0.00	0.00	0.00
17,400.00	90.00	269.62	7,019.00	-725.70	-10,537.37	10,562.32	0.00	0.00	0.00
17,500.00	90.00	269.62	7,019.00	-726.36	-10,637.37	10,662.14	0.00	0.00	0.00
17,600.00	90.00	269.62	7,019.00	-727.02	-10,737.37	10,761.95	0.00	0.00	0.00
17,641.52	90.00	269.62	7,019.00	-727.29	-10,778.88	10,803.39	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 Shelton H3-675
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	KB @ 4854.00ft
<b>Site:</b>	H Section 01	<b>MD Reference:</b>	KB @ 4854.00ft
<b>Well:</b>	Shelton H3-675	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Plan #1	<b>Database:</b>	EDMP

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
SHL Shelton H3-675 - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	1,338,984.97	3,245,726.20	40.2605640	-104.6195090
KOP Shelton H3-675 - plan hits target center - Point	0.00	0.00	6,378.37	-564.72	69.67	1,338,420.25	3,245,795.86	40.2590120	-104.6192795
TPZ Shelton H3-675 - plan hits target center - Point	0.00	0.00	7,019.00	-660.01	-566.25	1,338,324.96	3,245,159.94	40.2587677	-104.6215613
BHL Shelton H3-675 - plan hits target center - Point	0.00	0.00	7,019.00	-727.29	-10,778.88	1,338,257.68	3,234,947.33	40.2588549	-104.6581544

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
456.00	456.00	Pierre			
651.00	651.00	Upper Pierre Aquifer Top			
1,556.00	1,556.00	Upper Pierre Aquifer Base			
2,837.70	2,834.00	Top A Marl			
3,723.64	3,711.00	Parkman			
4,165.09	4,148.00	Sussex			
4,968.20	4,943.00	Shannon			
6,811.12	6,745.00	Teepee Buttes			
6,846.08	6,773.00	Sharon Springs			
6,886.60	6,804.00	Top A Chalk			
6,946.93	6,847.00	Top B Chalk			
6,999.29	6,881.00	Top B Marl			
7,112.80	6,943.00	Top C Chalk			
7,186.64	6,974.00	Top C 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
6418	6378	-565	70	Start DLS 9.00 TFO 96.59
7429	7019	-660	-566	TPZ/LP at 7428.66 MD
17,642	7019	-727	-10,779	TD at 17641.52 MD

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



# **Northern Region - DJ Basin**

**Mustang**

**H Section 01**

**Shelton H3-675**

**Wellbore #1**

**Plan #1**

## **Anticollision Summary Report**

**01 October, 2018**

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

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Shelton H3-675
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	KB @ 4854.00ft
<b>Reference Site:</b>	H Section 01	<b>MD Reference:</b>	KB @ 4854.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Shelton H3-675	<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

<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>	10/1/2018		
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.00	17,641.52	Plan #1 (Wellbore #1)	2_MWD+IFR1+MS	A008Mb: IFR dec & multi-station analysis

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
H Section 01						
Collins 1-1 - Wellbore #1 - Wellbore #1 - As Drilled	4,910.03	4,853.38	3,995.87	3,962.01	118.017	CC
Collins 1-1 - Wellbore #1 - Wellbore #1 - As Drilled	5,300.00	5,215.72	3,997.20	3,960.66	109.375	ES
Collins 1-1 - Wellbore #1 - Wellbore #1 - As Drilled	6,800.00	6,734.95	4,134.74	4,087.50	87.533	SF
Houndskeeper 1-13 - Wellbore #1 - Wellbore #1 - As Dril	6,470.10	6,481.04	2,988.63	2,943.39	66.069	CC, ES
Houndskeeper 1-13 - Wellbore #1 - Wellbore #1 - As Dril	6,750.00	6,750.82	3,045.25	2,998.13	64.633	SF
Houndskeeper H01-17 - Wellbore #1 - Wellbore #1 - As D	6,434.27	6,372.28	3,623.96	3,579.11	80.803	CC, ES
Houndskeeper H01-17 - Wellbore #1 - Wellbore #1 - As D	6,800.00	6,771.40	3,722.63	3,675.20	78.480	SF
Houndskeeper H01-22 - Wellbore #1 - Wellbore #1 - As D	6,465.98	6,418.76	3,818.28	3,773.28	84.841	CC, ES
Houndskeeper H01-22 - Wellbore #1 - Wellbore #1 - As D	6,800.00	6,707.71	3,897.76	3,850.64	82.719	SF
Houndskeeper H01-27 - Wellbore #1 - Wellbore #1 - As D	1,213.37	1,213.19	2,697.68	2,689.48	329.194	CC, ES
Houndskeeper H01-27 - Wellbore #1 - Wellbore #1 - As D	6,700.00	6,796.56	3,444.78	3,395.50	69.903	SF
Houndskeeper H01-28 - Wellbore #1 - Wellbore #1 - As D	5,618.33	5,724.33	2,335.73	2,292.64	54.208	CC
Houndskeeper H01-28 - Wellbore #1 - Wellbore #1 - As D	5,700.00	5,794.02	2,335.97	2,292.35	53.556	ES
Houndskeeper H01-28 - Wellbore #1 - Wellbore #1 - As D	6,600.00	6,669.33	2,373.87	2,324.25	47.840	SF
Houndskeeper PC H01-21D - Wellbore #1 - Wellbore #1	6,477.13	6,549.27	2,845.66	2,785.34	47.177	CC, ES
Houndskeeper PC H01-21D - Wellbore #1 - Wellbore #1	6,650.00	6,761.55	2,863.20	2,802.11	46.874	SF
HSR-HARTMAN #4-1(PR) - Wellbore #1 - Gyro Surveys	3,671.84	3,625.28	18.59	-6.56	0.739	Level 1, CC, ES, SF
HSR-KOSKELA #5-1(PR) - Wellbore #1 - No Surveys	6,680.62	6,595.71	1,214.73	1,133.81	15.013	CC
HSR-KOSKELA #5-1(PR) - Wellbore #1 - No Surveys	6,700.00	6,613.30	1,214.86	1,133.73	14.974	ES
HSR-KOSKELA #5-1(PR) - Wellbore #1 - No Surveys	6,850.00	6,740.07	1,225.59	1,142.89	14.819	SF
HSR-LAURICE #6-1(PR) - Wellbore #1 - No Surveys	6,492.81	6,416.12	1,960.14	1,881.33	24.871	CC
HSR-LAURICE #6-1(PR) - Wellbore #1 - No Surveys	6,500.00	6,423.20	1,960.17	1,881.27	24.844	ES
HSR-LAURICE #6-1(PR) - Wellbore #1 - No Surveys	6,700.00	6,613.30	1,988.16	1,906.92	24.471	SF
LJS R H01-02 - Wellbore #1 - Wellbore #1 - As Drilled	6,424.33	6,388.48	2,632.42	2,587.63	58.774	CC, ES
LJS R H01-02 - Wellbore #1 - Wellbore #1 - As Drilled	6,650.00	6,637.48	2,669.48	2,623.04	57.473	SF
LJS R H01-08 - Wellbore #1 - Wellbore #1 - As Drilled	6,443.03	6,349.72	4,225.39	4,180.68	94.507	CC
LJS R H01-08 - Wellbore #1 - Wellbore #1 - As Drilled	6,450.00	6,360.07	4,225.42	4,180.65	94.377	ES
LJS R H01-08 - Wellbore #1 - Wellbore #1 - As Drilled	6,800.00	6,706.82	4,319.42	4,272.29	91.638	SF
Shelton 22-1(PR) - Wellbore #1 - Wellbore #1	6,567.41	6,640.35	1,883.62	1,832.61	36.923	CC, ES
Shelton 22-1(PR) - Wellbore #1 - Wellbore #1	6,750.00	6,820.01	1,898.76	1,846.82	36.560	SF
Shelton 31-01(PR) - Wellbore #1 - Gyro Surveys	1,433.54	1,409.69	215.01	205.36	22.265	CC
Shelton 31-01(PR) - Wellbore #1 - Gyro Surveys	1,500.00	1,473.94	215.36	205.24	21.281	ES
Shelton 31-01(PR) - Wellbore #1 - Gyro Surveys	7,200.00	7,065.97	390.88	339.81	7.654	SF
Shelton D07-30 - Wellbore #1 - Wellbore #1 - As Drilled	6,507.92	6,450.37	6,244.02	6,198.80	138.068	CC, ES
Shelton D07-30 - Wellbore #1 - Wellbore #1 - As Drilled	7,000.00	6,915.04	6,380.56	6,332.24	132.035	SF
Shelton H #12-29(PR) - Wellbore #1 - No Surveys	6,777.26	6,703.85	4,221.75	4,139.59	51.388	CC
Shelton H #12-29(PR) - Wellbore #1 - No Surveys	6,800.00	6,722.86	4,221.87	4,139.48	51.242	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 Shelton H3-675
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	KB @ 4854.00ft
<b>Reference Site:</b>	H Section 01	<b>MD Reference:</b>	KB @ 4854.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Shelton H3-675	<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>						
H Section 01						
Shelton H #12-29(PR) - Wellbore #1 - No Surveys	7,250.00	6,981.34	4,281.64	4,195.68	49.811	SF
Shelton H 1-12X(PR) - Wellbore #1 - No Surveys	6,877.99	6,777.55	2,271.97	2,188.87	27.341	CC
Shelton H 1-12X(PR) - Wellbore #1 - No Surveys	6,900.00	6,793.88	2,272.10	2,188.80	27.275	ES
Shelton H 1-12X(PR) - Wellbore #1 - No Surveys	7,150.00	6,939.58	2,294.37	2,209.08	26.899	SF
Shelton H01-23 - Wellbore #1 - Wellbore #1 - As Drilled	6,505.90	6,468.58	4,632.85	4,587.61	102.397	CC, ES
Shelton H01-23 - Wellbore #1 - Wellbore #1 - As Drilled	7,250.00	7,250.00	4,944.03	4,894.00	98.821	SF
Shelton H01-24 - Wellbore #1 - Wellbore #1 - As Drilled	6,557.99	6,569.30	3,681.94	3,636.20	119.357	CC, ES
Shelton H01-24 - Wellbore #1 - Wellbore #1 - As Drilled	6,900.00	6,852.36	3,738.53	3,690.72	78.194	SF
Shelton H13-715 - Shelton H13-715 - Plan #1	6,489.87	6,321.01	5,860.45	5,815.26	129.702	CC, ES
Shelton H13-715 - Shelton H13-715 - Plan #1	6,750.00	6,350.00	5,906.16	5,860.03	128.040	SF
Shelton H13-724 - Shelton H13-724 - Plan #1	6,512.34	6,500.00	5,485.04	5,439.08	119.357	CC, ES
Shelton H13-724 - Shelton H13-724 - Plan #1	6,800.00	6,550.00	5,535.85	5,488.82	117.708	SF
Shelton H13-730 - Shelton H13-730 - Plan #1	6,539.83	6,670.81	5,290.14	5,242.96	112.123	CC, ES
Shelton H13-730 - Shelton H13-730 - Plan #1	6,800.00	6,700.00	5,332.07	5,283.98	110.867	SF
Shelton H13-734 - Shelton H13-734 - Plan #1	6,525.07	6,600.00	5,107.73	5,060.67	108.549	CC, ES
Shelton H13-734 - Shelton H13-734 - Plan #1	6,800.00	6,650.00	5,152.25	5,104.21	107.245	SF
Shelton H13-744 - Shelton H13-744 - Plan #1	6,473.05	6,104.74	4,596.09	4,551.99	104.213	CC, ES
Shelton H13-744 - Shelton H13-744 - Plan #1	6,850.00	6,430.17	4,656.38	4,609.90	100.175	SF
Shelton H13-753 - Shelton H13-753 - Plan #1	6,586.61	6,470.87	4,364.94	4,319.12	95.261	CC, ES
Shelton H13-753 - Shelton H13-753 - Plan #1	6,850.00	6,500.00	4,401.39	4,354.65	94.178	SF
Shelton H13-763 - Shelton H13-763 - Plan #1	6,611.97	6,550.00	4,129.37	4,082.53	88.147	CC, ES
Shelton H13-763 - Shelton H13-763 - Plan #1	6,900.00	6,600.00	4,161.21	4,113.34	86.923	SF
Shelton H13-768 - Shelton H13-768 - Plan #1	6,661.10	6,482.22	3,968.41	3,921.80	85.151	CC, ES
Shelton H13-768 - Shelton H13-768 - Plan #1	7,100.00	6,600.00	4,021.52	3,973.20	83.227	SF
Shelton H13-773 - Shelton H13-773 - Plan #1	6,675.82	6,380.98	3,923.56	3,877.57	85.317	CC, ES
Shelton H13-773 - Shelton H13-773 - Plan #1	7,250.00	6,426.25	4,002.39	3,954.67	83.876	SF
Shelton H13-782 - Shelton H13-782 - Plan #1	6,837.06	6,400.00	3,807.36	3,760.87	81.890	CC
Shelton H13-782 - Shelton H13-782 - Plan #1	6,850.00	6,400.00	3,807.39	3,760.87	81.831	ES
Shelton H13-782 - Shelton H13-782 - Plan #1	8,700.00	6,426.70	4,290.52	4,235.50	77.988	SF
Shelton H3-615 - Wellbore #1 - Plan #1	7,410.47	7,455.98	3,889.73	3,838.36	75.714	CC
Shelton H3-615 - Wellbore #1 - Plan #1	17,641.52	17,686.93	3,933.18	3,661.90	14.498	ES, SF
Shelton H3-625 - Wellbore #1 - Plan #1	7,413.29	7,483.16	3,241.33	3,189.47	62.494	CC
Shelton H3-625 - Wellbore #1 - Plan #1	17,641.52	17,711.32	3,277.61	3,006.20	12.076	ES, SF
Shelton H3-635 - Wellbore #1 - Plan #1	3,718.44	3,393.01	2,480.99	2,456.59	101.654	CC
Shelton H3-635 - Wellbore #1 - Plan #1	17,641.52	17,789.22	2,622.11	2,347.54	9.550	ES, SF
Shelton H3-645 - Wellbore #1 - Plan #1	7,419.14	7,473.21	1,944.61	1,891.80	36.822	CC
Shelton H3-645 - Wellbore #1 - Plan #1	17,641.52	17,695.56	1,966.53	1,692.00	7.163	ES, SF
Shelton H3-655 - Wellbore #1 - Plan #1	7,422.34	7,486.22	1,296.35	1,243.18	24.381	CC
Shelton H3-655 - Wellbore #1 - Plan #1	17,641.52	17,705.38	1,311.03	1,036.48	4.775	ES, SF
Shelton H3-665 - Wellbore #1 - Plan #1	2,000.00	2,000.00	22.59	8.71	1.628	CC, ES, SF
Shelton H3-683 - Wellbore #1 - Plan #1	2,200.00	2,200.00	22.59	7.28	1.476	Level 3, CC, ES, SF
Shelton State H1-759 - Wellbore #1 - Plan #1	6,592.45	11,621.41	1,745.66	1,677.99	25.795	CC, ES
Shelton State H1-759 - Wellbore #1 - Plan #1	6,650.00	11,613.80	1,749.19	1,681.25	25.748	SF
Shelton State H1-766 - Wellbore #1 - Plan #1	6,636.08	11,669.64	1,260.50	1,191.90	18.374	CC, ES
Shelton State H1-766 - Wellbore #1 - Plan #1	6,650.00	11,667.83	1,260.73	1,192.06	18.361	SF
Shelton State H1-780 - Wellbore #1 - Plan #1	6,733.31	11,577.02	687.83	624.76	10.906	CC, ES
Shelton State H1-780 - Wellbore #1 - Plan #1	6,800.00	11,569.34	694.47	629.87	10.751	SF
Shelton State H1-783 - Wellbore #1 - Plan #1	6,901.23	11,511.39	270.72	209.83	4.446	CC, ES
Shelton State H1-783 - Wellbore #1 - Plan #1	6,950.00	11,507.03	276.86	212.96	4.332	SF
UPRC #1-12J(PA) - Wellbore #1 - No Surveys	6,861.42	6,764.93	2,190.58	2,154.82	61.256	CC, ES
UPRC #1-12J(PA) - Wellbore #1 - No Surveys	7,200.00	6,958.78	2,226.66	2,189.58	60.051	SF
UPRC #1-13J(SI) - Wellbore #1 - No Surveys	7,035.01	6,880.29	3,473.20	3,388.76	41.133	CC
UPRC #1-13J(SI) - Wellbore #1 - No Surveys	7,050.00	6,888.76	3,473.25	3,388.70	41.077	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 Shelton H3-675
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	KB @ 4854.00ft
<b>Reference Site:</b>	H Section 01	<b>MD Reference:</b>	KB @ 4854.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Shelton H3-675	<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						
H Section 01						
UPRC #1-13J(SI) - Wellbore #1 - No Surveys	7,350.00	6,992.19	3,498.43	3,412.07	40.509	SF
UPRC 1-09J - Wellbore #1 - Wellbore #1 - As Drilled	6,482.77	6,508.00	4,692.13	4,646.77	103.443	CC, ES
UPRC 1-09J - Wellbore #1 - Wellbore #1 - As Drilled	6,900.00	6,845.58	4,811.31	4,763.46	100.538	SF
UPRC 1-10J - Wellbore #1 - Wellbore #1 - As Drilled	6,501.61	6,474.37	3,555.31	3,510.04	78.540	CC, ES
UPRC 1-10J - Wellbore #1 - Wellbore #1 - As Drilled	6,850.00	6,816.29	3,626.59	3,579.01	76.225	SF
UPRC 1-15J - Wellbore #1 - Wellbore #1 - As Drilled	6,544.83	6,448.80	4,728.70	4,683.39	104.364	CC
UPRC 1-15J - Wellbore #1 - Wellbore #1 - As Drilled	6,550.00	6,456.07	4,728.71	4,683.36	104.264	ES
UPRC 1-15J - Wellbore #1 - Wellbore #1 - As Drilled	7,050.00	6,914.52	4,839.78	4,791.33	99.893	SF
UPRC 1-16J - Wellbore #1 - Wellbore #1 - As Drilled	6,508.27	6,471.69	5,519.86	5,474.59	121.922	CC, ES
UPRC 1-16J - Wellbore #1 - Wellbore #1 - As Drilled	7,000.00	6,890.20	5,658.55	5,610.32	117.337	SF
UPRR 39 PAN AM G #1(PR) - Wellbore #1 - No Surveys	6,754.03	6,683.00	3,091.66	3,009.76	37.748	CC, ES
UPRR 39 PAN AM G #1(PR) - Wellbore #1 - No Surveys	7,150.00	6,945.58	3,138.00	3,052.65	36.766	SF

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

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Shelton H3-675
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	KB @ 4854.00ft
<b>Reference Site:</b>	H Section 01	<b>MD Reference:</b>	KB @ 4854.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Shelton H3-675	<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>						
H Section 02						
ARISTOCRAT ANGUS #34-2(PR) - Wellbore #1 - Wellbo	9,333.94	6,949.00	3,619.16	3,519.57	36.339	CC
ARISTOCRAT ANGUS #34-2(PR) - Wellbore #1 - Wellbo	9,400.00	6,949.00	3,619.76	3,519.50	36.104	ES
ARISTOCRAT ANGUS #34-2(PR) - Wellbore #1 - Wellbo	10,400.00	6,949.00	3,772.90	3,663.27	34.415	SF
ARISTOCRAT ANGUS #44-2(PR) - Wellbore #1 - No Sur	7,712.51	6,977.00	2,083.11	1,995.56	23.795	CC, ES
ARISTOCRAT ANGUS #44-2(PR) - Wellbore #1 - No Sur	8,000.00	6,977.00	2,102.85	2,013.70	23.585	SF
ARISTOCRAT ANGUS #44-2(PR) - Wellbore #1 - No Sur	8,188.89	6,969.00	3,208.51	3,118.30	35.568	CC
ARISTOCRAT ANGUS #44-2(PR) - Wellbore #1 - No Sur	8,200.00	6,969.00	3,208.53	3,118.25	35.538	ES
ARISTOCRAT ANGUS #44-2(PR) - Wellbore #1 - No Sur	9,100.00	6,969.00	3,335.37	3,238.06	34.277	SF
ARISTOCRAT ANGUS #44-2A(PR) - Wellbore #1 - Wellb	7,710.34	6,977.00	3,752.27	3,664.74	42.866	CC, ES
ARISTOCRAT ANGUS #44-2A(PR) - Wellbore #1 - Wellb	8,900.00	6,977.00	3,936.35	3,840.80	41.197	SF
ARISTOCRAT ANGUS #4-8-2(PR) - Wellbore #1 - No Su	9,379.14	6,946.00	3,623.31	3,523.31	36.232	CC
ARISTOCRAT ANGUS #4-8-2(PR) - Wellbore #1 - No Su	9,400.00	6,946.00	3,623.37	3,523.16	36.156	ES
ARISTOCRAT ANGUS #4-8-2(PR) - Wellbore #1 - No Su	10,400.00	6,946.00	3,764.38	3,654.68	34.315	SF
Aristocrat Angus 5-6-2(PR) - Wellbore #1 - As Drilled	8,966.76	7,049.17	2,839.42	2,778.22	46.395	CC
Aristocrat Angus 5-6-2(PR) - Wellbore #1 - As Drilled	9,000.00	7,050.07	2,839.62	2,778.07	46.133	ES
Aristocrat Angus 5-6-2(PR) - Wellbore #1 - As Drilled	10,000.00	7,078.39	3,021.43	2,950.12	42.367	SF
Aristocrat Angus 6-4-2(PR) - Wellbore #1 - As Drilled	8,522.68	7,422.96	1,664.29	1,601.21	26.384	CC, ES
Aristocrat Angus 6-4-2(PR) - Wellbore #1 - As Drilled	9,100.00	7,430.36	1,761.56	1,689.09	24.307	SF
Aristocrat H14-715 - Aristocrat H14-715 - Plan #1	7,489.42	6,464.19	3,850.23	3,802.04	79.888	CC
Aristocrat H14-715 - Aristocrat H14-715 - Plan #1	7,500.00	6,464.19	3,850.25	3,802.02	79.826	ES
Aristocrat H14-715 - Aristocrat H14-715 - Plan #1	9,500.00	6,483.01	4,343.30	4,282.15	71.024	SF
Aristocrat H14-725 - Aristocrat H14-725 - Plan #1	8,061.17	6,529.24	3,853.52	3,801.51	74.092	CC, ES
Aristocrat H14-725 - Aristocrat H14-725 - Plan #1	10,000.00	6,571.13	4,304.08	4,237.26	64.413	SF
Aristocrat H14-735 - Aristocrat H14-735 - Plan #1	8,663.09	6,650.00	3,860.18	3,802.03	66.387	CC
Aristocrat H14-735 - Aristocrat H14-735 - Plan #1	8,700.00	6,650.00	3,860.35	3,801.89	66.030	ES
Aristocrat H14-735 - Aristocrat H14-735 - Plan #1	10,600.00	6,750.00	4,313.57	4,239.11	57.931	SF
Aristocrat H14-744 - Aristocrat H14-744 - Plan #1	9,246.77	6,900.00	3,858.74	3,792.27	58.054	CC
Aristocrat H14-744 - Aristocrat H14-744 - Plan #1	9,300.00	6,900.00	3,859.11	3,792.11	57.599	ES
Aristocrat H14-744 - Aristocrat H14-744 - Plan #1	10,800.00	7,000.00	4,151.61	4,070.73	51.333	SF
Aristocrat H14-756 - Aristocrat H14-756 - Plan #1	10,065.11	6,440.38	3,866.04	3,796.50	55.601	CC
Aristocrat H14-756 - Aristocrat H14-756 - Plan #1	10,100.00	6,445.69	3,866.19	3,796.25	55.281	ES
Aristocrat H14-756 - Aristocrat H14-756 - Plan #1	11,500.00	6,550.00	4,120.02	4,036.60	49.391	SF
Aristocrat H14-765 - Aristocrat H14-765 - Plan #1	10,613.81	6,513.18	3,865.49	3,788.76	50.374	CC
Aristocrat H14-765 - Aristocrat H14-765 - Plan #1	10,700.00	6,539.06	3,866.37	3,788.51	49.661	ES
Aristocrat H14-765 - Aristocrat H14-765 - Plan #1	12,000.00	6,700.00	4,092.10	4,001.10	44.971	SF
Aristocrat H14-775 - Aristocrat H14-775 - Plan #1	11,130.06	6,651.58	3,859.66	3,774.98	45.579	CC
Aristocrat H14-775 - Aristocrat H14-775 - Plan #1	11,200.00	6,682.51	3,860.17	3,774.47	45.044	ES
Aristocrat H14-775 - Aristocrat H14-775 - Plan #1	12,500.00	7,000.00	4,061.88	3,961.43	40.437	SF
Aristocrat H14-785 - Aristocrat H14-785 - Plan #1	11,601.87	6,834.88	3,850.14	3,757.19	41.422	CC
Aristocrat H14-785 - Aristocrat H14-785 - Plan #1	11,700.00	6,909.38	3,850.98	3,756.32	40.683	ES
Aristocrat H14-785 - Aristocrat H14-785 - Plan #1	13,100.00	7,350.00	4,060.90	3,949.07	36.312	SF
Aristocrat PC H11-27D(PR) - Wellbore #1 - As Drilled	8,515.54	7,129.28	4,306.20	4,246.97	72.708	CC, ES
Aristocrat PC H11-27D(PR) - Wellbore #1 - As Drilled	10,600.00	7,175.00	4,783.98	4,705.97	61.326	SF
Bonkiewicz 1(PA) - Wellbore #1 - Wellbore #1	8,878.63	6,900.00	434.26	375.49	7.389	CC, ES
Bonkiewicz 1(PA) - Wellbore #1 - Wellbore #1	8,900.00	6,900.00	434.78	375.77	7.368	SF
Jenson 21-2C(SI) - Wellbore #1 - Wellbore #1	10,926.46	6,915.00	524.17	408.18	4.519	CC, ES, SF
Jepsen #1(SI) - Wellbore #1 - Wellbore #1	10,844.65	6,935.00	3,166.10	3,050.84	27.470	CC
Jepsen #1(SI) - Wellbore #1 - Wellbore #1	10,900.00	6,935.00	3,166.58	3,050.68	27.321	ES
Jepsen #1(SI) - Wellbore #1 - Wellbore #1	11,600.00	6,935.00	3,254.96	3,132.10	26.493	SF
JEPSEN #2(PA) - Wellbore #1 - As Drilled	11,432.80	6,900.00	343.00	257.63	4.018	CC, ES, SF
JEPSEN #23A-2(DA) - Wellbore #1 - Wellbore #1	1,559.32	1,500.00	5,458.62	5,447.88	508.165	CC, ES
JEPSEN #23A-2(DA) - Wellbore #1 - Wellbore #1	14,200.00	1,500.00	7,620.43	7,550.92	109.629	SF
Jepsen #3(PA) - Wellbore #1 - Wellbore #1	11,626.41	6,900.00	3,614.45	3,526.97	41.318	CC

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 Shelton H3-675
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	KB @ 4854.00ft
<b>Reference Site:</b>	H Section 01	<b>MD Reference:</b>	KB @ 4854.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Shelton H3-675	<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						
H Section 02						
Jepsen #3(PA) - Wellbore #1 - Wellbore #1	11,700.00	6,900.00	3,615.20	3,526.84	40.916	ES
Jepsen #3(PA) - Wellbore #1 - Wellbore #1	12,700.00	6,900.00	3,770.52	3,672.68	38.536	SF
Jepsen #4(SI) - Wellbore #1 - Wellbore #1	12,012.34	6,920.00	2,243.40	2,115.04	17.478	CC, ES
Jepsen #4(SI) - Wellbore #1 - Wellbore #1	12,300.00	6,920.00	2,261.77	2,130.27	17.200	SF
Jepsen 11-2(PA) - Wellbore #1 - Wellbore #1	11,975.40	6,929.09	227.66	135.94	2.482	CC, ES, SF
Jepsen 21-02(TA) - Wellbore #1 - Wellbore #1	10,905.73	6,914.95	317.87	238.44	4.002	CC, ES, SF
JEPSEN 22-2(SI) - Wellbore #1 - Wellbore #1	10,389.51	6,300.00	2,342.69	2,271.79	33.044	CC
JEPSEN 22-2(SI) - Wellbore #1 - Wellbore #1	10,400.00	6,300.00	2,342.71	2,271.70	32.990	ES
JEPSEN 22-2(SI) - Wellbore #1 - Wellbore #1	10,900.00	6,246.51	2,396.66	2,321.33	31.816	SF
Jepsen 23-2(SI) - Wellbore #1 - Wellbore #1	10,484.19	6,930.00	2,238.93	2,127.66	20.123	CC
Jepsen 23-2(SI) - Wellbore #1 - Wellbore #1	10,500.00	6,930.00	2,238.98	2,127.53	20.090	ES
Jepsen 23-2(SI) - Wellbore #1 - Wellbore #1	10,900.00	6,930.00	2,277.21	2,161.71	19.715	SF
Jepsen 5-2(PA) - Wellbore #1 - Wellbore #1	11,946.68	6,900.00	940.19	848.95	10.305	CC, ES
Jepsen 5-2(PA) - Wellbore #1 - Wellbore #1	12,000.00	6,900.00	941.70	849.80	10.247	SF
Shelton 17-2(PA) - Wellbore #1 - Wellbore #1	8,661.85	6,970.99	123.74	66.77	2.172	CC, ES, SF
Shelton 27-2(SI) - Wellbore #1 - Wellbore #1	8,570.76	7,594.24	924.83	857.13	13.660	CC
Shelton 27-2(SI) - Wellbore #1 - Wellbore #1	8,600.00	7,594.31	925.30	856.74	13.497	ES
Shelton 27-2(SI) - Wellbore #1 - Wellbore #1	8,900.00	7,595.03	981.69	905.22	12.838	SF
Shelton 31-2(PA) - Wellbore #1 - Wellbore #1	9,303.54	6,953.21	590.73	527.90	9.402	CC, ES, SF
Shelton 41-2(PA) - Wellbore #1 - Wellbore #1	7,723.00	6,979.33	385.42	334.41	7.556	CC, ES, SF
Shelton 42-2(PR) - Wellbore #1 - Wellbore #1	7,728.80	6,980.84	1,020.11	969.17	20.025	CC, ES
Shelton 42-2(PR) - Wellbore #1 - Wellbore #1	7,800.00	6,981.01	1,022.60	971.26	19.920	SF
Shelton 7-2(PR) - Wellbore #1 - Gyro Surveys	9,367.29	6,929.90	951.34	888.01	15.022	CC, ES
Shelton 7-2(PR) - Wellbore #1 - Gyro Surveys	9,500.00	6,922.22	960.52	895.88	14.859	SF



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

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Shelton H3-675
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	KB @ 4854.00ft
<b>Reference Site:</b>	H Section 01	<b>MD Reference:</b>	KB @ 4854.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Shelton H3-675	<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
H Section 03						
Beebe 17-3(PR) - Wellbore #1 - Wellbore #1	13,744.91	6,900.00	378.85	266.60	3.375	CC, ES, SF
ARISTOCRAT #24-3C(PR) - Wellbore #1 - Wellbore #1	15,992.16	6,958.00	3,412.16	861.53	1.338	Level 3, CC
ARISTOCRAT #24-3C(PR) - Wellbore #1 - Wellbore #1	16,000.00	6,958.00	3,412.17	861.43	1.338	Level 3, ES, SF
ARISTOCRAT #33-3C(PR) - Wellbore #1 - Wellbore #1	14,513.31	6,939.00	2,311.58	2,153.52	14.624	CC, ES
ARISTOCRAT #33-3C(PR) - Wellbore #1 - Wellbore #1	14,800.00	6,939.00	2,329.29	2,168.18	14.458	SF
ARISTOCRAT #43-3C(PR) - Wellbore #1 - Wellbore #1	13,186.71	6,925.00	2,295.50	2,153.36	16.150	CC
ARISTOCRAT #43-3C(PR) - Wellbore #1 - Wellbore #1	13,200.00	6,925.00	2,295.54	2,153.23	16.131	ES
ARISTOCRAT #43-3C(PR) - Wellbore #1 - Wellbore #1	13,500.00	6,925.00	2,316.78	2,171.31	15.926	SF
ARISTOCRAT ANGUS #11-3(PR) - Wellbore #1 - Wellbo	17,121.14	6,940.00	275.12	-2,282.93	0.108	Level 1, CC, ES, SF
ARISTOCRAT ANGUS #12-3C(PR) - Wellbore #1 - No S	17,260.25	6,939.00	1,116.51	925.22	5.837	CC, ES
ARISTOCRAT ANGUS #12-3C(PR) - Wellbore #1 - No S	17,300.00	6,939.00	1,117.22	925.43	5.825	SF
ARISTOCRAT ANGUS #1-3(PR) - Wellbore #1 - Wellbor	13,754.49	6,940.00	2,826.19	308.75	1.123	Level 2, CC
ARISTOCRAT ANGUS #1-3(PR) - Wellbore #1 - Wellbor	13,800.00	6,940.00	2,826.56	308.55	1.123	Level 2, ES, SF
ARISTOCRAT ANGUS #13-3(PR) - Wellbore #1 - No Sur	17,336.73	6,970.00	2,264.61	2,072.11	11.765	CC, ES
ARISTOCRAT ANGUS #13-3(PR) - Wellbore #1 - No Sur	17,500.00	6,970.00	2,270.49	2,076.15	11.683	SF
ARISTOCRAT ANGUS #14-3 (PR) - Wellbore #1 - Wellb	17,132.89	4,603.00	4,333.67	2,867.05	2.955	CC
ARISTOCRAT ANGUS #14-3 (PR) - Wellbore #1 - Wellb	17,200.00	4,603.00	4,334.19	2,866.74	2.954	ES
ARISTOCRAT ANGUS #14-3 (PR) - Wellbore #1 - Wellb	17,300.00	4,603.00	4,336.89	2,868.01	2.953	SF
ARISTOCRAT ANGUS #14-3A(PR) - Wellbore #1 - Wellb	17,090.88	6,968.00	3,770.95	1,203.47	1.469	Level 3, CC
ARISTOCRAT ANGUS #14-3A(PR) - Wellbore #1 - Wellb	17,100.00	6,968.00	3,770.96	1,203.37	1.469	Level 3, ES
ARISTOCRAT ANGUS #14-3A(PR) - Wellbore #1 - Wellb	17,200.00	6,968.00	3,772.53	1,203.70	1.469	Level 3, SF
ARISTOCRAT ANGUS #2-0-3(PR) - Wellbore #1 - Wellb	16,754.00	6,941.00	36.13	-2,517.80	0.014	Level 1, CC, ES, SF
ARISTOCRAT ANGUS #21-3(PR) - Wellbore #1 - Wellbo	15,695.25	6,945.00	76.79	-2,465.71	0.030	Level 1, CC, ES, SF
ARISTOCRAT ANGUS #23-3(PR) - Wellbore #1 - No Sur	15,851.97	4,640.00	3,256.46	3,129.52	25.654	CC
ARISTOCRAT ANGUS #23-3(PR) - Wellbore #1 - No Sur	15,900.00	4,640.00	3,256.81	3,129.37	25.554	ES
ARISTOCRAT ANGUS #23-3(PR) - Wellbore #1 - No Sur	16,400.00	4,640.00	3,302.25	3,170.41	25.047	SF
ARISTOCRAT ANGUS #23-3C(PR) - Wellbore #1 - No S	15,851.18	6,934.00	2,200.12	2,025.98	12.634	CC
ARISTOCRAT ANGUS #23-3C(PR) - Wellbore #1 - No S	15,900.00	6,934.00	2,200.66	2,025.90	12.592	ES
ARISTOCRAT ANGUS #23-3C(PR) - Wellbore #1 - No S	16,100.00	6,934.00	2,214.15	2,037.40	12.527	SF
ARISTOCRAT ANGUS #2-4-3X(PR) - Wellbore #1 - Well	14,955.64	6,941.00	1,778.87	-753.30	0.703	Level 1, CC, SF
ARISTOCRAT ANGUS #2-4-3X(PR) - Wellbore #1 - Well	15,000.00	6,941.00	1,779.42	-753.32	0.703	Level 1, ES
ARISTOCRAT ANGUS #34-3C(PR) - Wellbore #1 - Wellb	14,344.74	6,951.00	3,408.31	879.97	1.348	Level 3, CC
ARISTOCRAT ANGUS #34-3C(PR) - Wellbore #1 - Wellb	14,400.00	6,951.00	3,408.75	879.72	1.348	Level 3, ES, SF
ARISTOCRAT ANGUS #4-0-3(PR) - Wellbore #1 - Wellb	15,726.96	6,930.00	135.71	-2,401.92	0.053	Level 1, CC, ES, SF
ARISTOCRAT ANGUS #44-3C(PR) - Wellbore #1 - No S	13,115.04	6,938.00	3,540.78	3,399.38	25.040	CC
ARISTOCRAT ANGUS #44-3C(PR) - Wellbore #1 - No S	13,200.00	6,938.00	3,541.80	3,399.36	24.864	ES
ARISTOCRAT ANGUS #44-3C(PR) - Wellbore #1 - No S	13,800.00	6,938.00	3,606.43	3,457.90	24.281	SF
ARISTOCRAT ANGUS #4-6-3X(PR) - Wellbore #1 - No S	15,585.47	6,970.00	1,262.01	1,090.77	7.370	CC
ARISTOCRAT ANGUS #4-6-3X(PR) - Wellbore #1 - No S	15,600.00	6,970.00	1,262.10	1,090.66	7.362	ES
ARISTOCRAT ANGUS #4-6-3X(PR) - Wellbore #1 - No S	15,700.00	6,970.00	1,267.20	1,094.77	7.349	SF
ARISTOCRAT ANGUS #6-4-3(PR) - Wellbore #1 - Wellb	14,470.69	6,936.00	2,281.94	-242.65	0.904	Level 1, CC
ARISTOCRAT ANGUS #6-4-3(PR) - Wellbore #1 - Wellb	14,500.00	6,936.00	2,282.13	-242.84	0.904	Level 1, ES, SF
ARISTOCRAT ANGUS #7-6-3(PR) - Wellbore #1 - Wellb	13,735.47	6,940.00	2,837.79	320.58	1.127	Level 2, CC
ARISTOCRAT ANGUS #7-6-3(PR) - Wellbore #1 - Wellb	13,800.00	6,940.00	2,838.53	320.51	1.127	Level 2, ES, SF
Aristocrat Angus 0-8-3(PR) - Wellbore #1 - Wellbore #1	17,641.52	7,064.84	4,253.16	4,089.93	26.057	CC, ES, SF
Aristocrat Angus 2-0-3 - Wellbore #1 - Actual	16,531.63	7,076.78	955.24	809.10	6.536	CC, ES, SF
ARISTOCRAT ANGUS 2-3(PR) - Wellbore #1 - Wellbore	16,472.09	7,034.45	409.42	260.38	2.747	CC, ES
ARISTOCRAT ANGUS 2-3(PR) - Wellbore #1 - Wellbore	16,500.00	7,033.64	410.37	260.81	2.744	SF
Aristocrat Angus 3-3(PR) - Wellbore #1 - Wellbore #1	16,450.94	7,061.16	2,922.80	2,774.85	19.756	CC
Aristocrat Angus 3-3(PR) - Wellbore #1 - Wellbore #1	16,500.00	7,060.67	2,923.21	2,774.57	19.666	ES
Aristocrat Angus 3-3(PR) - Wellbore #1 - Wellbore #1	16,900.00	7,056.66	2,957.10	2,804.05	19.321	SF
Aristocrat Angus 4-0-3 - Aristocrat Angus 4-0-3 - Actual	15,256.91	7,046.11	909.20	776.70	6.862	CC, ES, SF
Aristocrat Angus 4-0-3 (DO NOT USE) - Original Drilling	15,244.20	6,992.34	321.39	189.11	2.430	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 Shelton H3-675
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	KB @ 4854.00ft
<b>Reference Site:</b>	H Section 01	<b>MD Reference:</b>	KB @ 4854.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Shelton H3-675	<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						
H Section 03						
ARISTOCRAT ANGUS 4-2-3(PR) - Wellbore #1 - Wellbo	15,244.20	6,992.34	321.38	189.10	2.430	CC, ES, SF
Aristocrat Angus 6-4-3(PR) - Wellbore #1 - Wellbore #1	14,470.69	6,936.00	2,281.94	2,124.42	14.486	CC
Aristocrat Angus 6-4-3(PR) - Wellbore #1 - Wellbore #1	14,500.00	6,936.00	2,282.13	2,124.23	14.453	ES
Aristocrat Angus 6-4-3(PR) - Wellbore #1 - Wellbore #1	14,700.00	6,936.00	2,293.44	2,133.37	14.328	SF
ARISTOCRAT ANGUS 6-8-3(PR) - Wellbore #1 - Wellbo	13,885.96	7,116.75	4,180.64	4,064.70	36.057	CC
ARISTOCRAT ANGUS 6-8-3(PR) - Wellbore #1 - Wellbo	13,900.00	7,116.89	4,180.66	4,064.54	36.002	ES
ARISTOCRAT ANGUS 6-8-3(PR) - Wellbore #1 - Wellbo	15,000.00	7,129.21	4,326.51	4,198.87	33.897	SF
BB DRAW H #3-12JI(SI) - Wellbore #1 - No Surveys	17,354.61	6,975.00	2,353.18	2,160.43	12.208	CC
BB DRAW H #3-12JI(SI) - Wellbore #1 - No Surveys	17,400.00	6,975.00	2,353.62	2,160.29	12.174	ES
BB DRAW H #3-12JI(SI) - Wellbore #1 - No Surveys	17,600.00	6,975.00	2,365.94	2,170.62	12.113	SF
BB DRAW H #3-14JI(PR) - Wellbore #1 - Wellbore #1	16,042.10	6,960.00	3,417.78	865.83	1.339	Level 3, CC
BB DRAW H #3-14JI(PR) - Wellbore #1 - Wellbore #1	16,100.00	6,960.00	3,418.27	865.60	1.339	Level 3, ES, SF
BB DRAW H #3-5JI(SI) - Wellbore #1 - No Surveys	17,154.14	6,945.00	1,133.32	943.27	5.963	CC, ES
BB DRAW H #3-5JI(SI) - Wellbore #1 - No Surveys	17,200.00	6,945.00	1,134.25	943.63	5.950	SF
BB DRAW H #3-6JI(SI) - Wellbore #1 - Wellbore #1	15,692.49	6,965.00	844.86	-1,704.60	0.331	Level 1, CC
BB DRAW H #3-6JI(SI) - Wellbore #1 - Wellbore #1	15,700.00	6,965.00	844.89	-1,704.68	0.331	Level 1, ES, SF
BB Draw H 03-02J(PA) - Wellbore #1 - Wellbore #1	16,735.76	6,945.93	82.21	-66.29	0.554	Level 1, CC, ES, SF
BB Draw H3-3J(PR) - Wellbore #1 - Wellbore #1	16,727.30	6,997.44	3,335.17	3,186.66	22.457	CC
BB Draw H3-3J(PR) - Wellbore #1 - Wellbore #1	16,800.00	6,996.31	3,335.96	3,186.54	22.326	ES
BB Draw H3-3J(PR) - Wellbore #1 - Wellbore #1	17,300.00	6,988.66	3,383.97	3,229.88	21.961	SF
Beebe Draw H15-715 - Wellbore #1 - Plan #1	13,317.71	6,558.43	3,841.16	3,725.63	33.248	CC, ES
Beebe Draw H15-715 - Wellbore #1 - Plan #1	13,900.00	6,300.89	3,876.50	3,758.06	32.730	SF
Beebe Draw H15-725 - Wellbore #1 - Plan #1	13,858.97	6,337.36	3,839.92	3,724.50	33.267	CC
Beebe Draw H15-725 - Wellbore #1 - Plan #1	13,900.00	6,323.92	3,840.12	3,724.35	33.171	ES
Beebe Draw H15-725 - Wellbore #1 - Plan #1	14,600.00	6,094.70	3,903.24	3,782.95	32.448	SF
Beebe Draw H15-736 - Wellbore #1 - Plan #1	14,386.61	6,189.85	3,842.71	3,724.75	32.578	CC
Beebe Draw H15-736 - Wellbore #1 - Plan #1	14,400.00	6,187.13	3,842.73	3,724.64	32.540	ES
Beebe Draw H15-736 - Wellbore #1 - Plan #1	15,100.00	6,044.90	3,905.68	3,781.90	31.555	SF
Beebe Draw H15-746 - Wellbore #1 - Plan #1	14,891.21	6,170.54	3,854.01	3,731.02	31.336	CC
Beebe Draw H15-746 - Wellbore #1 - Plan #1	14,900.00	6,170.02	3,854.02	3,730.93	31.310	ES
Beebe Draw H15-746 - Wellbore #1 - Plan #1	15,700.00	6,123.02	3,937.67	3,807.21	30.182	SF
Beebe Draw H15-754 - Wellbore #1 - Plan #1	15,567.22	6,523.57	3,879.00	3,745.86	29.134	CC
Beebe Draw H15-754 - Wellbore #1 - Plan #1	15,600.00	6,523.01	3,879.14	3,745.59	29.045	ES
Beebe Draw H15-754 - Wellbore #1 - Plan #1	16,300.00	6,500.00	3,947.58	3,807.18	28.116	SF
Beebe Draw H15-764 - Wellbore #1 - Plan #1	16,128.52	6,500.00	3,881.61	3,742.17	27.837	CC
Beebe Draw H15-764 - Wellbore #1 - Plan #1	16,200.00	6,500.00	3,882.27	3,741.94	27.665	ES
Beebe Draw H15-764 - Wellbore #1 - Plan #1	16,900.00	6,500.00	3,957.54	3,810.59	26.931	SF
Beebe Draw H15-774 - Wellbore #1 - Plan #1	16,723.42	6,550.00	3,883.50	3,735.86	26.305	CC
Beebe Draw H15-774 - Wellbore #1 - Plan #1	16,800.00	6,550.00	3,884.25	3,735.67	26.143	ES
Beebe Draw H15-774 - Wellbore #1 - Plan #1	17,400.00	6,550.00	3,941.99	3,787.70	25.549	SF
Beebe Draw H15-783 - Wellbore #1 - Plan #1	17,214.78	6,650.00	3,882.30	3,727.80	25.129	CC
Beebe Draw H15-783 - Wellbore #1 - Plan #1	17,300.00	6,650.00	3,883.24	3,727.69	24.965	ES
Beebe Draw H15-783 - Wellbore #1 - Plan #1	17,641.52	6,671.33	3,905.27	3,745.99	24.518	SF
Gun Club 43-3 #1(PA) - Wellbore #1 - Wellbore #1	13,251.68	6,600.00	541.04	449.34	5.900	CC, ES, SF
Gun Club UPRR 31-3 2(PA) - Wellbore #1 - Wellbore #1	14,320.53	6,916.72	275.68	156.50	2.313	CC, ES, SF
Moser UPRR 32-3 #1(PA) - Wellbore #1 - Wellbore #1	14,604.59	6,920.56	1,053.73	931.12	8.594	CC, ES
Moser UPRR 32-3 #1(PA) - Wellbore #1 - Wellbore #1	14,700.00	6,920.56	1,058.04	934.44	8.560	SF
Moser UPRR 42-3 #2(PA) - Wellbore #1 - Wellbore #1	13,132.35	6,930.50	991.45	886.39	9.437	CC, ES
Moser UPRR 42-3 #2(PA) - Wellbore #1 - Wellbore #1	13,200.00	6,930.28	993.76	887.90	9.387	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 Shelton H3-675
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	KB @ 4854.00ft
<b>Reference Site:</b>	H Section 01	<b>MD Reference:</b>	KB @ 4854.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Shelton H3-675	<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>						
H Section 12						
Helms H 12-14D(SI) - Wellbore #1 - Gyro Surveys	6,893.04	7,025.84	9,321.24	9,272.93	192.966	CC
Helms H 12-14D(SI) - Wellbore #1 - Gyro Surveys	6,900.00	7,030.95	9,321.25	9,272.90	192.815	ES
Helms H 12-14D(SI) - Wellbore #1 - Gyro Surveys	9,300.00	7,245.26	9,981.85	9,919.32	159.620	SF
JOHNSON H #13-27D(PR) - Wellbore #1 - MWD Survey	307.45	333.95	9,906.60	9,904.76	5,373.762	CC
JOHNSON H #13-27D(PR) - Wellbore #1 - MWD Survey	800.00	778.00	9,908.11	9,902.97	1,927.577	ES
JOHNSON H #13-27D(PR) - Wellbore #1 - MWD Survey	2,400.00	1,205.00	9,998.08	9,985.82	815.283	SF
Ray H 12-24D(SI) - Wellbore #1 - Gyro Surveys	6,738.28	6,753.53	8,267.03	8,215.78	161.303	CC
Ray H 12-24D(SI) - Wellbore #1 - Gyro Surveys	6,750.00	6,759.93	8,267.07	8,215.75	161.119	ES
Ray H 12-24D(SI) - Wellbore #1 - Gyro Surveys	10,800.00	6,960.11	9,980.76	9,904.30	130.534	SF
SHELTON H #01-25D(SI) - Wellbore #1 - MWD Surveys	6,689.23	7,090.85	3,141.00	3,083.43	54.559	CC
SHELTON H #01-25D(SI) - Wellbore #1 - MWD Surveys	6,700.00	7,099.20	3,141.04	3,083.40	54.488	ES
SHELTON H #01-25D(SI) - Wellbore #1 - MWD Surveys	7,100.00	7,273.00	3,201.99	3,141.68	53.092	SF
Shelton H01-33D(SI) - Wellbore #1 - MWD Surveys	7,349.92	7,467.60	3,040.04	2,984.98	55.217	CC
Shelton H01-33D(SI) - Wellbore #1 - MWD Surveys	7,350.00	7,467.61	3,040.04	2,984.98	55.217	ES, SF
STROH #H 12-03(SI) - Wellbore #1 - No Surveys	6,674.62	6,623.22	5,100.09	5,018.96	62.859	CC
STROH #H 12-03(SI) - Wellbore #1 - No Surveys	6,700.00	6,646.30	5,100.28	5,018.86	62.642	ES
STROH #H 12-03(SI) - Wellbore #1 - No Surveys	7,250.00	6,991.34	5,201.82	5,115.79	60.459	SF
Stroh #H12-16(SI) - Wellbore #1 - No Surveys						Out of range
Stroh #H12-18(PR) - Wellbore #1 - No Surveys	6,655.49	6,608.57	5,908.06	5,827.11	72.985	CC, ES
Stroh #H12-18(PR) - Wellbore #1 - No Surveys	7,250.00	6,994.34	6,019.61	5,933.55	69.944	SF
Stroh #H12-22(PR) - Wellbore #1 - Gyro Surveys	6,600.60	6,551.45	7,526.96	7,481.26	164.695	CC, ES
Stroh #H12-22(PR) - Wellbore #1 - Gyro Surveys	10,800.00	6,800.00	9,936.01	9,870.09	150.721	SF
Stroh #H12-32(PR) - Wellbore #1 - No Surveys	7,229.69	6,971.47	6,686.17	6,600.38	77.938	CC
Stroh #H12-32(PR) - Wellbore #1 - No Surveys	7,250.00	6,977.34	6,686.24	6,600.34	77.837	ES
Stroh #H12-32(PR) - Wellbore #1 - No Surveys	10,800.00	7,002.00	7,716.14	7,605.32	69.628	SF
Stroh 12-01 - Wellbore #1 - Wellbore #1 - As Drilled	6,529.25	6,487.16	6,366.11	6,320.72	140.263	CC, ES
Stroh 12-01 - Wellbore #1 - Wellbore #1 - As Drilled	7,100.00	6,924.04	6,532.46	6,483.87	134.430	SF
STROH D #07-31(PR) - Wellbore #1 - Gyro Surveys	6,537.81	6,484.07	7,121.84	7,076.41	156.755	CC
STROH D #07-31(PR) - Wellbore #1 - Gyro Surveys	6,550.00	6,498.15	7,121.92	7,076.39	156.441	ES
STROH D #07-31(PR) - Wellbore #1 - Gyro Surveys	7,100.00	6,887.15	7,275.77	7,227.27	150.022	SF
STROH H #12-05(PA) - Wellbore #1 - Gyro Surveys	6,927.50	6,773.42	5,910.36	5,862.92	124.607	CC
STROH H #12-05(PA) - Wellbore #1 - Gyro Surveys	6,950.00	6,788.46	5,910.45	5,862.90	124.302	ES
STROH H #12-05(PA) - Wellbore #1 - Gyro Surveys	10,800.00	7,052.30	7,432.53	7,361.55	104.707	SF
STROH H #12-06(SI) - Wellbore #1 - No Surveys	6,710.54	6,659.76	6,576.29	6,494.72	80.625	CC
STROH H #12-06(SI) - Wellbore #1 - No Surveys	6,750.00	6,694.52	6,576.70	6,494.71	80.209	ES
STROH H #12-06(SI) - Wellbore #1 - No Surveys	7,350.00	7,015.19	6,687.25	6,600.70	77.258	SF
STROH H #12-08(PR) - Wellbore #1 - No Surveys	6,563.04	6,520.78	7,700.64	7,620.74	96.376	CC, ES
STROH H #12-08(PR) - Wellbore #1 - No Surveys	7,200.00	6,978.78	7,873.80	7,788.04	91.816	SF
STROH H #12-10(PR) - Wellbore #1 - No Surveys	6,663.88	6,825.34	7,994.16	7,911.30	96.471	CC
STROH H #12-10(PR) - Wellbore #1 - No Surveys	6,700.00	6,858.30	7,994.55	7,911.28	96.006	ES
STROH H #12-10(PR) - Wellbore #1 - No Surveys	9,600.00	7,228.00	9,262.77	9,162.01	91.936	SF
STROH H #12-11(SI) - Wellbore #1 - No Surveys	6,834.53	6,773.87	7,712.61	7,629.67	92.994	CC
STROH H #12-11(SI) - Wellbore #1 - No Surveys	6,850.00	6,786.07	7,712.66	7,629.57	92.824	ES
STROH H #12-11(SI) - Wellbore #1 - No Surveys	10,800.00	7,029.00	9,230.20	9,120.96	84.488	SF
STROH H #12-12(SI) - Wellbore #1 - No Surveys	7,184.54	6,960.22	7,508.24	7,422.68	87.755	CC
STROH H #12-12(SI) - Wellbore #1 - No Surveys	7,200.00	6,965.78	7,508.28	7,422.63	87.659	ES
STROH H #12-12(SI) - Wellbore #1 - No Surveys	11,500.00	7,006.00	8,861.04	8,744.43	75.994	SF
STROH H #12-13(SI) - Wellbore #1 - No Surveys	7,168.81	6,946.22	9,174.26	9,088.87	107.437	CC
STROH H #12-13(SI) - Wellbore #1 - No Surveys	7,200.00	6,957.78	9,174.43	9,088.84	107.198	ES
STROH H #12-13(SI) - Wellbore #1 - No Surveys	10,600.00	6,998.00	9,978.70	9,867.98	90.124	SF
STROH H #12-14(PA) - Wellbore #1 - No Surveys	6,864.14	6,794.02	8,454.73	8,371.53	101.620	CC
STROH H #12-14(PA) - Wellbore #1 - No Surveys	6,900.00	6,820.88	8,454.99	8,371.45	101.211	ES
STROH H #12-14(PA) - Wellbore #1 - No Surveys	11,000.00	7,026.00	9,957.44	9,845.80	89.192	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 Shelton H3-675
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	KB @ 4854.00ft
<b>Reference Site:</b>	H Section 01	<b>MD Reference:</b>	KB @ 4854.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Shelton H3-675	<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

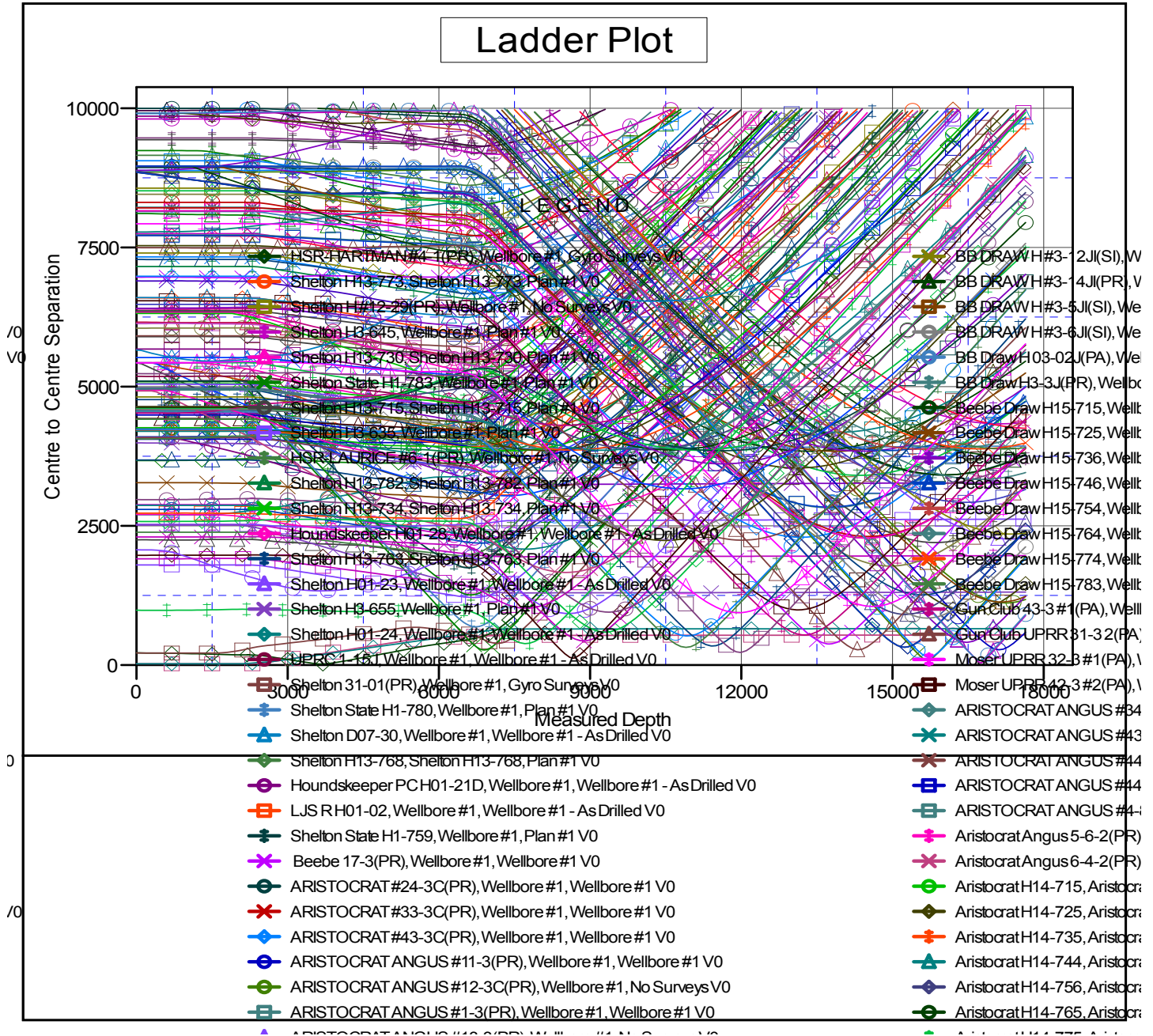
Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
H Section 12						
STROH H #12-20(PR) - Wellbore #1 - No Surveys	6,857.03	6,789.53	6,797.81	6,714.67	81.764	CC
STROH H #12-20(PR) - Wellbore #1 - No Surveys	6,900.00	6,821.88	6,798.19	6,714.64	81.369	ES
STROH H #12-20(PR) - Wellbore #1 - No Surveys	9,900.00	7,027.00	7,848.44	7,745.97	76.592	SF
STROH H #12-21(PR) - Wellbore #1 - No Surveys	6,655.26	6,613.35	7,178.70	7,097.71	88.637	CC, ES
STROH H #12-21(PR) - Wellbore #1 - No Surveys	7,300.00	7,011.17	7,306.28	7,219.92	84.604	SF
STROH H #12-28D(PR) - Wellbore #1 - MWD Surveys	6,577.51	6,789.94	4,617.70	4,553.52	71.956	CC, ES
STROH H #12-28D(PR) - Wellbore #1 - MWD Surveys	13,400.00	13,400.00	9,493.93	9,356.97	69.318	SF
STROH H #12-4J(PR) - Wellbore #1 - No Surveys	6,631.90	6,573.53	9,295.77	9,215.21	115.376	CC
STROH H #12-4J(PR) - Wellbore #1 - No Surveys	6,650.00	6,590.47	9,295.88	9,215.10	115.080	ES
STROH H #12-4J(PR) - Wellbore #1 - No Surveys	8,400.00	7,006.00	9,966.26	9,875.13	109.356	SF
STROH H #12-9(PR) - Wellbore #1 - No Surveys	6,587.05	6,532.92	8,616.36	8,536.28	107.600	CC
STROH H #12-9(PR) - Wellbore #1 - No Surveys	6,600.00	6,545.31	8,616.43	8,536.19	107.395	ES
STROH H #12-9(PR) - Wellbore #1 - No Surveys	7,300.00	6,995.17	8,808.01	8,721.82	102.196	SF
Stroh H 12-04(PR) - Wellbore #1 - Wellbore #1	7,103.62	6,968.89	4,698.51	4,649.72	96.311	CC, ES
Stroh H 12-04(PR) - Wellbore #1 - Wellbore #1	9,700.00	6,999.81	5,539.39	5,475.73	87.027	SF
Stroh H12-02 - Wellbore #1 - Wellbore #1 - As Drilled	6,590.67	6,561.61	5,429.88	5,384.06	118.510	CC
Stroh H12-02 - Wellbore #1 - Wellbore #1 - As Drilled	6,600.00	6,570.69	5,429.91	5,384.03	118.346	ES
Stroh H12-02 - Wellbore #1 - Wellbore #1 - As Drilled	7,200.00	6,988.52	5,575.98	5,526.89	113.575	SF
Stroh H12-27 - Wellbore #1 - Wellbore #1 - As Drilled	6,539.12	6,486.59	5,590.24	5,544.83	123.099	CC
Stroh H12-27 - Wellbore #1 - Wellbore #1 - As Drilled	6,550.00	6,495.15	5,590.30	5,544.82	122.914	ES
Stroh H12-27 - Wellbore #1 - Wellbore #1 - As Drilled	7,100.00	6,907.78	5,741.06	5,692.52	118.255	SF
STROH H12-99HZ(PR) - Wellbore #1 - MWD Surveys	7,070.72	6,440.72	5,486.08	5,439.34	117.382	CC, ES
STROH H12-99HZ(PR) - Wellbore #1 - MWD Surveys	10,800.00	6,239.00	6,717.46	6,648.11	96.863	SF
STROH PC H #12-30D(SI) - Wellbore #1 - MWD Surveys	7,256.45	7,111.61	4,092.12	4,040.60	79.431	CC, ES
STROH PC H #12-30D(SI) - Wellbore #1 - MWD Surveys	9,200.00	7,127.19	4,598.49	4,537.13	74.942	SF
STROH PC H #12-31D(SI) - Wellbore #1 - MWD Surveys	7,284.27	7,204.46	5,321.08	5,269.85	103.868	CC
STROH PC H #12-31D(SI) - Wellbore #1 - MWD Surveys	7,300.00	7,207.68	5,321.13	5,269.84	103.735	ES
STROH PC H #12-31D(SI) - Wellbore #1 - MWD Surveys	10,600.00	7,192.48	6,373.07	6,298.88	85.896	SF
Stroh/12-7(PR) - Wellbore #1 - Gyro Surveys	6,602.99	6,617.28	6,669.58	6,623.53	144.845	CC, ES
Stroh/12-7(PR) - Wellbore #1 - Gyro Surveys	7,300.00	7,005.37	6,853.96	6,804.53	138.641	SF

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

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Shelton H3-675
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	KB @ 4854.00ft
<b>Reference Site:</b>	H Section 01	<b>MD Reference:</b>	KB @ 4854.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Shelton H3-675	<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 @ 4854.00ft  
Offset Depths are relative to Offset Datum  
Central Meridian is -105.5000000

Coordinates are relative to: Shelton H3-675  
Coordinate System is US State Plane 1983, Colorado Northern Zone  
Grid Convergence at Surface is: 0.57°



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

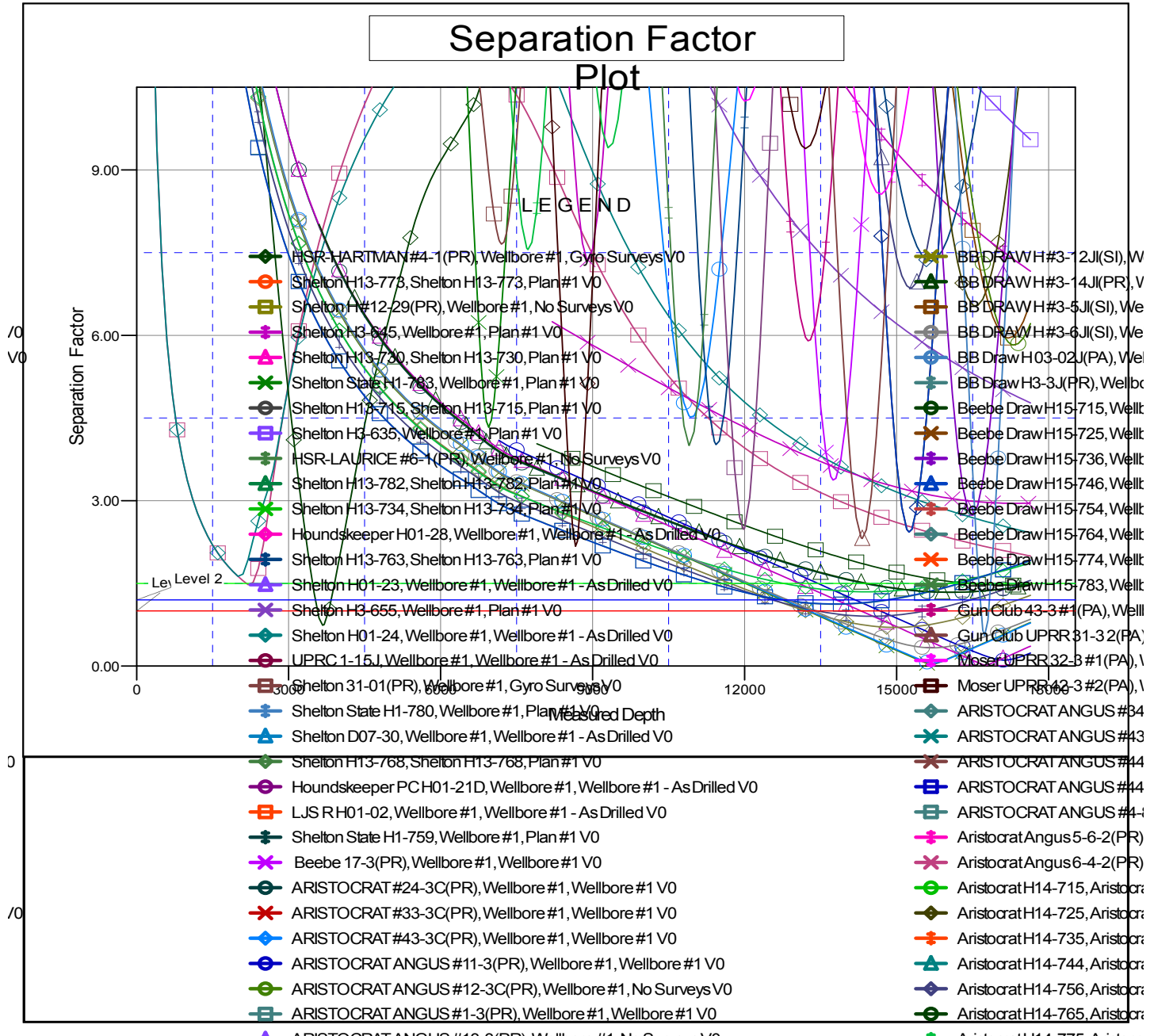


**Noble Energy, Inc.**  
**Anticollision Summary Report**

<b>Company:</b>	Northern Region - DJ Basin	<b>Local Co-ordinate Reference:</b>	Well Shelton H3-675
<b>Project:</b>	Mustang	<b>TVD Reference:</b>	KB @ 4854.00ft
<b>Reference Site:</b>	H Section 01	<b>MD Reference:</b>	KB @ 4854.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	Grid
<b>Reference Well:</b>	Shelton H3-675	<b>Survey Calculation Method:</b>	Minimum Curvature
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Coordinates are relative to: Shelton H3-675  
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