

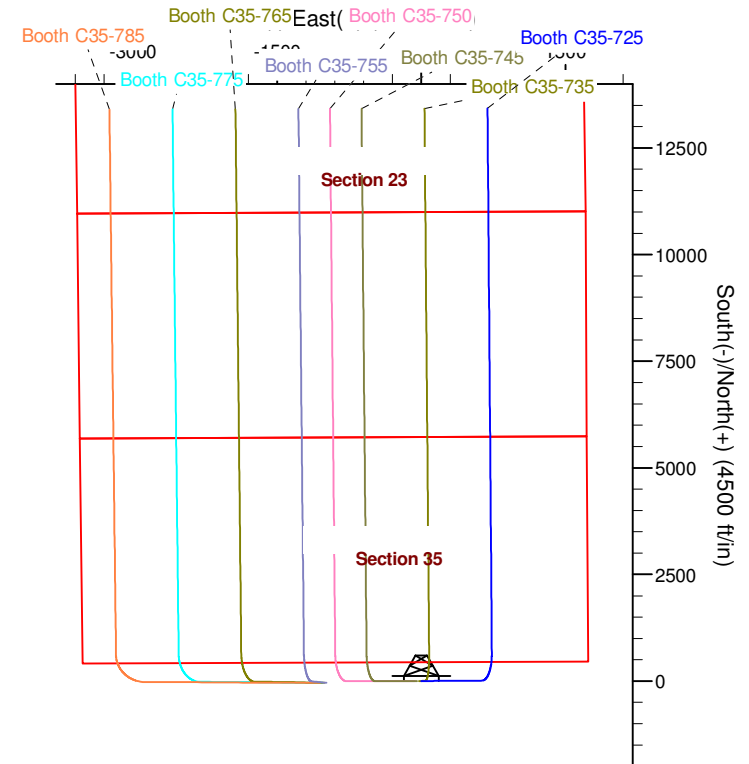
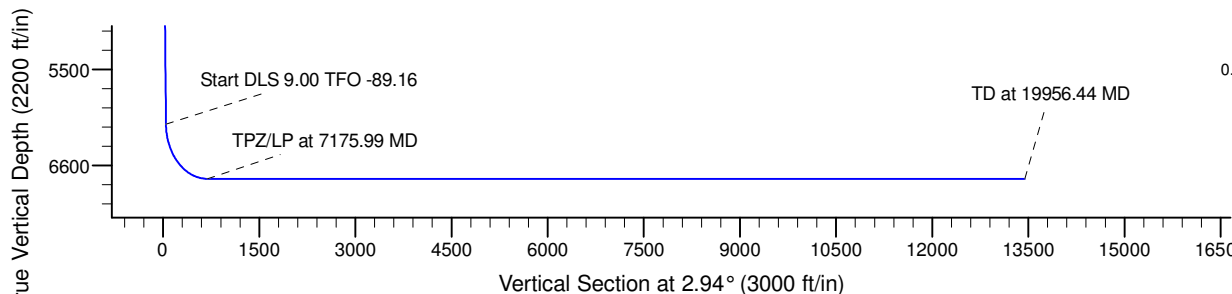
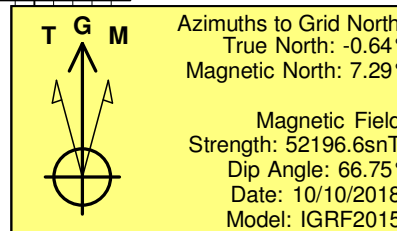
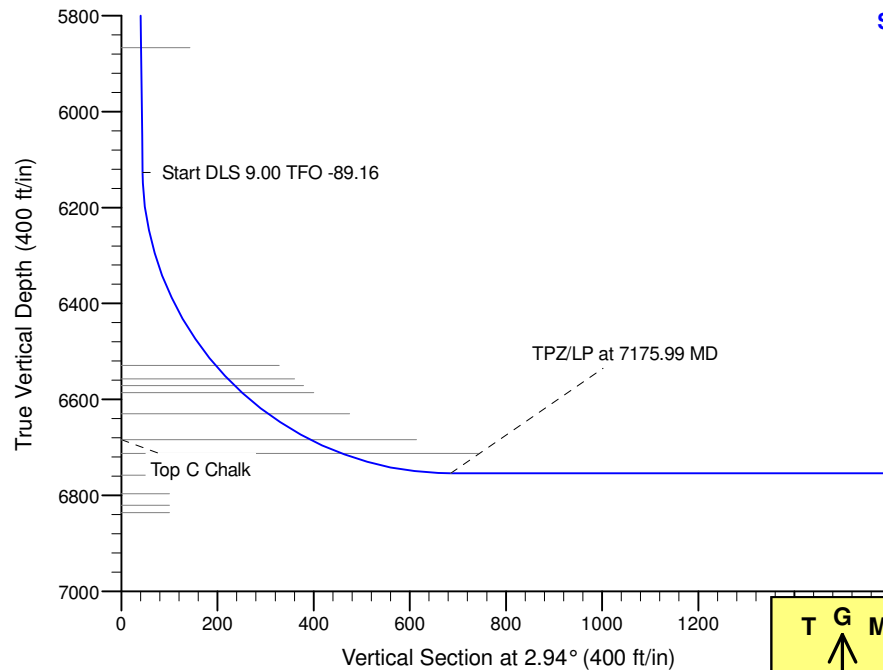
Project: Mustang
Site: C Section 35
Well: Booth C35-725
Wellbore: Wellbore #1
Design: Plan #1

Northern Region - DJ Basin

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

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	2000.00	0.00	0.00	2000.00	0.00	0.00	0.00	0.00	0.00	
3	2462.64	9.25	88.95	2460.63	0.68	37.27	2.00	88.95	2.59	
4	6177.51	9.25	88.95	6127.16	11.65	634.48	0.00	0.00	44.16	
5	7175.99	90.00	359.80	6754.00	648.63	734.35	9.00	-89.16	685.42	TPZ Booth C35-725
6	19956.44	90.00	359.80	6754.00	13429.00	689.30	0.00	0.00	13446.68	BHL Booth C35-725



WELL DETAILS: Booth C35-725

	Northing	Easting	Latitude	Longitude
0.00	0.00	1339280.29	4722.00 40.2605330	-104.5150610

Plan: Plan #1 (Booth C35-725/Wellbore #1)

Created By: Colby Baxter Date: 12:37, October 10 2018

Checked: _____ Date: _____

Reviewed: _____ Date: _____

Approved: _____ Date: _____

Northern Region - DJ Basin

Mustang

C Section 35

Booth C35-725

Wellbore #1

Plan: Plan #1

Standard Survey Report

10 October, 2018

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Booth C35-725
Project:	Mustang	TVD Reference:	KB @ 4752.00ft
Site:	C Section 35	MD Reference:	KB @ 4752.00ft
Well:	Booth C35-725	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	EDMP

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

Site		C Section 35			
Site Position:		Northing:	1,344,449.62 usft	Latitude:	40.2746900
From:	Lat/Long	Easting:	3,275,933.42 usft	Longitude:	-104.5110600
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.64 °

Well	Booth C35-725					
Well Position	+N/-S	0.00 ft	Northing:	1,339,280.29 usft	Latitude:	40.2605330
	+E/-W	0.00 ft	Easting:	3,274,874.39 usft	Longitude:	-104.5150610
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,722.00 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	10/10/2018	7.93	66.75	52,196.64749065

Design	Plan #1				
Audit Notes:					
Version:	Phase:	PLAN	Tie On Depth:	0.00	
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	2.94	

Survey Tool Program	Date	10/10/2018			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.00	19,956.44	Plan #1 (Wellbore #1)	2_MWD+IFR1	A005Mb: IFR declination correction only	

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

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Booth C35-725
Project:	Mustang	TVD Reference:	KB @ 4752.00ft
Site:	C Section 35	MD Reference:	KB @ 4752.00ft
Well:	Booth C35-725	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	EDMP

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	2.00	88.95	2,099.98	0.03	1.74	0.12	2.00	2.00	0.00
2,200.00	4.00	88.95	2,199.84	0.13	6.98	0.49	2.00	2.00	0.00
2,300.00	6.00	88.95	2,299.45	0.29	15.69	1.09	2.00	2.00	0.00
2,400.00	8.00	88.95	2,398.70	0.51	27.88	1.94	2.00	2.00	0.00
2,462.64	9.25	88.95	2,460.63	0.68	37.27	2.59	2.00	2.00	0.00
2,500.00	9.25	88.95	2,497.51	0.79	43.28	3.01	0.00	0.00	0.00
2,600.00	9.25	88.95	2,596.20	1.09	59.35	4.13	0.00	0.00	0.00
2,700.00	9.25	88.95	2,694.90	1.39	75.43	5.25	0.00	0.00	0.00
2,800.00	9.25	88.95	2,793.60	1.68	91.50	6.37	0.00	0.00	0.00
2,900.00	9.25	88.95	2,892.30	1.98	107.58	7.49	0.00	0.00	0.00
3,000.00	9.25	88.95	2,991.00	2.27	123.66	8.61	0.00	0.00	0.00
3,100.00	9.25	88.95	3,089.70	2.57	139.73	9.73	0.00	0.00	0.00
3,200.00	9.25	88.95	3,188.40	2.86	155.81	10.84	0.00	0.00	0.00
3,300.00	9.25	88.95	3,287.10	3.16	171.89	11.96	0.00	0.00	0.00
3,400.00	9.25	88.95	3,385.80	3.45	187.96	13.08	0.00	0.00	0.00
3,500.00	9.25	88.95	3,484.49	3.75	204.04	14.20	0.00	0.00	0.00
3,600.00	9.25	88.95	3,583.19	4.04	220.12	15.32	0.00	0.00	0.00
3,700.00	9.25	88.95	3,681.89	4.34	236.19	16.44	0.00	0.00	0.00
3,800.00	9.25	88.95	3,780.59	4.63	252.27	17.56	0.00	0.00	0.00
3,900.00	9.25	88.95	3,879.29	4.93	268.34	18.68	0.00	0.00	0.00
4,000.00	9.25	88.95	3,977.99	5.22	284.42	19.80	0.00	0.00	0.00
4,100.00	9.25	88.95	4,076.69	5.52	300.50	20.92	0.00	0.00	0.00
4,200.00	9.25	88.95	4,175.39	5.81	316.57	22.03	0.00	0.00	0.00
4,300.00	9.25	88.95	4,274.08	6.11	332.65	23.15	0.00	0.00	0.00
4,400.00	9.25	88.95	4,372.78	6.40	348.73	24.27	0.00	0.00	0.00
4,500.00	9.25	88.95	4,471.48	6.70	364.80	25.39	0.00	0.00	0.00
4,600.00	9.25	88.95	4,570.18	6.99	380.88	26.51	0.00	0.00	0.00
4,700.00	9.25	88.95	4,668.88	7.29	396.96	27.63	0.00	0.00	0.00
4,800.00	9.25	88.95	4,767.58	7.59	413.03	28.75	0.00	0.00	0.00
4,900.00	9.25	88.95	4,866.28	7.88	429.11	29.87	0.00	0.00	0.00
5,000.00	9.25	88.95	4,964.98	8.18	445.18	30.99	0.00	0.00	0.00
5,100.00	9.25	88.95	5,063.68	8.47	461.26	32.11	0.00	0.00	0.00
5,200.00	9.25	88.95	5,162.37	8.77	477.34	33.22	0.00	0.00	0.00

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Booth C35-725
Project:	Mustang	TVD Reference:	KB @ 4752.00ft
Site:	C Section 35	MD Reference:	KB @ 4752.00ft
Well:	Booth C35-725	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	EDMP

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,300.00	9.25	88.95	5,261.07	9.06	493.41	34.34	0.00	0.00	0.00
5,400.00	9.25	88.95	5,359.77	9.36	509.49	35.46	0.00	0.00	0.00
5,500.00	9.25	88.95	5,458.47	9.65	525.57	36.58	0.00	0.00	0.00
5,600.00	9.25	88.95	5,557.17	9.95	541.64	37.70	0.00	0.00	0.00
5,700.00	9.25	88.95	5,655.87	10.24	557.72	38.82	0.00	0.00	0.00
5,800.00	9.25	88.95	5,754.57	10.54	573.80	39.94	0.00	0.00	0.00
5,900.00	9.25	88.95	5,853.27	10.83	589.87	41.06	0.00	0.00	0.00
6,000.00	9.25	88.95	5,951.97	11.13	605.95	42.18	0.00	0.00	0.00
6,100.00	9.25	88.95	6,050.66	11.42	622.02	43.29	0.00	0.00	0.00
6,177.51	9.25	88.95	6,127.16	11.65	634.48	44.16	0.00	0.00	0.00
6,200.00	9.50	76.59	6,149.36	12.12	638.10	44.81	9.00	1.09	-54.94
6,300.00	14.46	38.97	6,247.29	23.76	654.01	57.25	9.00	4.96	-37.61
6,400.00	22.10	23.45	6,342.23	50.78	669.38	85.03	9.00	7.64	-15.53
6,500.00	30.47	15.87	6,431.83	92.52	683.83	127.45	9.00	8.37	-7.57
6,600.00	39.10	11.36	6,513.90	147.93	697.00	183.47	9.00	8.63	-4.51
6,700.00	47.85	8.28	6,586.40	215.67	708.57	251.71	9.00	8.75	-3.08
6,800.00	56.66	5.95	6,647.56	294.06	718.26	330.49	9.00	8.81	-2.33
6,900.00	65.51	4.05	6,695.87	381.17	725.82	417.88	9.00	8.85	-1.90
7,000.00	74.37	2.41	6,730.14	474.86	731.07	511.71	9.00	8.87	-1.64
7,100.00	83.25	0.90	6,749.53	572.82	733.89	609.69	9.00	8.88	-1.51
7,175.99	90.00	359.80	6,754.00	648.63	734.35	685.42	9.00	8.88	-1.45
7,200.00	90.00	359.80	6,754.00	672.64	734.26	709.40	0.00	0.00	0.00
7,300.00	90.00	359.80	6,754.00	772.64	733.91	809.24	0.00	0.00	0.00
7,400.00	90.00	359.80	6,754.00	872.64	733.56	909.09	0.00	0.00	0.00
7,500.00	90.00	359.80	6,754.00	972.64	733.21	1,008.94	0.00	0.00	0.00
7,600.00	90.00	359.80	6,754.00	1,072.64	732.85	1,108.79	0.00	0.00	0.00
7,700.00	90.00	359.80	6,754.00	1,172.64	732.50	1,208.64	0.00	0.00	0.00
7,800.00	90.00	359.80	6,754.00	1,272.64	732.15	1,308.49	0.00	0.00	0.00
7,900.00	90.00	359.80	6,754.00	1,372.64	731.80	1,408.34	0.00	0.00	0.00
8,000.00	90.00	359.80	6,754.00	1,472.63	731.44	1,508.19	0.00	0.00	0.00
8,100.00	90.00	359.80	6,754.00	1,572.63	731.09	1,608.04	0.00	0.00	0.00
8,200.00	90.00	359.80	6,754.00	1,672.63	730.74	1,707.89	0.00	0.00	0.00
8,300.00	90.00	359.80	6,754.00	1,772.63	730.39	1,807.74	0.00	0.00	0.00
8,400.00	90.00	359.80	6,754.00	1,872.63	730.03	1,907.59	0.00	0.00	0.00
8,500.00	90.00	359.80	6,754.00	1,972.63	729.68	2,007.44	0.00	0.00	0.00
8,600.00	90.00	359.80	6,754.00	2,072.63	729.33	2,107.29	0.00	0.00	0.00
8,700.00	90.00	359.80	6,754.00	2,172.63	728.98	2,207.14	0.00	0.00	0.00
8,800.00	90.00	359.80	6,754.00	2,272.63	728.62	2,306.99	0.00	0.00	0.00
8,900.00	90.00	359.80	6,754.00	2,372.63	728.27	2,406.84	0.00	0.00	0.00
9,000.00	90.00	359.80	6,754.00	2,472.63	727.92	2,506.69	0.00	0.00	0.00
9,100.00	90.00	359.80	6,754.00	2,572.63	727.57	2,606.54	0.00	0.00	0.00
9,200.00	90.00	359.80	6,754.00	2,672.63	727.21	2,706.39	0.00	0.00	0.00
9,300.00	90.00	359.80	6,754.00	2,772.63	726.86	2,806.24	0.00	0.00	0.00

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Booth C35-725
Project:	Mustang	TVD Reference:	KB @ 4752.00ft
Site:	C Section 35	MD Reference:	KB @ 4752.00ft
Well:	Booth C35-725	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	EDMP

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
9,400.00	90.00	359.80	6,754.00	2,872.63	726.51	2,906.09	0.00	0.00	0.00
9,500.00	90.00	359.80	6,754.00	2,972.63	726.16	3,005.94	0.00	0.00	0.00
9,600.00	90.00	359.80	6,754.00	3,072.62	725.80	3,105.79	0.00	0.00	0.00
9,700.00	90.00	359.80	6,754.00	3,172.62	725.45	3,205.64	0.00	0.00	0.00
9,800.00	90.00	359.80	6,754.00	3,272.62	725.10	3,305.49	0.00	0.00	0.00
9,900.00	90.00	359.80	6,754.00	3,372.62	724.75	3,405.34	0.00	0.00	0.00
10,000.00	90.00	359.80	6,754.00	3,472.62	724.39	3,505.19	0.00	0.00	0.00
10,100.00	90.00	359.80	6,754.00	3,572.62	724.04	3,605.04	0.00	0.00	0.00
10,200.00	90.00	359.80	6,754.00	3,672.62	723.69	3,704.89	0.00	0.00	0.00
10,300.00	90.00	359.80	6,754.00	3,772.62	723.34	3,804.74	0.00	0.00	0.00
10,400.00	90.00	359.80	6,754.00	3,872.62	722.98	3,904.59	0.00	0.00	0.00
10,500.00	90.00	359.80	6,754.00	3,972.62	722.63	4,004.44	0.00	0.00	0.00
10,600.00	90.00	359.80	6,754.00	4,072.62	722.28	4,104.29	0.00	0.00	0.00
10,700.00	90.00	359.80	6,754.00	4,172.62	721.93	4,204.14	0.00	0.00	0.00
10,800.00	90.00	359.80	6,754.00	4,272.62	721.57	4,303.99	0.00	0.00	0.00
10,900.00	90.00	359.80	6,754.00	4,372.62	721.22	4,403.84	0.00	0.00	0.00
11,000.00	90.00	359.80	6,754.00	4,472.62	720.87	4,503.69	0.00	0.00	0.00
11,100.00	90.00	359.80	6,754.00	4,572.62	720.52	4,603.54	0.00	0.00	0.00
11,200.00	90.00	359.80	6,754.00	4,672.62	720.16	4,703.39	0.00	0.00	0.00
11,300.00	90.00	359.80	6,754.00	4,772.61	719.81	4,803.24	0.00	0.00	0.00
11,400.00	90.00	359.80	6,754.00	4,872.61	719.46	4,903.09	0.00	0.00	0.00
11,500.00	90.00	359.80	6,754.00	4,972.61	719.11	5,002.94	0.00	0.00	0.00
11,600.00	90.00	359.80	6,754.00	5,072.61	718.75	5,102.79	0.00	0.00	0.00
11,700.00	90.00	359.80	6,754.00	5,172.61	718.40	5,202.64	0.00	0.00	0.00
11,800.00	90.00	359.80	6,754.00	5,272.61	718.05	5,302.49	0.00	0.00	0.00
11,900.00	90.00	359.80	6,754.00	5,372.61	717.70	5,402.34	0.00	0.00	0.00
12,000.00	90.00	359.80	6,754.00	5,472.61	717.34	5,502.19	0.00	0.00	0.00
12,100.00	90.00	359.80	6,754.00	5,572.61	716.99	5,602.04	0.00	0.00	0.00
12,200.00	90.00	359.80	6,754.00	5,672.61	716.64	5,701.89	0.00	0.00	0.00
12,300.00	90.00	359.80	6,754.00	5,772.61	716.29	5,801.74	0.00	0.00	0.00
12,400.00	90.00	359.80	6,754.00	5,872.61	715.93	5,901.59	0.00	0.00	0.00
12,500.00	90.00	359.80	6,754.00	5,972.61	715.58	6,001.44	0.00	0.00	0.00
12,600.00	90.00	359.80	6,754.00	6,072.61	715.23	6,101.29	0.00	0.00	0.00
12,700.00	90.00	359.80	6,754.00	6,172.61	714.88	6,201.14	0.00	0.00	0.00
12,800.00	90.00	359.80	6,754.00	6,272.61	714.52	6,300.99	0.00	0.00	0.00
12,900.00	90.00	359.80	6,754.00	6,372.60	714.17	6,400.84	0.00	0.00	0.00
13,000.00	90.00	359.80	6,754.00	6,472.60	713.82	6,500.69	0.00	0.00	0.00
13,100.00	90.00	359.80	6,754.00	6,572.60	713.47	6,600.54	0.00	0.00	0.00
13,200.00	90.00	359.80	6,754.00	6,672.60	713.12	6,700.39	0.00	0.00	0.00
13,300.00	90.00	359.80	6,754.00	6,772.60	712.76	6,800.24	0.00	0.00	0.00
13,400.00	90.00	359.80	6,754.00	6,872.60	712.41	6,900.09	0.00	0.00	0.00
13,500.00	90.00	359.80	6,754.00	6,972.60	712.06	6,999.93	0.00	0.00	0.00
13,600.00	90.00	359.80	6,754.00	7,072.60	711.71	7,099.78	0.00	0.00	0.00

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Booth C35-725
Project:	Mustang	TVD Reference:	KB @ 4752.00ft
Site:	C Section 35	MD Reference:	KB @ 4752.00ft
Well:	Booth C35-725	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	EDMP

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
13,700.00	90.00	359.80	6,754.00	7,172.60	711.35	7,199.63	0.00	0.00	0.00
13,800.00	90.00	359.80	6,754.00	7,272.60	711.00	7,299.48	0.00	0.00	0.00
13,900.00	90.00	359.80	6,754.00	7,372.60	710.65	7,399.33	0.00	0.00	0.00
14,000.00	90.00	359.80	6,754.00	7,472.60	710.30	7,499.18	0.00	0.00	0.00
14,100.00	90.00	359.80	6,754.00	7,572.60	709.94	7,599.03	0.00	0.00	0.00
14,200.00	90.00	359.80	6,754.00	7,672.60	709.59	7,698.88	0.00	0.00	0.00
14,300.00	90.00	359.80	6,754.00	7,772.60	709.24	7,798.73	0.00	0.00	0.00
14,400.00	90.00	359.80	6,754.00	7,872.60	708.89	7,898.58	0.00	0.00	0.00
14,500.00	90.00	359.80	6,754.00	7,972.59	708.53	7,998.43	0.00	0.00	0.00
14,600.00	90.00	359.80	6,754.00	8,072.59	708.18	8,098.28	0.00	0.00	0.00
14,700.00	90.00	359.80	6,754.00	8,172.59	707.83	8,198.13	0.00	0.00	0.00
14,800.00	90.00	359.80	6,754.00	8,272.59	707.48	8,297.98	0.00	0.00	0.00
14,900.00	90.00	359.80	6,754.00	8,372.59	707.12	8,397.83	0.00	0.00	0.00
15,000.00	90.00	359.80	6,754.00	8,472.59	706.77	8,497.68	0.00	0.00	0.00
15,100.00	90.00	359.80	6,754.00	8,572.59	706.42	8,597.53	0.00	0.00	0.00
15,200.00	90.00	359.80	6,754.00	8,672.59	706.07	8,697.38	0.00	0.00	0.00
15,300.00	90.00	359.80	6,754.00	8,772.59	705.71	8,797.23	0.00	0.00	0.00
15,400.00	90.00	359.80	6,754.00	8,872.59	705.36	8,897.08	0.00	0.00	0.00
15,500.00	90.00	359.80	6,754.00	8,972.59	705.01	8,996.93	0.00	0.00	0.00
15,600.00	90.00	359.80	6,754.00	9,072.59	704.66	9,096.78	0.00	0.00	0.00
15,700.00	90.00	359.80	6,754.00	9,172.59	704.30	9,196.63	0.00	0.00	0.00
15,800.00	90.00	359.80	6,754.00	9,272.59	703.95	9,296.48	0.00	0.00	0.00
15,900.00	90.00	359.80	6,754.00	9,372.59	703.60	9,396.33	0.00	0.00	0.00
16,000.00	90.00	359.80	6,754.00	9,472.59	703.25	9,496.18	0.00	0.00	0.00
16,100.00	90.00	359.80	6,754.00	9,572.58	702.89	9,596.03	0.00	0.00	0.00
16,200.00	90.00	359.80	6,754.00	9,672.58	702.54	9,695.88	0.00	0.00	0.00
16,300.00	90.00	359.80	6,754.00	9,772.58	702.19	9,795.73	0.00	0.00	0.00
16,400.00	90.00	359.80	6,754.00	9,872.58	701.84	9,895.58	0.00	0.00	0.00
16,500.00	90.00	359.80	6,754.00	9,972.58	701.48	9,995.43	0.00	0.00	0.00
16,600.00	90.00	359.80	6,754.00	10,072.58	701.13	10,095.28	0.00	0.00	0.00
16,700.00	90.00	359.80	6,754.00	10,172.58	700.78	10,195.13	0.00	0.00	0.00
16,800.00	90.00	359.80	6,754.00	10,272.58	700.43	10,294.98	0.00	0.00	0.00
16,900.00	90.00	359.80	6,754.00	10,372.58	700.07	10,394.83	0.00	0.00	0.00
17,000.00	90.00	359.80	6,754.00	10,472.58	699.72	10,494.68	0.00	0.00	0.00
17,100.00	90.00	359.80	6,754.00	10,572.58	699.37	10,594.53	0.00	0.00	0.00
17,200.00	90.00	359.80	6,754.00	10,672.58	699.02	10,694.38	0.00	0.00	0.00
17,300.00	90.00	359.80	6,754.00	10,772.58	698.66	10,794.23	0.00	0.00	0.00
17,400.00	90.00	359.80	6,754.00	10,872.58	698.31	10,894.08	0.00	0.00	0.00
17,500.00	90.00	359.80	6,754.00	10,972.58	697.96	10,993.93	0.00	0.00	0.00
17,600.00	90.00	359.80	6,754.00	11,072.58	697.61	11,093.78	0.00	0.00	0.00
17,700.00	90.00	359.80	6,754.00	11,172.57	697.25	11,193.63	0.00	0.00	0.00
17,800.00	90.00	359.80	6,754.00	11,272.57	696.90	11,293.48	0.00	0.00	0.00
17,900.00	90.00	359.80	6,754.00	11,372.57	696.55	11,393.33	0.00	0.00	0.00
18,000.00	90.00	359.80	6,754.00	11,472.57	696.20	11,493.18	0.00	0.00	0.00

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Booth C35-725
Project:	Mustang	TVD Reference:	KB @ 4752.00ft
Site:	C Section 35	MD Reference:	KB @ 4752.00ft
Well:	Booth C35-725	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	EDMP

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
18,100.00	90.00	359.80	6,754.00	11,572.57	695.84	11,593.03	0.00	0.00	0.00
18,200.00	90.00	359.80	6,754.00	11,672.57	695.49	11,692.88	0.00	0.00	0.00
18,300.00	90.00	359.80	6,754.00	11,772.57	695.14	11,792.73	0.00	0.00	0.00
18,400.00	90.00	359.80	6,754.00	11,872.57	694.79	11,892.58	0.00	0.00	0.00
18,500.00	90.00	359.80	6,754.00	11,972.57	694.43	11,992.43	0.00	0.00	0.00
18,600.00	90.00	359.80	6,754.00	12,072.57	694.08	12,092.28	0.00	0.00	0.00
18,700.00	90.00	359.80	6,754.00	12,172.57	693.73	12,192.13	0.00	0.00	0.00
18,800.00	90.00	359.80	6,754.00	12,272.57	693.38	12,291.98	0.00	0.00	0.00
18,900.00	90.00	359.80	6,754.00	12,372.57	693.02	12,391.83	0.00	0.00	0.00
19,000.00	90.00	359.80	6,754.00	12,472.57	692.67	12,491.68	0.00	0.00	0.00
19,100.00	90.00	359.80	6,754.00	12,572.57	692.32	12,591.53	0.00	0.00	0.00
19,200.00	90.00	359.80	6,754.00	12,672.57	691.97	12,691.38	0.00	0.00	0.00
19,300.00	90.00	359.80	6,754.00	12,772.56	691.61	12,791.23	0.00	0.00	0.00
19,400.00	90.00	359.80	6,754.00	12,872.56	691.26	12,891.08	0.00	0.00	0.00
19,500.00	90.00	359.80	6,754.00	12,972.56	690.91	12,990.93	0.00	0.00	0.00
19,600.00	90.00	359.80	6,754.00	13,072.56	690.56	13,090.78	0.00	0.00	0.00
19,700.00	90.00	359.80	6,754.00	13,172.56	690.20	13,190.62	0.00	0.00	0.00
19,800.00	90.00	359.80	6,754.00	13,272.56	689.85	13,290.47	0.00	0.00	0.00
19,900.00	90.00	359.80	6,754.00	13,372.56	689.50	13,390.32	0.00	0.00	0.00
19,956.44	90.00	359.80	6,754.00	13,429.00	689.30	13,446.68	0.00	0.00	0.00

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
SHL Booth C35-725 - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	1,339,280.29	3,274,874.39	40.2605330	-104.5150610
KOP Booth C35-725 - plan hits target center - Point	0.00	0.00	6,127.17	11.65	634.49	1,339,291.94	3,275,508.87	40.2605456	-104.5127872
BHL Booth C35-725 - plan hits target center - Point	0.00	0.00	6,754.00	13,429.00	689.30	1,352,709.26	3,275,563.69	40.2973733	-104.5120552
TPZ Booth C35-725 - plan hits target center - Point	0.00	0.00	6,754.00	648.63	734.35	1,339,928.91	3,275,608.73	40.2622910	-104.5124040

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Booth C35-725
Project:	Mustang	TVD Reference:	KB @ 4752.00ft
Site:	C Section 35	MD Reference:	KB @ 4752.00ft
Well:	Booth C35-725	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	EDMP

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
400.00	400.00	Pierre				
583.00	583.00	Upper Pierre Aquifer Top				
1,487.00	1,487.00	Upper Pierre Aquifer Base				
3,622.09	3,605.00	Parkman				
4,304.98	4,279.00	Sussex				
4,841.97	4,809.00	Shannon				
5,913.91	5,867.00	Teepee Buttes				
6,619.70	6,529.00	Sharon Springs				
6,657.67	6,557.00	Top A Chalk				
6,677.47	6,571.00	Top A Marl				
6,699.40	6,586.00	Top B Chalk				
6,769.15	6,630.00	Top B Marl				
6,872.62	6,684.00	Top C Chalk				
6,944.74	6,713.00	Top C Marl				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
2000	2000	0	0	Start Build 2.00	
6178	6127	12	634	Start DLS 9.00 TFO -89.16	
7176	6754	649	734	TPZ/LP at 7175.99 MD	
19,956	6754	13,429	689	TD at 19956.44 MD	

Checked By: _____ Approved By: _____ Date: _____

Northern Region - DJ Basin

Mustang

C Section 35

Booth C35-725

Wellbore #1

Plan #1

Anticollision Summary Report

10 October, 2018

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Booth C35-725
Project:	Mustang	TVD Reference:	KB @ 4752.00ft
Reference Site:	C Section 35	MD Reference:	KB @ 4752.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Booth C35-725	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

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

Survey Tool Program	Date	10/10/2018		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	19,956.44	Plan #1 (Wellbore #1)	2_MWD+IFR1	A005Mb: IFR declination correction only

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
C Section 23						
BOOTH #23-12I4(PR) - Wellbore #1 - No Surveys	19,893.85	6,658.00	3,794.46	3,589.70	18.532	CC
BOOTH #23-12I4(PR) - Wellbore #1 - No Surveys	19,956.44	6,658.00	3,794.98	3,589.61	18.479	ES, SF
BOOTH C #23-20(PR) - Wellbore #1 - No Surveys	19,956.44	6,660.00	2,984.38	2,778.92	14.525	CC, ES, SF
COLEMAN #23-6I4(PR) - Wellbore #1 - No Surveys	19,956.44	6,657.00	2,526.31	2,329.70	12.849	CC, ES, SF
COLEMAN #C23-31D(PR) - Wellbore #1 - MWD	19,956.44	6,813.07	4,488.25	4,323.74	27.282	CC, ES, SF
Coleman C #23-04(PR) - Wellbore #1 - No Surveys	19,956.44	6,654.00	4,231.84	4,044.94	22.642	CC, ES, SF
COLEMAN C #23-19(PR) - Wellbore #1 - No Surveys	19,956.44	6,656.00	3,298.91	3,109.50	17.417	CC, ES, SF
COLEMAN C #23-21(PR) - Wellbore #1 - No Surveys	19,956.44	6,659.00	1,856.80	1,653.36	9.127	CC, ES, SF
Coleman C #23-29D(SI) - Wellbore #1 - MWD Surveys	19,956.44	6,871.52	4,067.07	3,928.02	29.250	CC, ES, SF
KISSLER #1(SI) - Wellbore #1 - Gyro	18,167.99	2,027.20	3,636.10	3,501.01	26.918	CC
KISSLER #1(SI) - Wellbore #1 - Gyro	18,200.00	2,026.85	3,636.24	3,500.84	26.857	ES
KISSLER #1(SI) - Wellbore #1 - Gyro	18,700.00	2,021.46	3,674.81	3,535.78	26.432	SF
KISSLER #2(PR) - Wellbore #1 - No Surveys	19,471.45	6,664.00	2,310.11	2,109.84	11.535	CC
KISSLER #2(PR) - Wellbore #1 - No Surveys	19,500.00	6,664.00	2,310.28	2,109.75	11.521	ES
KISSLER #2(PR) - Wellbore #1 - No Surveys	19,600.00	6,664.00	2,313.68	2,112.39	11.494	SF
KISSLER #3(DA) - Wellbore #1 - No Surveys	18,151.56	6,667.00	2,314.96	2,128.82	12.437	CC, ES
KISSLER #3(DA) - Wellbore #1 - No Surveys	18,300.00	6,667.00	2,319.72	2,132.41	12.385	SF
KISSLER #3X(SI) - Wellbore #1 - Gyro	18,027.09	6,681.80	2,360.32	2,210.51	15.755	CC, ES
KISSLER #3X(SI) - Wellbore #1 - Gyro	18,200.00	6,682.44	2,366.65	2,215.50	15.658	SF
SATER C #23-15(PA) - Wellbore #1 - Gyro	17,978.41	6,587.17	1,135.59	987.08	7.647	CC, ES
SATER C #23-15(PA) - Wellbore #1 - Gyro	18,000.00	6,587.04	1,135.79	987.13	7.640	SF
SATER C #23-17(PR) - Wellbore #1 - No Surveys	19,956.44	6,654.00	1,481.79	1,382.54	14.930	CC, ES, SF
SATER C #23-22(PR) - Wellbore #1 - No Surveys	19,956.44	6,662.00	501.70	317.17	2.719	CC, ES, SF
SATER C #23-24(PR) - Wellbore #1 - Gyro	18,623.70	6,645.31	1,532.62	1,376.64	9.826	CC, ES
SATER C #23-24(PR) - Wellbore #1 - Gyro	18,700.00	6,645.87	1,534.52	1,378.01	9.805	SF
SATER C #23-28D(PR) - Wellbore #1 - MWD Surveys	19,956.44	6,782.14	3,199.20	3,092.49	29.979	CC, ES, SF
Sater C24-79HN - Original Drilling - Original Drilling	19,923.08	8,244.80	1,054.32	867.66	5.648	CC
Sater C24-79HN - Original Drilling - Original Drilling	19,956.44	8,269.14	1,054.47	867.08	5.627	ES, SF
Sater C25-69HN - Original Drilling - Original Drilling	17,656.65	6,454.81	1,835.57	1,706.17	14.185	CC, ES
Sater C25-69HN - Original Drilling - Original Drilling	17,800.00	6,454.83	1,841.16	1,710.61	14.103	SF
Sater C25-79HN - Original Drilling - Original Drilling	12,497.71	12,227.45	863.38	698.03	5.221	ES, SF
Sater C25-79HN - Original Drilling - Original Drilling	16,937.70	7,781.89	852.07	708.64	5.941	CC
Sater C26-69HN - Original Drilling - Original Drilling	17,764.06	7,149.03	32.40	-66.39	0.328	Level 1, CC, ES, SF
UPRC #23-2I4(PR) - Wellbore #1 - No Surveys	19,956.44	6,651.00	2,198.31	2,077.71	18.228	CC, ES, SF
UPV #23-10I4(PR) - Wellbore #1 - No Surveys	19,651.28	6,662.00	1,169.18	967.00	5.783	CC, ES
UPV #23-10I4(PR) - Wellbore #1 - No Surveys	19,700.00	6,662.00	1,170.20	967.73	5.780	SF
UPV #23-15I4(PA) - Wellbore #1 - Gyro	18,575.17	6,642.00	477.04	321.88	3.074	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

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Booth C35-725
Project:	Mustang	TVD Reference:	KB @ 4752.00ft
Reference Site:	C Section 35	MD Reference:	KB @ 4752.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Booth C35-725	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Summary

Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
C Section 23						
UPV #23-1614(PR) - Wellbore #1 - Gyro	18,061.73	6,660.69	445.04	294.88	2.964	CC, ES, SF
UPV #23-114(SI) - Wellbore #1 - Gyro Surveys	19,956.44	6,663.68	2,359.30	2,298.45	38.774	CC, ES, SF
UPV #23-714(PR) - Wellbore #1 - No Surveys	19,956.44	6,658.00	1,406.77	1,223.31	7.668	CC, ES, SF
UPV #23-814(PR) - Wellbore #1 - Gyro Surveys	19,956.44	6,673.06	945.00	862.55	11.462	CC, ES, SF
UPV #23-914(PR) - Wellbore #1 - Gyro Surveys	19,655.35	6,699.03	571.62	404.41	3.419	CC, ES, SF
VOLKENS #1(SI) - Wellbore #1 - No Surveys	19,956.44	6,657.00	3,707.99	3,505.41	18.304	CC, ES, SF
VOLKENS #2(SI) - Wellbore #1 - No Surveys	19,956.44	4,650.00	3,745.17	3,601.91	26.144	CC, ES, SF
C Section 26						
BOOTH C #26-12(PR) - Wellbore #1 - No Surveys	14,311.93	6,680.00	3,712.62	3,567.11	25.514	CC, ES
BOOTH C #26-12(PR) - Wellbore #1 - No Surveys	14,900.00	6,680.00	3,758.91	3,608.68	25.021	SF
DINNEL #1(PR) - Wellbore #1 - No Surveys	15,497.95	6,677.00	3,633.32	3,475.34	22.999	CC
DINNEL #1(PR) - Wellbore #1 - No Surveys	15,500.00	6,677.00	3,633.32	3,475.32	22.996	ES
DINNEL #1(PR) - Wellbore #1 - No Surveys	16,000.00	6,677.00	3,667.84	3,505.83	22.639	SF
DINNEL #2(PA) - Wellbore #1 - Gyro	16,823.41	6,736.08	2,302.97	2,165.74	16.783	CC, ES
DINNEL #2(PA) - Wellbore #1 - Gyro	17,000.00	6,734.90	2,309.73	2,171.15	16.667	SF
DINNEL #26-4(SI) - Wellbore #1 - Gyro	16,400.00	16,400.00	3,695.86	3,529.84	22.262	ES, SF
DINNEL #26-4(SI) - Wellbore #1 - Gyro	16,811.98	6,699.65	3,672.89	3,535.98	26.826	CC
DINNEL #3(PR) - Wellbore #1 - No Surveys	15,507.76	6,675.00	2,324.93	2,166.86	14.709	CC, ES
DINNEL #3(PR) - Wellbore #1 - No Surveys	15,700.00	6,675.00	2,332.86	2,173.30	14.621	SF
DINNEL C #26-18(PR) - Wellbore #1 - No Surveys	16,143.58	6,674.00	1,825.03	1,660.24	11.075	CC, ES
DINNEL C #26-18(PR) - Wellbore #1 - No Surveys	16,300.00	6,674.00	1,831.72	1,665.86	11.044	SF
DINNEL C #26-19(SI) - Wellbore #1 - No Surveys	16,237.74	6,667.00	3,111.57	2,945.84	18.775	CC, ES
DINNEL C #26-19(SI) - Wellbore #1 - No Surveys	16,600.00	6,667.00	3,132.58	2,964.01	18.583	SF
DINNEL C #26-20(PR) - Wellbore #1 - No Surveys	15,038.76	6,677.00	2,975.64	2,822.52	19.433	CC, ES
DINNEL C #26-20(PR) - Wellbore #1 - No Surveys	15,400.00	6,677.00	2,997.49	2,841.53	19.220	SF
DINNEL C #26-21D(PR) - Wellbore #1 - No Surveys	15,478.47	6,676.00	2,295.69	2,137.93	14.552	CC
DINNEL C #26-21D(PR) - Wellbore #1 - No Surveys	15,500.00	6,676.00	2,295.79	2,137.83	14.534	ES
DINNEL C #26-21D(PR) - Wellbore #1 - No Surveys	15,700.00	6,676.00	2,306.35	2,146.94	14.468	SF
PROSPECT CO #26-1014(PR) - Wellbore #1 - No Survey	13,866.71	6,676.00	621.79	480.96	4.415	CC, ES, SF
PROSPECT CO #26-1114(PR) - Wellbore #1 - No Survey	14,390.05	6,680.00	2,281.64	2,135.31	15.592	CC
PROSPECT CO #26-1114(PR) - Wellbore #1 - No Survey	14,400.00	6,680.00	2,281.67	2,135.24	15.582	ES
PROSPECT CO #26-1114(PR) - Wellbore #1 - No Survey	14,600.00	6,680.00	2,291.28	2,143.33	15.487	SF
PROSPECT CO #26-1214(PR) - Wellbore #1 - No Survey	13,686.83	6,680.00	3,220.80	3,081.81	23.173	CC
PROSPECT CO #26-1214(PR) - Wellbore #1 - No Survey	13,700.00	6,680.00	3,220.83	3,081.71	23.152	ES
PROSPECT CO #26-1214(PR) - Wellbore #1 - No Survey	14,100.00	6,680.00	3,247.20	3,104.85	22.812	SF
PROSPECT CO #26-1314(PR) - Wellbore #1 - No Survey	12,885.28	6,682.00	3,719.83	3,589.11	28.456	CC
PROSPECT CO #26-1314(PR) - Wellbore #1 - No Survey	12,900.00	6,682.00	3,719.86	3,589.00	28.426	ES
PROSPECT CO #26-1314(PR) - Wellbore #1 - No Survey	13,500.00	6,682.00	3,770.28	3,634.56	27.780	SF
PROSPECT CO #26-1414(PR) - Wellbore #1 - No Survey	12,884.02	6,704.00	2,090.07	1,959.17	15.967	CC
PROSPECT CO #26-1414(PR) - Wellbore #1 - No Survey	12,900.00	6,704.00	2,090.13	1,959.08	15.950	ES
PROSPECT CO #26-1414(PR) - Wellbore #1 - No Survey	13,100.00	6,704.00	2,101.20	1,968.68	15.856	SF
PROSPECT CO #26-1514(PR) - Wellbore #1 - No Survey	12,736.88	6,677.00	1,168.47	1,039.31	9.047	CC, ES
PROSPECT CO #26-1514(PR) - Wellbore #1 - No Survey	12,800.00	6,677.00	1,170.17	1,040.59	9.031	SF
PROSPECT CO #26-1614(PR) - Wellbore #1 - Gyro	12,855.53	6,700.72	328.16	232.75	3.440	CC, ES, SF
PROSPECT CO #26-114(SI) - Wellbore #1 - Gyro	16,924.65	6,679.96	333.59	195.57	2.417	CC, ES, SF
PROSPECT CO #26-714(PR) - Wellbore #1 - No Surveys	15,506.05	6,674.00	1,102.93	944.90	6.979	CC, ES, SF
PROSPECT CO #26-814(SI) - Wellbore #1 - Gyro	15,773.69	6,680.90	32.86	-92.68	0.262	Level 1, CC, ES, SF
PROSPECT CO #26-914(PR) - Wellbore #1 - Gyro	14,426.16	6,685.57	367.53	255.93	3.293	CC, ES, SF
RASSMUSSEN #1(PA) - Wellbore #1 - Gyro	16,751.53	6,671.82	944.92	808.80	6.942	CC, ES
RASSMUSSEN #1(PA) - Wellbore #1 - Gyro	16,800.00	6,671.43	946.16	809.80	6.939	SF

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Booth C35-725
Project:	Mustang	TVD Reference:	KB @ 4752.00ft
Reference Site:	C Section 35	MD Reference:	KB @ 4752.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Booth C35-725	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
C Section 35						
BOOTH #11-35U(PR) - Wellbore #1 - No Surveys	11,383.74	6,692.00	3,803.50	3,687.85	32.889	CC
BOOTH #11-35U(PR) - Wellbore #1 - No Surveys	11,400.00	6,692.00	3,803.53	3,687.74	32.847	ES
BOOTH #11-35U(PR) - Wellbore #1 - No Surveys	12,200.00	6,692.00	3,890.10	3,768.02	31.867	SF
BOOTH #12-35DU(PR) - Wellbore #1 - No Surveys	10,669.78	6,682.00	2,821.51	2,712.90	25.977	CC
BOOTH #12-35DU(PR) - Wellbore #1 - No Surveys	10,700.00	6,682.00	2,821.67	2,712.80	25.917	ES
BOOTH #12-35DU(PR) - Wellbore #1 - No Surveys	11,100.00	6,682.00	2,854.12	2,742.19	25.499	SF
BOOTH #21-35U(PR) - Wellbore #1 - No Surveys	11,395.07	6,692.00	2,291.20	2,175.45	19.793	CC
BOOTH #21-35U(PR) - Wellbore #1 - No Surveys	11,400.00	6,692.00	2,291.21	2,175.41	19.786	ES
BOOTH #21-35U(PR) - Wellbore #1 - No Surveys	11,700.00	6,692.00	2,311.40	2,193.37	19.583	SF
BOOTH #22-35U(PR) - Wellbore #1 - No Surveys	11,383.75	2,002.00	3,803.50	3,728.78	50.905	CC
BOOTH #22-35U(PR) - Wellbore #1 - No Surveys	11,400.00	2,002.00	3,803.53	3,728.66	50.804	ES
BOOTH #22-35U(PR) - Wellbore #1 - No Surveys	12,400.00	2,002.00	3,936.92	3,854.58	47.814	SF
BOOTH #35AU(PR) - Wellbore #1 - No Surveys	10,691.64	6,682.00	2,821.68	2,712.85	25.929	CC
BOOTH #35AU(PR) - Wellbore #1 - No Surveys	10,700.00	6,682.00	2,821.69	2,712.79	25.912	ES
BOOTH #35AU(PR) - Wellbore #1 - No Surveys	11,200.00	6,682.00	2,867.10	2,754.47	25.454	SF
BOOTH C #35-01(SI) - Wellbore #1 - No Surveys	11,699.47	6,696.00	333.05	214.24	2.803	CC
BOOTH C #35-01(SI) - Wellbore #1 - No Surveys	11,700.00	6,696.00	333.05	214.23	2.803	ES, SF
BOOTH C #35-07(SI) - Wellbore #1 - No Surveys	10,368.93	6,711.00	977.26	871.24	9.218	CC, ES
BOOTH C #35-07(SI) - Wellbore #1 - No Surveys	10,400.00	6,711.00	977.75	871.53	9.205	SF
BOOTH C #35-08(SI) - Wellbore #1 - No Surveys	10,375.69	6,706.00	343.99	237.95	3.244	CC, ES
BOOTH C #35-08(SI) - Wellbore #1 - No Surveys	10,400.00	6,706.00	344.84	238.50	3.243	SF
BOOTH C #35-27(SI) - Wellbore #1 - Gyro	12,241.02	6,694.28	317.83	228.71	3.566	CC, ES, SF
Booth C35-735 - Wellbore #1 - Plan #1	2,000.00	2,000.00	22.33	8.46	1.610	CC, ES, SF
Booth C35-745 - Wellbore #1 - Plan #1	2,000.00	2,001.00	44.93	31.06	3.238	CC, ES
Booth C35-745 - Wellbore #1 - Plan #1	2,100.00	2,101.02	46.68	32.09	3.201	SF
Booth C35-750 - Wellbore #1 - Plan #1	2,000.00	1,999.00	67.54	53.67	4.870	CC, ES, SF
Booth C35-755 - Wellbore #1 - Plan #1	2,000.00	1,977.00	985.37	971.58	71.454	CC, ES
Booth C35-755 - Wellbore #1 - Plan #1	19,956.44	19,913.07	1,966.34	1,671.31	6.665	SF
Booth C35-765 - Wellbore #1 - Plan #1	2,000.00	1,978.00	1,007.68	993.89	73.052	CC, ES
Booth C35-765 - Wellbore #1 - Plan #1	19,956.44	19,915.47	2,622.36	2,326.92	8.876	SF
Booth C35-775 - Wellbore #1 - Plan #1	2,000.00	1,978.00	1,030.27	1,016.48	74.690	CC, ES
Booth C35-775 - Wellbore #1 - Plan #1	19,956.44	20,178.98	3,277.35	2,981.35	11.072	SF
Booth C35-785 - Wellbore #1 - Plan #1	2,000.00	1,978.00	1,052.86	1,039.07	76.327	CC, ES
Booth C35-785 - Wellbore #1 - Plan #1	19,956.44	20,337.37	3,932.93	3,636.43	13.264	SF
UPV #35-214(SI) - Wellbore #1 - No Surveys	11,247.36	6,686.00	627.02	512.77	5.488	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

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Booth C35-725
Project:	Mustang	TVD Reference:	KB @ 4752.00ft
Reference Site:	C Section 35	MD Reference:	KB @ 4752.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Booth C35-725	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Separation Factor	Warning
D Section 02						
BOOTH D #02-31 - BOOTH D #02-31 - No Surveys	2,000.00	1,958.00	3,457.98	3,411.89	75.016	CC
BOOTH D #02-31 - BOOTH D #02-31 - No Surveys	2,100.00	2,057.98	3,459.68	3,411.23	71.413	ES
BOOTH D #02-31 - BOOTH D #02-31 - No Surveys	6,850.00	6,631.41	4,245.67	4,088.93	27.087	SF
DONOVAN D #2-19(PR) - DONOVAN D #2-19 - No Surv	2,000.00	1,955.00	2,439.77	2,393.73	52.996	CC
DONOVAN D #2-19(PR) - DONOVAN D #2-19 - No Surv	2,100.00	2,054.98	2,441.43	2,393.04	50.457	ES
DONOVAN D #2-19(PR) - DONOVAN D #2-19 - No Surv	6,700.00	6,541.40	3,179.84	3,025.27	20.572	SF
DONOVAN D #2-3JI(PR) - DONOVAN D #2-3JI - No Sur	2,000.00	1,959.00	1,559.14	1,513.02	33.809	CC
DONOVAN D #2-3JI(PR) - DONOVAN D #2-3JI - No Sur	2,100.00	2,058.98	1,560.87	1,512.40	32.205	ES
DONOVAN D #2-3JI(PR) - DONOVAN D #2-3JI - No Sur	6,700.00	6,545.40	2,294.84	2,140.24	14.844	SF
DONOVAN D #2-4JI(SI) - DONOVAN D #2-4JI - No Surv	2,000.00	1,946.00	2,841.58	2,795.72	61.967	CC
DONOVAN D #2-4JI(SI) - DONOVAN D #2-4JI - No Surv	2,100.00	2,045.98	2,843.33	2,795.12	58.983	ES
DONOVAN D #2-4JI(SI) - DONOVAN D #2-4JI - No Surv	7,000.00	6,676.14	3,616.63	3,458.63	22.891	SF
DONOVAN D #2-5JI - DONOVAN D #2-5JI - No Surveys	2,000.00	1,956.00	3,257.48	3,211.43	70.728	CC
DONOVAN D #2-5JI - DONOVAN D #2-5JI - No Surveys	2,100.00	2,055.98	3,259.03	3,210.63	67.327	ES
DONOVAN D #2-5JI - DONOVAN D #2-5JI - No Surveys	6,700.00	6,542.40	3,985.66	3,831.01	25.772	SF
DONOVAN D #2-6JI(PR) - DONOVAN D #2-6JI - No Sur	2,000.00	1,959.00	2,315.36	2,269.24	50.207	CC
DONOVAN D #2-6JI(PR) - DONOVAN D #2-6JI - No Sur	2,100.00	2,058.98	2,316.55	2,268.08	47.797	ES
DONOVAN D #2-6JI(PR) - DONOVAN D #2-6JI - No Sur	6,500.00	6,390.83	2,875.92	2,724.72	19.021	SF
GUTTERSEN #D02-25(PR) - GUTTERSEN #D02-25 - N	2,000.00	1,948.00	3,904.30	3,858.40	85.067	CC
GUTTERSEN #D02-25(PR) - GUTTERSEN #D02-25 - N	2,100.00	2,047.98	3,905.27	3,857.03	80.945	ES
GUTTERSEN #D02-25(PR) - GUTTERSEN #D02-25 - N	6,600.00	6,461.90	4,436.73	4,283.69	28.991	SF
GUTTERSEN #D02-33D(PR) - GUTTERSEN #D02-33D	100.00	40.41	3,903.57	3,903.37	10,000.000	CC
GUTTERSEN #D02-33D(PR) - GUTTERSEN #D02-33D	1,000.00	935.90	3,906.94	3,900.57	613.321	ES
GUTTERSEN #D02-33D(PR) - GUTTERSEN #D02-33D	6,700.00	6,727.07	5,599.71	5,549.17	110.800	SF
GUTTERSEN #D11-29D(PR) - GUTTERSEN #D11-29D	100.00	57.90	3,903.09	3,902.87	10,000.000	CC
GUTTERSEN #D11-29D(PR) - GUTTERSEN #D11-29D	300.00	229.30	3,903.70	3,902.37	2,928.063	ES
GUTTERSEN #D11-29D(PR) - GUTTERSEN #D11-29D	6,550.00	6,724.06	5,715.31	5,663.84	111.038	SF
GUTTERSEN D #02-20(SI) - GUTTERSEN D #02-20 - W	1,686.06	1,638.12	3,198.45	3,189.32	350.523	CC
GUTTERSEN D #02-20(SI) - GUTTERSEN D #02-20 - W	2,007.20	1,964.59	3,198.75	3,188.05	298.912	ES
GUTTERSEN D #02-20(SI) - GUTTERSEN D #02-20 - W	6,600.00	6,474.68	3,795.57	3,759.45	105.102	SF
Guttersen D02-75HN - Original Drilling - Original Drilling	6,402.73	11,143.00	1,571.94	1,467.89	15.108	CC, ES
Guttersen D02-75HN - Original Drilling - Original Drilling	6,500.00	11,143.00	1,575.64	1,470.74	15.021	SF
HSR-BOOTH #7-2(SI) - HSR-BOOTH #7-2 - No Surveys	2,000.00	1,950.00	1,544.75	1,498.81	33.628	CC
HSR-BOOTH #7-2(SI) - HSR-BOOTH #7-2 - No Surveys	2,462.64	2,410.63	1,549.70	1,492.94	27.302	ES
HSR-BOOTH #7-2(SI) - HSR-BOOTH #7-2 - No Surveys	6,300.00	6,197.29	1,759.23	1,612.31	11.974	SF
HSR-BOOTH #8-2(SI) - HSR-BOOTH #8-2 - No Surveys	6,197.36	6,131.75	1,637.33	1,492.10	11.274	CC
HSR-BOOTH #8-2(SI) - HSR-BOOTH #8-2 - No Surveys	6,200.00	6,134.36	1,637.34	1,492.05	11.269	ES
HSR-BOOTH #8-2(SI) - HSR-BOOTH #8-2 - No Surveys	6,350.00	6,280.28	1,655.41	1,506.63	11.127	SF
KERN #1(PA) - KERN #1 - No Surveys	6,180.40	6,093.02	516.03	371.58	3.573	CC
KERN #1(PA) - KERN #1 - No Surveys	6,200.00	6,112.36	516.34	371.43	3.563	ES
KERN #1(PA) - KERN #1 - No Surveys	6,250.00	6,161.55	519.95	373.86	3.559	SF
KERN D #2-1(SI) - KERN D #2-1 - No Surveys	6,435.37	6,336.65	626.73	477.13	4.190	CC
KERN D #2-1(SI) - KERN D #2-1 - No Surveys	6,450.00	6,349.84	626.82	476.91	4.181	ES
KERN D #2-1(SI) - KERN D #2-1 - No Surveys	6,500.00	6,393.83	628.69	477.72	4.164	SF
KERN D #2-2JI(PR) - KERN D #2-2JI - No Surveys	2,000.00	1,961.00	346.82	300.66	7.514	CC
KERN D #2-2JI(PR) - KERN D #2-2JI - No Surveys	2,100.00	2,060.98	348.47	299.96	7.184	ES
KERN D #2-2JI(PR) - KERN D #2-2JI - No Surveys	3,000.00	2,952.00	465.28	395.84	6.700	SF
L F RANCH #2-2(SI) - L F RANCH #2-2 - No Surveys	2,000.00	1,948.00	4,648.62	4,602.72	101.285	CC
L F RANCH #2-2(SI) - L F RANCH #2-2 - No Surveys	2,100.00	2,047.98	4,649.59	4,601.35	96.372	ES
L F RANCH #2-2(SI) - L F RANCH #2-2 - No Surveys	6,650.00	6,499.46	5,204.87	5,050.93	33.813	SF
TANIA #D11-27D(PR) - TANIA #D11-27D - Wellbore #1 -	2,319.31	2,408.30	4,747.02	4,729.46	270.381	CC
TANIA #D11-27D(PR) - TANIA #D11-27D - Wellbore #1 -	2,500.00	2,579.16	4,748.06	4,728.59	243.862	ES
TANIA #D11-27D(PR) - TANIA #D11-27D - Wellbore #1 -	6,500.00	6,508.08	4,930.23	4,875.88	90.711	SF

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Booth C35-725
Project:	Mustang	TVD Reference:	KB @ 4752.00ft
Reference Site:	C Section 35	MD Reference:	KB @ 4752.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Booth C35-725	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Summary

Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
D Section 02						
TANIA #D11-28(PR) - TANIA #D11-28 - No Surveys	2,000.00	1,957.00	4,774.35	4,728.27	103.618	CC
TANIA #D11-28(PR) - TANIA #D11-28 - No Surveys	2,400.00	2,355.70	4,779.51	4,724.07	86.209	ES
TANIA #D11-28(PR) - TANIA #D11-28 - No Surveys	6,600.00	6,470.90	5,078.34	4,924.93	33.104	SF
TANIA BLUE #D 2-11(PR) - TANIA BLUE #D 2-11 - No S	2,000.00	1,953.00	3,199.68	3,153.68	69.563	CC
TANIA BLUE #D 2-11(PR) - TANIA BLUE #D 2-11 - No S	2,100.00	2,052.98	3,200.46	3,152.12	66.199	ES
TANIA BLUE #D 2-11(PR) - TANIA BLUE #D 2-11 - No S	6,500.00	6,384.83	3,625.36	3,474.10	23.967	SF
TANIA BLUE #D 2-12(PA) - TANIA BLUE #D 2-12 - No S	2,000.00	1,941.00	4,045.44	3,999.68	88.412	CC
TANIA BLUE #D 2-12(PA) - TANIA BLUE #D 2-12 - No S	2,100.00	2,040.98	4,046.71	3,998.60	84.120	ES
TANIA BLUE #D 2-12(PA) - TANIA BLUE #D 2-12 - No S	6,650.00	6,492.46	4,687.81	4,534.15	30.507	SF
TANIA BLUE #D 2-14(PR) - TANIA BLUE #D 2-14 - No S	2,000.00	1,951.00	4,583.06	4,537.10	99.726	CC
TANIA BLUE #D 2-14(PR) - TANIA BLUE #D 2-14 - No S	2,200.00	2,150.84	4,585.35	4,534.71	90.535	ES
TANIA BLUE #D 2-14(PR) - TANIA BLUE #D 2-14 - No S	6,600.00	6,464.90	4,978.72	4,825.48	32.491	SF
TANIA BLUE #D2-10(SI) - TANIA BLUE #D2-10 - No Sur	2,000.00	1,963.00	2,811.09	2,764.89	60.851	CC
TANIA BLUE #D2-10(SI) - TANIA BLUE #D2-10 - No Sur	4,100.00	4,039.69	2,838.48	2,743.08	29.752	ES
TANIA BLUE #D2-10(SI) - TANIA BLUE #D2-10 - No Sur	6,450.00	6,350.84	2,972.04	2,821.46	19.737	SF
TANIA BLUE #D2-16(PR) - TANIA BLUE #D2-16 - No Su	6,183.94	6,098.51	4,285.66	4,141.10	29.647	CC
TANIA BLUE #D2-16(PR) - TANIA BLUE #D2-16 - No Su	6,200.00	6,114.36	4,285.86	4,140.93	29.571	ES
TANIA BLUE #D2-16(PR) - TANIA BLUE #D2-16 - No Su	6,550.00	6,438.94	4,388.20	4,235.55	28.747	SF
TANIA BLUE D #2-15(SI) - TANIA BLUE D #2-15 - No Su	2,000.00	1,954.00	4,178.59	4,132.58	90.806	CC
TANIA BLUE D #2-15(SI) - TANIA BLUE D #2-15 - No Su	4,400.00	4,326.78	4,214.83	4,112.55	41.206	ES
TANIA BLUE D #2-15(SI) - TANIA BLUE D #2-15 - No Su	6,550.00	6,427.94	4,381.47	4,229.04	28.743	SF
TANIA BLUE D #2-9(SI) - TANIA BLUE D #2-9 - No Surv	6,196.49	6,123.90	2,904.54	2,759.47	20.021	CC
TANIA BLUE D #2-9(SI) - TANIA BLUE D #2-9 - No Surv	6,200.00	6,127.36	2,904.55	2,759.40	20.010	ES
TANIA BLUE D #2-9(SI) - TANIA BLUE D #2-9 - No Surv	6,450.00	6,365.84	2,953.83	2,802.99	19.583	SF
TANIA D #2-23(SI) - TANIA D #2-23 - No Surveys	5,096.95	5,025.67	3,461.61	3,342.68	29.107	CC
TANIA D #2-23(SI) - TANIA D #2-23 - No Surveys	6,177.51	6,092.16	3,465.97	3,321.54	23.998	ES
TANIA D #2-23(SI) - TANIA D #2-23 - No Surveys	6,500.00	6,396.83	3,548.66	3,396.99	23.397	SF

Noble Energy, Inc.

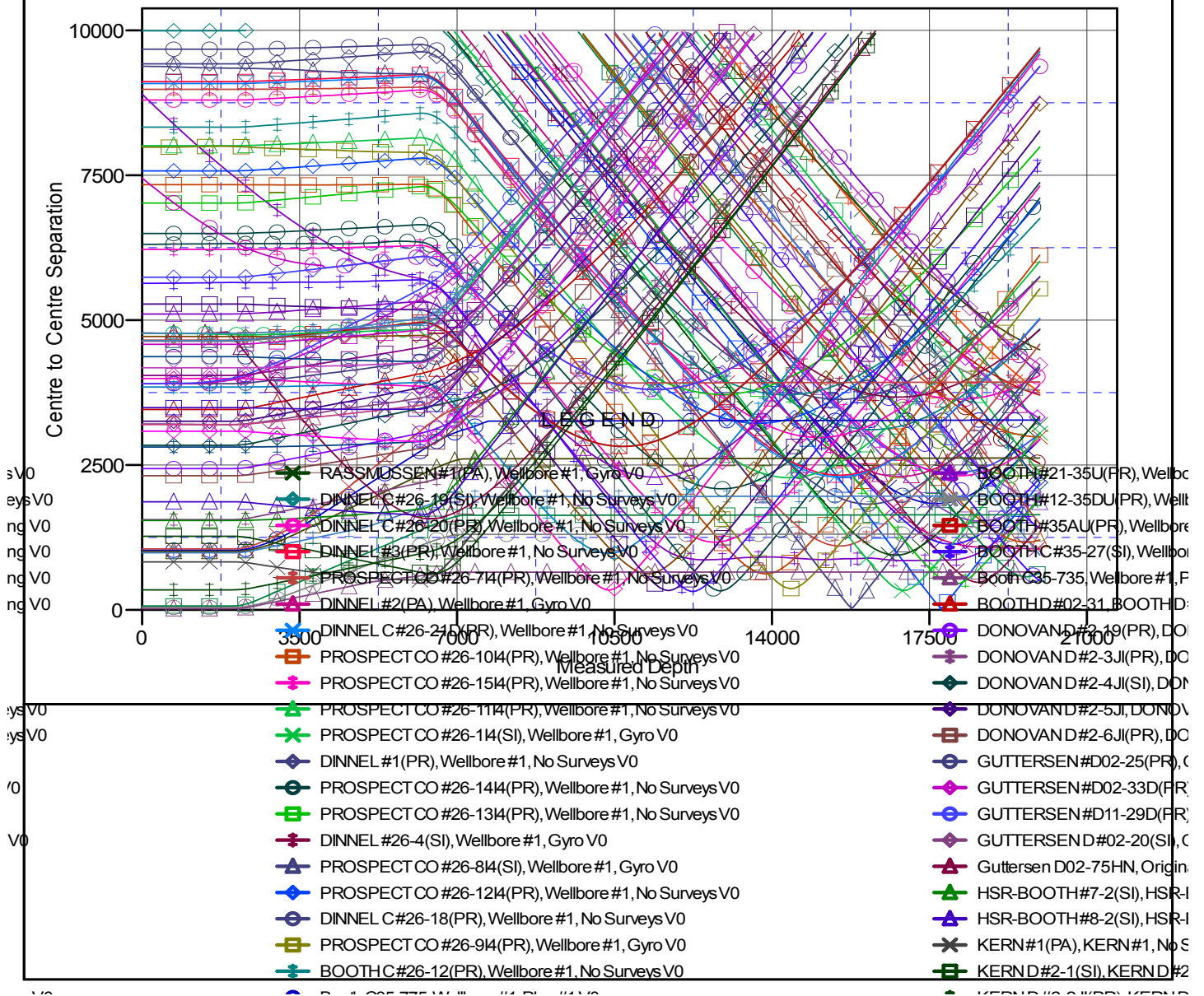
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Booth C35-725
Project:	Mustang	TVD Reference:	KB @ 4752.00ft
Reference Site:	C Section 35	MD Reference:	KB @ 4752.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Booth C35-725	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to KB @ 4752.00ft
Offset Depths are relative to Offset Datum
Central Meridian is -105.5000000

Coordinates are relative to: Booth C35-725
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.64°

Ladder Plot



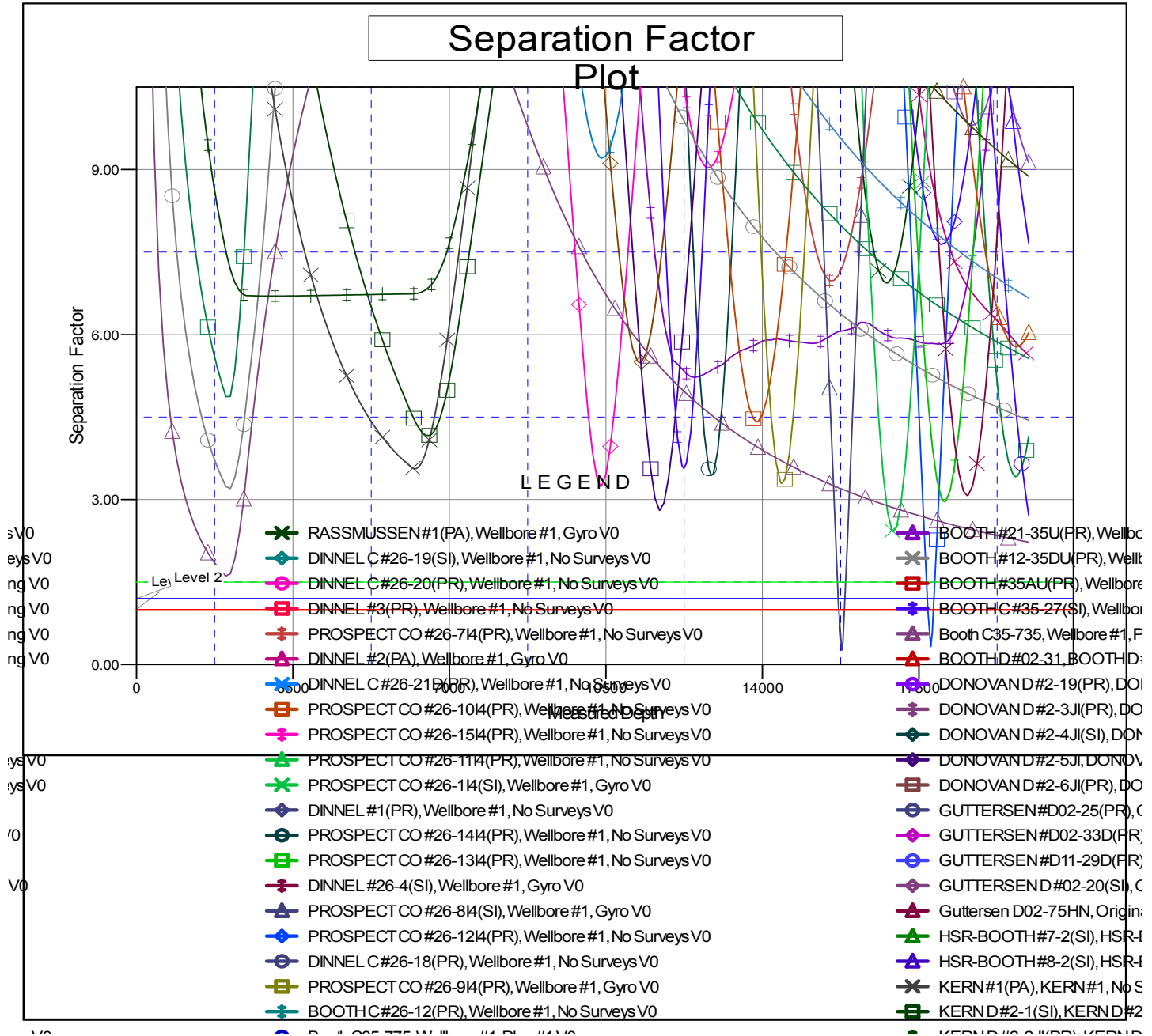
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Noble Energy, Inc.
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Offset Depths are relative to Offset Datum
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