

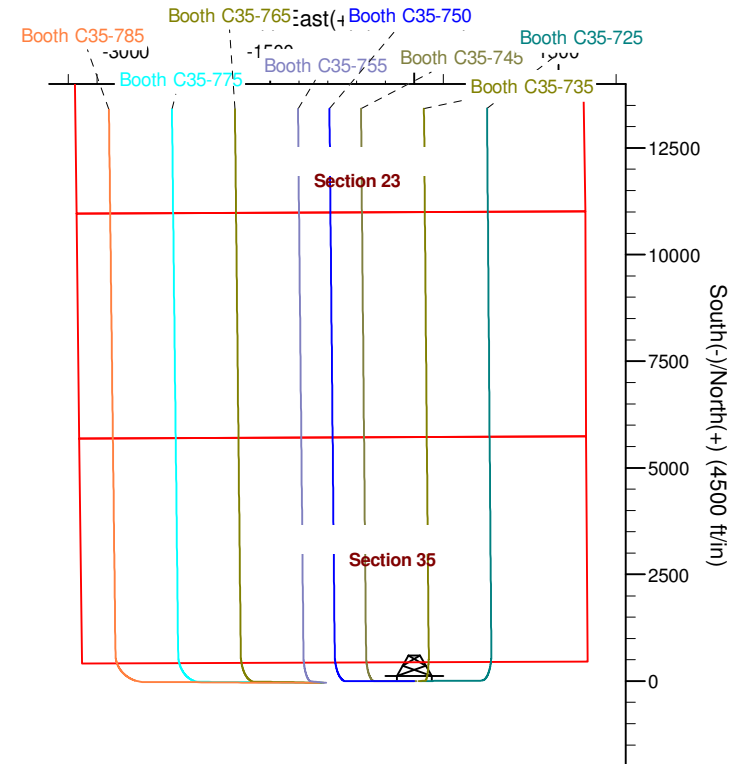
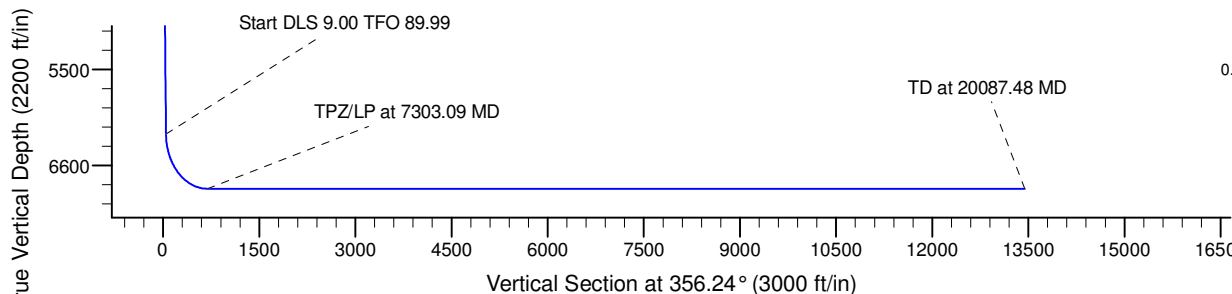
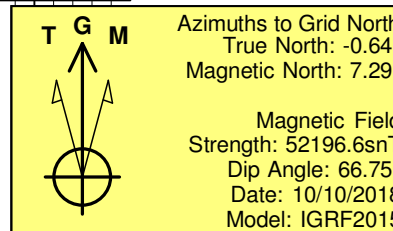
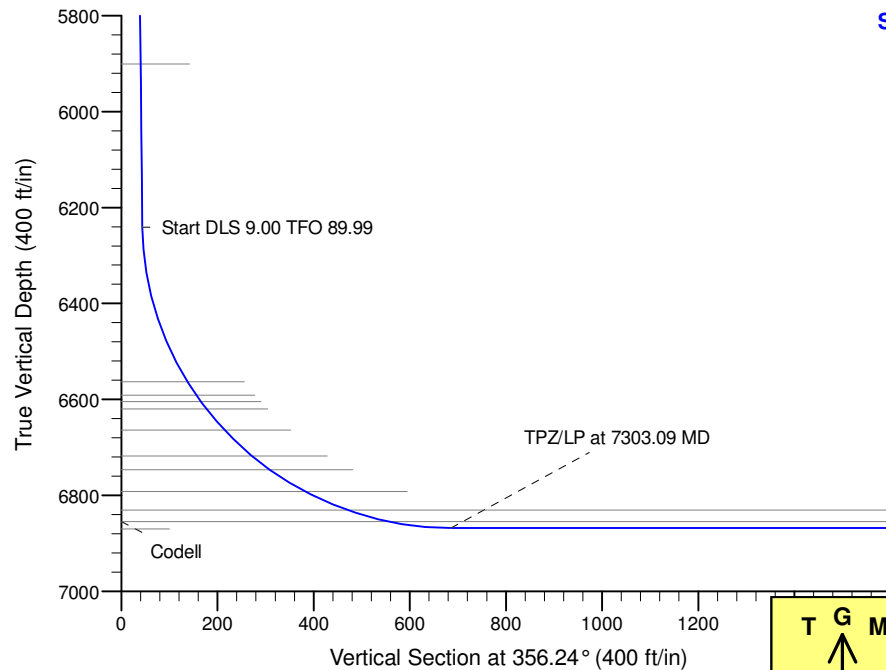
Project: Mustang
Site: C Section 35
Well: Booth C35-750
Wellbore: Wellbore #1
Design: Plan #1

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	2506.37	10.13	269.77	2503.73	-0.18	-44.63	2.00	269.77	2.74	
4	6303.11	10.13	269.77	6241.32	-2.91	-712.23	0.00	0.00	43.79	
5	7303.09	90.00	359.75	6868.00	633.22	-826.90	9.00	89.99	686.08	TPZ Booth C35-750
6	20087.48	90.00	359.75	6868.00	13417.50	-881.69	0.00	0.00	13446.44	BHL Booth C35-750



WELL DETAILS: Booth C35-750

	Northing	Easting	Latitude	Longitude
0.00	0.00	1339280.27	4721.00 40.2605350	-104.5153030

Plan: Plan #1 (Booth C35-750/Wellbore #1)

Created By: Colby Baxter Date: 11:08, October 10 2018
Checked: _____ Date: _____
Reviewed: _____ Date: _____
Approved: _____ Date: _____

Northern Region - DJ Basin

Mustang

C Section 35

Booth C35-750

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 C35-750
Project:	Mustang	TVD Reference:	KB @ 4751.00ft
Site:	C Section 35	MD Reference:	KB @ 4751.00ft
Well:	Booth C35-750	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 C35-750					
Well Position	+N/-S	0.00 ft	Northing:	1,339,280.27 usft	Latitude:	40.2605350
	+E/-W	0.00 ft	Easting:	3,274,806.85 usft	Longitude:	-104.5153030
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,721.00 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	10/10/2018	7.93	66.75	52,196.63160341

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	356.24	

Survey Tool Program	Date	10/10/2018			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.00	20,087.48	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 C35-750
Project:	Mustang	TVD Reference:	KB @ 4751.00ft
Site:	C Section 35	MD Reference:	KB @ 4751.00ft
Well:	Booth C35-750	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	269.77	2,099.98	-0.01	-1.75	0.11	2.00	2.00	0.00	
2,200.00	4.00	269.77	2,199.84	-0.03	-6.98	0.43	2.00	2.00	0.00	
2,300.00	6.00	269.77	2,299.45	-0.06	-15.69	0.96	2.00	2.00	0.00	
2,400.00	8.00	269.77	2,398.70	-0.11	-27.88	1.71	2.00	2.00	0.00	
2,500.00	10.00	269.77	2,497.47	-0.18	-43.52	2.68	2.00	2.00	0.00	
2,506.37	10.13	269.77	2,503.73	-0.18	-44.63	2.74	2.00	2.00	0.00	
2,600.00	10.13	269.77	2,595.91	-0.25	-61.10	3.76	0.00	0.00	0.00	
2,700.00	10.13	269.77	2,694.35	-0.32	-78.68	4.84	0.00	0.00	0.00	
2,800.00	10.13	269.77	2,792.79	-0.39	-96.27	5.92	0.00	0.00	0.00	
2,900.00	10.13	269.77	2,891.23	-0.47	-113.85	7.00	0.00	0.00	0.00	
3,000.00	10.13	269.77	2,989.68	-0.54	-131.43	8.08	0.00	0.00	0.00	
3,100.00	10.13	269.77	3,088.12	-0.61	-149.02	9.16	0.00	0.00	0.00	
3,200.00	10.13	269.77	3,186.56	-0.68	-166.60	10.24	0.00	0.00	0.00	
3,300.00	10.13	269.77	3,285.00	-0.75	-184.18	11.33	0.00	0.00	0.00	
3,400.00	10.13	269.77	3,383.44	-0.83	-201.77	12.41	0.00	0.00	0.00	
3,500.00	10.13	269.77	3,481.89	-0.90	-219.35	13.49	0.00	0.00	0.00	
3,600.00	10.13	269.77	3,580.33	-0.97	-236.93	14.57	0.00	0.00	0.00	
3,700.00	10.13	269.77	3,678.77	-1.04	-254.52	15.65	0.00	0.00	0.00	
3,800.00	10.13	269.77	3,777.21	-1.11	-272.10	16.73	0.00	0.00	0.00	
3,900.00	10.13	269.77	3,875.65	-1.19	-289.68	17.81	0.00	0.00	0.00	
4,000.00	10.13	269.77	3,974.10	-1.26	-307.27	18.89	0.00	0.00	0.00	
4,100.00	10.13	269.77	4,072.54	-1.33	-324.85	19.97	0.00	0.00	0.00	
4,200.00	10.13	269.77	4,170.98	-1.40	-342.43	21.06	0.00	0.00	0.00	
4,300.00	10.13	269.77	4,269.42	-1.47	-360.02	22.14	0.00	0.00	0.00	
4,400.00	10.13	269.77	4,367.86	-1.54	-377.60	23.22	0.00	0.00	0.00	
4,500.00	10.13	269.77	4,466.31	-1.62	-395.18	24.30	0.00	0.00	0.00	
4,600.00	10.13	269.77	4,564.75	-1.69	-412.77	25.38	0.00	0.00	0.00	
4,700.00	10.13	269.77	4,663.19	-1.76	-430.35	26.46	0.00	0.00	0.00	
4,800.00	10.13	269.77	4,761.63	-1.83	-447.93	27.54	0.00	0.00	0.00	
4,900.00	10.13	269.77	4,860.07	-1.90	-465.52	28.62	0.00	0.00	0.00	
5,000.00	10.13	269.77	4,958.52	-1.98	-483.10	29.71	0.00	0.00	0.00	
5,100.00	10.13	269.77	5,056.96	-2.05	-500.69	30.79	0.00	0.00	0.00	
5,200.00	10.13	269.77	5,155.40	-2.12	-518.27	31.87	0.00	0.00	0.00	

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Booth C35-750
Project:	Mustang	TVD Reference:	KB @ 4751.00ft
Site:	C Section 35	MD Reference:	KB @ 4751.00ft
Well:	Booth C35-750	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	10.13	269.77	5,253.84	-2.19	-535.85	32.95	0.00	0.00	0.00
5,400.00	10.13	269.77	5,352.28	-2.26	-553.44	34.03	0.00	0.00	0.00
5,500.00	10.13	269.77	5,450.73	-2.34	-571.02	35.11	0.00	0.00	0.00
5,600.00	10.13	269.77	5,549.17	-2.41	-588.60	36.19	0.00	0.00	0.00
5,700.00	10.13	269.77	5,647.61	-2.48	-606.19	37.27	0.00	0.00	0.00
5,800.00	10.13	269.77	5,746.05	-2.55	-623.77	38.35	0.00	0.00	0.00
5,900.00	10.13	269.77	5,844.49	-2.62	-641.35	39.44	0.00	0.00	0.00
6,000.00	10.13	269.77	5,942.93	-2.70	-658.94	40.52	0.00	0.00	0.00
6,100.00	10.13	269.77	6,041.38	-2.77	-676.52	41.60	0.00	0.00	0.00
6,200.00	10.13	269.77	6,139.82	-2.84	-694.10	42.68	0.00	0.00	0.00
6,300.00	10.13	269.77	6,238.26	-2.91	-711.69	43.76	0.00	0.00	0.00
6,303.11	10.13	269.77	6,241.32	-2.91	-712.23	43.79	0.00	0.00	0.00
6,400.00	13.34	310.86	6,336.33	4.38	-729.24	52.18	9.00	3.31	42.41
6,500.00	20.33	330.93	6,432.07	27.15	-746.43	76.04	9.00	6.99	20.07
6,600.00	28.44	340.50	6,523.10	64.86	-762.86	114.74	9.00	8.11	9.57
6,700.00	36.95	346.02	6,607.20	116.58	-778.10	167.35	9.00	8.50	5.51
6,800.00	45.62	349.69	6,682.29	181.03	-791.79	232.56	9.00	8.67	3.67
6,900.00	54.37	352.40	6,746.52	256.63	-803.58	308.77	9.00	8.76	2.71
7,000.00	63.18	354.57	6,798.31	341.51	-813.20	394.10	9.00	8.81	2.17
7,100.00	72.02	356.43	6,836.38	433.59	-820.39	486.45	9.00	8.84	1.86
7,200.00	80.87	358.11	6,859.80	530.59	-824.99	583.54	9.00	8.85	1.68
7,300.00	89.73	359.71	6,867.99	630.13	-826.88	683.00	9.00	8.86	1.60
7,303.09	90.00	359.75	6,868.00	633.22	-826.90	686.08	9.00	8.86	1.58
7,400.00	90.00	359.75	6,868.00	730.13	-827.31	782.81	0.00	0.00	0.00
7,500.00	90.00	359.75	6,868.00	830.13	-827.74	882.62	0.00	0.00	0.00
7,600.00	90.00	359.75	6,868.00	930.13	-828.17	982.43	0.00	0.00	0.00
7,700.00	90.00	359.75	6,868.00	1,030.13	-828.60	1,082.24	0.00	0.00	0.00
7,800.00	90.00	359.75	6,868.00	1,130.13	-829.03	1,182.06	0.00	0.00	0.00
7,900.00	90.00	359.75	6,868.00	1,230.13	-829.46	1,281.87	0.00	0.00	0.00
8,000.00	90.00	359.75	6,868.00	1,330.13	-829.88	1,381.68	0.00	0.00	0.00
8,100.00	90.00	359.75	6,868.00	1,430.13	-830.31	1,481.49	0.00	0.00	0.00
8,200.00	90.00	359.75	6,868.00	1,530.12	-830.74	1,581.30	0.00	0.00	0.00
8,300.00	90.00	359.75	6,868.00	1,630.12	-831.17	1,681.12	0.00	0.00	0.00
8,400.00	90.00	359.75	6,868.00	1,730.12	-831.60	1,780.93	0.00	0.00	0.00
8,500.00	90.00	359.75	6,868.00	1,830.12	-832.03	1,880.74	0.00	0.00	0.00
8,600.00	90.00	359.75	6,868.00	1,930.12	-832.46	1,980.55	0.00	0.00	0.00
8,700.00	90.00	359.75	6,868.00	2,030.12	-832.89	2,080.36	0.00	0.00	0.00
8,800.00	90.00	359.75	6,868.00	2,130.12	-833.31	2,180.18	0.00	0.00	0.00
8,900.00	90.00	359.75	6,868.00	2,230.12	-833.74	2,279.99	0.00	0.00	0.00
9,000.00	90.00	359.75	6,868.00	2,330.12	-834.17	2,379.80	0.00	0.00	0.00
9,100.00	90.00	359.75	6,868.00	2,430.12	-834.60	2,479.61	0.00	0.00	0.00
9,200.00	90.00	359.75	6,868.00	2,530.12	-835.03	2,579.42	0.00	0.00	0.00
9,300.00	90.00	359.75	6,868.00	2,630.11	-835.46	2,679.24	0.00	0.00	0.00

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Booth C35-750
Project:	Mustang	TVD Reference:	KB @ 4751.00ft
Site:	C Section 35	MD Reference:	KB @ 4751.00ft
Well:	Booth C35-750	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	359.75	6,868.00	2,730.11	-835.89	2,779.05	0.00	0.00	0.00
9,500.00	90.00	359.75	6,868.00	2,830.11	-836.31	2,878.86	0.00	0.00	0.00
9,600.00	90.00	359.75	6,868.00	2,930.11	-836.74	2,978.67	0.00	0.00	0.00
9,700.00	90.00	359.75	6,868.00	3,030.11	-837.17	3,078.48	0.00	0.00	0.00
9,800.00	90.00	359.75	6,868.00	3,130.11	-837.60	3,178.30	0.00	0.00	0.00
9,900.00	90.00	359.75	6,868.00	3,230.11	-838.03	3,278.11	0.00	0.00	0.00
10,000.00	90.00	359.75	6,868.00	3,330.11	-838.46	3,377.92	0.00	0.00	0.00
10,100.00	90.00	359.75	6,868.00	3,430.11	-838.89	3,477.73	0.00	0.00	0.00
10,200.00	90.00	359.75	6,868.00	3,530.11	-839.31	3,577.54	0.00	0.00	0.00
10,300.00	90.00	359.75	6,868.00	3,630.11	-839.74	3,677.36	0.00	0.00	0.00
10,400.00	90.00	359.75	6,868.00	3,730.10	-840.17	3,777.17	0.00	0.00	0.00
10,500.00	90.00	359.75	6,868.00	3,830.10	-840.60	3,876.98	0.00	0.00	0.00
10,600.00	90.00	359.75	6,868.00	3,930.10	-841.03	3,976.79	0.00	0.00	0.00
10,700.00	90.00	359.75	6,868.00	4,030.10	-841.46	4,076.60	0.00	0.00	0.00
10,800.00	90.00	359.75	6,868.00	4,130.10	-841.89	4,176.42	0.00	0.00	0.00
10,900.00	90.00	359.75	6,868.00	4,230.10	-842.31	4,276.23	0.00	0.00	0.00
11,000.00	90.00	359.75	6,868.00	4,330.10	-842.74	4,376.04	0.00	0.00	0.00
11,100.00	90.00	359.75	6,868.00	4,430.10	-843.17	4,475.85	0.00	0.00	0.00
11,200.00	90.00	359.75	6,868.00	4,530.10	-843.60	4,575.66	0.00	0.00	0.00
11,300.00	90.00	359.75	6,868.00	4,630.10	-844.03	4,675.48	0.00	0.00	0.00
11,400.00	90.00	359.75	6,868.00	4,730.10	-844.46	4,775.29	0.00	0.00	0.00
11,500.00	90.00	359.75	6,868.00	4,830.09	-844.89	4,875.10	0.00	0.00	0.00
11,600.00	90.00	359.75	6,868.00	4,930.09	-845.31	4,974.91	0.00	0.00	0.00
11,700.00	90.00	359.75	6,868.00	5,030.09	-845.74	5,074.72	0.00	0.00	0.00
11,800.00	90.00	359.75	6,868.00	5,130.09	-846.17	5,174.54	0.00	0.00	0.00
11,900.00	90.00	359.75	6,868.00	5,230.09	-846.60	5,274.35	0.00	0.00	0.00
12,000.00	90.00	359.75	6,868.00	5,330.09	-847.03	5,374.16	0.00	0.00	0.00
12,100.00	90.00	359.75	6,868.00	5,430.09	-847.46	5,473.97	0.00	0.00	0.00
12,200.00	90.00	359.75	6,868.00	5,530.09	-847.89	5,573.78	0.00	0.00	0.00
12,300.00	90.00	359.75	6,868.00	5,630.09	-848.31	5,673.60	0.00	0.00	0.00
12,400.00	90.00	359.75	6,868.00	5,730.09	-848.74	5,773.41	0.00	0.00	0.00
12,500.00	90.00	359.75	6,868.00	5,830.09	-849.17	5,873.22	0.00	0.00	0.00
12,600.00	90.00	359.75	6,868.00	5,930.08	-849.60	5,973.03	0.00	0.00	0.00
12,700.00	90.00	359.75	6,868.00	6,030.08	-850.03	6,072.84	0.00	0.00	0.00
12,800.00	90.00	359.75	6,868.00	6,130.08	-850.46	6,172.66	0.00	0.00	0.00
12,900.00	90.00	359.75	6,868.00	6,230.08	-850.89	6,272.47	0.00	0.00	0.00
13,000.00	90.00	359.75	6,868.00	6,330.08	-851.31	6,372.28	0.00	0.00	0.00
13,100.00	90.00	359.75	6,868.00	6,430.08	-851.74	6,472.09	0.00	0.00	0.00
13,200.00	90.00	359.75	6,868.00	6,530.08	-852.17	6,571.90	0.00	0.00	0.00
13,300.00	90.00	359.75	6,868.00	6,630.08	-852.60	6,671.72	0.00	0.00	0.00
13,400.00	90.00	359.75	6,868.00	6,730.08	-853.03	6,771.53	0.00	0.00	0.00
13,500.00	90.00	359.75	6,868.00	6,830.08	-853.46	6,871.34	0.00	0.00	0.00
13,600.00	90.00	359.75	6,868.00	6,930.08	-853.89	6,971.15	0.00	0.00	0.00

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Booth C35-750
Project:	Mustang	TVD Reference:	KB @ 4751.00ft
Site:	C Section 35	MD Reference:	KB @ 4751.00ft
Well:	Booth C35-750	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	359.75	6,868.00	7,030.07	-854.31	7,070.96	0.00	0.00	0.00
13,800.00	90.00	359.75	6,868.00	7,130.07	-854.74	7,170.78	0.00	0.00	0.00
13,900.00	90.00	359.75	6,868.00	7,230.07	-855.17	7,270.59	0.00	0.00	0.00
14,000.00	90.00	359.75	6,868.00	7,330.07	-855.60	7,370.40	0.00	0.00	0.00
14,100.00	90.00	359.75	6,868.00	7,430.07	-856.03	7,470.21	0.00	0.00	0.00
14,200.00	90.00	359.75	6,868.00	7,530.07	-856.46	7,570.02	0.00	0.00	0.00
14,300.00	90.00	359.75	6,868.00	7,630.07	-856.89	7,669.84	0.00	0.00	0.00
14,400.00	90.00	359.75	6,868.00	7,730.07	-857.31	7,769.65	0.00	0.00	0.00
14,500.00	90.00	359.75	6,868.00	7,830.07	-857.74	7,869.46	0.00	0.00	0.00
14,600.00	90.00	359.75	6,868.00	7,930.07	-858.17	7,969.27	0.00	0.00	0.00
14,700.00	90.00	359.75	6,868.00	8,030.07	-858.60	8,069.08	0.00	0.00	0.00
14,800.00	90.00	359.75	6,868.00	8,130.06	-859.03	8,168.90	0.00	0.00	0.00
14,900.00	90.00	359.75	6,868.00	8,230.06	-859.46	8,268.71	0.00	0.00	0.00
15,000.00	90.00	359.75	6,868.00	8,330.06	-859.89	8,368.52	0.00	0.00	0.00
15,100.00	90.00	359.75	6,868.00	8,430.06	-860.31	8,468.33	0.00	0.00	0.00
15,200.00	90.00	359.75	6,868.00	8,530.06	-860.74	8,568.14	0.00	0.00	0.00
15,300.00	90.00	359.75	6,868.00	8,630.06	-861.17	8,667.96	0.00	0.00	0.00
15,400.00	90.00	359.75	6,868.00	8,730.06	-861.60	8,767.77	0.00	0.00	0.00
15,500.00	90.00	359.75	6,868.00	8,830.06	-862.03	8,867.58	0.00	0.00	0.00
15,600.00	90.00	359.75	6,868.00	8,930.06	-862.46	8,967.39	0.00	0.00	0.00
15,700.00	90.00	359.75	6,868.00	9,030.06	-862.89	9,067.20	0.00	0.00	0.00
15,800.00	90.00	359.75	6,868.00	9,130.06	-863.32	9,167.01	0.00	0.00	0.00
15,900.00	90.00	359.75	6,868.00	9,230.05	-863.74	9,266.83	0.00	0.00	0.00
16,000.00	90.00	359.75	6,868.00	9,330.05	-864.17	9,366.64	0.00	0.00	0.00
16,100.00	90.00	359.75	6,868.00	9,430.05	-864.60	9,466.45	0.00	0.00	0.00
16,200.00	90.00	359.75	6,868.00	9,530.05	-865.03	9,566.26	0.00	0.00	0.00
16,300.00	90.00	359.75	6,868.00	9,630.05	-865.46	9,666.07	0.00	0.00	0.00
16,400.00	90.00	359.75	6,868.00	9,730.05	-865.89	9,765.89	0.00	0.00	0.00
16,500.00	90.00	359.75	6,868.00	9,830.05	-866.32	9,865.70	0.00	0.00	0.00
16,600.00	90.00	359.75	6,868.00	9,930.05	-866.74	9,965.51	0.00	0.00	0.00
16,700.00	90.00	359.75	6,868.00	10,030.05	-867.17	10,065.32	0.00	0.00	0.00
16,800.00	90.00	359.75	6,868.00	10,130.05	-867.60	10,165.13	0.00	0.00	0.00
16,900.00	90.00	359.75	6,868.00	10,230.05	-868.03	10,264.95	0.00	0.00	0.00
17,000.00	90.00	359.75	6,868.00	10,330.04	-868.46	10,364.76	0.00	0.00	0.00
17,100.00	90.00	359.75	6,868.00	10,430.04	-868.89	10,464.57	0.00	0.00	0.00
17,200.00	90.00	359.75	6,868.00	10,530.04	-869.32	10,564.38	0.00	0.00	0.00
17,300.00	90.00	359.75	6,868.00	10,630.04	-869.74	10,664.19	0.00	0.00	0.00
17,400.00	90.00	359.75	6,868.00	10,730.04	-870.17	10,764.01	0.00	0.00	0.00
17,500.00	90.00	359.75	6,868.00	10,830.04	-870.60	10,863.82	0.00	0.00	0.00
17,600.00	90.00	359.75	6,868.00	10,930.04	-871.03	10,963.63	0.00	0.00	0.00
17,700.00	90.00	359.75	6,868.00	11,030.04	-871.46	11,063.44	0.00	0.00	0.00
17,800.00	90.00	359.75	6,868.00	11,130.04	-871.89	11,163.25	0.00	0.00	0.00
17,900.00	90.00	359.75	6,868.00	11,230.04	-872.32	11,263.07	0.00	0.00	0.00
18,000.00	90.00	359.75	6,868.00	11,330.04	-872.74	11,362.88	0.00	0.00	0.00

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Booth C35-750
Project:	Mustang	TVD Reference:	KB @ 4751.00ft
Site:	C Section 35	MD Reference:	KB @ 4751.00ft
Well:	Booth C35-750	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	359.75	6,868.00	11,430.03	-873.17	11,462.69	0.00	0.00	0.00
18,200.00	90.00	359.75	6,868.00	11,530.03	-873.60	11,562.50	0.00	0.00	0.00
18,300.00	90.00	359.75	6,868.00	11,630.03	-874.03	11,662.31	0.00	0.00	0.00
18,400.00	90.00	359.75	6,868.00	11,730.03	-874.46	11,762.13	0.00	0.00	0.00
18,500.00	90.00	359.75	6,868.00	11,830.03	-874.89	11,861.94	0.00	0.00	0.00
18,600.00	90.00	359.75	6,868.00	11,930.03	-875.32	11,961.75	0.00	0.00	0.00
18,700.00	90.00	359.75	6,868.00	12,030.03	-875.74	12,061.56	0.00	0.00	0.00
18,800.00	90.00	359.75	6,868.00	12,130.03	-876.17	12,161.37	0.00	0.00	0.00
18,900.00	90.00	359.75	6,868.00	12,230.03	-876.60	12,261.19	0.00	0.00	0.00
19,000.00	90.00	359.75	6,868.00	12,330.03	-877.03	12,361.00	0.00	0.00	0.00
19,100.00	90.00	359.75	6,868.00	12,430.03	-877.46	12,460.81	0.00	0.00	0.00
19,200.00	90.00	359.75	6,868.00	12,530.02	-877.89	12,560.62	0.00	0.00	0.00
19,300.00	90.00	359.75	6,868.00	12,630.02	-878.32	12,660.43	0.00	0.00	0.00
19,400.00	90.00	359.75	6,868.00	12,730.02	-878.74	12,760.25	0.00	0.00	0.00
19,500.00	90.00	359.75	6,868.00	12,830.02	-879.17	12,860.06	0.00	0.00	0.00
19,600.00	90.00	359.75	6,868.00	12,930.02	-879.60	12,959.87	0.00	0.00	0.00
19,700.00	90.00	359.75	6,868.00	13,030.02	-880.03	13,059.68	0.00	0.00	0.00
19,800.00	90.00	359.75	6,868.00	13,130.02	-880.46	13,159.49	0.00	0.00	0.00
19,900.00	90.00	359.75	6,868.00	13,230.02	-880.89	13,259.31	0.00	0.00	0.00
20,000.00	90.00	359.75	6,868.00	13,330.02	-881.32	13,359.12	0.00	0.00	0.00
20,087.48	90.00	359.75	6,868.00	13,417.50	-881.69	13,446.44	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 C35-750 - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	1,339,280.27	3,274,806.85	40.2605350	-104.5153030
KOP Booth C35-750 - plan hits target center - Point	0.00	0.00	6,241.32	-2.91	-712.23	1,339,277.35	3,274,094.61	40.2605487	-104.5178550
BHL Booth C35-750 - plan hits target center - Point	0.00	0.00	6,868.00	13,417.50	-881.69	1,352,697.74	3,273,925.16	40.2973916	-104.5179296
TPZ Booth C35-750 - plan hits target center - Point	0.00	0.00	6,868.00	633.22	-826.90	1,339,913.48	3,273,979.95	40.2622983	-104.5182406

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Booth C35-750
Project:	Mustang	TVD Reference:	KB @ 4751.00ft
Site:	C Section 35	MD Reference:	KB @ 4751.00ft
Well:	Booth C35-750	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 (°)
434.00	434.00	Pierre			
617.00	617.00	Upper Pierre Aquifer Top			
1,521.00	1,521.00	Upper Pierre Aquifer Base			
3,659.60	3,639.00	Parkman			
4,344.27	4,313.00	Sussex			
4,882.66	4,843.00	Shannon			
5,957.40	5,901.00	Teepee Buttes			
6,646.26	6,563.00	Sharon Springs			
6,679.95	6,591.00	Top A Chalk			
6,697.25	6,605.00	Top A Marl			
6,716.16	6,620.00	Top B Chalk			
6,774.36	6,664.00	Top B Marl			
6,853.33	6,718.00	Top C Chalk			
6,900.83	6,747.00	Top C Marl			
6,986.30	6,792.00	Top D Chalk			
7,083.24	6,831.00	Top Ft. Hayes			
7,173.19	6,855.00	Codell			

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
2000	2000	0	0	Start Build 2.00
6303	6241	-3	-712	Start DLS 9.00 TFO 89.99
7303	6868	633	-827	TPZ/LP at 7303.09 MD
20,087	6868	13,417	-882	TD at 20087.48 MD

Checked By: _____ Approved By: _____ Date: _____

Northern Region - DJ Basin

Mustang

C Section 35

Booth C35-750

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 C35-750
Project:	Mustang	TVD Reference:	KB @ 4751.00ft
Reference Site:	C Section 35	MD Reference:	KB @ 4751.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Booth C35-750	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	20,087.48	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
Offset Well - Wellbore - Design						
C Section 23						
BOOTH #23-12I4(PR) - Wellbore #1 - No Surveys	20,032.28	6,773.00	2,155.94	1,949.40	10.438	CC, ES
BOOTH #23-12I4(PR) - Wellbore #1 - No Surveys	20,087.48	6,773.00	2,156.64	1,949.46	10.409	SF
BOOTH C #23-20(PR) - Wellbore #1 - No Surveys	20,087.48	6,775.00	1,346.10	1,139.10	6.503	CC, ES, SF
COLEMAN #23-6I4(PR) - Wellbore #1 - No Surveys	20,087.48	6,772.00	1,174.02	1,024.59	7.857	CC, ES, SF
COLEMAN #C23-31D(PR) - Wellbore #1 - MWD	20,087.48	6,918.47	3,001.41	2,850.78	19.926	CC, ES, SF
Coleman C #23-04(PR) - Wellbore #1 - No Surveys	20,087.48	6,769.00	2,953.45	2,794.52	18.583	CC, ES, SF
COLEMAN C #23-19(PR) - Wellbore #1 - No Surveys	20,087.48	6,771.00	2,027.92	1,876.85	13.424	CC, ES, SF
COLEMAN C #23-21(PR) - Wellbore #1 - No Surveys	20,087.48	6,774.00	400.96	270.86	3.082	CC, ES, SF
Coleman C #23-29D(SI) - Wellbore #1 - MWD Surveys	20,087.48	6,952.28	3,079.89	2,985.37	32.587	CC, ES, SF
KISSLER #1(SI) - Wellbore #1 - Gyro	18,305.07	2,133.86	1,998.04	1,861.89	14.675	CC, ES
KISSLER #1(SI) - Wellbore #1 - Gyro	18,500.00	2,131.32	2,007.53	1,869.51	14.545	SF
KISSLER #2(PR) - Wellbore #1 - No Surveys	19,608.76	6,779.00	671.91	469.87	3.326	CC, ES, SF
KISSLER #3(DA) - Wellbore #1 - No Surveys	18,288.86	6,782.00	677.77	489.85	3.607	CC
KISSLER #3(DA) - Wellbore #1 - No Surveys	18,300.00	6,782.00	677.86	489.78	3.604	ES, SF
KISSLER #3X(SI) - Wellbore #1 - Gyro	18,164.73	6,794.56	722.96	572.00	4.789	CC, ES
KISSLER #3X(SI) - Wellbore #1 - Gyro	18,200.00	6,794.64	723.82	572.44	4.781	SF
SATER C #23-15(PA) - Wellbore #1 - Gyro	18,112.49	6,806.23	494.62	343.93	3.283	CC, ES, SF
SATER C #23-17(PR) - Wellbore #1 - No Surveys	20,087.48	6,769.00	2,029.28	1,862.57	12.172	CC, ES, SF
SATER C #23-22(PR) - Wellbore #1 - No Surveys	20,087.48	6,777.00	1,248.69	1,044.19	6.106	CC, ES, SF
SATER C #23-24(PR) - Wellbore #1 - Gyro	18,761.66	6,783.78	103.02	-54.35	0.655	Level 1, CC, ES, SF
SATER C #23-28D(PR) - Wellbore #1 - MWD Surveys	20,087.48	6,919.67	2,770.97	2,709.06	44.757	CC, ES, SF
Sater C24-79HN - Original Drilling - Original Drilling	20,056.66	8,243.64	2,696.43	2,509.70	14.440	CC
Sater C24-79HN - Original Drilling - Original Drilling	20,087.48	8,259.42	2,696.51	2,509.25	14.400	ES, SF
Sater C25-69HN - Original Drilling - Original Drilling	17,798.67	6,223.26	3,272.96	3,139.71	24.562	CC
Sater C25-69HN - Original Drilling - Original Drilling	17,800.00	6,223.26	3,272.96	3,139.70	24.560	ES
Sater C25-69HN - Original Drilling - Original Drilling	18,200.00	6,221.22	3,297.47	3,161.55	24.260	SF
Sater C25-79HN - Original Drilling - Original Drilling	17,071.19	7,783.30	2,491.76	2,348.03	17.337	CC
Sater C25-79HN - Original Drilling - Original Drilling	18,000.00	18,000.00	2,501.18	2,318.04	13.657	ES, SF
Sater C26-69HN - Original Drilling - Original Drilling	17,768.85	8,791.71	136.57	31.29	1.297	Level 3, CC, ES, SF
UPRC #23-2I4(PR) - Wellbore #1 - No Surveys	20,087.48	6,766.00	2,231.80	2,105.16	17.624	CC, ES, SF
UPV #23-10I4(PR) - Wellbore #1 - No Surveys	19,787.72	6,777.00	469.15	265.21	2.300	CC, ES, SF
UPV #23-15I4(PA) - Wellbore #1 - Gyro	18,713.95	6,845.96	1,151.78	994.63	7.329	CC, ES, SF
UPV #23-16I4(PR) - Wellbore #1 - Gyro	18,193.97	6,750.28	2,083.77	1,932.72	13.795	CC
UPV #23-16I4(PR) - Wellbore #1 - Gyro	18,200.00	6,750.07	2,083.78	1,932.68	13.791	ES
UPV #23-16I4(PR) - Wellbore #1 - Gyro	18,300.00	6,746.70	2,086.47	1,934.66	13.744	SF
UPV #23-1I4(SI) - Wellbore #1 - Gyro Surveys	20,087.48	6,771.19	3,082.19	2,956.09	24.442	CC, ES, SF
UPV #23-7I4(PR) - Wellbore #1 - No Surveys	20,087.48	6,773.00	915.02	771.98	6.397	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 C35-750
Project:	Mustang	TVD Reference:	KB @ 4751.00ft
Reference Site:	C Section 35	MD Reference:	KB @ 4751.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Booth C35-750	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 #23-814(PR) - Wellbore #1 - Gyro Surveys	20,087.48	6,814.91	2,170.53	2,009.46	13.475	CC, ES, SF
UPV #23-914(PR) - Wellbore #1 - Gyro Surveys	19,790.83	6,857.65	2,206.81	2,038.11	13.082	CC
UPV #23-914(PR) - Wellbore #1 - Gyro Surveys	19,800.00	6,857.67	2,206.82	2,038.05	13.076	ES
UPV #23-914(PR) - Wellbore #1 - Gyro Surveys	19,900.00	6,857.94	2,209.50	2,040.00	13.035	SF
VOLKENS #1(SI) - Wellbore #1 - No Surveys	20,087.48	6,772.00	2,142.51	1,947.65	10.995	CC, ES, SF
VOLKENS #2(SI) - Wellbore #1 - No Surveys	20,087.48	4,650.00	3,106.09	2,991.99	27.223	CC, ES, SF
C Section 26						
BOOTH C #26-12(PR) - Wellbore #1 - No Surveys	14,450.30	6,795.00	2,078.35	1,931.04	14.108	CC, ES
BOOTH C #26-12(PR) - Wellbore #1 - No Surveys	14,700.00	6,795.00	2,093.30	1,943.51	13.975	SF
DINNEL #1(PR) - Wellbore #1 - No Surveys	15,636.26	6,792.00	1,998.14	1,838.38	12.507	CC, ES
DINNEL #1(PR) - Wellbore #1 - No Surveys	15,800.00	6,792.00	2,004.84	1,843.35	12.415	SF
DINNEL #2(PA) - Wellbore #1 - Gyro	16,960.21	6,809.35	664.39	526.37	4.814	CC, ES
DINNEL #2(PA) - Wellbore #1 - Gyro	17,000.00	6,809.08	665.58	527.10	4.807	SF
DINNEL #26-4(SI) - Wellbore #1 - Gyro	16,948.28	6,801.43	2,035.83	1,897.87	14.757	CC, ES
DINNEL #26-4(SI) - Wellbore #1 - Gyro	17,200.00	6,796.38	2,051.33	1,911.05	14.624	SF
DINNEL #3(PR) - Wellbore #1 - No Surveys	15,645.07	6,790.00	689.74	529.90	4.315	CC, ES
DINNEL #3(PR) - Wellbore #1 - No Surveys	15,700.00	6,790.00	691.93	531.50	4.313	SF
DINNEL C #26-18(PR) - Wellbore #1 - No Surveys	16,280.52	6,789.00	189.36	22.80	1.137	Level 2, CC, ES, SF
DINNEL C #26-19(SI) - Wellbore #1 - No Surveys	16,375.65	6,782.00	1,475.83	1,308.32	8.810	CC
DINNEL C #26-19(SI) - Wellbore #1 - No Surveys	16,400.00	6,782.00	1,476.03	1,308.21	8.795	ES
DINNEL C #26-19(SI) - Wellbore #1 - No Surveys	16,500.00	6,782.00	1,481.06	1,312.27	8.775	SF
DINNEL C #26-20(PR) - Wellbore #1 - No Surveys	15,176.57	6,792.00	1,340.82	1,185.90	8.655	CC
DINNEL C #26-20(PR) - Wellbore #1 - No Surveys	15,200.00	6,792.00	1,341.02	1,185.81	8.640	ES
DINNEL C #26-20(PR) - Wellbore #1 - No Surveys	15,300.00	6,792.00	1,346.49	1,190.30	8.621	SF
DINNEL C #26-21D(PR) - Wellbore #1 - No Surveys	15,615.76	6,791.00	660.53	500.99	4.140	CC, ES, SF
PROSPECT CO #26-1014(PR) - Wellbore #1 - No Survey	14,002.73	6,791.00	1,012.14	869.54	7.098	CC, ES, SF
PROSPECT CO #26-1114(PR) - Wellbore #1 - No Survey	14,527.33	6,795.00	647.31	499.19	4.370	CC, ES, SF
PROSPECT CO #26-1214(PR) - Wellbore #1 - No Survey	13,824.82	6,795.00	1,587.01	1,446.22	11.272	CC, ES
PROSPECT CO #26-1214(PR) - Wellbore #1 - No Survey	14,000.00	6,795.00	1,596.65	1,454.08	11.199	SF
PROSPECT CO #26-1314(PR) - Wellbore #1 - No Survey	13,023.66	6,797.00	2,086.65	1,954.12	15.745	CC, ES
PROSPECT CO #26-1314(PR) - Wellbore #1 - No Survey	13,300.00	6,797.00	2,104.86	1,969.59	15.560	SF
PROSPECT CO #26-1414(PR) - Wellbore #1 - No Survey	13,021.16	6,819.00	456.88	324.19	3.443	CC, ES, SF
PROSPECT CO #26-1514(PR) - Wellbore #1 - No Survey	12,873.31	6,792.00	464.61	333.66	3.548	CC, ES, SF
PROSPECT CO #26-1614(PR) - Wellbore #1 - Gyro	12,989.08	6,805.57	1,961.92	1,865.44	20.335	CC
PROSPECT CO #26-1614(PR) - Wellbore #1 - Gyro	13,000.00	6,805.39	1,961.95	1,865.38	20.316	ES
PROSPECT CO #26-1614(PR) - Wellbore #1 - Gyro	13,200.00	6,802.10	1,973.22	1,875.35	20.162	SF
PROSPECT CO #26-114(SI) - Wellbore #1 - Gyro	17,057.26	6,793.03	1,969.87	1,830.73	14.158	CC, ES
PROSPECT CO #26-114(SI) - Wellbore #1 - Gyro	17,200.00	6,789.40	1,975.03	1,834.95	14.099	SF
PROSPECT CO #26-714(PR) - Wellbore #1 - No Surveys	15,642.43	6,789.00	532.25	372.44	3.331	CC, ES, SF
PROSPECT CO #26-814(SI) - Wellbore #1 - Gyro	15,907.88	6,864.62	1,596.30	1,468.99	12.538	CC, ES
PROSPECT CO #26-814(SI) - Wellbore #1 - Gyro	16,000.00	6,863.92	1,598.95	1,471.04	12.500	SF
PROSPECT CO #26-914(PR) - Wellbore #1 - Gyro	14,561.93	6,800.70	2,002.07	1,889.31	17.756	CC, ES
PROSPECT CO #26-914(PR) - Wellbore #1 - Gyro	14,700.00	6,800.95	2,006.82	1,893.07	17.641	SF
RASSMUSSEN #1(PA) - Wellbore #1 - Gyro	16,886.91	6,798.66	690.34	552.96	5.025	CC, ES
RASSMUSSEN #1(PA) - Wellbore #1 - Gyro	16,900.00	6,798.57	690.46	553.04	5.024	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 C35-750
Project:	Mustang	TVD Reference:	KB @ 4751.00ft
Reference Site:	C Section 35	MD Reference:	KB @ 4751.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Booth C35-750	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	11,522.18	6,807.00	2,171.45	2,053.99	18.486	CC, ES
BOOTH #11-35U(PR) - Wellbore #1 - No Surveys	11,800.00	6,807.00	2,189.15	2,068.89	18.203	SF
BOOTH #12-35DU(PR) - Wellbore #1 - No Surveys	10,807.47	6,797.00	1,190.01	1,079.58	10.776	CC, ES
BOOTH #12-35DU(PR) - Wellbore #1 - No Surveys	10,900.00	6,797.00	1,193.61	1,082.15	10.709	SF
BOOTH #21-35U(PR) - Wellbore #1 - No Surveys	11,532.36	6,807.00	659.15	541.58	5.607	CC, ES
BOOTH #21-35U(PR) - Wellbore #1 - No Surveys	11,600.00	6,807.00	662.61	544.27	5.599	SF
BOOTH #22-35U(PR) - Wellbore #1 - No Surveys	11,522.19	2,117.00	2,171.45	2,094.91	28.371	CC, ES
BOOTH #22-35U(PR) - Wellbore #1 - No Surveys	11,900.00	2,117.00	2,204.08	2,123.94	27.503	SF
BOOTH #35AU(PR) - Wellbore #1 - No Surveys	10,829.34	6,797.00	1,190.16	1,079.52	10.757	CC, ES
BOOTH #35AU(PR) - Wellbore #1 - No Surveys	10,900.00	6,797.00	1,192.26	1,080.81	10.698	SF
BOOTH C #35-01(SI) - Wellbore #1 - No Surveys	11,834.76	6,811.00	1,965.33	1,844.73	16.296	CC, ES
BOOTH C #35-01(SI) - Wellbore #1 - No Surveys	12,000.00	6,811.00	1,972.27	1,850.49	16.195	SF
BOOTH C #35-07(SI) - Wellbore #1 - No Surveys	10,505.22	6,826.00	654.01	546.19	6.065	CC, ES, SF
BOOTH C #35-08(SI) - Wellbore #1 - No Surveys	10,510.98	6,821.00	1,975.26	1,867.42	18.317	CC, ES
BOOTH C #35-08(SI) - Wellbore #1 - No Surveys	10,700.00	6,821.00	1,984.28	1,875.14	18.181	SF
BOOTH C #35-27(SI) - Wellbore #1 - Gyro	12,378.29	6,772.10	1,316.99	1,227.01	14.636	CC, ES
BOOTH C #35-27(SI) - Wellbore #1 - Gyro	12,500.00	6,774.59	1,322.60	1,231.94	14.587	SF
Booth C35-725 - Wellbore #1 - Plan #1	2,000.00	2,001.00	67.54	53.67	4.867	CC, ES, SF
Booth C35-735 - Wellbore #1 - Plan #1	2,000.00	2,001.00	45.21	31.34	3.258	CC, ES
Booth C35-735 - Wellbore #1 - Plan #1	2,100.00	2,100.98	46.96	32.37	3.220	SF
Booth C35-745 - Wellbore #1 - Plan #1	2,000.00	2,000.00	22.61	8.74	1.630	CC, ES
Booth C35-745 - Wellbore #1 - Plan #1	20,087.48	19,934.58	346.65	61.01	1.214	Level 3, SF
Booth C35-755 - Wellbore #1 - Plan #1	7,295.53	7,128.69	341.08	291.51	6.880	CC
Booth C35-755 - Wellbore #1 - Plan #1	20,087.48	19,908.82	342.93	52.05	1.179	Level 2, ES, SF
Booth C35-765 - Wellbore #1 - Plan #1	3,087.45	2,907.83	851.48	830.86	41.292	CC
Booth C35-765 - Wellbore #1 - Plan #1	20,087.48	19,915.47	998.09	702.50	3.377	ES, SF
Booth C35-775 - Wellbore #1 - Plan #1	2,893.69	2,706.98	908.93	889.71	47.289	CC
Booth C35-775 - Wellbore #1 - Plan #1	2,900.00	2,711.77	908.94	889.68	47.204	ES
Booth C35-775 - Wellbore #1 - Plan #1	20,087.48	20,175.73	1,640.60	1,343.44	5.521	SF
Booth C35-785 - Wellbore #1 - Plan #1	2,700.50	2,506.69	966.33	948.49	54.189	CC, ES
Booth C35-785 - Wellbore #1 - Plan #1	20,087.48	20,337.37	2,299.97	2,002.05	7.720	SF
UPV #35-214(SI) - Wellbore #1 - No Surveys	11,383.38	6,801.00	1,004.92	888.87	8.660	CC, ES
UPV #35-214(SI) - Wellbore #1 - No Surveys	11,400.00	6,801.00	1,005.05	888.91	8.653	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 C35-750
Project:	Mustang	TVD Reference:	KB @ 4751.00ft
Reference Site:	C Section 35	MD Reference:	KB @ 4751.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Booth C35-750	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	6,578.26	6,462.83	2,688.81	2,536.09	17.606	CC
BOOTH D #02-31 - BOOTH D #02-31 - No Surveys	6,600.00	6,482.10	2,688.98	2,535.79	17.554	ES
BOOTH D #02-31 - BOOTH D #02-31 - No Surveys	6,900.00	6,705.52	2,727.64	2,568.95	17.189	SF
DONOVAN D #2-19(PR) - DONOVAN D #2-19 - No Surv	6,496.18	6,384.48	1,708.10	1,557.15	11.315	CC
DONOVAN D #2-19(PR) - DONOVAN D #2-19 - No Surv	6,500.00	6,388.07	1,708.11	1,557.07	11.309	ES
DONOVAN D #2-19(PR) - DONOVAN D #2-19 - No Surv	6,700.00	6,563.20	1,727.31	1,572.02	11.124	SF
DONOVAN D #2-3JI(PR) - DONOVAN D #2-3JI - No Sur	6,565.96	6,452.79	772.39	619.90	5.065	CC
DONOVAN D #2-3JI(PR) - DONOVAN D #2-3JI - No Sur	6,600.00	6,483.10	772.92	619.69	5.044	ES
DONOVAN D #2-3JI(PR) - DONOVAN D #2-3JI - No Sur	6,650.00	6,526.16	775.72	621.44	5.028	SF
DONOVAN D #2-4JI(SI) - DONOVAN D #2-4JI - No Surv	6,845.68	6,660.08	1,999.46	1,842.00	12.698	CC
DONOVAN D #2-4JI(SI) - DONOVAN D #2-4JI - No Surv	6,850.00	6,662.87	1,999.46	1,841.94	12.693	ES
DONOVAN D #2-4JI(SI) - DONOVAN D #2-4JI - No Surv	7,050.00	6,766.13	2,014.44	1,854.19	12.571	SF
DONOVAN D #2-5JI - DONOVAN D #2-5JI - No Surveys	6,448.11	6,339.84	2,587.65	2,437.65	17.252	CC
DONOVAN D #2-5JI - DONOVAN D #2-5JI - No Surveys	6,450.00	6,341.64	2,587.65	2,437.61	17.247	ES
DONOVAN D #2-5JI - DONOVAN D #2-5JI - No Surveys	6,750.00	6,602.99	2,634.70	2,478.34	16.850	SF
DONOVAN D #2-6JI(PR) - DONOVAN D #2-6JI - No Sur	6,352.82	6,250.21	1,881.57	1,733.28	12.688	CC, ES
DONOVAN D #2-6JI(PR) - DONOVAN D #2-6JI - No Sur	6,550.00	6,438.32	1,909.96	1,757.14	12.498	SF
GUTTERSEN #D02-25(PR) - GUTTERSEN #D02-25 - N	6,349.35	6,235.81	3,536.19	3,388.18	23.892	CC
GUTTERSEN #D02-25(PR) - GUTTERSEN #D02-25 - N	6,350.00	6,236.44	3,536.19	3,388.17	23.889	ES
GUTTERSEN #D02-25(PR) - GUTTERSEN #D02-25 - N	6,650.00	6,515.16	3,601.65	3,446.94	23.280	SF
GUTTERSEN #D02-33D(PR) - GUTTERSEN #D02-33D	100.00	41.24	3,866.53	3,866.34	10,000.000	CC
GUTTERSEN #D02-33D(PR) - GUTTERSEN #D02-33D	1,000.00	937.25	3,869.86	3,863.49	607.038	ES
GUTTERSEN #D02-33D(PR) - GUTTERSEN #D02-33D	6,800.00	6,831.39	4,537.16	4,483.72	84.899	SF
GUTTERSEN #D11-29D(PR) - GUTTERSEN #D11-29D	100.00	58.93	3,866.34	3,866.11	10,000.000	CC
GUTTERSEN #D11-29D(PR) - GUTTERSEN #D11-29D	300.00	230.08	3,866.96	3,865.62	2,894.483	ES
GUTTERSEN #D11-29D(PR) - GUTTERSEN #D11-29D	6,700.00	6,856.08	5,114.93	5,064.38	101.170	SF
GUTTERSEN D #02-20(SI) - GUTTERSEN D #02-20 - W	6,356.43	6,236.18	2,781.53	2,746.46	79.307	CC, ES
GUTTERSEN D #02-20(SI) - GUTTERSEN D #02-20 - W	6,650.00	6,524.64	2,841.71	2,804.87	77.119	SF
Guttersen D02-75HN - Original Drilling - Original Drilling	6,633.02	11,143.00	199.65	146.40	3.750	CC, ES, SF
HSR-BOOTH #7-2(SI) - HSR-BOOTH #7-2 - No Surveys	2,805.54	2,749.25	1,536.19	1,471.42	23.718	CC
HSR-BOOTH #7-2(SI) - HSR-BOOTH #7-2 - No Surveys	4,000.00	3,925.10	1,550.48	1,457.68	16.708	ES
HSR-BOOTH #7-2(SI) - HSR-BOOTH #7-2 - No Surveys	6,450.00	6,335.64	1,679.99	1,529.47	11.161	SF
HSR-BOOTH #8-2(SI) - HSR-BOOTH #8-2 - No Surveys	2,000.00	1,986.00	1,902.61	1,855.95	40.779	CC
HSR-BOOTH #8-2(SI) - HSR-BOOTH #8-2 - No Surveys	2,100.00	2,085.98	1,903.56	1,854.56	38.843	ES
HSR-BOOTH #8-2(SI) - HSR-BOOTH #8-2 - No Surveys	6,500.00	6,418.07	2,413.53	2,261.53	15.878	SF
KERN #1(PA) - KERN #1 - No Surveys	2,000.00	1,964.00	884.10	837.88	19.130	CC
KERN #1(PA) - KERN #1 - No Surveys	2,100.00	2,063.98	885.53	836.97	18.234	ES
KERN #1(PA) - KERN #1 - No Surveys	6,450.00	6,348.64	1,553.22	1,403.13	10.349	SF
KERN D #2-1(SI) - KERN D #2-1 - No Surveys	2,000.00	1,963.00	1,338.97	1,292.77	28.984	CC
KERN D #2-1(SI) - KERN D #2-1 - No Surveys	2,100.00	2,062.98	1,340.70	1,292.16	27.617	ES
KERN D #2-1(SI) - KERN D #2-1 - No Surveys	6,800.00	6,645.29	2,148.11	1,991.09	13.680	SF
KERN D #2-2JI(PR) - KERN D #2-2JI - No Surveys	3,719.08	3,659.55	120.20	33.80	1.391	Level 3, CC
KERN D #2-2JI(PR) - KERN D #2-2JI - No Surveys	3,800.00	3,739.21	121.04	32.73	1.371	Level 3, ES, SF
L F RANCH #2-2(SI) - L F RANCH #2-2 - No Surveys	6,353.25	6,239.63	4,271.60	4,123.53	28.847	CC, ES
L F RANCH #2-2(SI) - L F RANCH #2-2 - No Surveys	6,750.00	6,594.99	4,382.73	4,226.13	27.987	SF
TANIA #D11-27D(PR) - TANIA #D11-27D - Wellbore #1 -	2,594.18	2,593.67	4,735.94	4,716.02	237.819	CC
TANIA #D11-27D(PR) - TANIA #D11-27D - Wellbore #1 -	2,700.00	2,655.21	4,736.53	4,715.76	228.031	ES
TANIA #D11-27D(PR) - TANIA #D11-27D - Wellbore #1 -	6,600.00	6,563.23	5,054.39	5,000.16	93.203	SF
TANIA #D11-28(PR) - TANIA #D11-28 - No Surveys	6,303.69	6,199.89	4,706.46	4,559.15	31.949	CC, ES
TANIA #D11-28(PR) - TANIA #D11-28 - No Surveys	6,700.00	6,565.20	4,826.33	4,670.32	30.935	SF
TANIA BLUE #D 2-11(PR) - TANIA BLUE #D 2-11 - No S	6,326.96	6,218.80	2,943.64	2,795.93	19.929	CC
TANIA BLUE #D 2-11(PR) - TANIA BLUE #D 2-11 - No S	6,350.00	6,241.44	2,944.05	2,795.80	19.859	ES
TANIA BLUE #D 2-11(PR) - TANIA BLUE #D 2-11 - No S	6,600.00	6,477.10	3,000.65	2,846.76	19.499	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 C35-750
Project:	Mustang	TVD Reference:	KB @ 4751.00ft
Reference Site:	C Section 35	MD Reference:	KB @ 4751.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Booth C35-750	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 BLUE #D 2-12(PA) - TANIA BLUE #D 2-12 - No S	6,386.07	6,264.76	3,524.30	3,375.79	23.730	CC
TANIA BLUE #D 2-12(PA) - TANIA BLUE #D 2-12 - No S	6,400.00	6,278.33	3,524.43	3,375.59	23.679	ES
TANIA BLUE #D 2-12(PA) - TANIA BLUE #D 2-12 - No S	6,750.00	6,587.99	3,608.59	3,452.30	23.088	SF
TANIA BLUE #D 2-14(PR) - TANIA BLUE #D 2-14 - No S	6,320.10	6,210.04	4,400.25	4,252.72	29.826	CC
TANIA BLUE #D 2-14(PR) - TANIA BLUE #D 2-14 - No S	6,350.00	6,239.44	4,400.94	4,252.71	29.689	ES
TANIA BLUE #D 2-14(PR) - TANIA BLUE #D 2-14 - No S	6,700.00	6,559.20	4,509.77	4,353.90	28.933	SF
TANIA BLUE #D2-10(SI) - TANIA BLUE #D2-10 - No Sur	2,000.00	1,964.00	2,810.54	2,764.33	60.812	CC
TANIA BLUE #D2-10(SI) - TANIA BLUE #D2-10 - No Sur	4,400.00	4,331.86	2,835.86	2,733.37	27.672	ES
TANIA BLUE #D2-10(SI) - TANIA BLUE #D2-10 - No Sur	6,550.00	6,442.32	2,955.88	2,802.81	19.312	SF
TANIA BLUE #D2-16(PR) - TANIA BLUE #D2-16 - No Su	2,000.00	1,966.00	4,387.41	4,341.16	94.850	CC
TANIA BLUE #D2-16(PR) - TANIA BLUE #D2-16 - No Su	2,300.00	2,265.45	4,391.14	4,337.85	82.408	ES
TANIA BLUE #D2-16(PR) - TANIA BLUE #D2-16 - No Su	6,700.00	6,573.20	4,743.01	4,586.94	30.391	SF
TANIA BLUE D #2-15(SI) - TANIA BLUE D #2-15 - No Su	3,017.89	2,962.29	4,173.96	4,104.14	59.787	CC
TANIA BLUE D #2-15(SI) - TANIA BLUE D #2-15 - No Su	6,200.00	6,094.82	4,211.29	4,066.48	29.082	ES
TANIA BLUE D #2-15(SI) - TANIA BLUE D #2-15 - No Su	6,650.00	6,521.16	4,313.25	4,158.27	27.831	SF
TANIA BLUE D #2-9(SI) - TANIA BLUE D #2-9 - No Surv	2,000.00	1,979.00	3,111.96	3,065.44	66.900	CC
TANIA BLUE D #2-9(SI) - TANIA BLUE D #2-9 - No Surv	2,200.00	2,178.84	3,114.82	3,063.62	60.829	ES
TANIA BLUE D #2-9(SI) - TANIA BLUE D #2-9 - No Surv	6,600.00	6,502.10	3,549.65	3,395.44	23.019	SF
TANIA D #2-23(SI) - TANIA D #2-23 - No Surveys	2,000.00	1,966.00	3,502.91	3,456.65	75.728	CC
TANIA D #2-23(SI) - TANIA D #2-23 - No Surveys	2,400.00	2,364.70	3,507.61	3,451.99	63.064	ES
TANIA D #2-23(SI) - TANIA D #2-23 - No Surveys	6,600.00	6,489.10	3,769.27	3,615.16	24.458	SF

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

Noble Energy, Inc.

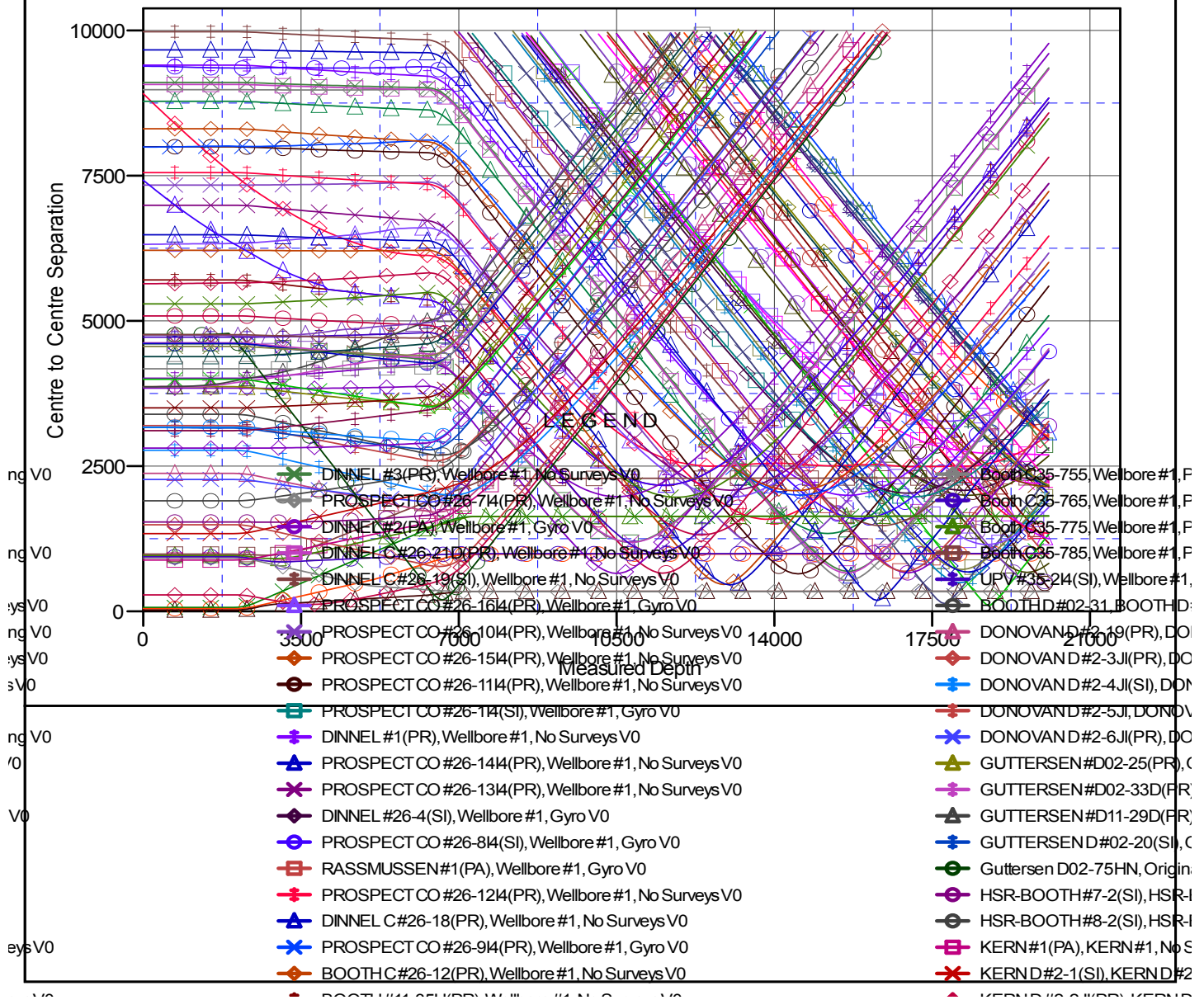
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Booth C35-750
Project:	Mustang	TVD Reference:	KB @ 4751.00ft
Reference Site:	C Section 35	MD Reference:	KB @ 4751.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Booth C35-750	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 @ 4751.00ft
Offset Depths are relative to Offset Datum
Central Meridian is -105.5000000

Coordinates are relative to: Booth C35-750
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.64°

Ladder Plot



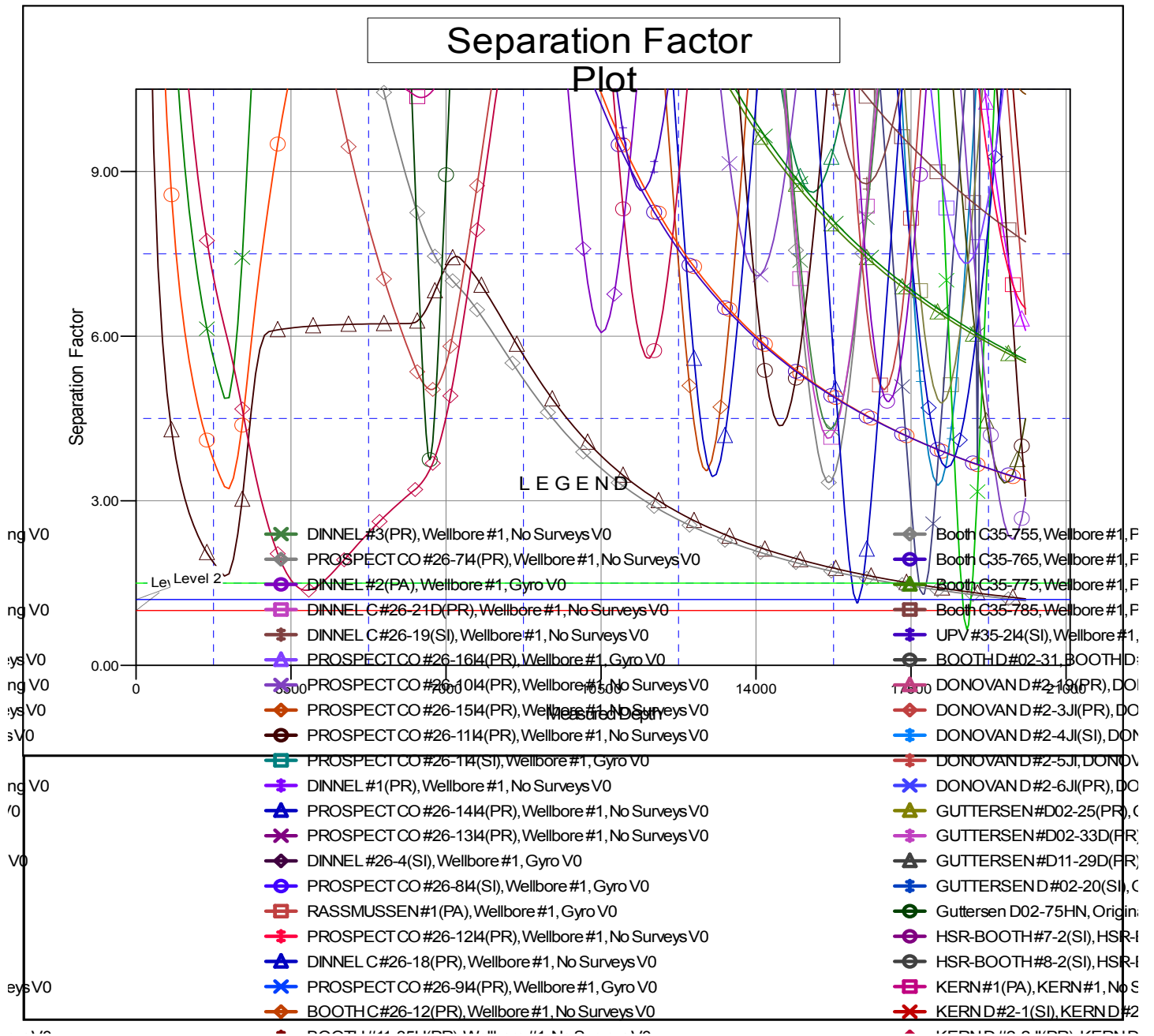
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

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