

Project: Mustang
Site: D Section 19
Well: Independence D18-725
Wellbore: Independence D18-725
Design: Plan #2

Northern Region - DJ Basin

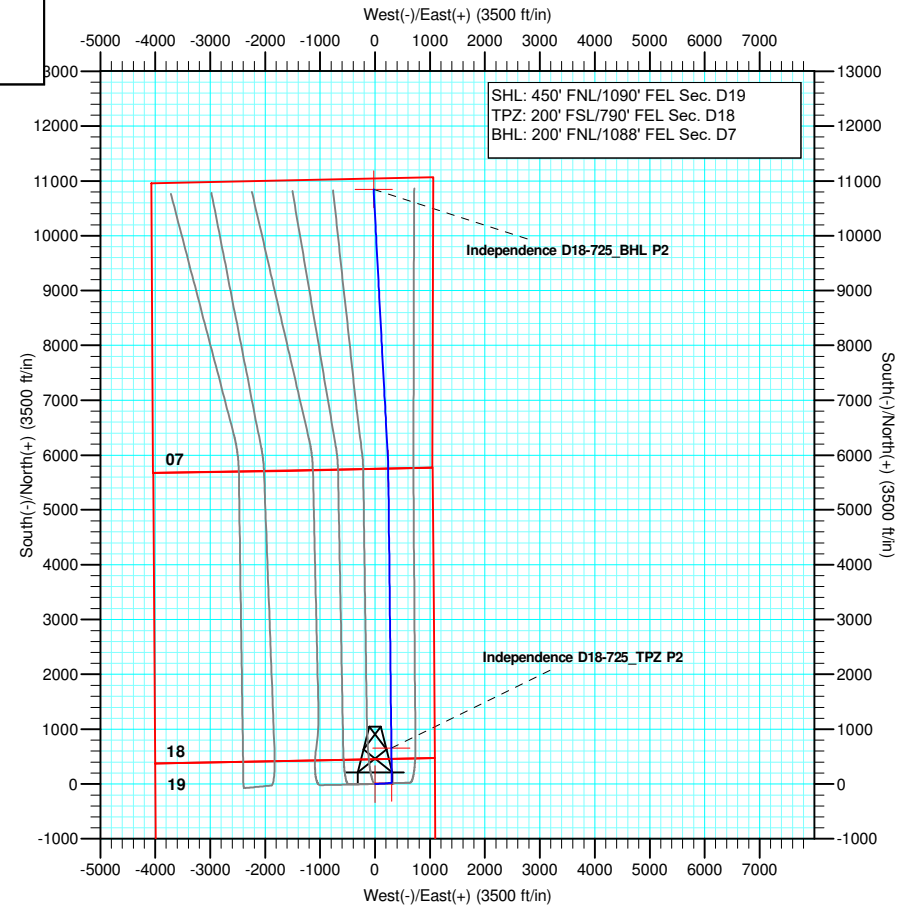
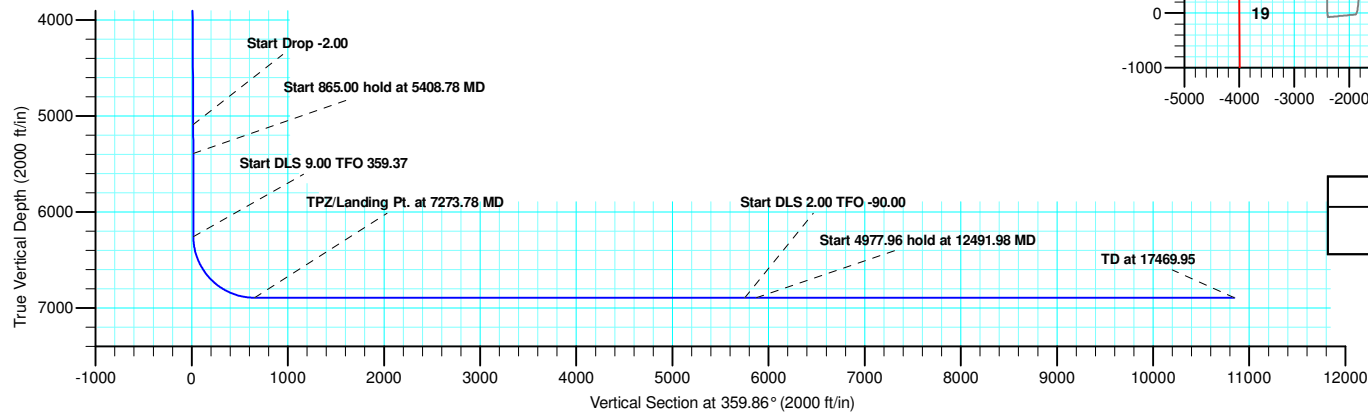
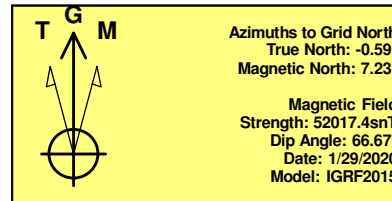
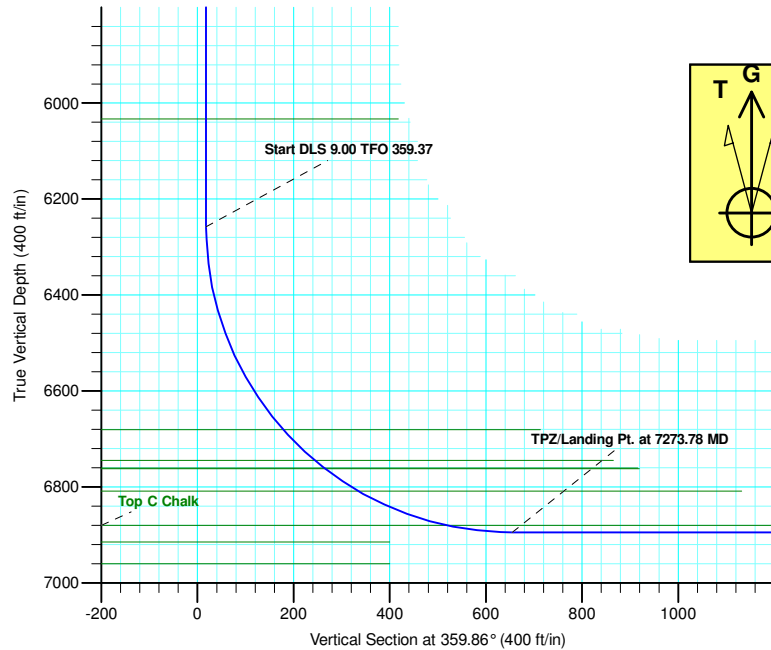
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Colorado Northern Zone
System Datum: Mean Sea Level

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	2200.00	0.00	0.00	2200.00	0.00	0.00	0.00	0.00	0.00	
3	2500.14	6.00	86.41	2499.59	0.98	15.68	2.00	86.41	0.95	
4	5108.64	6.00	86.41	5093.79	18.05	287.93	0.00	0.00	17.36	
5	5408.78	0.00	0.00	5393.38	19.04	303.61	2.00	180.00	18.30	
6	6273.78	0.00	0.00	6258.38	19.04	303.61	0.00	0.00	18.30	
7	7273.78	90.00	359.37	6895.00	655.62	296.62	9.00	359.37	654.90	
8	12372.00	90.00	359.37	6895.00	5753.53	240.60	0.00	0.00	5752.93	Independence D18-725_IP1 P2
9	12491.98	90.00	356.97	6895.00	5873.44	236.77	2.00	-90.00	5872.85	
10	17469.95	90.00	356.97	6895.00	10844.45	-26.29	0.00	0.00	10844.48	Independence D18-725_BHL P2

WELL DETAILS: Independence D18-725

+N/-S	+E/-W	Northing	Ground Level: Easting	4770.00 Latitude	Longitude	Slot
0.00	0.00	1323130.42	3254586.76	40.2167981	-104.5883459	



Plan: Plan #2 (Independence D18-725/Independence D18-725)

Created by: Shelly C. Peterkin Date: 14:05, February 04 2020

Northern Region - DJ Basin

Mustang

D Section 19

Independence D18-725

Independence D18-725

Plan: Plan #2

Standard Planning Report

04 February, 2020

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Independence D18-725
Company:	Northern Region - DJ Basin	TVD Reference:	Well @ 4800.00ft
Project:	Mustang	MD Reference:	Well @ 4800.00ft
Site:	D Section 19	North Reference:	Grid
Well:	Independence D18-725	Survey Calculation Method:	Minimum Curvature
Wellbore:	Independence D18-725		
Design:	Plan #2		

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		D Section 19			
Site Position:		Northing:	1,318,926.35 usft	Latitude:	40.2052853
From:	Map	Easting:	3,253,617.62 usft	Longitude:	-104.5919702
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.59 °

Well	Independence D18-725					
Well Position	+N/-S	4,204.08 ft	Northing:	1,323,130.42 usft	Latitude:	40.2167981
	+E/-W	969.15 ft	Easting:	3,254,586.77 usft	Longitude:	-104.5883458
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	4,770.00 ft

Wellbore	Independence D18-725				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	1/29/2020	7.82	66.67	52,017.43047662

Design	Plan #2			
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	359.86

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,500.14	6.00	86.41	2,499.59	0.98	15.68	2.00	2.00	0.00	86.41	
5,108.64	6.00	86.41	5,093.79	18.05	287.93	0.00	0.00	0.00	0.00	
5,408.78	0.00	0.00	5,393.38	19.04	303.61	2.00	-2.00	0.00	180.00	
6,273.78	0.00	0.00	6,258.38	19.04	303.61	0.00	0.00	0.00	0.00	
7,273.78	90.00	359.37	6,895.00	655.62	296.62	9.00	9.00	-0.06	359.37	
12,372.00	90.00	359.37	6,895.00	5,753.53	240.60	0.00	0.00	0.00	0.00	Independence D18-72
12,491.98	90.00	356.97	6,895.00	5,873.44	236.77	2.00	0.00	-2.00	-90.00	
17,469.95	90.00	356.97	6,895.00	10,844.45	-26.29	0.00	0.00	0.00	0.00	Independence D18-72

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Independence D18-725
Company:	Northern Region - DJ Basin	TVD Reference:	Well @ 4800.00ft
Project:	Mustang	MD Reference:	Well @ 4800.00ft
Site:	D Section 19	North Reference:	Grid
Well:	Independence D18-725	Survey Calculation Method:	Minimum Curvature
Wellbore:	Independence D18-725		
Design:	Plan #2		

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
482.00	0.00	0.00	482.00	0.00	0.00	0.00	0.00	0.00	0.00
Pierre									
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
646.00	0.00	0.00	646.00	0.00	0.00	0.00	0.00	0.00	0.00
Upper Pierre Aquifer Top									
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,544.00	0.00	0.00	1,544.00	0.00	0.00	0.00	0.00	0.00	0.00
Upper Pierre Aquifer Base									
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
2,300.00	2.00	86.41	2,299.98	0.11	1.74	0.10	2.00	2.00	0.00
2,400.00	4.00	86.41	2,399.84	0.44	6.96	0.42	2.00	2.00	0.00
2,500.14	6.00	86.41	2,499.59	0.98	15.68	0.95	2.00	2.00	0.00
Start 2608.50 hold at 2500.14 MD									
2,600.00	6.00	86.41	2,598.90	1.64	26.10	1.57	0.00	0.00	0.00
2,700.00	6.00	86.41	2,698.36	2.29	36.54	2.20	0.00	0.00	0.00
2,800.00	6.00	86.41	2,797.81	2.95	46.97	2.83	0.00	0.00	0.00
2,900.00	6.00	86.41	2,897.26	3.60	57.41	3.46	0.00	0.00	0.00
3,000.00	6.00	86.41	2,996.71	4.25	67.85	4.09	0.00	0.00	0.00
3,100.00	6.00	86.41	3,096.16	4.91	78.29	4.72	0.00	0.00	0.00
3,200.00	6.00	86.41	3,195.61	5.56	88.72	5.35	0.00	0.00	0.00
3,300.00	6.00	86.41	3,295.07	6.22	99.16	5.98	0.00	0.00	0.00
3,400.00	6.00	86.41	3,394.52	6.87	109.60	6.61	0.00	0.00	0.00
3,500.00	6.00	86.41	3,493.97	7.53	120.04	7.24	0.00	0.00	0.00
3,600.00	6.00	86.41	3,593.42	8.18	130.47	7.86	0.00	0.00	0.00
3,686.05	6.00	86.41	3,679.00	8.74	139.45	8.41	0.00	0.00	0.00
Parkman									
3,700.00	6.00	86.41	3,692.87	8.84	140.91	8.49	0.00	0.00	0.00
3,800.00	6.00	86.41	3,792.32	9.49	151.35	9.12	0.00	0.00	0.00
3,900.00	6.00	86.41	3,891.78	10.14	161.78	9.75	0.00	0.00	0.00
4,000.00	6.00	86.41	3,991.23	10.80	172.22	10.38	0.00	0.00	0.00
4,090.27	6.00	86.41	4,081.00	11.39	181.64	10.95	0.00	0.00	0.00
Sussex									

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Independence D18-725
Company:	Northern Region - DJ Basin	TVD Reference:	Well @ 4800.00ft
Project:	Mustang	MD Reference:	Well @ 4800.00ft
Site:	D Section 19	North Reference:	Grid
Well:	Independence D18-725	Survey Calculation Method:	Minimum Curvature
Wellbore:	Independence D18-725		
Design:	Plan #2		

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)
4,100.00	6.00	86.41	4,090.68	11.45	182.66	11.01	0.00	0.00	0.00
4,200.00	6.00	86.41	4,190.13	12.11	193.10	11.64	0.00	0.00	0.00
4,300.00	6.00	86.41	4,289.58	12.76	203.53	12.27	0.00	0.00	0.00
4,400.00	6.00	86.41	4,389.03	13.42	213.97	12.90	0.00	0.00	0.00
4,500.00	6.00	86.41	4,488.49	14.07	224.41	13.53	0.00	0.00	0.00
4,600.00	6.00	86.41	4,587.94	14.73	234.85	14.16	0.00	0.00	0.00
4,700.00	6.00	86.41	4,687.39	15.38	245.28	14.78	0.00	0.00	0.00
4,800.00	6.00	86.41	4,786.84	16.03	255.72	15.41	0.00	0.00	0.00
4,878.59	6.00	86.41	4,865.00	16.55	263.92	15.91	0.00	0.00	0.00
Shannon									
4,900.00	6.00	86.41	4,886.29	16.69	266.16	16.04	0.00	0.00	0.00
5,000.00	6.00	86.41	4,985.74	17.34	276.60	16.67	0.00	0.00	0.00
5,108.64	6.00	86.41	5,093.79	18.05	287.93	17.36	0.00	0.00	0.00
Start Drop -2.00									
5,200.00	4.18	86.41	5,184.78	18.56	296.02	17.84	2.00	-2.00	0.00
5,300.00	2.18	86.41	5,284.63	18.91	301.55	18.18	2.00	-2.00	0.00
5,408.78	0.00	0.00	5,393.38	19.04	303.61	18.30	2.00	-2.00	0.00
Start 865.00 hold at 5408.78 MD									
5,500.00	0.00	0.00	5,484.60	19.04	303.61	18.30	0.00	0.00	0.00
5,600.00	0.00	0.00	5,584.60	19.04	303.61	18.30	0.00	0.00	0.00
5,700.00	0.00	0.00	5,684.60	19.04	303.61	18.30	0.00	0.00	0.00
5,800.00	0.00	0.00	5,784.60	19.04	303.61	18.30	0.00	0.00	0.00
5,900.00	0.00	0.00	5,884.60	19.04	303.61	18.30	0.00	0.00	0.00
6,000.00	0.00	0.00	5,984.60	19.04	303.61	18.30	0.00	0.00	0.00
6,048.40	0.00	0.00	6,033.00	19.04	303.61	18.30	0.00	0.00	0.00
Teepee Buttes									
6,100.00	0.00	0.00	6,084.60	19.04	303.61	18.30	0.00	0.00	0.00
6,200.00	0.00	0.00	6,184.60	19.04	303.61	18.30	0.00	0.00	0.00
6,273.78	0.00	0.00	6,258.38	19.04	303.61	18.30	0.00	0.00	0.00
Start DLS 9.00 TFO 359.37									
6,300.00	2.36	359.37	6,284.59	19.58	303.61	18.84	9.00	9.00	0.00
6,350.00	6.86	359.37	6,334.42	23.59	303.56	22.86	9.00	9.00	0.00
6,400.00	11.36	359.37	6,383.77	31.51	303.47	30.77	9.00	9.00	0.00
6,450.00	15.86	359.37	6,432.36	43.27	303.35	42.53	9.00	9.00	0.00
6,500.00	20.36	359.37	6,479.87	58.81	303.17	58.07	9.00	9.00	0.00
6,550.00	24.86	359.37	6,526.01	78.02	302.96	77.29	9.00	9.00	0.00
6,600.00	29.36	359.37	6,570.51	100.80	302.71	100.07	9.00	9.00	0.00
6,650.00	33.86	359.37	6,613.08	127.00	302.43	126.26	9.00	9.00	0.00
6,700.00	38.36	359.37	6,653.46	156.46	302.10	155.72	9.00	9.00	0.00
6,735.94	41.59	359.37	6,681.00	179.54	301.85	178.81	9.00	9.00	0.00
Sharon Springs									
6,750.00	42.86	359.37	6,691.41	188.99	301.74	188.26	9.00	9.00	0.00
6,800.00	47.36	359.37	6,726.69	224.40	301.36	223.67	9.00	9.00	0.00
6,827.69	49.85	359.37	6,745.00	245.17	301.13	244.44	9.00	9.00	0.00
Top A Chalk									
6,850.00	51.86	359.37	6,759.08	262.47	300.94	261.74	9.00	9.00	0.00
6,853.12	52.14	359.37	6,761.00	264.93	300.91	264.20	9.00	9.00	0.00
Top A Marl									
6,854.75	52.29	359.37	6,762.00	266.22	300.90	265.49	9.00	9.00	0.00
Top B Chalk									
6,900.00	56.36	359.37	6,788.39	302.97	300.49	302.24	9.00	9.00	0.00
6,939.03	59.87	359.37	6,809.00	336.10	300.13	335.37	9.00	9.00	0.00
Top B Marl									

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Independence D18-725
Company:	Northern Region - DJ Basin	TVD Reference:	Well @ 4800.00ft
Project:	Mustang	MD Reference:	Well @ 4800.00ft
Site:	D Section 19	North Reference:	Grid
Well:	Independence D18-725	Survey Calculation Method:	Minimum Curvature
Wellbore:	Independence D18-725		
Design:	Plan #2		

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)
6,950.00	60.86	359.37	6,814.42	345.64	300.02	344.91	9.00	9.00	0.00
7,000.00	65.36	359.37	6,837.03	390.21	299.53	389.49	9.00	9.00	0.00
7,050.00	69.86	359.37	6,856.07	436.43	299.03	435.70	9.00	9.00	0.00
7,100.00	74.36	359.37	6,871.43	484.00	298.50	483.27	9.00	9.00	0.00
7,135.31	77.54	359.37	6,880.00	518.25	298.13	517.52	9.00	9.00	0.00
Top C Chalk									
7,150.00	78.86	359.37	6,883.00	532.62	297.97	531.90	9.00	9.00	0.00
7,200.00	83.36	359.37	6,890.73	582.01	297.43	581.28	9.00	9.00	0.00
7,250.00	87.86	359.37	6,894.56	631.84	296.88	631.12	9.00	9.00	0.00
7,273.78	90.00	359.37	6,895.00	655.62	296.62	654.90	9.00	9.00	0.00
TPZ/Landing Pt. at 7273.78 MD									
7,300.00	90.00	359.37	6,895.00	681.84	296.33	681.12	0.00	0.00	0.00
7,400.00	90.00	359.37	6,895.00	781.83	295.23	781.11	0.00	0.00	0.00
7,500.00	90.00	359.37	6,895.00	881.82	294.13	881.11	0.00	0.00	0.00
7,600.00	90.00	359.37	6,895.00	981.82	293.03	981.10	0.00	0.00	0.00
7,700.00	90.00	359.37	6,895.00	1,081.81	291.93	1,081.10	0.00	0.00	0.00
7,800.00	90.00	359.37	6,895.00	1,181.81	290.84	1,181.10	0.00	0.00	0.00
7,900.00	90.00	359.37	6,895.00	1,281.80	289.74	1,281.09	0.00	0.00	0.00
8,000.00	90.00	359.37	6,895.00	1,381.79	288.64	1,381.09	0.00	0.00	0.00
8,100.00	90.00	359.37	6,895.00	1,481.79	287.54	1,481.09	0.00	0.00	0.00
8,200.00	90.00	359.37	6,895.00	1,581.78	286.44	1,581.08	0.00	0.00	0.00
8,300.00	90.00	359.37	6,895.00	1,681.78	285.34	1,681.08	0.00	0.00	0.00
8,400.00	90.00	359.37	6,895.00	1,781.77	284.24	1,781.08	0.00	0.00	0.00
8,500.00	90.00	359.37	6,895.00	1,881.76	283.14	1,881.07	0.00	0.00	0.00
8,600.00	90.00	359.37	6,895.00	1,981.76	282.05	1,981.07	0.00	0.00	0.00
8,700.00	90.00	359.37	6,895.00	2,081.75	280.95	2,081.06	0.00	0.00	0.00
8,800.00	90.00	359.37	6,895.00	2,181.75	279.85	2,181.06	0.00	0.00	0.00
8,900.00	90.00	359.37	6,895.00	2,281.74	278.75	2,281.06	0.00	0.00	0.00
9,000.00	90.00	359.37	6,895.00	2,381.73	277.65	2,381.05	0.00	0.00	0.00
9,100.00	90.00	359.37	6,895.00	2,481.73	276.55	2,481.05	0.00	0.00	0.00
9,200.00	90.00	359.37	6,895.00	2,581.72	275.45	2,581.05	0.00	0.00	0.00
9,300.00	90.00	359.37	6,895.00	2,681.72	274.35	2,681.04	0.00	0.00	0.00
9,400.00	90.00	359.37	6,895.00	2,781.71	273.26	2,781.04	0.00	0.00	0.00
9,500.00	90.00	359.37	6,895.00	2,881.70	272.16	2,881.03	0.00	0.00	0.00
9,600.00	90.00	359.37	6,895.00	2,981.70	271.06	2,981.03	0.00	0.00	0.00
9,700.00	90.00	359.37	6,895.00	3,081.69	269.96	3,081.03	0.00	0.00	0.00
9,800.00	90.00	359.37	6,895.00	3,181.68	268.86	3,181.02	0.00	0.00	0.00
9,900.00	90.00	359.37	6,895.00	3,281.68	267.76	3,281.02	0.00	0.00	0.00
10,000.00	90.00	359.37	6,895.00	3,381.67	266.66	3,381.02	0.00	0.00	0.00
10,100.00	90.00	359.37	6,895.00	3,481.67	265.56	3,481.01	0.00	0.00	0.00
10,200.00	90.00	359.37	6,895.00	3,581.66	264.47	3,581.01	0.00	0.00	0.00
10,300.00	90.00	359.37	6,895.00	3,681.65	263.37	3,681.01	0.00	0.00	0.00
10,400.00	90.00	359.37	6,895.00	3,781.65	262.27	3,781.00	0.00	0.00	0.00
10,500.00	90.00	359.37	6,895.00	3,881.64	261.17	3,881.00	0.00	0.00	0.00
10,600.00	90.00	359.37	6,895.00	3,981.64	260.07	3,980.99	0.00	0.00	0.00
10,700.00	90.00	359.37	6,895.00	4,081.63	258.97	4,080.99	0.00	0.00	0.00
10,800.00	90.00	359.37	6,895.00	4,181.62	257.87	4,180.99	0.00	0.00	0.00
10,900.00	90.00	359.37	6,895.00	4,281.62	256.78	4,280.98	0.00	0.00	0.00
11,000.00	90.00	359.37	6,895.00	4,381.61	255.68	4,380.98	0.00	0.00	0.00
11,100.00	90.00	359.37	6,895.00	4,481.61	254.58	4,480.98	0.00	0.00	0.00
11,200.00	90.00	359.37	6,895.00	4,581.60	253.48	4,580.97	0.00	0.00	0.00
11,300.00	90.00	359.37	6,895.00	4,681.59	252.38	4,680.97	0.00	0.00	0.00
11,400.00	90.00	359.37	6,895.00	4,781.59	251.28	4,780.97	0.00	0.00	0.00

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Independence D18-725
Company:	Northern Region - DJ Basin	TVD Reference:	Well @ 4800.00ft
Project:	Mustang	MD Reference:	Well @ 4800.00ft
Site:	D Section 19	North Reference:	Grid
Well:	Independence D18-725	Survey Calculation Method:	Minimum Curvature
Wellbore:	Independence D18-725		
Design:	Plan #2		

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)
11,500.00	90.00	359.37	6,895.00	4,881.58	250.18	4,880.96	0.00	0.00	0.00
11,600.00	90.00	359.37	6,895.00	4,981.58	249.08	4,980.96	0.00	0.00	0.00
11,700.00	90.00	359.37	6,895.00	5,081.57	247.99	5,080.95	0.00	0.00	0.00
11,800.00	90.00	359.37	6,895.00	5,181.56	246.89	5,180.95	0.00	0.00	0.00
11,900.00	90.00	359.37	6,895.00	5,281.56	245.79	5,280.95	0.00	0.00	0.00
12,000.00	90.00	359.37	6,895.00	5,381.55	244.69	5,380.94	0.00	0.00	0.00
12,100.00	90.00	359.37	6,895.00	5,481.55	243.59	5,480.94	0.00	0.00	0.00
12,200.00	90.00	359.37	6,895.00	5,581.54	242.49	5,580.94	0.00	0.00	0.00
12,300.00	90.00	359.37	6,895.00	5,681.53	241.39	5,680.93	0.00	0.00	0.00
12,372.00	90.00	359.37	6,895.00	5,753.53	240.60	5,752.93	0.00	0.00	0.00
Start DLS 2.00 TFO -90.00									
12,400.00	90.00	358.81	6,895.00	5,781.53	240.16	5,780.93	2.00	0.00	-2.00
12,491.98	90.00	356.97	6,895.00	5,873.44	236.77	5,872.85	2.00	0.00	-2.00
Start 4977.96 hold at 12491.98 MD									
12,500.00	90.00	356.97	6,895.00	5,881.45	236.35	5,880.86	0.00	0.00	0.00
12,600.00	90.00	356.97	6,895.00	5,981.31	231.06	5,980.73	0.00	0.00	0.00
12,700.00	90.00	356.97	6,895.00	6,081.17	225.78	6,080.60	0.00	0.00	0.00
12,800.00	90.00	356.97	6,895.00	6,181.03	220.49	6,180.48	0.00	0.00	0.00
12,900.00	90.00	356.97	6,895.00	6,280.89	215.21	6,280.35	0.00	0.00	0.00
13,000.00	90.00	356.97	6,895.00	6,380.75	209.93	6,380.22	0.00	0.00	0.00
13,100.00	90.00	356.97	6,895.00	6,480.61	204.64	6,480.10	0.00	0.00	0.00
13,200.00	90.00	356.97	6,895.00	6,580.47	199.36	6,579.97	0.00	0.00	0.00
13,300.00	90.00	356.97	6,895.00	6,680.33	194.07	6,679.84	0.00	0.00	0.00
13,400.00	90.00	356.97	6,895.00	6,780.19	188.79	6,779.71	0.00	0.00	0.00
13,500.00	90.00	356.97	6,895.00	6,880.05	183.50	6,879.59	0.00	0.00	0.00
13,600.00	90.00	356.97	6,895.00	6,979.91	178.22	6,979.46	0.00	0.00	0.00
13,700.00	90.00	356.97	6,895.00	7,079.77	172.93	7,079.33	0.00	0.00	0.00
13,800.00	90.00	356.97	6,895.00	7,179.63	167.65	7,179.20	0.00	0.00	0.00
13,900.00	90.00	356.97	6,895.00	7,279.49	162.37	7,279.08	0.00	0.00	0.00
14,000.00	90.00	356.97	6,895.00	7,379.35	157.08	7,378.95	0.00	0.00	0.00
14,100.00	90.00	356.97	6,895.00	7,479.21	151.80	7,478.82	0.00	0.00	0.00
14,200.00	90.00	356.97	6,895.00	7,579.07	146.51	7,578.70	0.00	0.00	0.00
14,300.00	90.00	356.97	6,895.00	7,678.93	141.23	7,678.57	0.00	0.00	0.00
14,400.00	90.00	356.97	6,895.00	7,778.79	135.94	7,778.44	0.00	0.00	0.00
14,500.00	90.00	356.97	6,895.00	7,878.65	130.66	7,878.31	0.00	0.00	0.00
14,600.00	90.00	356.97	6,895.00	7,978.51	125.37	7,978.19	0.00	0.00	0.00
14,700.00	90.00	356.97	6,895.00	8,078.37	120.09	8,078.06	0.00	0.00	0.00
14,800.00	90.00	356.97	6,895.00	8,178.23	114.80	8,177.93	0.00	0.00	0.00
14,900.00	90.00	356.97	6,895.00	8,278.10	109.52	8,277.81	0.00	0.00	0.00
15,000.00	90.00	356.97	6,895.00	8,377.96	104.24	8,377.68	0.00	0.00	0.00
15,100.00	90.00	356.97	6,895.00	8,477.82	98.95	8,477.55	0.00	0.00	0.00
15,200.00	90.00	356.97	6,895.00	8,577.68	93.67	8,577.42	0.00	0.00	0.00
15,300.00	90.00	356.97	6,895.00	8,677.54	88.38	8,677.30	0.00	0.00	0.00
15,400.00	90.00	356.97	6,895.00	8,777.40	83.10	8,777.17	0.00	0.00	0.00
15,500.00	90.00	356.97	6,895.00	8,877.26	77.81	8,877.04	0.00	0.00	0.00
15,600.00	90.00	356.97	6,895.00	8,977.12	72.53	8,976.91	0.00	0.00	0.00
15,700.00	90.00	356.97	6,895.00	9,076.98	67.24	9,076.79	0.00	0.00	0.00
15,800.00	90.00	356.97	6,895.00	9,176.84	61.96	9,176.66	0.00	0.00	0.00
15,900.00	90.00	356.97	6,895.00	9,276.70	56.67	9,276.53	0.00	0.00	0.00
16,000.00	90.00	356.97	6,895.00	9,376.56	51.39	9,376.41	0.00	0.00	0.00
16,100.00	90.00	356.97	6,895.00	9,476.42	46.11	9,476.28	0.00	0.00	0.00
16,200.00	90.00	356.97	6,895.00	9,576.28	40.82	9,576.15	0.00	0.00	0.00
16,300.00	90.00	356.97	6,895.00	9,676.14	35.54	9,676.02	0.00	0.00	0.00
16,400.00	90.00	356.97	6,895.00	9,776.00	30.25	9,775.90	0.00	0.00	0.00

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Independence D18-725
Company:	Northern Region - DJ Basin	TVD Reference:	Well @ 4800.00ft
Project:	Mustang	MD Reference:	Well @ 4800.00ft
Site:	D Section 19	North Reference:	Grid
Well:	Independence D18-725	Survey Calculation Method:	Minimum Curvature
Wellbore:	Independence D18-725		
Design:	Plan #2		

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)
16,500.00	90.00	356.97	6,895.00	9,875.86	24.97	9,875.77	0.00	0.00	0.00
16,600.00	90.00	356.97	6,895.00	9,975.72	19.68	9,975.64	0.00	0.00	0.00
16,700.00	90.00	356.97	6,895.00	10,075.58	14.40	10,075.52	0.00	0.00	0.00
16,800.00	90.00	356.97	6,895.00	10,175.44	9.11	10,175.39	0.00	0.00	0.00
16,900.00	90.00	356.97	6,895.00	10,275.30	3.83	10,275.26	0.00	0.00	0.00
17,000.00	90.00	356.97	6,895.00	10,375.16	-1.45	10,375.13	0.00	0.00	0.00
17,100.00	90.00	356.97	6,895.00	10,475.02	-6.74	10,475.01	0.00	0.00	0.00
17,200.00	90.00	356.97	6,895.00	10,574.88	-12.02	10,574.88	0.00	0.00	0.00
17,300.00	90.00	356.97	6,895.00	10,674.74	-17.31	10,674.75	0.00	0.00	0.00
17,400.00	90.00	356.97	6,895.00	10,774.60	-22.59	10,774.63	0.00	0.00	0.00
17,469.95	90.00	356.97	6,895.00	10,844.45	-26.29	10,844.48	0.00	0.00	0.00
TD at 17469.95									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Independence D18-725_ - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	1,323,130.42	3,254,586.77	40.2167981	-104.5883458
Independence D18-725_ - plan hits target center - Point	0.00	0.00	6,258.38	19.04	303.61	1,323,149.45	3,254,890.38	40.2168418	-104.5872580
Independence D18-725_ - plan hits target center - Point	0.00	0.00	6,895.00	10,844.45	-26.29	1,333,974.85	3,254,560.48	40.2465663	-104.5880406
Independence D18-725_ - plan hits target center - Point	0.00	0.00	6,895.00	655.62	296.62	1,323,786.04	3,254,883.38	40.2185894	-104.5872596
Independence D18-725_ - plan hits target center - Point	0.00	0.00	6,895.00	5,753.53	240.60	1,328,883.93	3,254,827.37	40.2325845	-104.5872723

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Independence D18-725
Company:	Northern Region - DJ Basin	TVD Reference:	Well @ 4800.00ft
Project:	Mustang	MD Reference:	Well @ 4800.00ft
Site:	D Section 19	North Reference:	Grid
Well:	Independence D18-725	Survey Calculation Method:	Minimum Curvature
Wellbore:	Independence D18-725		
Design:	Plan #2		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
482.00	482.00	Pierre				
646.00	646.00	Upper Pierre Aquifer Top				
1,544.00	1,544.00	Upper Pierre Aquifer Base				
3,686.05	3,679.00	Parkman				
4,090.27	4,081.00	Sussex				
4,878.59	4,865.00	Shannon				
6,048.40	6,033.00	Teepee Buttes				
6,735.94	6,681.00	Sharon Springs				
6,827.69	6,745.00	Top A Chalk				
6,853.12	6,761.00	Top A Marl				
6,854.75	6,762.00	Top B Chalk				
6,939.03	6,809.00	Top B Marl				
7,135.31	6,880.00	Top C Chalk				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
2,200.00	2,200.00	0.00	0.00	Start Build 2.00	
2,500.14	2,499.59	0.98	15.68	Start 2608.50 hold at 2500.14 MD	
5,108.64	5,093.79	18.05	287.93	Start Drop -2.00	
5,408.78	5,393.38	19.04	303.61	Start 865.00 hold at 5408.78 MD	
6,273.78	6,258.38	19.04	303.61	Start DLS 9.00 TFO 359.37	
7,273.78	6,895.00	655.62	296.62	TPZ/Landing Pt. at 7273.78 MD	
12,372.00	6,895.00	5,753.53	240.60	Start DLS 2.00 TFO -90.00	
12,491.98	6,895.00	5,873.44	236.77	Start 4977.96 hold at 12491.98 MD	
17,469.95	6,895.00	10,844.45	-26.29	TD at 17469.95	

Northern Region - DJ Basin

Mustang

D Section 19

Independence D18-725

Independence D18-725

Plan #2

Anticollision Summary Report

04 February, 2020

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Independence D18-725
Project:	Mustang	TVD Reference:	Well @ 4800.00ft
Reference Site:	D Section 19	MD Reference:	Well @ 4800.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Independence D18-725	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Independence D18-725	Database:	EDMP
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Reference	Plan #2		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD + Stations Interval 100.00ft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 10,000.00 ft	Error Surface:	Pedal Curve
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program	Date	2/4/2020		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	17,469.95	Plan #2 (Independence D18-725)	2_MWD+IFR1+MS	A008Mb: IFR dec & multi-station analysis

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
C Section 30						
Johnson D06-730 - Wellbore #1 - Plan #1	17,469.95	20,077.64	848.73	632.39	3.923	CC, ES, SF
Johnson D06-734 - Wellbore #1 - Plan #1	17,469.95	20,173.72	415.29	329.66	4.850	CC, ES, SF
Johnson D06-744 - Wellbore #1 - Plan #1	17,469.95	20,296.64	461.59	329.04	3.482	CC, ES, SF
Johnson D06-756 - Wellbore #1 - Plan #1	17,469.95	20,153.15	663.11	463.34	3.319	CC, ES, SF
Johnson D06-761 - Wellbore #1 - Plan #1	17,469.95	20,201.27	1,221.82	990.62	5.285	CC, ES, SF
Johnson D06-766 - Wellbore #1 - Plan #1	17,469.95	20,183.61	1,833.07	1,595.35	7.711	CC, ES, SF
Johnson D06-777 - Wellbore #1 - Plan #1	17,469.95	20,430.09	2,144.93	1,906.09	8.981	CC, ES, SF
Johnson D06-785 - Wellbore #1 - Plan #1	17,469.95	20,393.15	2,453.24	2,213.46	10.232	CC, ES, SF
D Section 05						
BECKER #12-10I(PA) - Wellbore #1 - Gyro Surveys	17,469.95	7,140.10	5,756.32	5,651.92	55.136	CC, ES, SF
BECKER #15-9I(PR) - Wellbore #1 - Gyro Surveys	17,469.95	6,835.92	3,955.94	3,847.64	36.527	CC, ES, SF
BECKER #5-12(PA) - Wellbore #1 - Gyro	17,469.95	6,952.48	5,560.80	5,463.09	56.909	CC, ES, SF
BECKER #5-13(PA) - Wellbore #1 - Gyro Surveys	17,469.95	7,148.00	3,490.02	3,385.44	33.371	CC, ES, SF
BECKER #5-14(PA) - Wellbore #1 - Gyro Surveys	17,469.95	6,872.69	2,019.95	1,914.81	19.213	CC, ES, SF
BECKER #5-16(PA) - Wellbore #1 - Gyro Surveys	17,469.95	6,672.21	5,932.71	5,823.36	54.254	CC, ES, SF
BECKER #5-2(PA) - Wellbore #1 - Gyro Surveys	17,469.95	6,784.60	2,954.45	2,844.64	26.906	CC, ES, SF
BECKER #5-3(PA) - Wellbore #1 - Gyro Surveys	17,469.95	6,734.53	4,782.16	4,694.87	54.786	CC, ES, SF
BECKER #5-4(PA) - Wellbore #1 - Gyro Surveys	17,469.95	6,892.68	6,595.69	6,492.39	63.848	CC, ES, SF
BECKER #5-5(PA) - Wellbore #1 - Gyro Surveys	17,469.95	6,783.10	5,575.57	5,461.15	48.732	CC, ES, SF
BECKER #5-8(PR) - Wellbore #1 - Gyro Surveys	17,469.95	6,900.00	2,638.52	2,545.40	28.332	CC, ES, SF
BECKER #6(SI) - Wellbore #1 - Gyro Surveys	17,469.95	7,052.61	5,173.96	5,061.80	46.130	CC, ES, SF
BECKER #7(PA) - Wellbore #1 - Gyro Surveys	17,469.95	6,804.59	2,869.62	2,767.86	28.198	CC, ES, SF
Becker 5-1(PA) - Wellbore #1 - Gyro Surveys	17,469.95	6,868.67	4,827.42	4,720.53	45.159	CC, ES, SF
Becker 5-15(PA) - Wellbore #1 - Gyro Surveys	17,469.95	6,933.39	4,102.12	3,984.28	34.811	CC, ES, SF
Becker Ranch #5E-223 - Wellbore #1 - As Drilled	17,469.95	11,398.00	1,700.68	1,543.48	10.818	CC, ES, SF
Becker Ranch #5E-403 - As Drilled - As Drilled	17,469.95	11,599.00	1,446.66	1,293.80	9.464	CC, ES, SF
Becker Ranch #5J-103 - Wellbore #1 - As Drilled	17,469.95	8,438.00	4,237.61	4,151.27	49.081	CC, ES, SF
Becker Ranch #5J-203 - Wellbore #1 - Plan #1	17,469.95	11,568.80	2,633.96	2,500.87	19.790	CC, ES, SF
Becker Ranch #5J-303 - Wellbore #1 - As Drilled	17,469.95	11,473.00	2,315.67	2,143.56	13.455	CC, ES, SF
Becker Ranch #5J-323 - Wellbore #1 - As Drilled	17,469.95	11,430.00	2,940.08	2,768.28	17.113	CC, ES, SF
Becker Ranch #5J-323R - Wellbore #1 - Plan #1	17,469.95	11,454.00	2,950.93	2,817.61	22.135	CC, ES, SF
Becker Ranch #5J-343 - Wellbore #1 - As Drilled	17,469.95	11,500.00	2,024.10	1,857.75	12.168	CC, ES, SF
Becker Ranch #5M-203 - Wellbore #1 - Plan #1	17,469.95	11,268.00	3,875.42	3,740.62	28.748	CC, ES, SF
Becker Ranch #5M-243 - Wellbore #1 - Plan #1	17,469.95	11,282.50	3,276.90	3,142.86	24.449	CC, ES, SF
Becker Ranch #5M-303 - Wellbore #1 - Plan #1	17,469.95	11,462.20	3,596.42	3,461.26	26.609	CC, ES, SF
Becker Ranch #5M-323 - Wellbore #1 - Plan #1	17,469.95	11,315.70	4,280.14	4,144.87	31.641	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 Independence D18-725
Project:	Mustang	TVD Reference:	Well @ 4800.00ft
Reference Site:	D Section 19	MD Reference:	Well @ 4800.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Independence D18-725	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Independence D18-725	Database:	EDMP
Reference Design:	Plan #2	Offset TVD Reference:	Reference 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 05						
Becker Ranch #5M-423 - Wellbore #1 - Plan #1	17,469.95	11,437.50	4,077.73	3,942.42	30.137	CC, ES, SF
Becker Ranch #5R-203 - Wellbore #1 - Plan #1	17,469.95	11,257.60	5,203.33	5,067.55	38.320	CC, ES, SF
Becker Ranch #5R-243 - Wellbore #1 - Plan #1	17,469.95	11,231.80	4,515.66	4,380.28	33.355	CC, ES, SF
Becker Ranch #5R-303 - Wellbore #1 - Plan #1	17,469.95	11,308.90	4,922.58	4,786.29	36.117	CC, ES, SF
Becker Ranch #5R-323 - Wellbore #1 - Plan #1	17,469.95	11,332.80	5,409.31	5,273.40	39.800	CC, ES, SF
Becker Ranch #5R-443 - Wellbore #1 - Plan #1	17,469.95	11,417.20	4,572.94	4,437.28	33.708	CC, ES, SF
Becker Ranch #5U-243 - Wellbore #1 - Plan #1	17,469.95	11,243.60	5,773.79	5,637.53	42.372	CC, ES, SF
Becker Ranch #5U-303 - Wellbore #1 - Plan #1	17,469.95	11,348.00	6,182.05	6,045.02	45.117	CC, ES, SF
Becker Ranch #5U-443 - Wellbore #1 - Plan #1	17,469.95	11,407.70	5,978.01	5,841.46	43.778	CC, ES, SF
LDS #D08-18D(PR) - Wellbore #1 - MWD Surveys	16,225.77	7,308.99	3,706.31	3,585.87	30.775	CC, ES
LDS #D08-18D(PR) - Wellbore #1 - MWD Surveys	16,500.00	7,310.69	3,716.44	3,594.97	30.597	SF
LDS #D08-29(SI) - Wellbore #1 - Gyro Surveys	17,469.95	6,855.67	2,517.06	2,402.68	22.006	CC, ES, SF
LDS D08-28D(PR) - Wellbore #1 - MWD Surveys	17,469.95	7,000.34	3,494.64	3,377.78	29.905	CC, ES, SF
LDS D08-30D(SI) - Wellbore #1 - MWD Surveys	17,469.95	7,109.41	992.61	878.32	8.685	CC, ES, SF
D Section 06						
AMEN PC D #06-18D(PR) - Wellbore #1 - MWD Surveys	17,469.95	7,224.82	4,406.85	4,339.00	64.942	CC, ES, SF
Amen PC D06-29 - Wellbore #1 - Wellbore #1 - As Drille	17,469.95	6,962.33	5,892.91	5,818.11	78.783	CC, ES, SF
FARAMIER FARMS #6-1(PA) - Wellbore #1 - Gyro Surve	17,469.95	6,901.28	3,443.35	3,329.65	30.285	CC, ES, SF
FARAMIR FARMS #6-2(PA) - Wellbore #1 - No Surveys	17,469.95	6,939.00	4,836.21	4,708.52	37.875	CC, ES, SF
FARAMIR FARMS #6-21(PR) - Wellbore #1 - No Surveys	17,469.95	6,924.00	5,145.13	5,039.04	48.498	CC, ES, SF
FARAMIR FARMS #6-22(PA) - Wellbore #1 - No Surveys	17,469.95	6,946.00	5,822.32	5,701.78	48.300	CC, ES, SF
FARAMIR FARMS #6-3(PA) - Wellbore #1 - Gyro Survey	17,469.95	6,931.56	3,999.48	3,921.56	51.327	CC, ES, SF
FARAMIR FARMS #6-32(PA) - Wellbore #1 - Gyro Surve	17,469.95	7,007.19	4,032.02	3,925.77	37.949	CC, ES, SF
FARAMIR FARMS #6-34(PR) - Wellbore #1 - No Surveys	17,469.95	6,914.00	2,401.56	2,254.65	16.347	CC, ES, SF
FARAMIR FARMS #6-4(SI) - Wellbore #1 - No Surveys	17,469.95	6,916.00	3,101.26	2,972.04	24.001	CC, ES, SF
HILL #6-35(PA) - Wellbore #1 - Gyro Surveys	17,469.95	6,984.27	3,421.99	3,313.98	31.684	CC, ES, SF
HOFF #6-15(PR) - Wellbore #1 - No Surveys	17,469.95	6,898.00	4,202.20	4,112.40	46.794	CC, ES, SF
HOFF PC D #06-21(PR) - Wellbore #1 - No Surveys	17,469.95	6,917.00	3,162.98	3,048.93	27.734	CC, ES, SF
Hoff PC D #06-27(SI) - Wellbore #1 - No Surveys	17,469.95	6,927.00	5,255.27	5,165.29	58.404	CC, ES, SF
Hoff PC D06-28D - Wellbore #1 - Wellbore #1 - As Drilled	17,469.95	7,175.01	5,546.52	5,461.32	65.099	CC, ES, SF
HORST #6-25(PA) - Wellbore #1 - No Surveys	17,469.95	6,936.00	4,998.95	4,884.03	43.498	CC, ES, SF
MCKENNEY #5(SI) - Wellbore #1 - No Surveys	17,469.95	6,875.00	1,732.90	1,637.44	18.154	CC, ES, SF
MCKENNEY #6-1(PA) - Wellbore #1 - Gyro Surveys	17,469.95	6,873.89	1,127.26	1,073.65	21.024	CC, ES, SF
MCKENNEY #6-12(SI) - Wellbore #1 - No Surveys	17,469.95	6,906.00	4,880.01	4,788.12	53.104	CC, ES, SF
MCKENNEY #6-13(SI) - Wellbore #1 - No Surveys	17,469.95	6,891.00	3,649.51	3,553.43	37.987	CC, ES, SF
MCKENNEY #6-14(SI) - Wellbore #1 - No Surveys	17,469.95	6,888.00	3,527.95	3,436.37	38.522	CC, ES, SF
MCKENNEY #6-2(PA) - Wellbore #1 - Gyro Surveys	17,469.95	6,937.18	4,518.95	4,465.34	84.292	CC, ES, SF
MCKENNEY #6-42(PR) - Wellbore #1 - No Surveys	17,469.95	6,892.00	2,340.94	2,231.47	21.384	CC, ES, SF
MCKENNEY #6-43(PR) - Wellbore #1 - No Surveys	17,469.95	6,890.00	1,135.49	1,003.66	8.614	CC, ES, SF
McKenney 06-01 - Wellbore #1 - Wellbore #1 - As Drilled	17,469.95	6,875.20	1,134.78	1,079.19	20.411	CC, ES, SF
McKENNEY 6-3(PA) - Wellbore #1 - Gyro Surveys	17,469.95	6,842.66	2,318.07	2,262.30	41.566	CC, ES, SF
Shelton PC D06-32D(PR) - Wellbore #1 - MWD Surveys	17,469.95	7,380.54	4,898.29	4,787.13	44.064	CC, ES, SF
SMITH PC D #06-20D(PR) - Wellbore #1 - No Surveys	17,469.95	6,918.00	3,188.72	3,073.82	27.753	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 Independence D18-725
Project:	Mustang	TVD Reference:	Well @ 4800.00ft
Reference Site:	D Section 19	MD Reference:	Well @ 4800.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Independence D18-725	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Independence D18-725	Database:	EDMP
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
D Section 07						
Dechant 07-01-17 - Dechant 07-01-17 - Dechant 07-01-17	17,462.71	6,880.60	384.34	268.47	3.317	CC, ES, SF
Dechant 07-11 - Dechant 07-11 - Dechant 07-11 - As Dril	17,032.43	6,881.41	281.45	168.86	2.500	CC, ES, SF
Dechant 07-13 - Dechant 07-13 - Dechant 07-13 - As Dri	15,759.43	6,910.15	1,017.57	915.12	9.933	CC, ES
Dechant 07-13 - Dechant 07-13 - Dechant 07-13 - As Dri	15,800.00	6,909.60	1,018.38	915.78	9.926	SF
Dechant 07-14 - Dechant 07-14 - Dechant 07-14 - As Dri	15,569.30	6,877.00	302.83	165.85	2.211	CC, ES, SF
Dechant 07-15 - Dechant 07-15 - Dechant 07-15 - As Dri	16,363.89	6,889.00	452.09	308.73	3.153	CC, ES, SF
Dechant 18-07 - Dechant 18-07 - Dechant 18-07 - As Dri	16,547.87	6,931.14	2,813.17	2,704.31	25.843	CC, ES
Dechant 18-07 - Dechant 18-07 - Dechant 18-07 - As Dri	16,800.00	6,929.86	2,824.44	2,714.13	25.604	SF
Dechant D07-09 - Dechant D07-09 - Dechant D07-09 - A	14,363.46	6,920.17	205.83	114.17	2.246	CC, ES, SF
Dechant D07-10 - Dechant D07-10 - Dechant D07-10 - A	14,283.27	6,845.29	914.69	824.02	10.088	CC, ES
Dechant D07-10 - Dechant D07-10 - Dechant D07-10 - A	14,300.00	6,845.81	914.84	824.10	10.081	SF
Dechant D07-11 - Dechant D07-11 - Dechant D07-11 - A	14,493.80	7,002.92	2,472.96	2,379.96	26.589	CC
Dechant D07-11 - Dechant D07-11 - Dechant D07-11 - A	14,500.00	7,003.12	2,472.97	2,379.92	26.577	ES
Dechant D07-11 - Dechant D07-11 - Dechant D07-11 - A	14,800.00	7,013.06	2,491.83	2,397.17	26.325	SF
Dechant D07-12 - Dechant D07-12 - Dechant D07-12 - A	14,430.59	6,779.68	3,698.07	3,606.39	40.338	CC, ES
Dechant D07-12 - Dechant D07-12 - Dechant D07-12 - A	15,100.00	6,787.31	3,758.15	3,662.66	39.355	SF
Dechant D07-13 - Dechant D07-13 - Dechant D07-13 - A	13,245.16	6,927.77	3,536.61	3,453.59	42.599	CC, ES
Dechant D07-13 - Dechant D07-13 - Dechant D07-13 - A	13,900.00	6,936.51	3,596.71	3,510.03	41.492	SF
Dechant D07-14 - Dechant D07-14 - Dechant D07-14 - A	13,187.03	7,048.60	2,414.72	2,331.56	29.038	CC
Dechant D07-14 - Dechant D07-14 - Dechant D07-14 - A	13,200.00	7,049.04	2,414.76	2,331.51	29.009	ES
Dechant D07-14 - Dechant D07-14 - Dechant D07-14 - A	13,500.00	7,059.03	2,434.90	2,350.08	28.709	SF
Dechant D07-15 - Dechant D07-15 - Dechant D07-15 - A	12,944.00	6,891.54	1,314.76	1,234.16	16.311	CC, ES
Dechant D07-15 - Dechant D07-15 - Dechant D07-15 - A	13,000.00	6,892.26	1,315.95	1,235.07	16.270	SF
Dechant D07-16 - Dechant D07-16 - Dechant D07-16 - A	13,024.56	6,879.51	277.40	196.13	3.413	CC, ES, SF
Dechant D07-20 - Dechant D07-20 - Dechant D07-20 - A	15,005.88	6,948.28	3,004.28	2,907.52	31.051	CC, ES
Dechant D07-20 - Dechant D07-20 - Dechant D07-20 - A	15,400.00	6,951.65	3,030.02	2,931.06	30.621	SF
Dechant D07-21 - Dechant D07-21 - Dechant D07-21 - A	14,865.38	6,877.61	1,652.72	1,557.37	17.334	CC, ES
Dechant D07-21 - Dechant D07-21 - Dechant D07-21 - A	15,000.00	6,877.61	1,658.19	1,562.21	17.276	SF
Dechant D07-22 - Dechant D07-22 - Dechant D07-22 - A	14,930.37	6,872.73	422.51	326.76	4.413	CC, ES, SF
Dechant D07-23 - Dechant D07-23 - Dechant D07-23 - A	13,461.43	6,892.73	488.98	404.36	5.779	CC, ES, SF
Dechant D07-24 - Dechant D07-24 - Dechant D07-24 - A	13,762.85	6,921.75	1,763.55	1,676.55	20.271	CC, ES
Dechant D07-24 - Dechant D07-24 - Dechant D07-24 - A	13,900.00	6,925.72	1,768.87	1,681.18	20.171	SF
Dechant D07-25 - Dechant D07-25 - Dechant D07-25 - A	13,866.84	6,909.80	2,968.32	2,880.63	33.850	CC
Dechant D07-25 - Dechant D07-25 - Dechant D07-25 - A	13,900.00	6,909.91	2,968.50	2,880.59	33.767	ES
Dechant D07-25 - Dechant D07-25 - Dechant D07-25 - A	14,300.00	6,911.21	2,999.76	2,909.71	33.314	SF
Dechant D07-32 - Dechant D07-32 - Dechant D07-32 - A	15,059.69	6,934.30	4,047.56	3,950.50	41.703	CC
Dechant D07-32 - Dechant D07-32 - Dechant D07-32 - A	15,100.00	6,934.82	4,047.76	3,950.42	41.581	ES
Dechant D07-32 - Dechant D07-32 - Dechant D07-32 - A	15,800.00	6,943.84	4,114.70	4,013.38	40.612	SF
Dechant D07-33 - Dechant D07-33 - Dechant D07-33 - A	13,872.46	6,718.07	4,211.94	4,124.84	48.362	CC
Dechant D07-33 - Dechant D07-33 - Dechant D07-33 - A	13,900.00	6,719.12	4,212.03	4,124.73	48.252	ES
Dechant D07-33 - Dechant D07-33 - Dechant D07-33 - A	14,800.00	6,757.20	4,312.69	4,220.09	46.577	SF
Dechant D18-27D - Dechant D18-27D - Dechant D18-27	12,308.54	7,350.08	616.06	525.65	6.814	CC
Dechant D18-27D - Dechant D18-27D - Dechant D18-27	12,372.00	7,351.01	619.32	521.84	6.354	ES
Dechant D18-27D - Dechant D18-27D - Dechant D18-27	12,600.00	7,354.30	675.10	557.56	5.744	SF
Dechant D18-30D - Wellbore #1 - Wellbore #1 - As Drilled	11,300.00	7,253.93	4,464.49	4,368.83	46.671	SF
Dechant D18-30D - Wellbore #1 - Wellbore #1 - As Drilled	12,583.36	7,269.15	4,323.77	4,235.77	49.134	CC, ES
HSR Barbour 04-07 - HSR Barbour 04-07 - HSR Barbour	17,363.56	6,951.45	3,461.50	3,346.89	30.203	CC
HSR Barbour 04-07 - HSR Barbour 04-07 - HSR Barbour	17,400.00	6,951.40	3,461.69	3,346.82	30.137	ES
HSR Barbour 04-07 - HSR Barbour 04-07 - HSR Barbour	17,469.95	6,951.32	3,463.13	3,347.79	30.026	SF
HSR Parkman 06-07 - HSR Parkman 06-07 - HSR Parkm	15,591.93	6,927.51	2,492.48	2,391.32	24.639	CC
HSR Parkman 06-07 - HSR Parkman 06-07 - HSR Parkm	15,600.00	6,927.61	2,492.50	2,391.28	24.626	ES
HSR Parkman 06-07 - HSR Parkman 06-07 - HSR Parkm	15,800.00	6,930.09	2,501.15	2,398.81	24.439	SF
HSR Petrie 03-07 - HSR Petrie 03-07 - HSR Petrie 03-07	17,240.09	6,867.35	2,419.21	2,305.21	21.221	CC, ES

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Independence D18-725
Project:	Mustang	TVD Reference:	Well @ 4800.00ft
Reference Site:	D Section 19	MD Reference:	Well @ 4800.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Independence D18-725	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Independence D18-725	Database:	EDMP
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
D Section 07						
HSR Petrie 03-07 - HSR Petrie 03-07 - HSR Petrie 03-07	17,469.95	6,871.48	2,430.10	2,314.87	21.088	SF
HSR Safran 05-07 - HSR Safran 05-07 - HSR Safran 05-07	15,731.49	7,024.67	3,758.01	3,655.30	36.587	CC, ES
HSR Safran 05-07 - HSR Safran 05-07 - HSR Safran 05-07	16,300.00	7,024.97	3,800.77	3,694.75	35.849	SF
Two E Ranch 07-01 - Two E Ranch 07-01 - Two E Ranch 07-01	16,992.01	6,890.52	957.66	845.52	8.540	CC
Two E Ranch 07-01 - Two E Ranch 07-01 - Two E Ranch 07-01	17,000.00	6,890.73	957.69	845.52	8.538	ES, SF
Two E Ranches 1 - Two E Ranches 1 - Two E Ranches 1	15,664.46	4,625.00	2,481.94	2,390.02	27.001	CC, ES
Two E Ranches 1 - Two E Ranches 1 - Two E Ranches 1	16,100.00	4,625.00	2,519.86	2,425.02	26.568	SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Independence D18-725
Project:	Mustang	TVD Reference:	Well @ 4800.00ft
Reference Site:	D Section 19	MD Reference:	Well @ 4800.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Independence D18-725	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Independence D18-725	Database:	EDMP
Reference Design:	Plan #2	Offset TVD Reference:	Reference 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 08						
Becker D17-715 - Wellbore #1 - Plan #2	9,951.88	15,102.10	5,699.11	5,580.61	48.092	CC, ES
Becker D17-715 - Wellbore #1 - Plan #2	10,000.00	15,087.93	5,699.30	5,580.64	48.033	SF
Becker D17-725 - Wellbore #1 - Plan #2	9,949.06	15,019.15	5,049.37	4,930.93	42.633	CC, ES
Becker D17-725 - Wellbore #1 - Plan #2	10,000.00	15,001.33	5,049.60	4,931.00	42.577	SF
Becker D17-730 (KILLED) - Wellbore #1 - Plan #1	10,000.00	15,078.70	4,725.59	4,607.33	39.959	ES, SF
Becker D17-730 (KILLED) - Wellbore #1 - Plan #1	12,373.42	12,705.28	4,724.41	4,608.37	40.713	CC
Becker D17-735 - Wellbore #1 - Plan #2	9,946.25	15,022.42	4,399.63	4,281.37	37.202	CC, ES
Becker D17-735 - Wellbore #1 - Plan #2	10,000.00	15,000.15	4,399.91	4,281.47	37.150	SF
Becker D17-745 - Wellbore #1 - Plan #2	9,943.43	15,111.52	3,749.92	3,632.03	31.808	CC, ES
Becker D17-745 - Wellbore #1 - Plan #2	10,000.00	15,084.03	3,750.25	3,632.17	31.761	SF
Becker D17-750 (KILLED) - Wellbore #1 - Plan #1	9,942.02	15,303.42	3,426.52	3,308.59	29.055	CC, ES
Becker D17-750 (KILLED) - Wellbore #1 - Plan #1	10,000.00	15,273.04	3,426.88	3,308.76	29.013	SF
Becker D17-755 - Wellbore #1 - Plan #2	9,940.61	15,201.67	3,101.34	2,983.94	26.416	CC, ES
Becker D17-755 - Wellbore #1 - Plan #2	10,000.00	15,168.19	3,101.73	2,984.31	26.415	SF
Becker D17-765 - Wellbore #1 - Plan #2	9,937.23	15,095.78	2,450.98	2,310.53	17.451	CC, ES, SF
Becker D17-770 (KILLED) - Wellbore #1 - Plan #1	9,936.34	15,165.38	2,127.99	1,987.78	15.177	CC, ES, SF
Becker D17-775 - Wellbore #1 - Plan #2	9,934.98	15,024.89	1,800.72	1,660.27	12.821	CC, ES, SF
Becker D17-785 - Wellbore #1 - Plan #2	9,932.16	14,956.00	1,153.57	1,036.75	9.874	CC, ES, SF
HSR-ALVIN DECHANT #12-8 (SI) - Wellbore #1 - No Su	14,431.25	6,857.00	1,692.57	1,564.66	13.233	CC, ES
HSR-ALVIN DECHANT #12-8 (SI) - Wellbore #1 - No Su	14,600.00	6,857.00	1,700.96	1,571.77	13.166	SF
HSR-ALVIN DECHANT #13-8(SI) - Wellbore #1 - No Sur	12,851.83	6,846.00	1,535.96	1,420.20	13.269	CC, ES
HSR-ALVIN DECHANT #13-8(SI) - Wellbore #1 - No Sur	13,000.00	6,846.00	1,543.09	1,426.18	13.199	SF
HSR-LDS #14-8(SI) - Wellbore #1 - No Surveys	13,320.14	6,837.00	2,698.79	2,579.58	22.640	CC, ES
HSR-LDS #14-8(SI) - Wellbore #1 - No Surveys	13,700.00	6,837.00	2,725.39	2,603.42	22.345	SF
HSR-LDS #15-8(SI) - Wellbore #1 - No Surveys	12,975.49	6,834.00	4,117.68	4,001.10	35.320	CC
HSR-LDS #15-8(SI) - Wellbore #1 - No Surveys	13,000.00	6,834.00	4,117.75	4,000.97	35.261	ES
HSR-LDS #15-8(SI) - Wellbore #1 - No Surveys	13,800.00	6,834.00	4,199.42	4,077.07	34.324	SF
HSR-LDS #16-8(SI) - Wellbore #1 - Gyro Surveys	12,743.36	6,927.10	5,373.79	5,271.48	52.526	CC
HSR-LDS #16-8(SI) - Wellbore #1 - Gyro Surveys	12,800.00	6,925.47	5,374.09	5,271.36	52.311	ES
HSR-LDS #16-8(SI) - Wellbore #1 - Gyro Surveys	14,200.00	6,885.17	5,567.56	5,455.96	49.888	SF
HSR-LDS #3-8(SI) - Wellbore #1 - No Surveys	16,819.76	6,835.00	2,886.62	2,740.10	19.701	CC, ES
HSR-LDS #3-8(SI) - Wellbore #1 - No Surveys	17,100.00	6,835.00	2,900.19	2,751.54	19.510	SF
HSR-LDS #4-8(SI) - Wellbore 1 - No Surveys	16,722.56	6,860.00	1,742.54	1,596.57	11.938	CC, ES
HSR-LDS #4-8(SI) - Wellbore 1 - No Surveys	16,900.00	6,860.00	1,751.55	1,604.29	11.894	SF
HSR-LDS #5-8(SI) - Wellbore #1 - No Surveys	15,579.69	6,853.00	1,523.48	1,386.63	11.133	CC
HSR-LDS #5-8(SI) - Wellbore #1 - No Surveys	15,600.00	6,853.00	1,523.61	1,386.57	11.118	ES
HSR-LDS #5-8(SI) - Wellbore #1 - No Surveys	15,700.00	6,853.00	1,528.22	1,390.42	11.090	SF
HSR-LDS #6-8(SI) - Wellbore #1 - No Surveys	15,571.11	6,833.00	2,925.77	2,789.16	21.418	CC
HSR-LDS #6-8(SI) - Wellbore #1 - No Surveys	15,600.00	6,833.00	2,925.91	2,789.05	21.379	ES
HSR-LDS #6-8(SI) - Wellbore #1 - No Surveys	15,900.00	6,833.00	2,944.20	2,805.12	21.170	SF
HSR-LDS #9-8(SI) - Wellbore #1 - No Surveys	14,353.30	6,828.00	5,503.42	5,376.37	43.318	CC
HSR-LDS #9-8(SI) - Wellbore #1 - No Surveys	14,400.00	6,828.00	5,503.62	5,376.19	43.190	ES
HSR-LDS #9-8(SI) - Wellbore #1 - No Surveys	15,600.00	6,828.00	5,642.86	5,507.12	41.572	SF
HSR-LDS A #10-8(SI) - Wellbore #1 - No Surveys	14,136.25	6,832.00	4,259.15	4,133.75	33.963	CC
HSR-LDS A #10-8(SI) - Wellbore #1 - No Surveys	14,200.00	6,832.00	4,259.63	4,133.70	33.825	ES
HSR-LDS A #10-8(SI) - Wellbore #1 - No Surveys	14,900.00	6,832.00	4,327.09	4,196.24	33.069	SF
HSR-LDS A #11-8(SI) - Wellbore #1 - No Surveys	14,354.58	6,834.00	2,809.81	2,682.70	22.106	CC
HSR-LDS A #11-8(SI) - Wellbore #1 - No Surveys	14,400.00	6,834.00	2,810.18	2,682.68	22.041	ES
HSR-LDS A #11-8(SI) - Wellbore #1 - No Surveys	14,700.00	6,834.00	2,830.96	2,701.29	21.831	SF
LDS #18-8(SI) - Wellbore #1 - Gyro Surveys	16,156.95	6,859.60	2,222.09	2,116.68	21.080	CC, ES
LDS #18-8(SI) - Wellbore #1 - Gyro Surveys	16,400.00	6,863.13	2,235.34	2,128.13	20.850	SF
LDS #20-8(SI) - Wellbore #1 - No Surveys	13,482.46	6,831.00	4,801.46	4,681.07	39.884	CC
LDS #20-8(SI) - Wellbore #1 - No Surveys	13,500.00	6,831.00	4,801.49	4,680.96	39.837	ES

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 Independence D18-725
Project:	Mustang	TVD Reference:	Well @ 4800.00ft
Reference Site:	D Section 19	MD Reference:	Well @ 4800.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Independence D18-725	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Independence D18-725	Database:	EDMP
Reference Design:	Plan #2	Offset TVD Reference:	Reference 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 08						
LDS #20-8(SI) - Wellbore #1 - No Surveys	14,500.00	6,831.00	4,908.09	4,780.58	38.492	SF
LDS D #09-30(SI) - Wellbore #1 - As-Drilled	17,253.77	2,095.30	6,123.39	5,912.90	29.091	CC
LDS D #09-30(SI) - Wellbore #1 - As-Drilled	17,300.00	2,095.30	6,123.56	5,912.68	29.038	ES
LDS D #09-30(SI) - Wellbore #1 - As-Drilled	17,469.95	2,095.30	6,127.20	5,914.93	28.865	SF
LDS D #09-31D(SI) - Wellbore #1 - No Surveys	17,229.49	6,822.00	6,120.12	5,970.45	40.889	CC
LDS D #09-31D(SI) - Wellbore #1 - No Surveys	17,300.00	6,822.00	6,120.53	5,970.26	40.731	ES
LDS D #09-31D(SI) - Wellbore #1 - No Surveys	17,469.95	6,822.00	6,124.85	5,973.20	40.389	SF
RUBY RED #D #8-1D(PA) - Wellbore #1 - Gyro Surveys	16,471.99	6,832.64	5,233.57	5,125.79	48.559	CC
RUBY RED #D #8-1D(PA) - Wellbore #1 - Gyro Surveys	16,500.00	6,832.80	5,233.64	5,125.63	48.454	ES
RUBY RED #D #8-1D(PA) - Wellbore #1 - Gyro Surveys	17,469.95	6,838.54	5,327.86	5,213.04	46.402	SF
RUBY RED #D 8-7(PR) - Wellbore #1 - Gyro Surveys	15,467.78	6,816.65	4,090.07	3,990.24	40.973	CC
RUBY RED #D 8-7(PR) - Wellbore #1 - Gyro Surveys	15,500.00	6,816.85	4,090.19	3,990.10	40.863	ES
RUBY RED #D 8-7(PR) - Wellbore #1 - Gyro Surveys	16,300.00	6,822.11	4,173.87	4,068.37	39.561	SF
RUBY RED #D 8-8(PR) - Wellbore #1 - Gyro Surveys	15,382.89	6,782.02	5,735.27	5,636.24	57.913	CC
RUBY RED #D 8-8(PR) - Wellbore #1 - Gyro Surveys	15,400.00	6,782.15	5,735.30	5,636.13	57.830	ES
RUBY RED #D 8-8(PR) - Wellbore #1 - Gyro Surveys	16,900.00	6,793.95	5,932.52	5,823.32	54.324	SF
RUBY RED D8-2(PA) - Wellbore #1 - Gyro Surveys	17,014.05	6,805.69	4,081.45	3,969.41	36.430	CC, ES
RUBY RED D8-2(PA) - Wellbore #1 - Gyro Surveys	17,469.95	6,808.00	4,106.83	3,991.35	35.562	SF
TWO E RANCHES #1(PA) - Wellbore #1 - Gyro Surveys	13,966.52	6,800.00	1,883.14	1,795.03	21.373	CC, ES
TWO E RANCHES #1(PA) - Wellbore #1 - Gyro Surveys	14,200.00	6,800.00	1,897.55	1,807.74	21.128	SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Independence D18-725
Project:	Mustang	TVD Reference:	Well @ 4800.00ft
Reference Site:	D Section 19	MD Reference:	Well @ 4800.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Independence D18-725	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Independence D18-725	Database:	EDMP
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
D Section 17						
Butterball D19-27D - Wellbore #1 - Gyro Surveys	6,950.00	7,025.43	583.13	521.12	9.404	SF
Butterball D19-27D - Wellbore #1 - Gyro Surveys	7,200.00	7,098.08	523.67	472.34	10.202	ES
Butterball D19-27D - Wellbore #1 - Gyro Surveys	7,219.60	7,099.72	523.31	472.38	10.275	CC
Guttersen State D16-33 (SI) - Wellbore #1 - No Surveys	8,585.62	6,847.00	6,067.32	5,978.83	68.564	CC
Guttersen State D16-33 (SI) - Wellbore #1 - No Surveys	8,600.00	6,847.00	6,067.34	5,978.79	68.515	ES
Guttersen State D16-33 (SI) - Wellbore #1 - No Surveys	10,700.00	6,847.00	6,425.19	6,325.79	64.643	SF
HSR LDS 6-17 (PA) - Wellbore #1 - Gyro Surveys	10,548.68	6,816.61	2,640.41	2,576.87	41.553	CC, ES
HSR LDS 6-17 (PA) - Wellbore #1 - Gyro Surveys	11,100.00	6,813.71	2,697.35	2,630.58	40.398	SF
HSR LDS B5-17 (SI) - Wellbore #1 - Gyro Surveys	10,524.49	6,840.10	1,428.73	1,365.06	22.441	CC, ES
HSR LDS B5-17 (SI) - Wellbore #1 - Gyro Surveys	10,700.00	6,840.90	1,439.46	1,374.74	22.240	SF
HSR Mike Guttersen 16-17X (SI) - Wellbore #1 - As-Dri	7,644.23	6,872.78	5,378.52	5,329.17	108.984	CC, ES
HSR Mike Guttersen 16-17X (SI) - Wellbore #1 - As-Dri	10,200.00	6,866.88	5,954.86	5,895.15	99.724	SF
HSR Mike Guttersen 16-17 (DA) - Wellbore #1 - As-Drille	1,700.00	1,667.13	5,791.13	5,736.38	105.783	CC, ES
HSR Mike Guttersen 16-17 (DA) - Wellbore #1 - As-Drille	3,100.00	1,666.00	5,882.25	5,824.26	101.428	SF
HSR Weeks 10-17 - Wellbore #1 - Gyro Surveys	9,066.58	6,808.13	4,056.08	4,001.42	74.206	CC
HSR Weeks 10-17 - Wellbore #1 - Gyro Surveys	9,100.00	6,807.86	4,056.21	4,001.38	73.974	ES
HSR Weeks 10-17 - Wellbore #1 - Gyro Surveys	10,400.00	6,797.48	4,269.62	4,208.11	69.415	SF
HSR Weeks 15-17 (SI) - Wellbore #1 - As-Drilled	7,784.45	6,812.15	4,057.54	4,008.04	81.976	CC
HSR Weeks 15-17 (SI) - Wellbore #1 - As-Drilled	7,800.00	6,812.28	4,057.57	4,008.03	81.905	ES
HSR Weeks 15-17 (SI) - Wellbore #1 - As-Drilled	9,200.00	6,823.96	4,297.35	4,242.42	78.229	SF
HSR Weeks 9-17 - Wellbore #1 - Gyro Surveys	9,126.73	6,863.48	5,175.13	5,120.59	94.894	CC, ES
HSR Weeks 9-17 - Wellbore #1 - Gyro Surveys	11,300.00	6,862.26	5,612.94	5,546.95	85.059	SF
HSR-LDS 3-17 (PA) - Wellbore #1 - Gyro Surveys	11,623.14	6,824.14	2,550.64	2,479.79	36.004	CC, ES
HSR-LDS 3-17 (PA) - Wellbore #1 - Gyro Surveys	12,100.00	6,828.41	2,594.83	2,521.04	35.169	SF
HSR-LDS 4-17 (SI) - Wellbore #1 - Gyro Surveys	11,624.29	6,849.34	1,408.78	1,337.85	19.862	CC, ES
HSR-LDS 4-17 (SI) - Wellbore #1 - Gyro Surveys	11,800.00	6,849.45	1,419.69	1,347.70	19.719	SF
LDS 18-17 (PA) - Wellbore #1 - Gyro Surveys	11,020.52	6,833.35	2,283.86	2,217.17	34.246	CC, ES
LDS 18-17 (PA) - Wellbore #1 - Gyro Surveys	11,400.00	6,833.00	2,315.18	2,246.17	33.551	SF
LDS D17-13 - Wellbore #1 - Gyro Surveys	7,437.35	6,824.06	1,142.17	1,093.48	23.460	CC, ES
LDS D17-13 - Wellbore #1 - Gyro Surveys	7,500.00	6,825.53	1,143.88	1,095.07	23.432	SF
LDS D17-18 (SI) - Wellbore #1 - Gyro Surveys	11,097.96	6,812.93	3,517.65	3,450.49	52.379	CC
LDS D17-18 (SI) - Wellbore #1 - Gyro Surveys	11,100.00	6,812.92	3,517.65	3,450.48	52.368	ES
LDS D17-18 (SI) - Wellbore #1 - Gyro Surveys	12,000.00	6,806.19	3,631.46	3,558.93	50.072	SF
LDS D17-20 - Wellbore #1 - INC/MWD	9,590.04	6,846.10	2,105.39	2,045.77	35.314	CC
LDS D17-20 - Wellbore #1 - INC/MWD	9,600.00	6,846.05	2,105.42	2,045.74	35.280	ES
LDS D17-20 - Wellbore #1 - INC/MWD	9,900.00	6,844.58	2,128.09	2,066.75	34.695	SF
LDS D17-21 - Wellbore #1 - INC/MWD	9,538.41	6,838.78	3,250.19	3,190.89	54.807	CC, ES
LDS D17-21 - Wellbore #1 - INC/MWD	10,400.00	6,834.62	3,362.45	3,298.49	52.574	SF
LDS D17-22 (SI) - Wellbore #1 - No Surveys	9,905.00	6,842.00	4,670.39	4,574.91	48.917	CC, ES
LDS D17-22 (SI) - Wellbore #1 - No Surveys	11,100.00	6,842.00	4,820.85	4,718.34	47.030	SF
LDS D17-24D - LDS D17-24D Gyros - As-Drilled	8,501.39	6,968.15	3,367.59	3,297.57	48.096	CC, ES
LDS D17-24D - LDS D17-24D Gyros - As-Drilled	8,900.00	6,963.32	3,391.10	3,319.82	47.579	SF
LDS D17-24D - LDS D17-24D OH - As-Drilled	8,501.43	6,981.15	3,367.58	3,297.56	48.096	CC, ES
LDS D17-24D - LDS D17-24D OH - As-Drilled	8,900.00	6,976.32	3,391.08	3,319.81	47.579	SF
LDS D17-25D - LDS D17-25D Gyros - As-Drilled	8,728.40	7,070.31	2,120.34	2,049.80	30.058	CC
LDS D17-25D - LDS D17-25D Gyros - As-Drilled	8,800.00	7,070.72	2,121.55	2,049.31	29.366	ES
LDS D17-25D - LDS D17-25D Gyros - As-Drilled	9,600.00	7,075.18	2,292.49	2,204.23	25.974	SF
LDS D17-25D - LDS D17-25D OH - LDS D17-25D - As D	8,728.39	7,083.31	2,120.35	2,049.81	30.058	CC
LDS D17-25D - LDS D17-25D OH - LDS D17-25D - As D	8,800.00	7,083.72	2,121.56	2,049.32	29.366	ES
LDS D17-25D - LDS D17-25D OH - LDS D17-25D - As D	9,600.00	7,088.18	2,292.50	2,204.24	25.974	SF
LDS D17-31D - LDS D17-31D - As-Drilled	11,000.00	7,063.20	742.28	643.12	7.486	SF
LDS D17-31D - LDS D17-31D - As-Drilled	11,047.77	7,063.10	740.74	641.83	7.489	CC, ES
LDS D17-32D - LDS D17-32D - LDS D17-32D - As Drille	9,916.14	6,893.35	716.43	657.33	12.122	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 Independence D18-725
Project:	Mustang	TVD Reference:	Well @ 4800.00ft
Reference Site:	D Section 19	MD Reference:	Well @ 4800.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Independence D18-725	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Independence D18-725	Database:	EDMP
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
D Section 17						
LDS D17-33 - LDS D17-33 - As-Drilled	8,506.21	6,852.84	953.69	901.45	18.257	CC, ES
LDS D17-33 - LDS D17-33 - As-Drilled	8,600.00	6,852.05	958.29	905.61	18.193	SF
LDS D17-7 - Wellbore #1 - As-Drilled	10,413.22	6,793.44	3,884.90	3,822.35	62.103	CC, ES
LDS D17-7 - Wellbore #1 - As-Drilled	11,500.00	6,778.20	4,034.01	3,965.15	58.583	SF
LDS D20-29D - Wellbore #1 - LDS D20-29D - As Drilled	752.31	730.39	1,544.72	1,540.97	411.712	CC
LDS D20-29D - Wellbore #1 - LDS D20-29D - As Drilled	800.00	764.77	1,545.06	1,540.93	373.862	ES
LDS D20-29D - Wellbore #1 - LDS D20-29D - As Drilled	7,050.00	6,989.85	2,088.84	2,039.82	42.615	SF
LDS D20-30D - Wellbore #1 - LDS D20-30D - As Drilled	6,947.31	6,856.41	648.77	600.72	13.503	CC
LDS D20-30D - Wellbore #1 - LDS D20-30D - As Drilled	6,950.00	6,857.71	648.77	600.71	13.498	ES
LDS D20-30D - Wellbore #1 - LDS D20-30D - As Drilled	7,000.00	6,880.02	650.48	602.11	13.447	SF
LDS RED D17-11 (SI) - Wellbore #1 - As Drilled	9,106.36	6,864.78	2,861.74	2,806.61	51.903	CC, ES
LDS RED D17-11 (SI) - Wellbore #1 - As Drilled	9,800.00	6,888.18	2,944.51	2,885.79	50.144	SF
LDS Red D17-12 - Wellbore #1 - Gyro Surveys	9,325.54	6,856.79	1,327.35	1,271.09	23.594	CC, ES
LDS Red D17-12 - Wellbore #1 - Gyro Surveys	9,500.00	6,855.64	1,338.77	1,281.60	23.419	SF
LDS Red D17-14 (DA) - LDS Red D17-14 - No Surveys	7,715.51	6,863.00	2,897.71	2,599.80	9.727	CC, ES
LDS Red D17-14 (DA) - LDS Red D17-14 - No Surveys	7,800.00	6,863.00	2,898.94	2,600.80	9.723	SF
LDS Red D17-14X (SI) - Wellbore #1 - As-Drilled	7,910.64	6,710.20	2,955.15	2,905.65	59.697	CC, ES
LDS Red D17-14X (SI) - Wellbore #1 - As-Drilled	8,600.00	6,724.41	3,034.46	2,982.41	58.300	SF
LDS Red D17-3J (PR) - Wellbore #1 - Gyro Surveys	8,120.40	6,869.19	1,701.45	1,650.74	33.550	CC, ES
LDS Red D17-3J (PR) - Wellbore #1 - Gyro Surveys	8,300.00	6,869.39	1,710.90	1,659.52	33.300	SF
LDS White D17-1 - Wellbore #1 - Gyro Surveys	11,748.60	6,778.15	5,373.40	5,301.83	75.080	CC
LDS White D17-1 - Wellbore #1 - Gyro Surveys	11,800.00	6,778.11	5,373.65	5,301.71	74.696	ES
LDS White D17-1 - Wellbore #1 - Gyro Surveys	13,400.00	6,776.53	5,659.95	5,578.15	69.193	SF
LDS White D17-2 - Wellbore #1 - As-Drilled	11,770.40	6,851.28	3,986.37	3,914.36	55.362	CC
LDS White D17-2 - Wellbore #1 - As-Drilled	11,800.00	6,850.82	3,986.48	3,914.26	55.199	ES
LDS White D17-2 - Wellbore #1 - As-Drilled	12,700.00	6,836.78	4,104.17	4,026.38	52.759	SF
LDS White D17-8 - Wellbore #1 - As-Drilled	10,425.54	6,810.29	5,246.36	5,183.61	83.609	CC, ES
LDS White D17-8 - Wellbore #1 - As-Drilled	12,372.00	6,801.73	5,595.80	5,521.78	75.605	SF
Thomson D20-31D - Wellbore #1 - Gyro Surveys	4,773.96	4,907.20	955.14	907.72	20.140	CC
Thomson D20-31D - Wellbore #1 - Gyro Surveys	4,800.00	4,925.47	955.23	907.69	20.096	ES
Thomson D20-31D - Wellbore #1 - Gyro Surveys	5,300.00	5,384.44	990.73	940.88	19.873	SF
Weeks 20-17 (SI) - Wellbore #1 - Gyro Surveys	8,334.73	6,853.83	4,590.99	4,539.50	89.162	CC, ES
Weeks 20-17 (SI) - Wellbore #1 - Gyro Surveys	10,100.00	6,848.75	4,918.68	4,859.05	82.486	SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Independence D18-725
Project:	Mustang	TVD Reference:	Well @ 4800.00ft
Reference Site:	D Section 19	MD Reference:	Well @ 4800.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Independence D18-725	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Independence D18-725	Database:	EDMP
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Separation Factor	Warning
D Section 18						
Horton D18-20D - Horton D18-20D - Horton D18-20D - A	618.37	593.38	2,456.14	2,452.25	632.460	CC
Horton D18-20D - Horton D18-20D - Horton D18-20D - A	900.00	861.43	2,457.24	2,451.41	421.656	ES
Horton D18-20D - Horton D18-20D - Horton D18-20D - A	11,100.00	7,145.72	3,345.30	3,239.09	31.499	SF
Horton D18-22D - Horton D18-22D - Horton D18-22D - A	9,500.00	6,993.18	503.05	439.85	7.959	SF
Horton D18-22D - Horton D18-22D - Horton D18-22D - A	9,573.07	6,993.23	497.72	435.19	7.959	CC, ES
LSWD 1 - LSWD 1 - LSWD 1 - As Drilled	11,840.08	6,900.00	2,130.06	2,021.15	19.559	CC, ES
LSWD 1 - LSWD 1 - LSWD 1 - As Drilled	12,100.00	6,900.00	2,145.86	2,035.46	19.438	SF
Mick D18-03 - Mick D18-03 - Mick D18-03 - As Drilled	11,882.90	6,837.23	2,290.71	2,218.09	31.541	CC
Mick D18-03 - Mick D18-03 - Mick D18-03 - As Drilled	11,900.00	6,836.73	2,290.78	2,218.04	31.494	ES
Mick D18-03 - Mick D18-03 - Mick D18-03 - As Drilled	12,200.00	6,827.91	2,312.54	2,238.16	31.091	SF
Mick D18-04 - Wellbore #1 - Wellbore #1 - As Drilled	11,838.64	6,851.05	3,814.67	3,742.23	52.662	CC, ES
Mick D18-04 - Wellbore #1 - Wellbore #1 - As Drilled	12,800.00	6,849.43	3,918.93	3,840.99	50.279	SF
Mick D18-05 - Wellbore #1 - Wellbore #1 - As Drilled	10,549.31	6,745.90	3,785.18	3,722.05	59.964	CC, ES
Mick D18-05 - Wellbore #1 - Wellbore #1 - As Drilled	11,600.00	6,747.85	3,928.29	3,859.43	57.047	SF
Mick D18-06 - Mick D18-06 - Mick D18-06 - As Drilled	10,545.80	6,822.54	2,318.31	2,254.89	36.556	CC, ES
Mick D18-06 - Mick D18-06 - Mick D18-06 - As Drilled	10,900.00	6,827.21	2,345.21	2,279.83	35.871	SF
Mick D18-11 - Mick D18-11 - Mick D18-11 - As Drilled	8,832.64	6,815.95	2,479.62	2,426.18	46.395	CC, ES
Mick D18-11 - Mick D18-11 - Mick D18-11 - As Drilled	9,300.00	6,833.83	2,523.22	2,467.61	45.377	SF
Mick D18-12 - Wellbore #1 - Wellbore #1 - As Drilled	9,013.73	6,757.66	3,592.88	3,538.78	66.410	CC, ES
Mick D18-12 - Wellbore #1 - Wellbore #1 - As Drilled	10,000.00	6,760.12	3,725.79	3,666.97	63.342	SF
Mick D18-13 - Wellbore #1 - Wellbore #1 - As Drilled	0.00	1.92	3,526.92			
Mick D18-13 - Wellbore #1 - Wellbore #1 - As Drilled	1,100.00	1,075.39	3,529.63	3,522.33	483.586	ES
Mick D18-13 - Wellbore #1 - Wellbore #1 - As Drilled	8,800.00	6,966.89	3,807.32	3,753.86	71.222	SF
Mick D18-14 - Mick D18-14 - Mick D18-14 - As Drilled	2,234.28	2,254.23	2,412.38	2,396.87	155.590	CC, ES
Mick D18-14 - Mick D18-14 - Mick D18-14 - As Drilled	8,000.00	6,824.90	2,486.55	2,436.54	49.715	SF
Mick D18-19 - Mick D18-19 - Mick D18-19 - As Drilled	11,218.21	6,823.33	2,956.51	2,888.55	43.502	CC, ES
Mick D18-19 - Mick D18-19 - Mick D18-19 - As Drilled	11,800.00	6,825.62	3,013.21	2,941.97	42.297	SF
Mick D18-25 - Mick D18-25 - Mick D18-25 - As Drilled	8,305.55	6,848.72	2,987.46	2,936.11	58.180	CC, ES
Mick D18-25 - Mick D18-25 - Mick D18-25 - As Drilled	9,000.00	6,841.17	3,067.10	3,013.04	56.736	SF
Scooter D18-02 - Scooter D18-02 - Scooter D18-02 - As	11,636.44	6,922.03	1,261.67	1,190.38	17.697	CC, ES
Scooter D18-02 - Scooter D18-02 - Scooter D18-02 - As	11,700.00	6,923.08	1,263.27	1,191.61	17.628	SF
Scooter D18-07 - Scooter D18-07 - Scooter D18-07 - As	10,322.38	6,905.53	1,246.96	1,184.57	19.986	CC, ES
Scooter D18-07 - Scooter D18-07 - Scooter D18-07 - As	10,400.00	6,902.00	1,249.37	1,186.59	19.899	SF
Scooter D18-10 - Scooter D18-10 - Scooter D18-10 - As	8,839.99	6,861.72	1,216.74	1,163.06	22.665	CC, ES
Scooter D18-10 - Scooter D18-10 - Scooter D18-10 - As	8,900.00	6,861.15	1,218.22	1,164.28	22.586	SF
Scooter D18-15 - Scooter D18-15 - Scooter D18-15 - As	7,692.53	6,899.74	1,104.16	1,054.66	22.309	CC, ES
Scooter D18-15 - Scooter D18-15 - Scooter D18-15 - As	7,800.00	6,896.88	1,109.37	1,059.62	22.297	SF
Scooter D18-16 - Scooter D18-16 - Scooter D18-16 - As	7,738.74	6,856.00	145.71	60.20	1.704	CC, ES, SF
Scooter D18-17 JI - Scooter D18-17 JI - Scooter D18-17	10,920.33	6,994.62	498.98	431.57	7.402	CC, ES
Scooter D18-17 JI - Scooter D18-17 JI - Scooter D18-17	11,000.00	6,994.99	505.30	437.00	7.399	SF
Scooter D18-1JI - Scooter D18-1JI - Scooter D18-1JI - A	11,449.07	7,204.37	260.16	184.71	3.448	CC
Scooter D18-1JI - Scooter D18-1JI - Scooter D18-1JI - A	11,500.00	7,204.90	265.10	182.14	3.196	ES
Scooter D18-1JI - Scooter D18-1JI - Scooter D18-1JI - A	11,600.00	7,205.96	300.76	205.25	3.149	SF
Scooter D18-4J - Scooter D18-4J - Scooter D18-4J - As	8,589.13	6,856.99	219.97	167.50	4.192	CC, ES, SF
Scooter D18-78-1HN - Original Drilling - Original Drilling -	12,201.97	6,888.17	3,319.12	3,247.75	46.509	CC, ES
Scooter D18-78-1HN - Original Drilling - Original Drilling -	13,000.00	6,894.04	3,390.47	3,314.72	44.761	SF
Scooter D18-78-1HN - Original Drilling - ST01 - Original D	7,600.00	11,301.03	3,306.91	3,202.00	31.522	ES, SF
Scooter D18-78-1HN - Original Drilling - ST01 - Original D	10,474.47	8,409.00	3,289.56	3,217.40	45.586	CC
Scooter D18-79-1HN - Original Drilling - Original Drilling -	7,582.47	11,265.00	3,965.03	3,859.54	37.585	SF
Scooter D18-79-1HN - Original Drilling - Original Drilling -	11,000.00	11,000.00	3,957.06	3,855.20	38.847	ES
Scooter D18-79-1HN - Original Drilling - Original Drilling -	11,510.96	7,334.00	3,946.10	3,875.71	56.064	CC
Scooter D18-79HN - Original Drilling - Original Drilling - A	7,581.72	11,410.00	4,384.93	4,279.29	41.508	ES, SF
Scooter D18-79HN - Original Drilling - Original Drilling - A	11,151.83	7,838.97	4,358.70	4,287.60	61.306	CC

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 Independence D18-725
Project:	Mustang	TVD Reference:	Well @ 4800.00ft
Reference Site:	D Section 19	MD Reference:	Well @ 4800.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Independence D18-725	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Independence D18-725	Database:	EDMP
Reference Design:	Plan #2	Offset TVD Reference:	Reference 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 18						
Scooter D18-8JI - Scooter D18-8JI - Scooter D18-8JI - A	10,370.17	7,102.67	145.24	69.16	1.909	CC, ES, SF
Scooter D18-9JI - Scooter D18-9JI - Scooter D18-9JI - A	9,194.76	6,876.62	284.39	226.84	4.941	CC
Scooter D18-9JI - Scooter D18-9JI - Scooter D18-9JI - A	9,200.00	6,876.60	284.44	226.80	4.935	ES, SF
Shianne D18-29D - Shianne D18-29D - Shianne D18-29D	12,275.95	6,929.75	2,978.30	2,900.38	38.222	CC
Shianne D18-29D - Shianne D18-29D - Shianne D18-29D	12,300.00	6,929.42	2,978.39	2,900.26	38.122	ES
Shianne D18-29D - Shianne D18-29D - Shianne D18-29D	13,000.00	6,920.10	3,041.81	2,958.76	36.624	SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Independence D18-725
Project:	Mustang	TVD Reference:	Well @ 4800.00ft
Reference Site:	D Section 19	MD Reference:	Well @ 4800.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Independence D18-725	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Independence D18-725	Database:	EDMP
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
D Section 19						
Butterball 13-19 - Butterball 13-19 - Butterball 13-19 - As	2,243.94	2,282.35	4,456.13	4,440.53	285.639	CC, ES
Butterball 13-19 - Butterball 13-19 - Butterball 13-19 - As	6,800.00	6,831.78	4,729.77	4,682.27	99.581	SF
Butterball 14-19 - Butterball 14-19 - Butterball 14-19 - As	2,351.04	2,521.58	5,376.26	5,359.42	319.429	CC
Butterball 14-19 - Butterball 14-19 - Butterball 14-19 - As	2,400.00	2,578.22	5,376.50	5,359.30	312.624	ES
Butterball 14-19 - Butterball 14-19 - Butterball 14-19 - As	6,750.00	6,836.40	5,611.19	5,563.74	118.253	SF
Butterball 23-19 - Butterball 23-19 - Butterball 23-19 - As	0.00	0.00	3,591.15			
Butterball 23-19 - Butterball 23-19 - Butterball 23-19 - As	100.00	56.26	3,591.30	3,591.08	10,000.000	ES
Butterball 23-19 - Butterball 23-19 - Butterball 23-19 - As	6,700.00	6,671.86	3,911.19	3,864.55	83.855	SF
Butterball B04-19 - Butterball B04-19 - Butterball B04-19	2,249.13	2,300.62	5,211.05	5,195.36	332.180	CC
Butterball B04-19 - Butterball B04-19 - Butterball B04-19	2,300.00	2,362.52	5,211.34	5,195.26	324.050	ES
Butterball B04-19 - Butterball B04-19 - Butterball B04-19	6,750.00	6,700.00	5,503.46	5,456.55	117.337	SF
Butterball D18-75HN - Original Drilling - Original Drilling -	0.00	0.00	939.28			
Butterball D18-75HN - Original Drilling - Original Drilling -	2,100.00	2,092.93	941.58	928.14	70.043	ES
Butterball D18-75HN - Original Drilling - Original Drilling -	12,700.00	12,107.00	1,806.18	1,651.24	11.657	SF
Butterball D19-17D - Butterball D19-17D - Butterball D19	6,291.21	6,868.97	697.11	552.51	4.821	CC
Butterball D19-17D - Butterball D19-17D - Butterball D19	6,300.00	6,877.64	697.16	552.51	4.820	ES, SF
Butterball D19-18D - Butterball D19-18D - Butterball D19	3,961.53	4,232.95	2,043.87	2,014.03	68.506	CC
Butterball D19-18D - Butterball D19-18D - Butterball D19	4,000.00	4,257.53	2,044.00	2,013.94	68.006	ES
Butterball D19-18D - Butterball D19-18D - Butterball D19	6,850.00	6,820.39	2,237.22	2,188.67	46.087	SF
Butterball D19-19D - Butterball D19-19D - Butterball D19	750.62	740.64	2,543.50	2,538.63	522.010	CC
Butterball D19-19D - Butterball D19-19D - Butterball D19	800.00	781.78	2,543.58	2,538.39	489.747	ES
Butterball D19-19D - Butterball D19-19D - Butterball D19	6,800.00	6,806.08	3,377.18	3,328.96	70.046	SF
Butterball D19-20D - Butterball D19-20D - Butterball D19	4,197.78	4,600.00	3,631.87	3,592.11	91.361	CC
Butterball D19-20D - Butterball D19-20D - Butterball D19	4,200.00	4,600.00	3,631.87	3,592.11	91.341	ES
Butterball D19-20D - Butterball D19-20D - Butterball D19	6,750.00	6,850.34	3,758.90	3,704.09	68.578	SF
Butterball D19-22D - Wellbore #1 - Wellbore #1 - As Drill	100.00	65.05	1,730.86	1,730.62	7,171.437	CC
Butterball D19-22D - Wellbore #1 - Wellbore #1 - As Drill	1,000.00	957.18	1,735.64	1,729.11	265.632	ES
Butterball D19-22D - Wellbore #1 - Wellbore #1 - As Drill	6,500.00	6,542.81	2,255.03	2,206.30	46.285	SF
Butterball D19-75HN - Original Drilling - Original Drilling -	0.00	0.00	961.23			
Butterball D19-75HN - Original Drilling - Original Drilling -	400.00	391.72	962.32	960.44	511.931	ES
Butterball D19-75HN - Original Drilling - Original Drilling -	6,650.00	6,582.57	1,477.29	1,432.37	32.885	SF
Butterball D24-19 - Butterball D24-19 - Butterball D24-19	2,210.21	2,200.00	4,657.89	4,642.60	304.725	CC, ES
Butterball D24-19 - Butterball D24-19 - Butterball D24-19	6,700.00	6,711.53	4,945.10	4,898.29	105.631	SF
Butterball H24-69HN - Original Drilling - Original Drilling -	2,276.92	2,324.17	933.26	917.11	57.793	CC
Butterball H24-69HN - Original Drilling - Original Drilling -	2,300.00	2,345.03	933.37	917.04	57.158	ES
Butterball H24-69HN - Original Drilling - Original Drilling -	6,600.00	6,375.00	1,180.49	1,136.43	26.794	SF
Champlin 366 Amoco F 1 - Wellbore #1 - Wellbore #1 - A	3,049.17	3,074.68	3,252.59	3,231.39	153.449	CC
Champlin 366 Amoco F 1 - Wellbore #1 - Wellbore #1 - A	3,200.00	3,200.01	3,253.17	3,231.01	146.740	ES
Champlin 366 Amoco F 1 - Wellbore #1 - Wellbore #1 - A	6,550.00	6,504.33	3,359.08	3,313.46	73.638	SF
Dechant D19-32D - Dechant D19-32D - Dechant D19-32	337.65	326.65	2,565.38	2,563.43	1,318.178	CC
Dechant D19-32D - Dechant D19-32D - Dechant D19-32	400.00	370.69	2,565.60	2,563.28	1,104.064	ES
Dechant D19-32D - Dechant D19-32D - Dechant D19-32	11,600.00	11,600.00	8,181.88	8,060.67	67.504	SF
Graznak 01-19 - Graznak 01-19 - Graznak 01-19 - As Dr	2,200.00	2,183.00	4,672.03	4,645.32	174.958	CC
Graznak 01-19 - Graznak 01-19 - Graznak 01-19 - As Dr	2,300.00	2,282.98	4,673.22	4,645.29	167.339	ES
Graznak 01-19 - Graznak 01-19 - Graznak 01-19 - As Dr	6,750.00	6,674.41	5,011.24	4,929.34	61.193	SF
Higgins D19-720 - Original Drilling - Original Drilling - As	6,953.48	6,843.25	81.78	38.23	1.878	CC, ES, SF
Higgins D19-720 - Sidetrack Curve/Horizontal - ST01 - A	6,892.62	6,811.92	94.11	50.76	2.171	CC, ES, SF
Independence D18-717 - Independence D18-717 - Plan #	2,502.14	2,499.85	21.89	4.59	1.265	Level 3, CC, ES, SF
Independence D18-732 - Independence D18-732 - Plan #	2,200.00	2,200.00	23.00	7.70	1.503	CC, ES, SF
Independence D18-739 - Independence D18-739 - Plan #	2,200.00	2,199.00	45.00	29.70	2.941	CC, ES, SF
Independence D18-744 - Independence D18-744 - Plan #	2,200.00	2,198.00	67.01	51.71	4.380	CC, ES, SF
Independence D18-759 - Independence D18-759 - Plan #	7,102.21	7,123.04	2,126.49	2,077.58	43.476	CC
Independence D18-759 - Independence D18-759 - Plan #	7,150.00	7,155.25	2,126.63	2,077.58	43.352	ES

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 Independence D18-725
Project:	Mustang	TVD Reference:	Well @ 4800.00ft
Reference Site:	D Section 19	MD Reference:	Well @ 4800.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Independence D18-725	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Independence D18-725	Database:	EDMP
Reference Design:	Plan #2	Offset TVD Reference:	Reference 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 19						
Independence D18-759 - Independence D18-759 - Plan #	17,469.95	17,022.71	2,910.83	2,730.66	16.156	SF
Independence D18-767 - Independence D18-767 - Plan #	2,109.84	2,126.84	2,385.65	2,370.93	162.054	CC
Independence D18-767 - Independence D18-767 - Plan #	2,200.00	2,214.42	2,385.66	2,370.30	155.334	ES
Independence D18-767 - Independence D18-767 - Plan #	17,469.95	16,709.36	3,591.93	3,415.78	20.391	SF
Independence D30-711 - Independence D30-711 OH - As	0.00	0.00	157.06			
Independence D30-711 - Independence D30-711 OH - As	2,200.00	2,197.02	161.13	146.77	11.217	ES
Independence D30-711 - Independence D30-711 OH - As	2,400.00	2,388.11	165.85	150.69	10.942	SF
Independence D30-718 - Independence D30-718 OH - A	0.00	0.00	151.98			
Independence D30-718 - Independence D30-718 OH - A	2,427.02	2,421.17	158.80	143.25	10.212	ES
Independence D30-718 - Independence D30-718 OH - A	7,100.00	7,219.43	313.37	269.60	7.159	SF
Independence D30-724 - Independence D30-724 OH - A	7,200.00	7,176.07	115.04	71.35	2.633	ES, SF
Independence D30-724 - Independence D30-724 OH - A	7,204.06	7,172.36	115.02	71.38	2.635	CC
Independence D30-731 - Independence D30-731 OH - A	530.91	527.92	148.71	145.39	44.814	CC
Independence D30-731 - Independence D30-731 OH - A	2,200.00	2,196.17	149.25	134.86	10.369	ES
Independence D30-731 - Independence D30-731 OH - A	2,300.00	2,292.52	151.28	136.50	10.231	SF
Independence D30-737 - Independence D30-737 OH - A	2,065.29	2,064.31	154.21	140.21	11.016	CC
Independence D30-737 - Independence D30-737 OH - A	2,200.00	2,197.88	154.44	139.91	10.627	ES
Independence D30-737 - Independence D30-737 OH - A	2,300.00	2,293.48	156.84	141.93	10.515	SF
Independence D30-743 - Independence D30-743 OH - A	0.00	1.00	163.67			
Independence D30-743 - Independence D30-743 OH - A	2,198.52	2,199.58	164.79	150.12	11.235	ES
Independence D30-743 - Independence D30-743 OH - A	2,300.00	2,294.22	167.89	152.87	11.184	SF
Independence D30-758 - Independence D30-758 OH - A	7,072.47	7,296.07	2,195.60	2,151.77	50.092	CC, ES
Independence D30-758 - Independence D30-758 OH - A	7,500.00	6,944.11	2,199.35	2,155.35	49.979	SF
Independence D30-765 - Independence D30-765 OH - A	749.38	779.40	2,386.06	2,381.11	481.871	CC
Independence D30-765 - Independence D30-765 OH - A	2,200.00	2,219.06	2,394.75	2,380.38	166.702	ES
Independence D30-765 - Independence D30-765 OH - A	7,400.00	7,131.27	2,627.14	2,582.78	59.224	SF
Independence D30-770 - Independence D30-770 OH - A	0.00	14.95	2,410.44			
Independence D30-770 - Independence D30-770 OH - A	2,100.00	2,111.52	2,414.06	2,400.12	173.194	ES
Independence D30-770 - Independence D30-770 OH - A	8,000.00	6,669.63	3,049.22	3,004.55	68.263	SF
Independence D30-777 - Independence D30-777 - As-Dr	888.38	905.39	2,430.44	2,424.52	410.475	CC
Independence D30-777 - Independence D30-777 - As-Dr	2,200.00	2,197.86	2,433.49	2,419.15	169.679	ES
Independence D30-777 - Independence D30-777 - As-Dr	7,800.00	6,849.73	3,362.05	3,316.83	74.348	SF
Independence State D30-784 - Independence State D30	1,920.47	1,937.53	2,448.62	2,435.42	185.445	CC
Independence State D30-784 - Independence State D30	2,000.00	1,995.64	2,448.95	2,435.38	180.440	ES
Independence State D30-784 - Independence State D30	9,000.00	6,376.98	4,051.84	4,003.32	83.506	SF
LDS White D19-10 - LDS White D19-10 - LDS White D19	2,263.63	2,266.25	3,047.15	3,031.52	194.938	CC
LDS White D19-10 - LDS White D19-10 - LDS White D19	2,300.00	2,303.42	3,047.24	3,031.35	191.782	ES
LDS White D19-10 - LDS White D19-10 - LDS White D19	6,600.00	6,555.87	3,210.97	3,164.97	69.811	SF
LDS White D19-15 - LDS White D19-15 - LDS White D19	100.00	72.55	4,314.99	4,314.74	10,000.000	CC
LDS White D19-15 - LDS White D19-15 - LDS White D19	2,400.00	2,409.02	4,321.13	4,304.54	260.366	ES
LDS White D19-15 - LDS White D19-15 - LDS White D19	6,650.00	6,607.87	4,529.90	4,483.61	97.843	SF
LDS White D19-16 - Wellbore #1 - Wellbore #1 - As Drill	5,919.77	5,882.86	4,189.44	4,148.18	101.561	CC
LDS White D19-16 - Wellbore #1 - Wellbore #1 - As Drill	6,273.78	6,236.05	4,189.46	4,145.73	95.799	ES
LDS White D19-16 - Wellbore #1 - Wellbore #1 - As Drill	6,650.00	6,600.46	4,297.53	4,251.29	92.934	SF
Mile High 02-19 - Wellbore #1 - Wellbore #1 - As Drilled	360.07	333.07	1,317.46	1,315.42	643.860	CC
Mile High 02-19 - Wellbore #1 - Wellbore #1 - As Drilled	2,400.00	2,400.45	1,322.39	1,305.84	79.889	ES
Mile High 02-19 - Wellbore #1 - Wellbore #1 - As Drilled	6,450.00	6,412.85	1,528.06	1,483.10	33.987	SF
Sean D19-09 - Wellbore #1 - Wellbore #1 - As Drilled	5,616.95	5,569.84	2,748.08	2,709.00	70.317	CC
Sean D19-09 - Wellbore #1 - Wellbore #1 - As Drilled	6,275.05	6,233.42	2,751.26	2,707.54	62.929	ES
Sean D19-09 - Wellbore #1 - Wellbore #1 - As Drilled	6,550.00	6,491.18	2,809.27	2,763.72	61.667	SF
Turk Blue D19-02J - Turk Blue D19-02J - Turk Blue D19-	280.48	267.48	2,588.10	2,586.57	1,687.952	CC
Turk Blue D19-02J - Turk Blue D19-02J - Turk Blue D19-	2,213.01	2,211.70	2,594.43	2,579.17	170.124	ES
Turk Blue D19-02J - Turk Blue D19-02J - Turk Blue D19-	6,850.00	6,816.38	2,982.75	2,935.26	62.805	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 Independence D18-725
Project:	Mustang	TVD Reference:	Well @ 4800.00ft
Reference Site:	D Section 19	MD Reference:	Well @ 4800.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Independence D18-725	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Independence D18-725	Database:	EDMP
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
D Section 19						
Turk Blue D19-04 - Turk Blue D19-04 - Turk Blue D19-04	2,246.30	2,308.38	3,458.97	3,443.25	219.948	CC, ES
Turk Blue D19-04 - Turk Blue D19-04 - Turk Blue D19-04	7,200.00	6,893.99	3,803.28	3,754.81	78.466	SF
Turk Blue D19-05 - Turk Blue D19-05 - Turk Blue D19-05	686.49	675.50	3,954.26	3,949.84	894.953	CC
Turk Blue D19-05 - Turk Blue D19-05 - Turk Blue D19-05	2,200.00	2,172.96	3,960.51	3,945.44	262.881	ES
Turk Blue D19-05 - Turk Blue D19-05 - Turk Blue D19-05	6,850.00	6,909.24	4,228.79	4,180.93	88.352	SF
Turk Blue D19-06 - Turk Blue D19-06 - Turk Blue D19-06	642.64	617.64	2,719.18	2,715.12	670.607	CC
Turk Blue D19-06 - Turk Blue D19-06 - Turk Blue D19-06	2,217.67	2,212.57	2,719.39	2,704.12	178.153	ES
Turk Blue D19-06 - Turk Blue D19-06 - Turk Blue D19-06	6,650.00	6,623.19	3,042.18	2,995.88	65.707	SF
Turk White D19-01 - Wellbore #1 - Wellbore #1 - As Drill	6,281.67	6,241.20	324.98	281.30	7.440	CC, ES
Turk White D19-01 - Wellbore #1 - Wellbore #1 - As Drill	6,350.00	6,307.57	327.45	283.30	7.416	SF
Turk White D19-02 - Wellbore #1 - Wellbore #1 - As Drill	100.00	59.72	903.10	902.87	3,917.057	CC, ES
Turk White D19-02 - Wellbore #1 - Wellbore #1 - As Drill	6,750.00	6,657.76	1,234.50	1,187.85	26.464	SF
Turk White D19-08 - Wellbore #1 - Wellbore #1 - As Drill	6,277.77	6,244.15	1,692.39	1,648.64	38.681	CC, ES
Turk White D19-08 - Wellbore #1 - Wellbore #1 - As Drill	6,450.00	6,407.33	1,715.59	1,670.66	38.188	SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Independence D18-725
Project:	Mustang	TVD Reference:	Well @ 4800.00ft
Reference Site:	D Section 19	MD Reference:	Well @ 4800.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Independence D18-725	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Independence D18-725	Database:	EDMP
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
D Section 20						
Bohlender D20-2J - Wellbore #1 - No Surveys	6,273.78	6,226.38	2,133.84	2,057.49	27.949	CC
Bohlender D20-2J - Wellbore #1 - No Surveys	6,300.00	6,252.59	2,134.14	2,057.48	27.836	ES
Bohlender D20-2J - Wellbore #1 - No Surveys	6,600.00	6,538.51	2,180.87	2,100.72	27.209	SF
Bohlender D20-3 - Wellbore #1 - Gyro Surveys	6,203.62	6,163.24	2,698.01	2,654.88	62.545	CC
Bohlender D20-3 - Wellbore #1 - Gyro Surveys	6,300.00	6,252.12	2,698.26	2,654.48	61.622	ES
Bohlender D20-3 - Wellbore #1 - Gyro Surveys	7,050.00	6,820.17	2,759.57	2,711.67	57.609	SF
Bohlender D20-4 (P&A) - Wellbore #1 - No Surveys	6,273.78	6,228.38	1,337.57	1,191.00	9.126	CC
Bohlender D20-4 (P&A) - Wellbore #1 - No Surveys	6,500.00	6,449.87	1,339.93	1,188.15	8.828	ES
Bohlender D20-4 (P&A) - Wellbore #1 - No Surveys	6,800.00	6,696.69	1,362.24	1,204.65	8.644	SF
Bohlender D20-6 - Wellbore#1 - Gyro Surveys	5,703.43	5,654.11	3,113.76	3,074.17	78.656	CC
Bohlender D20-6 - Wellbore#1 - Gyro Surveys	6,200.00	6,126.51	3,116.28	3,073.29	72.499	ES
Bohlender D20-6 - Wellbore#1 - Gyro Surveys	6,800.00	6,654.73	3,227.47	3,180.77	69.098	SF
Butterball D19-27D - Butterball D19-27D - Butterball D19	6,950.00	7,025.43	583.14	521.13	9.404	SF
Butterball D19-27D - Butterball D19-27D - Butterball D19	7,200.00	7,098.08	523.67	472.34	10.202	ES
Butterball D19-27D - Butterball D19-27D - Butterball D19	7,219.61	7,099.72	523.31	472.38	10.275	CC
Duncan D20-1 (P&A) - Wellbore #1 - No Surveys	6,273.78	6,227.38	5,507.36	5,360.80	37.578	CC
Duncan D20-1 (P&A) - Wellbore #1 - No Surveys	6,650.00	6,582.08	5,510.35	5,355.46	35.575	ES
Duncan D20-1 (P&A) - Wellbore #1 - No Surveys	7,200.00	6,859.73	5,546.08	5,384.35	34.291	SF
Duncan D20-10 - Wellbore #1 - Gyro Surveys	5,699.07	5,663.93	5,415.64	5,376.02	136.678	CC
Duncan D20-10 - Wellbore #1 - Gyro Surveys	6,273.78	6,230.84	5,416.33	5,372.70	124.162	ES
Duncan D20-10 - Wellbore #1 - Gyro Surveys	6,850.00	6,740.87	5,564.97	5,517.84	118.080	SF
Duncan D20-11 (SI) - Wellbore #1 - No Surveys	6,273.78	6,233.38	3,968.78	3,892.35	51.929	CC, ES
Duncan D20-11 (SI) - Wellbore #1 - No Surveys	6,700.00	6,628.46	4,067.27	3,986.04	50.068	SF
Duncan D20-12 (SI) - Wellbore #1 - No Surveys	6,273.78	6,231.38	3,193.04	3,116.59	41.766	CC, ES
Duncan D20-12 (SI) - Wellbore #1 - No Surveys	6,600.00	6,543.51	3,266.42	3,186.16	40.699	SF
Duncan D20-13 (SI) - Wellbore #1 - No Surveys	6,273.78	6,236.38	4,608.94	4,532.42	60.237	CC, ES
Duncan D20-13 (SI) - Wellbore #1 - No Surveys	6,700.00	6,631.46	4,740.13	4,658.81	58.289	SF
Duncan D20-14 (SI) - Wellbore #1 - Gyro Surveys	5,766.84	5,723.57	4,535.91	4,495.82	113.156	CC
Duncan D20-14 (SI) - Wellbore #1 - Gyro Surveys	6,200.00	6,126.33	4,536.76	4,493.74	105.456	ES
Duncan D20-14 (SI) - Wellbore #1 - Gyro Surveys	6,700.00	6,554.48	4,660.42	4,614.30	101.035	SF
Duncan D20-15 (P&A) - Wellbore #1 - Gyro Surveys	5,980.79	5,943.09	5,726.18	5,684.56	137.568	CC
Duncan D20-15 (P&A) - Wellbore #1 - Gyro Surveys	6,273.78	6,221.45	5,726.54	5,682.91	131.260	ES
Duncan D20-15 (P&A) - Wellbore #1 - Gyro Surveys	6,800.00	6,719.40	5,880.57	5,833.61	125.228	SF
Duncan D20-16 (SI) - Wellbore #1 - Gyro Surveys	6,280.88	6,300.00	6,957.98	6,914.11	158.605	CC, ES
Duncan D20-16 (SI) - Wellbore #1 - Gyro Surveys	7,050.00	6,798.97	7,220.98	7,173.28	151.386	SF
Duncan D20-2 - Wellbore #1 - Gyro Surveys	5,444.61	5,389.06	4,061.14	4,023.39	107.596	CC
Duncan D20-2 - Wellbore #1 - Gyro Surveys	5,500.00	5,426.34	4,061.25	4,023.18	106.671	ES
Duncan D20-2 - Wellbore #1 - Gyro Surveys	7,200.00	6,846.40	4,147.89	4,099.63	85.950	SF
Duncan D20-7 - Wellbore #1 - Gyro Surveys	6,292.16	6,272.84	4,528.12	4,484.33	103.424	CC
Duncan D20-7 - Wellbore #1 - Gyro Surveys	6,300.00	6,280.18	4,528.13	4,484.29	103.298	ES
Duncan D20-7 - Wellbore #1 - Gyro Surveys	7,050.00	6,826.61	4,655.57	4,607.71	97.273	SF
Duncan D20-8 - Wellbore #1 - Gyro Surveys	5,396.32	5,347.33	5,668.94	5,631.50	151.432	CC
Duncan D20-8 - Wellbore #1 - Gyro Surveys	6,300.00	6,294.85	5,673.00	5,629.09	129.208	ES
Duncan D20-8 - Wellbore #1 - Gyro Surveys	7,100.00	6,849.65	5,821.01	5,772.96	121.137	SF
Duncan D20-9 (P&A) - Wellbore #1 - Gyro Surveys	6,131.15	6,088.36	6,186.25	6,143.64	145.160	CC
Duncan D20-9 (P&A) - Wellbore #1 - Gyro Surveys	6,300.00	6,278.11	6,186.45	6,142.58	141.015	ES
Duncan D20-9 (P&A) - Wellbore #1 - Gyro Surveys	7,000.00	6,818.91	6,363.93	6,316.20	133.319	SF
E Ranches (P&A) - Wellbore #1 - No Surveys	6,273.78	6,228.38	4,593.58	4,446.94	31.325	CC
E Ranches (P&A) - Wellbore #1 - No Surveys	6,300.00	6,254.59	4,594.07	4,446.81	31.197	ES
E Ranches (P&A) - Wellbore #1 - No Surveys	6,700.00	6,623.46	4,719.11	4,563.21	30.269	SF
Guttersen 10-20 - Wellbore #1 - Gyro Surveys	5,409.29	5,358.95	4,696.59	4,659.05	125.110	CC
Guttersen 10-20 - Wellbore #1 - Gyro Surveys	6,273.78	6,207.19	4,697.25	4,653.71	107.885	ES
Guttersen 10-20 - Wellbore #1 - Gyro Surveys	6,650.00	6,649.80	4,760.86	4,714.70	103.140	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 Independence D18-725
Project:	Mustang	TVD Reference:	Well @ 4800.00ft
Reference Site:	D Section 19	MD Reference:	Well @ 4800.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Independence D18-725	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Independence D18-725	Database:	EDMP
Reference Design:	Plan #2	Offset TVD Reference:	Reference 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 20						
LDS D20-30D - LDS D20-30D - LDS D20-30D - As Drille	6,951.30	6,844.12	646.16	596.68	13.059	CC, ES
LDS D20-30D - LDS D20-30D - LDS D20-30D - As Drille	7,000.00	6,865.93	647.63	597.78	12.989	SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Independence D18-725
Project:	Mustang	TVD Reference:	Well @ 4800.00ft
Reference Site:	D Section 19	MD Reference:	Well @ 4800.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Independence D18-725	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Independence D18-725	Database:	EDMP
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
D Section 29						
Guttersen D29-31D - Wellbore #1 - Guttersen D29-31D	5,545.42	812.40	6,245.46	6,205.81	157.514	CC
Guttersen D29-31D - Wellbore #1 - Guttersen D29-31D	6,274.72	1,550.87	6,248.13	6,203.59	140.286	ES
Guttersen D29-31D - Wellbore #1 - Guttersen D29-31D	6,700.00	1,935.10	6,384.38	6,337.23	135.410	SF
Guttersen D29-33D - Wellbore #1 - Guttersen D29-33D -	855.00	863.00	7,689.96	7,685.46	1,709.361	CC
Guttersen D29-33D - Wellbore #1 - Guttersen D29-33D -	900.00	863.00	7,690.09	7,685.43	1,650.195	ES
Guttersen D29-33D - Wellbore #1 - Guttersen D29-33D -	6,850.00	6,948.97	9,111.46	9,063.74	190.926	SF
Guttersen D29-65HN - Guttersen D29-65HN OH - As-Dri	6,287.58	6,453.94	7,595.93	7,553.00	176.938	CC, ES
Guttersen D29-65HN - Guttersen D29-65HN OH - As-Dri	6,650.00	6,537.00	7,701.38	7,656.96	173.386	SF
Guttersen D29-67HN - Original Drilling - Original Drilling	5,628.06	5,612.37	6,273.14	6,235.22	165.444	CC
Guttersen D29-67HN - Original Drilling - Original Drilling	6,000.00	5,952.87	6,273.48	6,233.06	155.216	ES
Guttersen D29-67HN - Original Drilling - Original Drilling	6,700.00	6,411.01	6,420.30	6,375.99	144.884	SF
Guttersen D29-69HN - Original Drilling - Original Drilling	5,831.44	5,990.57	5,048.48	5,006.77	121.037	CC, ES
Guttersen D29-69HN - Original Drilling - Original Drilling	6,550.00	6,493.30	5,119.09	5,073.49	112.252	SF
Guttersen D29-722 - Guttersen D29-722 OH - As-Drilled	7,849.04	15,812.65	5,222.97	5,121.17	51.311	CC
Guttersen D29-722 - Guttersen D29-722 OH - As-Drilled	7,900.00	15,831.21	5,223.12	5,121.04	51.166	ES
Guttersen D29-722 - Guttersen D29-722 OH - As-Drilled	10,400.00	17,570.00	5,326.59	5,199.14	41.795	SF
Guttersen D29-730 - Guttersen D29-730 OH - As-Drilled	9,110.77	16,850.93	4,614.16	4,498.38	39.854	CC, ES
Guttersen D29-730 - Guttersen D29-730 OH - As-Drilled	10,200.00	17,403.00	4,672.42	4,546.87	37.217	SF
Guttersen D29-738 - Guttersen D29-738 OH - As-Drilled	9,075.59	17,174.09	3,965.92	3,849.28	34.003	CC
Guttersen D29-738 - Guttersen D29-738 OH - As-Drilled	9,200.00	17,258.34	3,966.54	3,848.56	33.621	ES
Guttersen D29-738 - Guttersen D29-738 OH - As-Drilled	10,100.00	17,760.00	4,012.12	3,885.28	31.630	SF
Guttersen D29-746 - Guttersen D29-746 OH - As-Drilled	9,656.04	17,334.00	3,408.68	3,285.16	27.597	CC, ES
Guttersen D29-746 - Guttersen D29-746 OH - As-Drilled	10,000.00	17,334.00	3,425.99	3,300.83	27.374	SF
Guttersen D29-754 - Guttersen D29-754 OH - As-Drilled	9,651.94	17,705.00	2,800.82	2,676.35	22.502	CC, ES
Guttersen D29-754 - Guttersen D29-754 OH - As-Drilled	9,900.00	17,705.00	2,811.78	2,686.30	22.408	SF
Guttersen D29-770 - Guttersen D29-770 OH - As-Drilled	8,715.83	16,441.00	2,182.92	2,071.85	19.653	CC, ES
Guttersen D29-770 - Guttersen D29-770 OH - As-Drilled	9,800.00	17,356.00	2,244.64	2,120.69	18.109	SF
Guttersen D29-778 - Guttersen D29-778 OH - As-Drilled	8,461.15	16,493.64	1,574.88	1,465.61	14.414	CC
Guttersen D29-778 - Guttersen D29-778 OH - As-Drilled	9,648.16	17,682.00	1,581.67	1,456.86	12.673	ES
Guttersen D29-778 - Guttersen D29-778 OH - As-Drilled	9,700.00	17,682.00	1,582.52	1,457.46	12.654	SF
Guttersen D29-786 - Guttersen D29-786 OH - As-Drilled	6,994.19	14,927.11	1,003.23	910.25	10.790	CC
Guttersen D29-786 - Guttersen D29-786 OH - As-Drilled	9,643.63	17,558.00	1,029.56	905.77	8.318	ES, SF
Guttersen D29-99HZ - Guttersen D29-99HZ OH - As-Dril	6,196.48	6,258.00	8,976.85	8,933.98	209.381	CC
Guttersen D29-99HZ - Guttersen D29-99HZ OH - As-Dril	6,200.00	6,258.00	8,976.85	8,933.97	209.324	ES
Guttersen D29-99HZ - Guttersen D29-99HZ OH - As-Dril	6,600.00	6,353.00	9,064.51	9,020.04	203.847	SF
Guttersen D30-68-1HN - Original Drilling - Original Drillin	6,316.99	1,992.00	5,879.34	5,833.36	127.865	CC, ES
Guttersen D30-68-1HN - Original Drilling - Original Drillin	6,550.00	1,992.00	5,925.66	5,878.86	126.619	SF
Guttersen D30-69-1HN - Original Drilling - Original Drillin	6,307.77	1,943.00	5,147.32	5,100.74	110.490	CC, ES
Guttersen D30-69-1HN - Original Drilling - Original Drillin	6,750.00	2,317.96	5,306.50	5,254.96	102.966	SF
Guttersen State D29-714 - Guttersen State D29-714 OH	9,657.65	17,529.00	5,818.45	5,694.09	46.786	CC
Guttersen State D29-714 - Guttersen State D29-714 OH	9,700.00	17,529.00	5,818.61	5,693.99	46.693	ES
Guttersen State D29-714 - Guttersen State D29-714 OH	10,600.00	17,529.00	5,894.27	5,765.29	45.698	SF
Guttersen State Y05-719 - Guttersen State Y05-719 - Pla	5,222.30	4,900.00	8,915.36	8,879.72	250.167	CC, ES
Guttersen State Y05-719 - Guttersen State Y05-719 - Pla	6,900.00	5,902.95	9,270.46	9,226.05	208.746	SF
Guttersen Y05-726 - Guttersen Y05-726 - Plan #4	6,278.79	6,370.74	8,645.11	8,600.75	194.892	CC, ES
Guttersen Y05-726 - Guttersen Y05-726 - Plan #4	6,650.00	6,400.00	8,736.58	8,690.95	191.442	SF
Guttersen Y05-734 - Guttersen Y05-734 - As-Drilled	6,286.05	6,528.00	8,494.14	8,453.31	208.021	CC, ES
Guttersen Y05-734 - Guttersen Y05-734 - As-Drilled	6,650.00	6,528.00	8,586.64	8,544.66	204.517	SF
Guttersen Y05-749 - Guttersen Y05-749 OH - As-Drilled	2,772.71	2,463.00	7,827.27	7,810.76	474.044	CC
Guttersen Y05-749 - Guttersen Y05-749 OH - As-Drilled	2,800.00	2,476.95	7,827.29	7,810.67	470.954	ES
Guttersen Y05-749 - Guttersen Y05-749 OH - As-Drilled	6,850.00	5,879.36	8,377.20	8,337.64	211.760	SF
Guttersen Y05-756 - Guttersen Y05-756 - As-Drilled	3,484.76	3,183.93	7,773.74	7,753.69	387.708	CC, ES
Guttersen Y05-756 - Guttersen Y05-756 - As-Drilled	6,750.00	5,736.35	8,211.36	8,172.90	213.546	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 Independence D18-725
Project:	Mustang	TVD Reference:	Well @ 4800.00ft
Reference Site:	D Section 19	MD Reference:	Well @ 4800.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Independence D18-725	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Independence D18-725	Database:	EDMP
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
D Section 29						
Guttersen Y05-771 - Guttersen Y05-771 - As-Drilled	1,948.54	1,963.57	7,344.34	7,330.98	549.556	CC
Guttersen Y05-771 - Guttersen Y05-771 - As-Drilled	2,500.14	2,319.32	7,345.96	7,330.49	474.773	ES
Guttersen Y05-771 - Guttersen Y05-771 - As-Drilled	6,400.00	6,400.00	7,771.79	7,731.50	192.911	SF
Guttersen Y05-779 - Guttersen Y05- 779 - As-Drilled	4,408.72	4,261.00	7,300.07	7,274.17	281.934	CC
Guttersen Y05-779 - Guttersen Y05- 779 - As-Drilled	4,500.00	4,294.33	7,300.38	7,274.08	277.497	ES
Guttersen Y05-779 - Guttersen Y05- 779 - As-Drilled	8,900.00	8,900.00	9,715.78	9,666.05	195.398	SF
Guttersen Y05-786 - Guttersen Y05-786 - As-Drilled	2,900.90	2,749.00	7,312.08	7,294.79	422.955	CC, ES
Guttersen Y05-786 - Guttersen Y05-786 - As-Drilled	7,000.00	7,000.00	7,961.63	7,918.38	184.100	SF
Jessie D29-1J (PR) - Wellbore #1 - Gyro Surveys	5,809.40	5,778.37	7,258.39	7,217.97	179.572	CC
Jessie D29-1J (PR) - Wellbore #1 - Gyro Surveys	6,273.78	6,229.40	7,259.22	7,215.59	166.376	ES
Jessie D29-1J (PR) - Wellbore #1 - Gyro Surveys	6,800.00	6,670.20	7,426.22	7,379.45	158.806	SF
Jessie D29-4J (PA) - Wellbore #1 - Gyro Surveys	5,402.05	5,377.83	9,528.21	9,490.60	253.364	CC
Jessie D29-4J (PA) - Wellbore #1 - Gyro Surveys	5,500.00	5,433.02	9,528.48	9,490.33	249.800	ES
Jessie D29-4J (PA) - Wellbore #1 - Gyro Surveys	6,850.00	6,484.36	9,764.12	9,717.91	211.282	SF
Kate Red D29-03J - Kate Red D29-03J - Kate Red D29-0	6,277.01	6,300.00	8,646.49	8,602.53	196.670	CC, ES
Kate Red D29-03J - Kate Red D29-03J - Kate Red D29-0	6,800.00	6,749.80	8,845.78	8,798.66	187.725	SF
Kate Red D29-11 - Wellbore #1 - Gyro Surveys	5,925.84	5,900.00	8,542.45	8,501.12	206.711	CC
Kate Red D29-11 - Wellbore #1 - Gyro Surveys	6,273.78	6,228.11	8,543.16	8,499.46	195.498	ES
Kate Red D29-11 - Wellbore #1 - Gyro Surveys	6,850.00	6,858.88	8,770.97	8,723.43	184.506	SF
Kate Red D29-13 - Wellbore #1 - Gyro Surveys	3,547.53	3,440.77	9,634.42	9,610.18	397.512	CC
Kate Red D29-13 - Wellbore #1 - Gyro Surveys	3,800.00	3,623.16	9,635.25	9,609.48	373.913	ES
Kate Red D29-13 - Wellbore #1 - Gyro Surveys	6,750.00	6,700.00	9,819.00	9,772.20	209.789	SF
Kate Red D29-14 - Wellbore #1 - Gyro Surveys	6,234.87	6,231.80	9,820.96	9,777.41	225.514	CC
Kate Red D29-14 - Wellbore #1 - Gyro Surveys	6,273.78	6,247.13	9,821.01	9,777.27	224.530	ES
Kate Red D29-14 - Wellbore #1 - Gyro Surveys	6,750.00	6,652.42	9,986.13	9,939.50	214.144	SF
Kate Red D29-2J - Wellbore #1 - Kate Red D29-2J	4,147.69	3,940.81	6,150.37	6,122.25	218.766	CC
Kate Red D29-2J - Wellbore #1 - Kate Red D29-2J	5,408.78	5,329.02	6,157.18	6,119.70	164.265	ES
Kate Red D29-2J - Wellbore #1 - Kate Red D29-2J	6,800.00	6,665.45	6,375.37	6,328.59	136.265	SF
Kate Red D29-3 - Wellbore #1 - Kate Red D29-3	5,239.06	5,051.99	6,130.57	6,094.68	170.808	CC
Kate Red D29-3 - Wellbore #1 - Kate Red D29-3	5,300.00	5,115.38	6,130.82	6,094.49	168.753	ES
Kate Red D29-3 - Wellbore #1 - Kate Red D29-3	6,800.00	6,671.43	6,328.23	6,281.45	135.275	SF
Kate Red D29-5 - Wellbore #1 - Gyro Surveys	5,192.14	5,080.41	6,937.15	6,901.27	193.363	CC
Kate Red D29-5 - Wellbore #1 - Gyro Surveys	6,273.80	6,240.79	6,940.02	6,896.29	158.675	ES
Kate Red D29-5 - Wellbore #1 - Gyro Surveys	6,800.00	6,715.24	7,141.06	7,094.07	151.984	SF
Kate Red D29-6 - Wellbore #1 - Gyro Surveys	5,177.69	4,945.76	7,336.72	7,301.42	207.840	CC
Kate Red D29-6 - Wellbore #1 - Gyro Surveys	5,200.00	4,957.84	7,336.77	7,301.35	207.128	ES
Kate Red D29-6 - Wellbore #1 - Gyro Surveys	6,800.00	6,691.26	7,562.91	7,516.05	161.400	SF
Kate White D29-01 (PR) - Wellbore #1 - Gyro Surveys	5,391.20	5,334.58	7,681.20	7,643.82	205.493	CC
Kate White D29-01 (PR) - Wellbore #1 - Gyro Surveys	5,800.00	5,737.22	7,683.24	7,643.01	191.013	ES
Kate White D29-01 (PR) - Wellbore #1 - Gyro Surveys	6,950.00	6,789.86	7,922.82	7,875.34	166.865	SF
Kate White D29-07 (PA) - Wellbore #1 - Gyro Surveys	6,285.03	6,380.01	8,049.40	8,005.15	181.899	CC, ES
Kate White D29-07 (PA) - Wellbore #1 - Gyro Surveys	6,850.00	6,700.00	8,254.54	8,207.51	175.512	SF
Kate White D29-08 (PA) - Wellbore #1 - Gyro Surveys	6,275.20	6,260.54	8,667.61	8,623.84	198.068	CC, ES
Kate White D29-08 (PA) - Wellbore #1 - Gyro Surveys	6,850.00	6,530.10	8,865.68	8,819.29	191.124	SF
Kate White D29-15 (SI) - Wellbore #1 - Gyro Surveys						Out of range
Kate White D29-16 - Wellbore #1 - Gyro Surveys						Out of range
Kate White D29-9 (SI) - Wellbore #1 - Gyro Surveys	5,636.54	5,620.34	9,758.11	9,718.85	248.569	CC
Kate White D29-9 (SI) - Wellbore #1 - Gyro Surveys	5,700.00	5,653.16	9,758.22	9,718.63	246.443	ES
Kate White D29-9 (SI) - Wellbore #1 - Gyro Surveys	6,850.00	6,369.46	9,987.90	9,942.10	218.110	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 Independence D18-725
Project:	Mustang	TVD Reference:	Well @ 4800.00ft
Reference Site:	D Section 19	MD Reference:	Well @ 4800.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Independence D18-725	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Independence D18-725	Database:	EDMP
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
D Section 30						
Adams D30-27D - Adams D30-27D - Adams D30-27D - A	6,276.43	6,353.38	4,765.14	4,719.58	104.572	CC, ES
Adams D30-27D - Adams D30-27D - Adams D30-27D - A	6,650.00	6,703.69	4,870.75	4,822.80	101.576	SF
Adams D30-29D - Wellbore #1 - Wellbore #1 - As Drilled	1,125.12	1,121.00	5,381.22	5,373.68	712.759	CC
Adams D30-29D - Wellbore #1 - Wellbore #1 - As Drilled	1,200.00	1,160.76	5,381.48	5,373.51	675.255	ES
Adams D30-29D - Wellbore #1 - Wellbore #1 - As Drilled	6,650.00	6,702.68	5,910.62	5,860.49	117.898	SF
Adams D30-30D - Adams D30-30D Gyros - Gyros	1,592.47	1,600.00	5,271.01	5,257.15	380.116	CC
Adams D30-30D - Adams D30-30D Gyros - Gyros	1,700.00	1,646.89	5,271.66	5,256.85	355.933	ES
Adams D30-30D - Adams D30-30D Gyros - Gyros	6,950.00	7,248.84	6,746.30	6,640.69	63.882	SF
Adams D30-30D - Adams D30-30D OH - As Drilled	1,592.47	1,613.00	5,271.03	5,257.16	380.117	CC
Adams D30-30D - Adams D30-30D OH - As Drilled	1,700.00	1,659.89	5,271.68	5,256.86	355.933	ES
Adams D30-30D - Adams D30-30D OH - As Drilled	6,950.00	7,261.84	6,746.31	6,640.70	63.881	SF
Adams D30-31D - Adams D30-31D Gyros - Gyros	0.00	0.00	5,367.81			
Adams D30-31D - Adams D30-31D Gyros - Gyros	100.00	59.27	5,367.96	5,367.73	10,000.000	ES
Adams D30-31D - Adams D30-31D Gyros - Gyros	9,800.00	9,800.00	9,941.97	9,803.07	71.577	SF
Adams D30-31D - Adams D30-31D OH - As-drilled	0.00	0.00	5,367.79			
Adams D30-31D - Adams D30-31D OH - As-drilled	100.00	70.93	5,368.00	5,367.76	10,000.000	ES
Adams D30-31D - Adams D30-31D OH - As-drilled	9,800.00	9,800.00	9,942.01	9,803.28	71.664	SF
Corbin D30-23D - Corbin D30-23D - Corbin D30-23D - As	6,004.89	6,357.56	9,167.75	9,072.87	96.632	CC
Corbin D30-23D - Corbin D30-23D - Corbin D30-23D - As	6,273.78	6,592.41	9,168.11	9,072.05	95.450	ES
Corbin D30-23D - Corbin D30-23D - Corbin D30-23D - As	6,500.00	6,764.57	9,209.24	9,112.23	94.930	SF
Corbin Red D30-04J - Corbin Red D30-04J - Corbin Red	2,234.97	2,240.81	8,522.59	8,507.16	552.311	CC
Corbin Red D30-04J - Corbin Red D30-04J - Corbin Red	2,400.00	2,397.91	8,523.36	8,506.81	514.983	ES
Corbin Red D30-04J - Corbin Red D30-04J - Corbin Red	6,800.00	6,424.32	8,769.72	8,723.76	190.804	SF
Corbin Red D30-09 - Corbin Red D30-09 - Corbin Red D	4,799.04	4,813.18	8,158.69	8,125.14	243.137	CC
Corbin Red D30-09 - Corbin Red D30-09 - Corbin Red D	6,273.78	6,215.99	8,163.81	8,120.14	186.918	ES
Corbin Red D30-09 - Corbin Red D30-09 - Corbin Red D	6,750.00	6,594.03	8,338.17	8,291.70	179.400	SF
Corbin Red D30-15 - Corbin Red D30-15 - Corbin Red D	2,804.23	2,957.18	9,545.22	9,525.32	479.504	CC
Corbin Red D30-15 - Corbin Red D30-15 - Corbin Red D	5,600.00	5,535.93	9,559.57	9,520.65	245.674	ES
Corbin Red D30-15 - Corbin Red D30-15 - Corbin Red D	6,800.00	6,500.00	9,775.21	9,728.97	211.397	SF
Corbin Red D30-16 - Corbin Red D30-16 - Corbin Red D	0.00	0.87	9,509.11			
Corbin Red D30-16 - Corbin Red D30-16 - Corbin Red D	2,300.00	2,237.54	9,513.72	9,498.08	608.034	ES
Corbin Red D30-16 - Corbin Red D30-16 - Corbin Red D	6,850.00	6,838.98	9,848.30	9,800.73	207.022	SF
Dechant D30-17D - Dechant D30-17D - Dechant D30-17	141.92	123.92	5,360.80	5,360.27	10,000.000	CC
Dechant D30-17D - Dechant D30-17D - Dechant D30-17	200.00	163.11	5,360.91	5,360.02	6,079.739	ES
Dechant D30-17D - Dechant D30-17D - Dechant D30-17	6,500.00	6,954.65	6,579.81	6,490.15	73.382	SF
Dechant D30-20D - Dechant D30-20D - Dechant D30-20	4,310.50	4,746.00	8,061.82	8,027.36	233.969	CC, ES
Dechant D30-20D - Dechant D30-20D - Dechant D30-20	6,750.00	6,827.66	8,230.61	8,181.35	167.066	SF
Dechant D30-24D - Dechant D30-24D - Dechant D30-24	4,605.24	4,965.69	9,071.75	9,037.34	263.621	CC
Dechant D30-24D - Dechant D30-24D - Dechant D30-24	5,900.00	5,942.34	9,073.21	9,031.11	215.517	ES
Dechant D30-24D - Dechant D30-24D - Dechant D30-24	6,700.00	6,591.05	9,220.74	9,173.92	196.923	SF
Dechant D30-25D - Dechant D30-25D - Dechant D30-25	6,276.50	6,485.64	9,374.11	9,316.71	163.293	CC, ES
Dechant D30-25D - Dechant D30-25D - Dechant D30-25	6,800.00	6,817.20	9,571.80	9,512.15	160.484	SF
Dechant D31-27D - Dechant D31-27D - Dechant D31-27						Out of range
Dechant D31-28D - Dechant D31-28D - Dechant D31-28						Out of range
Dechant D31-29D - Dechant D31-29D - Dechant D31-29						Out of range
Dechant D31-77HN - Original Drilling - Original Drilling - A						Out of range
Hanson D30-11 - Hanson D30-11 - Hanson D30-11 - As D	2,243.92	2,276.80	8,352.52	8,336.90	534.925	CC
Hanson D30-11 - Hanson D30-11 - Hanson D30-11 - As D	2,300.00	2,312.34	8,352.78	8,336.84	524.176	ES
Hanson D30-11 - Hanson D30-11 - Hanson D30-11 - As D	6,800.00	6,869.32	8,651.09	8,603.50	181.779	SF
Hanson D30-12 - Hanson D30-12 - Hanson D30-12 - As	2,234.97	2,273.54	8,706.48	8,690.94	560.014	CC
Hanson D30-12 - Hanson D30-12 - Hanson D30-12 - As	2,300.00	2,363.21	8,706.78	8,690.69	541.186	ES
Hanson D30-12 - Hanson D30-12 - Hanson D30-12 - As	6,800.00	6,829.71	8,965.55	8,918.06	188.766	SF
Hanson D30-13 - Hanson D30-13 - Hanson D30-13 - As						Out of range

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 Independence D18-725
Project:	Mustang	TVD Reference:	Well @ 4800.00ft
Reference Site:	D Section 19	MD Reference:	Well @ 4800.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Independence D18-725	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Independence D18-725	Database:	EDMP
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
D Section 30						
Hanson D30-14 - Hanson D30-14 - Hanson D30-14 - As	6,126.52	6,117.01	9,740.61	9,697.70	226.989	CC
Hanson D30-14 - Hanson D30-14 - Hanson D30-14 - As	6,273.78	6,219.67	9,741.03	9,697.24	222.471	ES
Hanson D30-14 - Hanson D30-14 - Hanson D30-14 - As	6,800.00	6,562.71	9,944.08	9,897.50	213.470	SF
Hettinger C Unit 1 - Hettinger C Unit 1 - Hettinger C Unit	6,277.96	6,289.83	5,697.93	5,653.90	129.397	CC, ES
Hettinger C Unit 1 - Hettinger C Unit 1 - Hettinger C Unit	6,650.00	6,715.99	5,801.22	5,754.46	124.080	SF
Hettinger D30-02 - Hettinger D30-02 - Hettinger D30-02 -	2,200.00	2,179.00	5,426.76	5,400.09	203.487	CC
Hettinger D30-02 - Hettinger D30-02 - Hettinger D30-02 -	2,400.00	2,378.84	5,428.30	5,399.19	186.490	ES
Hettinger D30-02 - Hettinger D30-02 - Hettinger D30-02 -	6,700.00	6,632.46	5,635.82	5,554.43	69.243	SF
Hettinger D30-03 - Hettinger D30-03 - Hettinger D30-03 -	2,222.32	2,224.87	5,786.43	5,771.10	377.281	CC
Hettinger D30-03 - Hettinger D30-03 - Hettinger D30-03 -	2,300.00	2,297.81	5,786.92	5,771.06	364.763	ES
Hettinger D30-03 - Hettinger D30-03 - Hettinger D30-03 -	6,700.00	6,731.23	6,042.45	5,995.57	128.891	SF
Hettinger D30-04 - Hettinger D30-04 - Hettinger D30-04 -	2,242.57	2,281.93	6,361.98	6,346.37	407.758	CC
Hettinger D30-04 - Hettinger D30-04 - Hettinger D30-04 -	2,300.00	2,366.40	6,362.21	6,346.11	395.196	ES
Hettinger D30-04 - Hettinger D30-04 - Hettinger D30-04 -	6,700.00	6,815.57	6,593.06	6,545.86	139.676	SF
Hettinger D30-05 - Hettinger D30-05 - Hettinger D30-05 -	505.48	494.49	7,852.09	7,848.96	2,505.377	CC
Hettinger D30-05 - Hettinger D30-05 - Hettinger D30-05 -	700.00	636.57	7,852.72	7,848.40	1,814.728	ES
Hettinger D30-05 - Hettinger D30-05 - Hettinger D30-05 -	6,850.00	6,733.86	8,207.06	8,159.84	173.839	SF
Hettinger D30-06 - Hettinger D30-06 - Hettinger D30-06 -	0.00	0.00	7,387.32			
Hettinger D30-06 - Hettinger D30-06 - Hettinger D30-06 -	1,100.00	1,041.77	7,390.98	7,383.80	1,029.162	ES
Hettinger D30-06 - Hettinger D30-06 - Hettinger D30-06 -	6,800.00	6,816.15	7,667.75	7,620.36	161.798	SF
Hettinger D30-08 - Hettinger D30-08 - Hettinger D30-08 -	865.99	853.99	6,930.56	6,924.88	1,220.051	CC
Hettinger D30-08 - Hettinger D30-08 - Hettinger D30-08 -	6,282.26	6,348.58	6,941.04	6,896.88	157.201	ES
Hettinger D30-08 - Hettinger D30-08 - Hettinger D30-08 -	6,800.00	6,714.27	7,143.74	7,096.73	151.982	SF
Leslie E Hanson Gas Unit 1 - Leslie E Hanson Gas Unit	2,200.00	2,197.00	9,410.31	9,383.49	350.791	CC
Leslie E Hanson Gas Unit 1 - Leslie E Hanson Gas Unit	2,300.00	2,296.98	9,410.97	9,382.92	335.519	ES
Leslie E Hanson Gas Unit 1 - Leslie E Hanson Gas Unit	6,900.00	6,785.39	9,794.52	9,711.35	117.765	SF
McWilliams D29-32 - McWilliams D29-32 - McWilliams D	4,618.05	4,567.36	7,435.40	7,403.39	232.333	CC
McWilliams D29-32 - McWilliams D29-32 - McWilliams D	4,700.00	4,600.00	7,435.63	7,403.22	229.420	ES
McWilliams D29-32 - McWilliams D29-32 - McWilliams D	6,750.00	6,621.88	7,621.55	7,575.01	163.755	SF
McWilliams D30-07 - McWilliams D30-07 - McWilliams D	2,200.00	2,187.00	6,743.34	6,716.60	252.194	CC
McWilliams D30-07 - McWilliams D30-07 - McWilliams D	2,400.00	2,386.84	6,744.65	6,715.48	231.160	ES
McWilliams D30-07 - McWilliams D30-07 - McWilliams D	6,800.00	6,713.69	7,009.22	6,926.89	85.132	SF
McWilliams D30-18 - McWilliams D30-18 - McWilliams D	2,339.83	2,420.81	6,409.06	6,392.64	390.152	CC
McWilliams D30-18 - McWilliams D30-18 - McWilliams D	2,400.00	2,475.89	6,409.28	6,392.46	380.889	ES
McWilliams D30-18 - McWilliams D30-18 - McWilliams D	6,750.00	6,797.10	6,651.46	6,604.24	140.878	SF
McWilliams D30-19 - McWilliams D30-19 - McWilliams D	153.83	139.83	6,731.54	6,730.91	10,000.000	CC
McWilliams D30-19 - McWilliams D30-19 - McWilliams D	700.00	652.48	6,733.47	6,729.09	1,536.885	ES
McWilliams D30-19 - McWilliams D30-19 - McWilliams D	6,850.00	6,819.59	7,101.47	7,052.21	144.183	SF
McWilliams D30-21 - McWilliams D30-21 - McWilliams D	1,863.50	1,857.54	7,910.30	7,897.53	619.751	CC
McWilliams D30-21 - McWilliams D30-21 - McWilliams D	2,200.00	2,159.93	7,911.81	7,896.79	526.689	ES
McWilliams D30-21 - McWilliams D30-21 - McWilliams D	6,650.00	6,600.00	8,058.80	8,012.55	174.255	SF
McWilliams D30-22 - McWilliams D30-22 - McWilliams D	2,339.20	2,369.85	7,436.13	7,419.88	457.740	CC
McWilliams D30-22 - McWilliams D30-22 - McWilliams D	6,281.68	6,349.07	7,459.86	7,415.71	168.966	ES
McWilliams D30-22 - McWilliams D30-22 - McWilliams D	6,700.00	6,554.28	7,596.80	7,550.60	164.408	SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Independence D18-725
Project:	Mustang	TVD Reference:	Well @ 4800.00ft
Reference Site:	D Section 19	MD Reference:	Well @ 4800.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Independence D18-725	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Independence D18-725	Database:	EDMP
Reference Design:	Plan #2	Offset TVD Reference:	Reference 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
H Section 01						
Collins 1-1 - Wellbore #1 - Wellbore #1 - As Drilled	17,469.95	7,000.01	6,760.39	6,669.12	74.070	CC, ES, SF
Houndskeeper 1-13 - Wellbore #1 - Wellbore #1 - As Dril	17,469.95	6,888.93	6,864.42	6,759.80	65.614	CC, ES, SF
Houndskeeper H01-17 - Wellbore #1 - Wellbore #1 - As D	17,469.95	6,875.97	6,524.81	6,426.71	66.509	CC, ES, SF
Houndskeeper H01-22 - Wellbore #1 - Wellbore #1 - As D	17,469.95	7,000.01	6,004.54	5,898.62	56.691	CC, ES, SF
Houndskeeper H01-27 - Wellbore #1 - Wellbore #1 - As D	17,469.95	6,981.88	7,644.17	7,544.90	77.005	CC, ES, SF
Houndskeeper H01-28 - Wellbore #1 - Wellbore #1 - As D	17,469.95	6,842.02	8,445.12	8,347.56	86.569	CC, ES, SF
Houndskeeper PC H01-21D - Wellbore #1 - Wellbore #1	17,469.95	7,130.55	7,046.70	6,928.07	59.399	CC, ES, SF
HSR-HARTMAN #4-1(PR) - Wellbore #1 - Gyro Surveys						Out of range
HSR-KOSKELA #5-1(PR) - Wellbore #1 - No Surveys	17,469.95	6,913.00	9,027.45	8,881.14	61.704	CC, ES, SF
HSR-LAURICE #6-1(PR) - Wellbore #1 - No Surveys	17,469.95	6,913.00	7,892.07	7,747.84	54.719	CC, ES, SF
LJS R H01-02 - Wellbore #1 - Wellbore #1 - As Drilled	17,469.95	6,926.94	7,684.51	7,585.69	77.766	CC, ES, SF
LJS R H01-08 - Wellbore #1 - Wellbore #1 - As Drilled	17,469.95	6,975.13	5,781.26	5,681.74	58.092	CC, ES, SF
Shelton 22-1(PR) - Wellbore #1 - Wellbore #1	17,469.95	6,951.46	8,295.86	8,183.83	74.053	CC, ES, SF
Shelton 31-01(PR) - Wellbore #1 - Gyro Surveys	17,469.95	7,062.58	9,944.91	9,831.08	87.363	CC, ES, SF
Shelton D07-30 - Wellbore #1 - Wellbore #1 - As Drilled	17,469.95	6,964.35	4,145.59	4,029.56	35.727	CC, ES, SF
Shelton H #12-29(PR) - Wellbore #1 - No Surveys	17,469.95	6,936.00	7,885.78	7,733.26	51.705	CC, ES, SF
Shelton H 1-12X(PR) - Wellbore #1 - No Surveys	17,469.95	6,929.00	8,796.89	8,647.20	58.767	CC, ES, SF
Shelton H01-23 - Wellbore #1 - Wellbore #1 - As Drilled	17,469.95	7,000.01	5,462.29	5,348.90	48.176	CC, ES, SF
Shelton H01-24 - Wellbore #1 - Wellbore #1 - As Drilled	17,469.95	7,000.01	6,738.99	6,624.96	59.101	CC, ES, SF
Shelton H01-759 - Wellbore #1 - Plan #1	17,469.95	6,282.49	6,993.20	6,878.98	61.228	CC, ES, SF
Shelton H01-766 - Wellbore #1 - Plan #1	17,469.95	5,604.07	7,363.55	7,252.03	66.029	CC, ES, SF
Shelton H01-780 - Wellbore #1 - Plan #1	17,469.95	7,274.89	8,149.99	8,032.79	69.536	CC, ES, SF
Shelton H01-783 - Wellbore #1 - Plan #1	17,469.95	7,740.23	8,646.09	8,528.76	73.689	CC, ES, SF
Shelton H13-715 - Shelton H13-715 - Plan #1	17,469.95	7,244.59	4,372.22	4,255.58	37.485	CC, ES, SF
Shelton H13-724 - Shelton H13-724 - Plan #1	17,300.00	7,509.56	4,973.85	4,857.75	42.843	SF
Shelton H13-724 - Shelton H13-724 - Plan #1	17,469.95	6,441.30	4,954.10	4,840.30	43.534	CC, ES
Shelton H13-730 - Shelton H13-730 - Plan #1	7,200.00	17,747.84	5,620.90	5,477.01	39.063	SF
Shelton H13-730 - Shelton H13-730 - Plan #1	17,469.95	6,127.80	5,195.77	5,083.16	46.142	CC, ES
Shelton H13-734 - Shelton H13-734 - Plan #1	17,469.95	5,728.56	5,448.30	5,337.35	49.110	CC, ES, SF
Shelton H13-744 - Shelton H13-744 - Plan #1	17,469.95	7,335.51	6,213.04	6,095.93	53.054	CC, ES, SF
Shelton H13-753 - Shelton H13-753 - Plan #1	17,100.00	7,670.66	6,856.14	6,741.43	59.768	SF
Shelton H13-753 - Shelton H13-753 - Plan #1	17,469.95	6,228.55	6,804.69	6,691.65	60.196	CC, ES
Shelton H13-763 - Shelton H13-763 - Plan #1	17,469.95	5,704.15	7,339.06	7,227.83	65.977	CC, ES, SF
Shelton H13-768 - Shelton H13-768 - Plan #1	17,469.95	7,500.00	7,771.94	7,653.69	65.726	CC, ES, SF
Shelton H13-773 - Shelton H13-773 - Plan #1	17,469.95	7,300.00	8,082.09	7,964.88	68.949	CC, ES, SF
Shelton H13-782 - Shelton H13-782 - Plan #1	17,469.95	6,825.67	8,675.71	8,559.98	74.963	CC, ES, SF
Shelton H3-615 - Wellbore #1 - Plan #1	17,469.95	6,450.00	8,704.48	8,590.14	76.131	CC, ES, SF
Shelton H3-625 - Wellbore #1 - Plan #1	17,469.95	6,500.00	8,763.55	8,649.32	76.717	CC, ES, SF
Shelton H3-635 - Wellbore #1 - Plan #1	17,469.95	6,103.34	8,898.83	8,787.47	79.910	CC, ES, SF
Shelton H3-645 - Wellbore #1 - Plan #1	17,469.95	5,903.28	9,039.00	8,929.90	82.848	CC, ES, SF
Shelton H3-655 - Wellbore #1 - Plan #1	17,469.95	5,542.20	9,189.87	9,083.36	86.281	CC, ES, SF
Shelton H3-665 - Wellbore #1 - Plan #1	17,469.95	6,650.00	9,572.95	9,464.29	88.099	CC, ES, SF
Shelton H3-675 - Wellbore #1 - Plan #1	17,469.95	6,500.00	9,837.95	9,732.70	93.469	CC, ES, SF
Shelton H3-683 - Wellbore #1 - Plan #1						Out of range
UPRC #1-12J(PA) - Wellbore #1 - No Surveys	17,469.95	6,929.00	8,803.00	8,701.90	87.069	CC, ES, SF
UPRC #1-13J(SI) - Wellbore #1 - No Surveys	17,469.95	6,927.00	8,710.97	8,559.05	57.337	CC, ES, SF
UPRC 1-09J - Wellbore #1 - Wellbore #1 - As Drilled	17,469.95	6,983.53	5,138.09	5,030.29	47.663	CC, ES, SF
UPRC 1-10J - Wellbore #1 - Wellbore #1 - As Drilled	17,469.95	6,991.85	6,432.08	6,320.82	57.812	CC, ES, SF
UPRC 1-15J - Wellbore #1 - Wellbore #1 - As Drilled	17,469.95	6,981.57	6,146.84	6,030.93	53.031	CC, ES, SF
UPRC 1-16J - Wellbore #1 - Wellbore #1 - As Drilled	17,469.95	6,983.49	4,715.88	4,600.86	41.004	CC, ES, SF
UPRR 39 PAN AM G #1(PR) - Wellbore #1 - No Surveys	17,469.95	6,935.00	8,194.55	8,043.42	54.224	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 Independence D18-725
Project:	Mustang	TVD Reference:	Well @ 4800.00ft
Reference Site:	D Section 19	MD Reference:	Well @ 4800.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Independence D18-725	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Independence D18-725	Database:	EDMP
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
H Section 12						
Helms H 12-14D(SI) - Wellbore #1 - Gyro Surveys	13,082.66	6,927.55	7,426.04	7,344.27	90.815	CC
Helms H 12-14D(SI) - Wellbore #1 - Gyro Surveys	13,100.00	6,927.94	7,426.06	7,344.16	90.676	ES
Helms H 12-14D(SI) - Wellbore #1 - Gyro Surveys	15,900.00	6,991.88	7,942.25	7,843.87	80.734	SF
JOHNSON H #13-27D(PR) - Wellbore #1 - MWD Survey	12,642.24	7,117.77	5,689.33	5,607.30	69.362	CC
JOHNSON H #13-27D(PR) - Wellbore #1 - MWD Survey	12,700.00	7,118.36	5,689.62	5,607.16	68.996	ES
JOHNSON H #13-27D(PR) - Wellbore #1 - MWD Survey	14,400.00	7,129.85	5,954.67	5,861.64	64.012	SF
Ray H 12-24D(SI) - Wellbore #1 - Gyro Surveys	14,243.68	7,032.66	6,868.84	6,775.49	73.583	CC
Ray H 12-24D(SI) - Wellbore #1 - Gyro Surveys	14,300.00	7,031.89	6,869.07	6,775.35	73.296	ES
Ray H 12-24D(SI) - Wellbore #1 - Gyro Surveys	16,200.00	7,001.62	7,141.93	7,038.13	68.802	SF
SHELTON H #01-25D(SI) - Wellbore #1 - MWD Surveys	17,469.95	7,236.30	7,883.04	7,751.42	59.893	CC, ES, SF
Shelton H01-33D(SI) - Wellbore #1 - MWD Surveys	17,469.95	6,968.36	9,321.16	9,193.58	73.060	CC, ES, SF
STROH #H 12-03(SI) - Wellbore #1 - No Surveys	17,447.66	6,946.00	7,122.63	6,970.13	46.705	CC
STROH #H 12-03(SI) - Wellbore #1 - No Surveys	17,469.95	6,946.00	7,122.67	6,969.99	46.653	ES, SF
Stroh #H12-16(SI) - Wellbore #1 - No Surveys	13,024.16	6,922.00	4,724.68	4,606.97	40.137	CC, ES
Stroh #H12-16(SI) - Wellbore #1 - No Surveys	13,900.00	6,922.00	4,805.18	4,682.17	39.065	SF
Stroh #H12-18(PR) - Wellbore #1 - No Surveys	16,724.76	6,949.00	6,726.43	6,579.67	45.834	CC
Stroh #H12-18(PR) - Wellbore #1 - No Surveys	16,800.00	6,949.00	6,726.85	6,579.53	45.661	ES
Stroh #H12-18(PR) - Wellbore #1 - No Surveys	17,469.95	6,949.00	6,767.58	6,615.68	44.554	SF
Stroh #H12-22(PR) - Wellbore #1 - Gyro Surveys	15,477.51	6,800.00	5,468.60	5,369.00	54.910	CC
Stroh #H12-22(PR) - Wellbore #1 - Gyro Surveys	15,500.00	6,800.00	5,468.64	5,368.89	54.819	ES
Stroh #H12-22(PR) - Wellbore #1 - Gyro Surveys	16,700.00	6,800.00	5,603.57	5,496.75	52.454	SF
Stroh #H12-32(PR) - Wellbore #1 - No Surveys	15,619.88	6,932.00	8,967.28	8,829.42	65.049	CC
Stroh #H12-32(PR) - Wellbore #1 - No Surveys	15,700.00	6,932.00	8,967.63	8,829.17	64.768	ES
Stroh #H12-32(PR) - Wellbore #1 - No Surveys	17,469.95	6,932.00	9,156.13	9,005.84	60.922	SF
Stroh 12-01 - Wellbore #1 - Wellbore #1 - As Drilled	17,390.46	6,955.67	4,542.78	4,427.21	39.306	CC
Stroh 12-01 - Wellbore #1 - Wellbore #1 - As Drilled	17,400.00	6,955.65	4,542.79	4,427.15	39.282	ES
Stroh 12-01 - Wellbore #1 - Wellbore #1 - As Drilled	17,469.95	6,955.51	4,543.48	4,427.33	39.118	SF
STROH D #07-31(PR) - Wellbore #1 - Gyro Surveys	16,599.18	7,008.91	4,330.20	4,220.72	39.553	CC
STROH D #07-31(PR) - Wellbore #1 - Gyro Surveys	16,600.00	7,008.89	4,330.20	4,220.72	39.551	ES
STROH D #07-31(PR) - Wellbore #1 - Gyro Surveys	17,300.00	6,991.67	4,386.52	4,273.01	38.643	SF
STROH H #12-05(PA) - Wellbore #1 - Gyro Surveys	16,427.95	6,840.22	8,191.93	8,084.66	76.367	CC
STROH H #12-05(PA) - Wellbore #1 - Gyro Surveys	16,500.00	6,839.84	8,192.25	8,084.44	75.984	ES
STROH H #12-05(PA) - Wellbore #1 - Gyro Surveys	17,469.95	6,834.91	8,257.94	8,143.39	72.092	SF
STROH H #12-06(SI) - Wellbore #1 - No Surveys	15,951.20	6,950.00	7,002.41	6,861.79	49.794	CC
STROH H #12-06(SI) - Wellbore #1 - No Surveys	16,000.00	6,950.00	7,002.58	6,861.59	49.667	ES
STROH H #12-06(SI) - Wellbore #1 - No Surveys	17,469.95	6,950.00	7,165.22	7,014.97	47.689	SF
STROH H #12-08(PR) - Wellbore #1 - No Surveys	15,728.21	6,949.00	4,606.17	4,467.32	33.172	CC, ES
STROH H #12-08(PR) - Wellbore #1 - No Surveys	16,500.00	6,949.00	4,670.38	4,526.90	32.549	SF
STROH H #12-10(PR) - Wellbore #1 - No Surveys	14,709.09	7,158.00	6,181.07	6,048.38	46.583	CC, ES
STROH H #12-10(PR) - Wellbore #1 - No Surveys	16,100.00	7,158.00	6,335.63	6,194.35	44.845	SF
STROH H #12-11(SI) - Wellbore #1 - No Surveys	14,687.87	6,959.00	7,556.78	7,426.00	57.779	CC
STROH H #12-11(SI) - Wellbore #1 - No Surveys	14,700.00	6,959.00	7,556.79	7,425.92	57.740	ES
STROH H #12-11(SI) - Wellbore #1 - No Surveys	16,800.00	6,959.00	7,846.41	7,702.55	54.543	SF
STROH H #12-12(SI) - Wellbore #1 - No Surveys	14,798.42	6,936.00	8,840.78	8,709.33	67.257	CC
STROH H #12-12(SI) - Wellbore #1 - No Surveys	14,900.00	6,936.00	8,841.37	8,709.16	66.876	ES
STROH H #12-12(SI) - Wellbore #1 - No Surveys	17,469.95	6,936.00	9,235.61	9,087.34	62.292	SF
STROH H #12-13(SI) - Wellbore #1 - No Surveys	13,133.13	6,928.00	8,771.49	8,652.90	73.966	CC
STROH H #12-13(SI) - Wellbore #1 - No Surveys	13,200.00	6,928.00	8,771.74	8,652.67	73.669	ES
STROH H #12-13(SI) - Wellbore #1 - No Surveys	16,200.00	6,928.00	9,292.18	9,154.71	67.593	SF
STROH H #12-14(PA) - Wellbore #1 - No Surveys	13,931.81	6,956.00	7,611.58	7,486.67	60.935	CC
STROH H #12-14(PA) - Wellbore #1 - No Surveys	14,000.00	6,956.00	7,611.89	7,486.48	60.696	ES
STROH H #12-14(PA) - Wellbore #1 - No Surveys	16,100.00	6,956.00	7,914.37	7,775.99	57.192	SF
STROH H #12-20(PR) - Wellbore #1 - No Surveys	15,579.77	6,957.00	7,787.04	7,649.28	56.528	CC

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 Independence D18-725
Project:	Mustang	TVD Reference:	Well @ 4800.00ft
Reference Site:	D Section 19	MD Reference:	Well @ 4800.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Independence D18-725	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Independence D18-725	Database:	EDMP
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
H Section 12						
STROH H #12-20(PR) - Wellbore #1 - No Surveys	15,600.00	6,957.00	7,787.06	7,649.15	56.466	ES
STROH H #12-20(PR) - Wellbore #1 - No Surveys	17,469.95	6,957.00	8,013.16	7,863.37	53.496	SF
STROH H #12-21(PR) - Wellbore #1 - No Surveys	15,517.63	6,954.00	6,329.72	6,192.48	46.121	CC
STROH H #12-21(PR) - Wellbore #1 - No Surveys	15,600.00	6,954.00	6,330.25	6,192.40	45.922	ES
STROH H #12-21(PR) - Wellbore #1 - No Surveys	16,900.00	6,954.00	6,478.91	6,333.10	44.433	SF
STROH H #12-28D(PR) - Wellbore #1 - MWD Surveys	17,469.95	7,477.07	6,729.43	6,606.91	54.925	CC, ES, SF
STROH H #12-4J(PR) - Wellbore #1 - No Surveys	13,632.51	6,936.00	5,307.84	5,185.39	43.348	CC
STROH H #12-4J(PR) - Wellbore #1 - No Surveys	13,700.00	6,936.00	5,308.26	5,185.34	43.183	ES
STROH H #12-4J(PR) - Wellbore #1 - No Surveys	14,700.00	6,936.00	5,414.12	5,285.13	41.976	SF
STROH H #12-9(PR) - Wellbore #1 - No Surveys	14,628.06	6,938.00	4,714.73	4,584.59	36.229	CC, ES
STROH H #12-9(PR) - Wellbore #1 - No Surveys	15,500.00	6,938.00	4,794.68	4,659.32	35.421	SF
Stroh H 12-04(PR) - Wellbore #1 - Wellbore #1	17,469.95	7,000.00	8,667.33	8,550.92	74.454	CC, ES, SF
Stroh H12-02 - Wellbore #1 - Wellbore #1 - As Drilled	17,466.51	7,017.66	6,164.57	6,048.16	52.954	CC
Stroh H12-02 - Wellbore #1 - Wellbore #1 - As Drilled	17,469.95	7,017.68	6,164.57	6,048.13	52.942	ES, SF
Stroh H12-27 - Wellbore #1 - Wellbore #1 - As Drilled	17,469.95	6,900.01	5,355.70	5,239.70	46.172	CC, ES, SF
STROH H12-99HZ(PR) - Wellbore #1 - MWD Surveys	16,930.75	10,914.00	4,604.67	4,492.32	40.984	CC, ES
STROH H12-99HZ(PR) - Wellbore #1 - MWD Surveys	17,469.95	10,914.00	4,636.13	4,518.49	39.409	SF
STROH PC H #12-30D(SI) - Wellbore #1 - MWD Surveys	17,469.95	7,046.58	9,037.83	8,918.38	75.665	CC, ES, SF
STROH PC H #12-31D(SI) - Wellbore #1 - MWD Surveys	16,983.52	7,052.83	9,058.51	8,944.28	79.302	CC
STROH PC H #12-31D(SI) - Wellbore #1 - MWD Surveys	17,100.00	7,054.66	9,059.26	8,944.18	78.719	ES
STROH PC H #12-31D(SI) - Wellbore #1 - MWD Surveys	17,469.95	7,060.58	9,071.56	8,953.84	77.062	SF
Stroh/12-7(PR) - Wellbore #1 - Gyro Surveys	16,308.95	7,023.38	5,712.82	5,605.62	53.292	CC, ES
Stroh/12-7(PR) - Wellbore #1 - Gyro Surveys	17,469.95	7,026.26	5,829.60	5,715.33	51.018	SF