

Project: Mustang
Site: C Section 33
Well: Guttersen D09-750
Wellbore: Guttersen D09-750
Design: Plan #3

Northern Region - DJ Basin

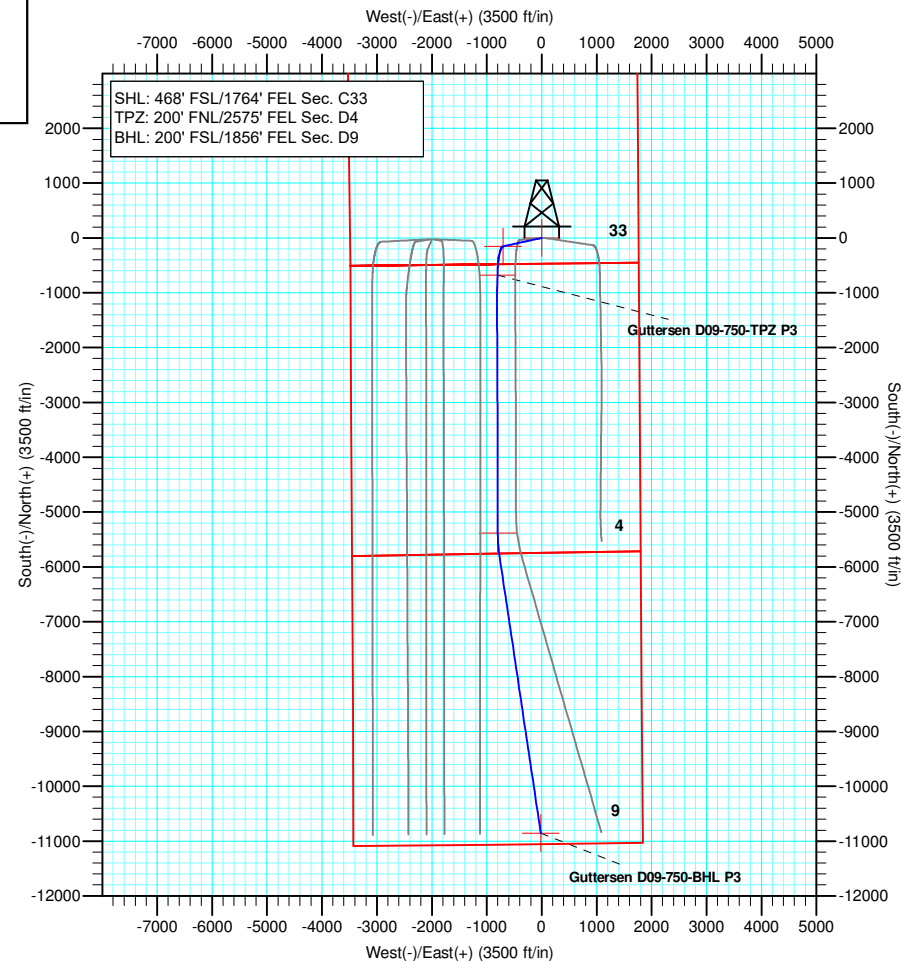
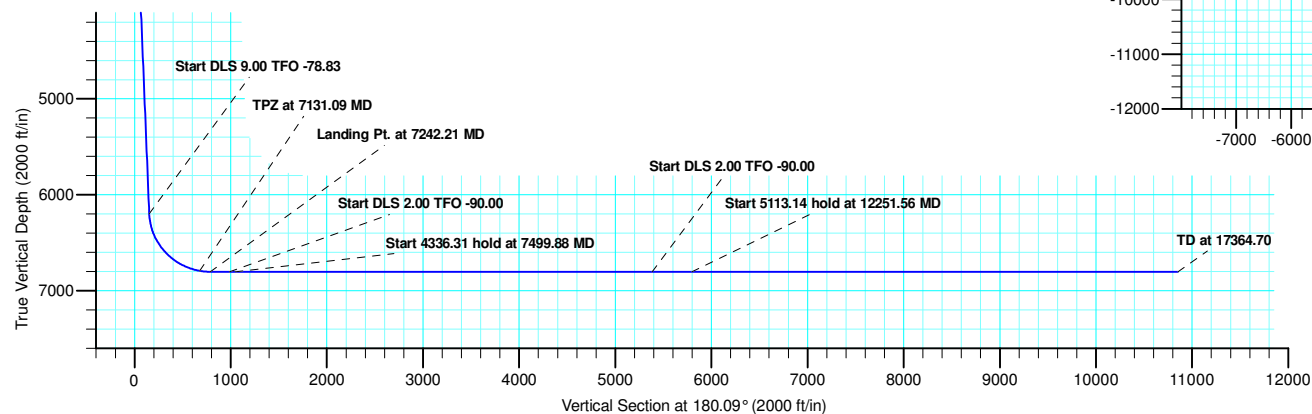
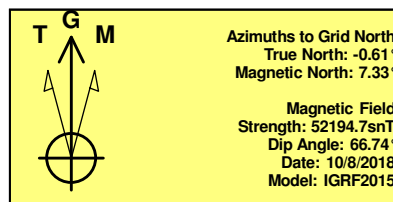
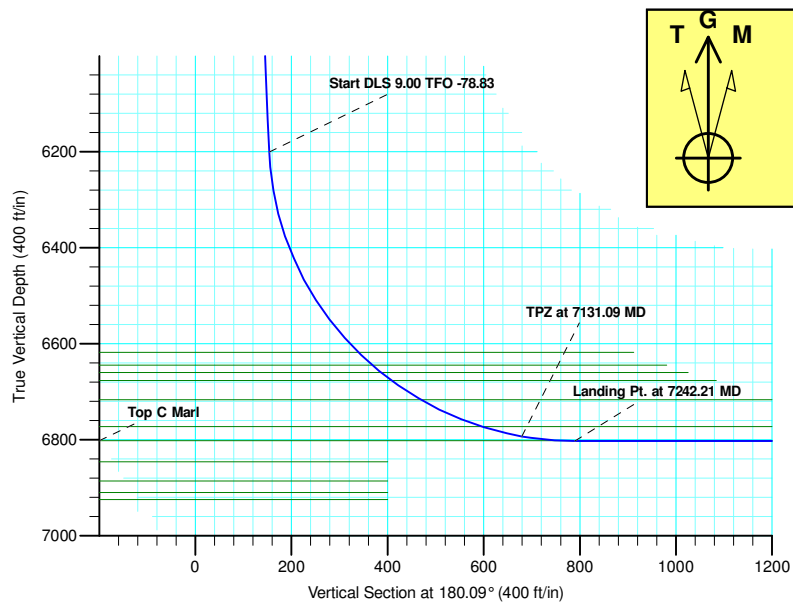
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Colorado Northern Zone
System Datum: Mean Sea Level

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	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	2745.61	10.91	257.72	2742.31	-11.01	-50.61	2.00	257.72	11.09	
4	6267.95	10.91	257.72	6200.97	-152.78	-702.16	0.00	0.00	153.85	
5	7131.09	80.00	181.00	6793.33	-678.17	-805.79	9.00	-78.83	679.39	
6	7242.21	90.00	181.00	6803.00	-788.70	-807.72	9.00	0.00	789.93	
7	7442.21	90.00	181.00	6803.00	-988.67	-811.21	0.00	0.00	989.90	
8	7499.88	90.00	179.85	6803.00	-1046.34	-811.64	2.00	-90.00	1047.58	
9	11836.19	90.00	179.85	6803.00	-5382.64	-800.02	0.00	0.00	5383.85	Guttersen D09-750-IP1 P3
10	12251.56	90.00	171.54	6803.00	-5796.47	-768.85	2.00	-90.00	5797.63	
11	17364.70	90.00	171.54	6803.00	-10853.96	-16.52	0.00	0.00	10853.98	Guttersen D09-750-BHL P3

WELL DETAILS: Guttersen D09-750

+N/-S	+E/-W	Northing	Ground Level: Easting	4720.00 Latitude	Longitude	Slot
0.00	0.00	1340074.93	3264314.55	40.2630300	-104.5528660	



Plan: Plan #3 (Guttersen D09-750/Guttersen D09-750)

Created By: Shelly Peterkin Date: 14:08, March 18 2020

Northern Region - DJ Basin

Mustang

C Section 33

Guttersen D09-750

Guttersen D09-750

Plan: Plan #3

Standard Planning Report

18 March, 2020

Noble Energy

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Guttersten D09-750
Company:	Northern Region - DJ Basin	TVD Reference:	Well @ 4750.00ft
Project:	Mustang	MD Reference:	Well @ 4750.00ft
Site:	C Section 33	North Reference:	Grid
Well:	Guttersten D09-750	Survey Calculation Method:	Minimum Curvature
Wellbore:	Guttersten D09-750		
Design:	Plan #3		

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

Site	C Section 33				
Site Position:		Northing:	1,339,901.69 usft	Latitude:	40.2626140
From:	Lat/Long	Easting:	3,262,275.97 usft	Longitude:	-104.5601770
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.61 °

Well	Guttersen D09-750					
Well Position	+N/-S	173.24 ft	Northing:	1,340,074.93 usft	Latitude:	40.2630300
	+E/-W	2,038.59 ft	Easting:	3,264,314.55 usft	Longitude:	-104.5528660
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	4,720.00 ft

Wellbore	Guttersten D09-750				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	10/8/2018	7.95	66.74	52,194.67633657

Design	Plan #3			
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	180.09

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	
2,745.61	10.91	257.72	2,742.31	-11.01	-50.61	2.00	2.00	0.00	257.72	
6,267.95	10.91	257.72	6,200.97	-152.78	-702.16	0.00	0.00	0.00	0.00	
7,131.09	80.00	181.00	6,793.33	-678.17	-805.79	9.00	8.00	-8.89	-78.83	
7,242.21	90.00	181.00	6,803.00	-788.70	-807.72	9.00	9.00	0.00	0.00	
7,442.21	90.00	181.00	6,803.00	-988.67	-811.21	0.00	0.00	0.00	0.00	
7,499.88	90.00	179.85	6,803.00	-1,046.34	-811.64	2.00	0.00	-2.00	-90.00	
11,836.19	90.00	179.85	6,803.00	-5,382.64	-800.02	0.00	0.00	0.00	0.00	Guttersten D09-750-IF
12,251.56	90.00	171.54	6,803.00	-5,796.47	-768.85	2.00	0.00	-2.00	-90.00	
17,364.70	90.00	171.54	6,803.00	-10,853.96	-16.52	0.00	0.00	0.00	0.00	Guttersten D09-750-B

Noble Energy

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Guttersen D09-750
Company:	Northern Region - DJ Basin	TVD Reference:	Well @ 4750.00ft
Project:	Mustang	MD Reference:	Well @ 4750.00ft
Site:	C Section 33	North Reference:	Grid
Well:	Guttersen D09-750	Survey Calculation Method:	Minimum Curvature
Wellbore:	Guttersen D09-750		
Design:	Plan #3		

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
456.00	0.00	0.00	456.00	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
589.00	0.00	0.00	589.00	0.00	0.00	0.00	0.00	0.00	0.00
Upper Pierre Aquifer Top									
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
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
1,509.00	0.00	0.00	1,509.00	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	257.72	2,299.98	-0.37	-1.71	0.37	2.00	2.00	0.00
2,400.00	4.00	257.72	2,399.84	-1.48	-6.82	1.49	2.00	2.00	0.00
2,500.00	6.00	257.72	2,499.45	-3.34	-15.33	3.36	2.00	2.00	0.00
2,600.00	8.00	257.72	2,598.70	-5.93	-27.24	5.97	2.00	2.00	0.00
2,700.00	10.00	257.72	2,697.47	-9.25	-42.53	9.32	2.00	2.00	0.00
2,745.61	10.91	257.72	2,742.31	-11.01	-50.61	11.09	2.00	2.00	0.00
Start 3522.34 hold at 2745.61 MD									
2,800.00	10.91	257.72	2,795.72	-13.20	-60.68	13.30	0.00	0.00	0.00
2,900.00	10.91	257.72	2,893.92	-17.23	-79.17	17.35	0.00	0.00	0.00
3,000.00	10.91	257.72	2,992.11	-21.25	-97.67	21.40	0.00	0.00	0.00
3,100.00	10.91	257.72	3,090.30	-25.28	-116.17	25.45	0.00	0.00	0.00
3,200.00	10.91	257.72	3,188.49	-29.30	-134.67	29.51	0.00	0.00	0.00
3,300.00	10.91	257.72	3,286.68	-33.33	-153.16	33.56	0.00	0.00	0.00
3,400.00	10.91	257.72	3,384.88	-37.35	-171.66	37.61	0.00	0.00	0.00
3,500.00	10.91	257.72	3,483.07	-41.38	-190.16	41.67	0.00	0.00	0.00
3,600.00	10.91	257.72	3,581.26	-45.40	-208.66	45.72	0.00	0.00	0.00
3,606.87	10.91	257.72	3,588.00	-45.68	-209.93	46.00	0.00	0.00	0.00
Parkman									
3,700.00	10.91	257.72	3,679.45	-49.43	-227.15	49.77	0.00	0.00	0.00
3,800.00	10.91	257.72	3,777.64	-53.45	-245.65	53.83	0.00	0.00	0.00
3,900.00	10.91	257.72	3,875.83	-57.48	-264.15	57.88	0.00	0.00	0.00
4,000.00	10.91	257.72	3,974.03	-61.50	-282.65	61.93	0.00	0.00	0.00
4,019.32	10.91	257.72	3,993.00	-62.28	-286.22	62.71	0.00	0.00	0.00

Noble Energy

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Guttersten D09-750
Company:	Northern Region - DJ Basin	TVD Reference:	Well @ 4750.00ft
Project:	Mustang	MD Reference:	Well @ 4750.00ft
Site:	C Section 33	North Reference:	Grid
Well:	Guttersten D09-750	Survey Calculation Method:	Minimum Curvature
Wellbore:	Guttersten D09-750		
Design:	Plan #3		

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)
Sussex									
4,100.00	10.91	257.72	4,072.22	-65.53	-301.14	65.98	0.00	0.00	0.00
4,200.00	10.91	257.72	4,170.41	-69.55	-319.64	70.04	0.00	0.00	0.00
4,300.00	10.91	257.72	4,268.60	-73.58	-338.14	74.09	0.00	0.00	0.00
4,400.00	10.91	257.72	4,366.79	-77.60	-356.64	78.14	0.00	0.00	0.00
4,500.00	10.91	257.72	4,464.99	-81.63	-375.13	82.20	0.00	0.00	0.00
4,581.49	10.91	257.72	4,545.00	-84.91	-390.21	85.50	0.00	0.00	0.00
Shannon									
4,600.00	10.91	257.72	4,563.18	-85.65	-393.63	86.25	0.00	0.00	0.00
4,700.00	10.91	257.72	4,661.37	-89.68	-412.13	90.30	0.00	0.00	0.00
4,800.00	10.91	257.72	4,759.56	-93.70	-430.63	94.36	0.00	0.00	0.00
4,900.00	10.91	257.72	4,857.75	-97.73	-449.12	98.41	0.00	0.00	0.00
5,000.00	10.91	257.72	4,955.95	-101.75	-467.62	102.46	0.00	0.00	0.00
5,100.00	10.91	257.72	5,054.14	-105.78	-486.12	106.52	0.00	0.00	0.00
5,200.00	10.91	257.72	5,152.33	-109.80	-504.62	110.57	0.00	0.00	0.00
5,300.00	10.91	257.72	5,250.52	-113.83	-523.11	114.62	0.00	0.00	0.00
5,400.00	10.91	257.72	5,348.71	-117.85	-541.61	118.67	0.00	0.00	0.00
5,500.00	10.91	257.72	5,446.90	-121.88	-560.11	122.73	0.00	0.00	0.00
5,600.00	10.91	257.72	5,545.10	-125.90	-578.61	126.78	0.00	0.00	0.00
5,700.00	10.91	257.72	5,643.29	-129.92	-597.10	130.83	0.00	0.00	0.00
5,800.00	10.91	257.72	5,741.48	-133.95	-615.60	134.89	0.00	0.00	0.00
5,900.00	10.91	257.72	5,839.67	-137.97	-634.10	138.94	0.00	0.00	0.00
5,986.90	10.91	257.72	5,925.00	-141.47	-650.17	142.46	0.00	0.00	0.00
Teepee Buttes									
6,000.00	10.91	257.72	5,937.86	-142.00	-652.60	142.99	0.00	0.00	0.00
6,100.00	10.91	257.72	6,036.06	-146.02	-671.09	147.05	0.00	0.00	0.00
6,200.00	10.91	257.72	6,134.25	-150.05	-689.59	151.10	0.00	0.00	0.00
6,267.95	10.91	257.72	6,200.97	-152.78	-702.16	153.85	0.00	0.00	0.00
Start DLS 9.00 TFO -78.83									
6,300.00	11.81	243.77	6,232.40	-154.88	-708.07	155.96	9.00	2.80	-43.55
6,350.00	14.29	227.00	6,281.12	-161.35	-717.18	162.44	9.00	4.96	-33.53
6,400.00	17.58	215.73	6,329.20	-171.69	-726.10	172.80	9.00	6.57	-22.55
6,450.00	21.30	208.09	6,376.35	-185.84	-734.79	186.96	9.00	7.45	-15.27
6,500.00	25.27	202.70	6,422.28	-203.71	-743.19	204.84	9.00	7.93	-10.79
6,550.00	29.38	198.71	6,466.69	-225.18	-751.24	226.32	9.00	8.23	-7.98
6,600.00	33.58	195.63	6,509.33	-250.12	-758.90	251.28	9.00	8.41	-6.16
6,650.00	37.85	193.17	6,549.92	-278.39	-766.13	279.56	9.00	8.53	-4.92
6,700.00	42.16	191.14	6,588.21	-309.80	-772.87	310.98	9.00	8.62	-4.06
6,741.38	45.74	189.70	6,618.00	-338.05	-778.05	339.23	9.00	8.67	-3.48
Sharon Springs									
6,750.00	46.49	189.43	6,623.97	-344.17	-779.08	345.36	9.00	8.70	-3.22
6,781.34	49.22	188.47	6,645.00	-367.13	-782.69	368.32	9.00	8.71	-3.04
Top A Chalk									
6,800.00	50.85	187.94	6,656.98	-381.28	-784.73	382.48	9.00	8.73	-2.85
6,804.80	51.27	187.81	6,660.00	-384.98	-785.24	386.17	9.00	8.74	-2.76
Top A Marl									
6,832.72	53.72	187.07	6,677.00	-406.94	-788.11	408.14	9.00	8.75	-2.66
Top B Chalk									
6,850.00	55.23	186.63	6,687.04	-420.90	-789.79	422.11	9.00	8.76	-2.52
6,900.00	59.62	185.45	6,713.95	-462.79	-794.21	464.00	9.00	8.78	-2.36
6,906.07	60.15	185.32	6,717.00	-468.02	-794.70	469.23	9.00	8.79	-2.23
Top B Marl									
6,950.00	64.02	184.38	6,737.56	-506.69	-797.97	507.91	9.00	8.80	-2.14

Noble Energy

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Guttersen D09-750
Company:	Northern Region - DJ Basin	TVD Reference:	Well @ 4750.00ft
Project:	Mustang	MD Reference:	Well @ 4750.00ft
Site:	C Section 33	North Reference:	Grid
Well:	Guttersen D09-750	Survey Calculation Method:	Minimum Curvature
Wellbore:	Guttersen D09-750		
Design:	Plan #3		

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)
7,000.00	68.42	183.38	6,757.72	-552.33	-801.06	553.55	9.00	8.81	-2.00
7,045.65	72.45	182.52	6,773.00	-595.28	-803.27	596.50	9.00	8.82	-1.88
Top C Chalk									
7,050.00	72.84	182.44	6,774.30	-599.43	-803.44	600.65	9.00	8.83	-1.83
7,100.00	77.25	181.54	6,787.20	-647.69	-805.12	648.92	9.00	8.83	-1.79
7,131.09	80.00	181.00	6,793.33	-678.17	-805.79	679.39	9.00	8.84	-1.74
TPZ at 7131.09 MD									
7,150.00	81.70	181.00	6,796.34	-696.83	-806.12	698.06	9.00	9.00	0.00
7,200.00	86.20	181.00	6,801.60	-746.53	-806.99	747.76	9.00	9.00	0.00
7,206.49	86.79	181.00	6,802.00	-753.01	-807.10	754.23	9.00	9.00	0.00
Top C Marl									
7,242.21	90.00	181.00	6,803.00	-788.70	-807.72	789.93	9.00	9.00	0.00
Landing Pt. at 7242.21 MD									
7,300.00	90.00	181.00	6,803.00	-846.48	-808.73	847.71	0.00	0.00	0.00
7,400.00	90.00	181.00	6,803.00	-946.47	-810.48	947.70	0.00	0.00	0.00
7,442.21	90.00	181.00	6,803.00	-988.67	-811.21	989.90	0.00	0.00	0.00
Start DLS 2.00 TFO -90.00									
7,499.88	90.00	179.85	6,803.00	-1,046.34	-811.64	1,047.58	2.00	0.00	-2.00
Start 4336.31 hold at 7499.88 MD									
7,600.00	90.00	179.85	6,803.00	-1,146.46	-811.37	1,147.69	0.00	0.00	0.00
7,700.00	90.00	179.85	6,803.00	-1,246.46	-811.10	1,247.69	0.00	0.00	0.00
7,800.00	90.00	179.85	6,803.00	-1,346.46	-810.83	1,347.69	0.00	0.00	0.00
7,900.00	90.00	179.85	6,803.00	-1,446.46	-810.57	1,447.69	0.00	0.00	0.00
8,000.00	90.00	179.85	6,803.00	-1,546.46	-810.30	1,547.69	0.00	0.00	0.00
8,100.00	90.00	179.85	6,803.00	-1,646.46	-810.03	1,647.69	0.00	0.00	0.00
8,200.00	90.00	179.85	6,803.00	-1,746.46	-809.76	1,747.69	0.00	0.00	0.00
8,300.00	90.00	179.85	6,803.00	-1,846.46	-809.49	1,847.69	0.00	0.00	0.00
8,400.00	90.00	179.85	6,803.00	-1,946.46	-809.23	1,947.69	0.00	0.00	0.00
8,500.00	90.00	179.85	6,803.00	-2,046.46	-808.96	2,047.69	0.00	0.00	0.00
8,600.00	90.00	179.85	6,803.00	-2,146.46	-808.69	2,147.68	0.00	0.00	0.00
8,700.00	90.00	179.85	6,803.00	-2,246.46	-808.42	2,247.68	0.00	0.00	0.00
8,800.00	90.00	179.85	6,803.00	-2,346.46	-808.15	2,347.68	0.00	0.00	0.00
8,900.00	90.00	179.85	6,803.00	-2,446.45	-807.89	2,447.68	0.00	0.00	0.00
9,000.00	90.00	179.85	6,803.00	-2,546.45	-807.62	2,547.68	0.00	0.00	0.00
9,100.00	90.00	179.85	6,803.00	-2,646.45	-807.35	2,647.68	0.00	0.00	0.00
9,200.00	90.00	179.85	6,803.00	-2,746.45	-807.08	2,747.68	0.00	0.00	0.00
9,300.00	90.00	179.85	6,803.00	-2,846.45	-806.81	2,847.68	0.00	0.00	0.00
9,400.00	90.00	179.85	6,803.00	-2,946.45	-806.55	2,947.68	0.00	0.00	0.00
9,500.00	90.00	179.85	6,803.00	-3,046.45	-806.28	3,047.68	0.00	0.00	0.00
9,600.00	90.00	179.85	6,803.00	-3,146.45	-806.01	3,147.68	0.00	0.00	0.00
9,700.00	90.00	179.85	6,803.00	-3,246.45	-805.74	3,247.67	0.00	0.00	0.00
9,800.00	90.00	179.85	6,803.00	-3,346.45	-805.47	3,347.67	0.00	0.00	0.00
9,900.00	90.00	179.85	6,803.00	-3,446.45	-805.21	3,447.67	0.00	0.00	0.00
10,000.00	90.00	179.85	6,803.00	-3,546.45	-804.94	3,547.67	0.00	0.00	0.00
10,100.00	90.00	179.85	6,803.00	-3,646.45	-804.67	3,647.67	0.00	0.00	0.00
10,200.00	90.00	179.85	6,803.00	-3,746.45	-804.40	3,747.67	0.00	0.00	0.00
10,300.00	90.00	179.85	6,803.00	-3,846.45	-804.13	3,847.67	0.00	0.00	0.00
10,400.00	90.00	179.85	6,803.00	-3,946.45	-803.87	3,947.67	0.00	0.00	0.00
10,500.00	90.00	179.85	6,803.00	-4,046.45	-803.60	4,047.67	0.00	0.00	0.00
10,600.00	90.00	179.85	6,803.00	-4,146.45	-803.33	4,147.67	0.00	0.00	0.00
10,700.00	90.00	179.85	6,803.00	-4,246.45	-803.06	4,247.67	0.00	0.00	0.00
10,800.00	90.00	179.85	6,803.00	-4,346.45	-802.79	4,347.67	0.00	0.00	0.00
10,900.00	90.00	179.85	6,803.00	-4,446.45	-802.53	4,447.66	0.00	0.00	0.00

Noble Energy

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Guttersen D09-750
Company:	Northern Region - DJ Basin	TVD Reference:	Well @ 4750.00ft
Project:	Mustang	MD Reference:	Well @ 4750.00ft
Site:	C Section 33	North Reference:	Grid
Well:	Guttersen D09-750	Survey Calculation Method:	Minimum Curvature
Wellbore:	Guttersen D09-750		
Design:	Plan #3		

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)
11,000.00	90.00	179.85	6,803.00	-4,546.45	-802.26	4,547.66	0.00	0.00	0.00
11,100.00	90.00	179.85	6,803.00	-4,646.45	-801.99	4,647.66	0.00	0.00	0.00
11,200.00	90.00	179.85	6,803.00	-4,746.45	-801.72	4,747.66	0.00	0.00	0.00
11,300.00	90.00	179.85	6,803.00	-4,846.45	-801.45	4,847.66	0.00	0.00	0.00
11,400.00	90.00	179.85	6,803.00	-4,946.45	-801.18	4,947.66	0.00	0.00	0.00
11,500.00	90.00	179.85	6,803.00	-5,046.45	-800.92	5,047.66	0.00	0.00	0.00
11,600.00	90.00	179.85	6,803.00	-5,146.45	-800.65	5,147.66	0.00	0.00	0.00
11,700.00	90.00	179.85	6,803.00	-5,246.44	-800.38	5,247.66	0.00	0.00	0.00
11,800.00	90.00	179.85	6,803.00	-5,346.44	-800.11	5,347.66	0.00	0.00	0.00
11,836.19	90.00	179.85	6,803.00	-5,382.64	-800.02	5,383.85	0.00	0.00	0.00
Start DLS 2.00 TFO -90.00									
11,900.00	90.00	178.57	6,803.00	-5,446.44	-799.13	5,447.65	2.00	0.00	-2.00
12,000.00	90.00	176.57	6,803.00	-5,546.34	-794.90	5,547.55	2.00	0.00	-2.00
12,100.00	90.00	174.57	6,803.00	-5,646.04	-787.17	5,647.23	2.00	0.00	-2.00
12,200.00	90.00	172.57	6,803.00	-5,745.40	-775.97	5,746.58	2.00	0.00	-2.00
12,251.56	90.00	171.54	6,803.00	-5,796.47	-768.85	5,797.63	2.00	0.00	-2.00
Start 5113.14 hold at 12251.56 MD									
12,300.00	90.00	171.54	6,803.00	-5,844.38	-761.72	5,845.53	0.00	0.00	0.00
12,400.00	90.00	171.54	6,803.00	-5,943.29	-747.01	5,944.42	0.00	0.00	0.00
12,500.00	90.00	171.54	6,803.00	-6,042.20	-732.29	6,043.31	0.00	0.00	0.00
12,600.00	90.00	171.54	6,803.00	-6,141.12	-717.58	6,142.20	0.00	0.00	0.00
12,700.00	90.00	171.54	6,803.00	-6,240.03	-702.87	6,241.09	0.00	0.00	0.00
12,800.00	90.00	171.54	6,803.00	-6,338.94	-688.15	6,339.98	0.00	0.00	0.00
12,900.00	90.00	171.54	6,803.00	-6,437.85	-673.44	6,438.87	0.00	0.00	0.00
13,000.00	90.00	171.54	6,803.00	-6,536.76	-658.73	6,537.76	0.00	0.00	0.00
13,100.00	90.00	171.54	6,803.00	-6,635.67	-644.01	6,636.65	0.00	0.00	0.00
13,200.00	90.00	171.54	6,803.00	-6,734.59	-629.30	6,735.54	0.00	0.00	0.00
13,300.00	90.00	171.54	6,803.00	-6,833.50	-614.59	6,834.43	0.00	0.00	0.00
13,400.00	90.00	171.54	6,803.00	-6,932.41	-599.87	6,933.31	0.00	0.00	0.00
13,500.00	90.00	171.54	6,803.00	-7,031.32	-585.16	7,032.20	0.00	0.00	0.00
13,600.00	90.00	171.54	6,803.00	-7,130.23	-570.44	7,131.09	0.00	0.00	0.00
13,700.00	90.00	171.54	6,803.00	-7,229.14	-555.73	7,229.98	0.00	0.00	0.00
13,800.00	90.00	171.54	6,803.00	-7,328.06	-541.02	7,328.87	0.00	0.00	0.00
13,900.00	90.00	171.54	6,803.00	-7,426.97	-526.30	7,427.76	0.00	0.00	0.00
14,000.00	90.00	171.54	6,803.00	-7,525.88	-511.59	7,526.65	0.00	0.00	0.00
14,100.00	90.00	171.54	6,803.00	-7,624.79	-496.88	7,625.54	0.00	0.00	0.00
14,200.00	90.00	171.54	6,803.00	-7,723.70	-482.16	7,724.43	0.00	0.00	0.00
14,300.00	90.00	171.54	6,803.00	-7,822.61	-467.45	7,823.32	0.00	0.00	0.00
14,400.00	90.00	171.54	6,803.00	-7,921.53	-452.74	7,922.21	0.00	0.00	0.00
14,500.00	90.00	171.54	6,803.00	-8,020.44	-438.02	8,021.10	0.00	0.00	0.00
14,600.00	90.00	171.54	6,803.00	-8,119.35	-423.31	8,119.98	0.00	0.00	0.00
14,700.00	90.00	171.54	6,803.00	-8,218.26	-408.60	8,218.87	0.00	0.00	0.00
14,800.00	90.00	171.54	6,803.00	-8,317.17	-393.88	8,317.76	0.00	0.00	0.00
14,900.00	90.00	171.54	6,803.00	-8,416.08	-379.17	8,416.65	0.00	0.00	0.00
15,000.00	90.00	171.54	6,803.00	-8,515.00	-364.46	8,515.54	0.00	0.00	0.00
15,100.00	90.00	171.54	6,803.00	-8,613.91	-349.74	8,614.43	0.00	0.00	0.00
15,200.00	90.00	171.54	6,803.00	-8,712.82	-335.03	8,713.32	0.00	0.00	0.00
15,300.00	90.00	171.54	6,803.00	-8,811.73	-320.32	8,812.21	0.00	0.00	0.00
15,400.00	90.00	171.54	6,803.00	-8,910.64	-305.60	8,911.10	0.00	0.00	0.00
15,500.00	90.00	171.54	6,803.00	-9,009.55	-290.89	9,009.99	0.00	0.00	0.00
15,600.00	90.00	171.54	6,803.00	-9,108.47	-276.17	9,108.88	0.00	0.00	0.00
15,700.00	90.00	171.54	6,803.00	-9,207.38	-261.46	9,207.76	0.00	0.00	0.00
15,800.00	90.00	171.54	6,803.00	-9,306.29	-246.75	9,306.65	0.00	0.00	0.00
15,900.00	90.00	171.54	6,803.00	-9,405.20	-232.03	9,405.54	0.00	0.00	0.00

Noble Energy

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Guttersen D09-750
Company:	Northern Region - DJ Basin	TVD Reference:	Well @ 4750.00ft
Project:	Mustang	MD Reference:	Well @ 4750.00ft
Site:	C Section 33	North Reference:	Grid
Well:	Guttersen D09-750	Survey Calculation Method:	Minimum Curvature
Wellbore:	Guttersen D09-750		
Design:	Plan #3		

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)
16,000.00	90.00	171.54	6,803.00	-9,504.11	-217.32	9,504.43	0.00	0.00	0.00
16,100.00	90.00	171.54	6,803.00	-9,603.02	-202.61	9,603.32	0.00	0.00	0.00
16,200.00	90.00	171.54	6,803.00	-9,701.94	-187.89	9,702.21	0.00	0.00	0.00
16,300.00	90.00	171.54	6,803.00	-9,800.85	-173.18	9,801.10	0.00	0.00	0.00
16,400.00	90.00	171.54	6,803.00	-9,899.76	-158.47	9,899.99	0.00	0.00	0.00
16,500.00	90.00	171.54	6,803.00	-9,998.67	-143.75	9,998.88	0.00	0.00	0.00
16,600.00	90.00	171.54	6,803.00	-10,097.58	-129.04	10,097.77	0.00	0.00	0.00
16,700.00	90.00	171.54	6,803.00	-10,196.49	-114.33	10,196.66	0.00	0.00	0.00
16,800.00	90.00	171.54	6,803.00	-10,295.41	-99.61	10,295.55	0.00	0.00	0.00
16,900.00	90.00	171.54	6,803.00	-10,394.32	-84.90	10,394.43	0.00	0.00	0.00
17,000.00	90.00	171.54	6,803.00	-10,493.23	-70.19	10,493.32	0.00	0.00	0.00
17,100.00	90.00	171.54	6,803.00	-10,592.14	-55.47	10,592.21	0.00	0.00	0.00
17,200.00	90.00	171.54	6,803.00	-10,691.05	-40.76	10,691.10	0.00	0.00	0.00
17,300.00	90.00	171.54	6,803.00	-10,789.96	-26.05	10,789.99	0.00	0.00	0.00
17,364.70	90.00	171.54	6,803.00	-10,853.96	-16.52	10,853.98	0.00	0.00	0.00
TD at 17364.70									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
Guttersen D09-750-SHL	0.00	0.00	0.00	0.00	0.00	1,340,074.93	3,264,314.55	40.2630300	-104.5528660
- plan hits target center									
- Point									
Guttersen D09-750-KOF	0.00	0.00	6,200.97	-152.78	-702.16	1,339,922.14	3,263,612.39	40.2626312	-104.5553877
- plan hits target center									
- Point									
Guttersen D09-750-TPZ	0.00	0.00	6,793.33	-678.17	-805.79	1,339,396.76	3,263,508.76	40.2611921	-104.5557791
- plan hits target center									
- Point									
Guttersen D09-750-BHL	0.00	0.00	6,803.00	-10,853.96	-16.52	1,329,220.99	3,264,298.03	40.2332371	-104.5533404
- plan hits target center									
- Point									
Guttersen D09-750-IP1 I	0.00	0.00	6,803.00	-5,382.64	-800.02	1,334,692.30	3,263,514.54	40.2482785	-104.5559378
- plan hits target center									
- Point									

Noble Energy
Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Guttersen D09-750
Company:	Northern Region - DJ Basin	TVD Reference:	Well @ 4750.00ft
Project:	Mustang	MD Reference:	Well @ 4750.00ft
Site:	C Section 33	North Reference:	Grid
Well:	Guttersen D09-750	Survey Calculation Method:	Minimum Curvature
Wellbore:	Guttersen D09-750		
Design:	Plan #3		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
456.00	456.00	Pierre				
589.00	589.00	Upper Pierre Aquifer Top				
1,509.00	1,509.00	Upper Pierre Aquifer Base				
3,606.87	3,588.00	Parkman				
4,019.32	3,993.00	Sussex				
4,581.49	4,545.00	Shannon				
5,986.90	5,925.00	Teepee Buttes				
6,741.38	6,618.00	Sharon Springs				
6,781.34	6,645.00	Top A Chalk				
6,804.80	6,660.00	Top A Marl				
6,832.72	6,677.00	Top B Chalk				
6,906.07	6,717.00	Top B Marl				
7,045.65	6,773.00	Top C Chalk				
7,206.49	6,802.00	Top C Marl				

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	
2,745.61	2,742.31	-11.01	-50.61	Start 3522.34 hold at 2745.61 MD	
6,267.95	6,200.97	-152.78	-702.16	Start DLS 9.00 TFO -78.83	
7,131.09	6,793.33	-678.17	-805.79	TPZ at 7131.09 MD	
7,242.21	6,803.00	-788.70	-807.72	Landing Pt. at 7242.21 MD	
7,442.21	6,803.00	-988.67	-811.21	Start DLS 2.00 TFO -90.00	
7,499.88	6,803.00	-1,046.34	-811.64	Start 4336.31 hold at 7499.88 MD	
11,836.19	6,803.00	-5,382.64	-800.02	Start DLS 2.00 TFO -90.00	
12,251.56	6,803.00	-5,796.47	-768.85	Start 5113.14 hold at 12251.56 MD	
17,364.70	6,803.00	-10,853.96	-16.52	TD at 17364.70	

Northern Region - DJ Basin

Mustang

C Section 33

Guttersen D09-750

Guttersen D09-750

Plan #3

Anticollision Summary Report

18 March, 2020

Noble Energy

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D09-750
Project:	Mustang	TVD Reference:	Well @ 4750.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4750.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D09-750	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen D09-750	Database:	EDMP
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

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

Survey Tool Program	Date 3/18/2020			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	17,364.70	Plan #3 (Guttersen D09-750)	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 32						
HENNINGTON C #32-10(PR) - Wellbore #1 - No Surveys	6,538.58	6,476.70	5,003.52	4,923.62	62.626	CC
HENNINGTON C #32-10(PR) - Wellbore #1 - No Surveys	6,550.00	6,486.69	5,003.56	4,923.54	62.527	ES
HENNINGTON C #32-10(PR) - Wellbore #1 - No Surveys	7,050.00	6,794.30	5,093.31	5,009.04	60.442	SF
HENNINGTON C #32-2(PR) - Wellbore #1 - No Surveys	6,368.04	6,319.55	6,503.30	6,425.23	83.299	CC, ES
HENNINGTON C #32-2(PR) - Wellbore #1 - No Surveys	6,900.00	6,734.95	6,655.32	6,571.88	79.756	SF
HENNINGTON C #32-7(PA) - Wellbore #1 - Gyro Survey	6,400.19	6,218.02	5,782.79	5,738.24	129.802	CC, ES
HENNINGTON C #32-7(PA) - Wellbore #1 - Gyro Survey	6,950.00	6,519.19	5,919.46	5,872.05	124.833	SF
HOWELL #1(SI) - Wellbore #1 - No Surveys	6,820.63	6,719.76	6,839.20	6,756.37	82.570	CC
HOWELL #1(SI) - Wellbore #1 - No Surveys	6,850.00	6,737.04	6,839.40	6,756.33	82.335	ES
HOWELL #1(SI) - Wellbore #1 - No Surveys	8,500.00	6,853.00	7,217.58	7,127.98	80.553	SF
HOWELL #32-1(SI) - Wellbore #1 - No Surveys	6,486.96	6,444.43	6,655.51	6,576.05	83.753	CC
HOWELL #32-1(SI) - Wellbore #1 - No Surveys	6,500.00	6,456.28	6,655.57	6,575.96	83.595	ES
HOWELL #32-1(SI) - Wellbore #1 - No Surveys	7,050.00	6,808.30	6,772.43	6,688.02	80.230	SF
HOWELL #32-2(SI) - Wellbore #1 - No Surveys	6,410.10	6,366.81	7,290.12	7,211.53	92.768	CC, ES
HOWELL #32-2(SI) - Wellbore #1 - No Surveys	7,000.00	6,785.72	7,448.97	7,364.84	88.542	SF
HOWELL #32-23(PR) - Wellbore #1 - No Surveys	6,503.28	6,486.24	7,850.48	7,770.61	98.282	CC, ES
HOWELL #32-23(PR) - Wellbore #1 - No Surveys	7,100.00	6,848.20	7,974.17	7,889.29	93.949	SF
HOWELL #C 32-12(SI) - Wellbore #1 - No Surveys	6,678.71	6,647.21	7,537.63	7,455.83	92.153	CC
HOWELL #C 32-12(SI) - Wellbore #1 - No Surveys	6,700.00	6,663.21	7,537.74	7,455.74	91.918	ES
HOWELL #C 32-12(SI) - Wellbore #1 - No Surveys	7,200.00	6,876.60	7,608.07	7,522.79	89.210	SF
MCGUIRK-HOWELL C #32-11(SI) - Wellbore #1 - No Su	6,595.00	6,538.15	6,306.21	6,225.61	78.244	CC
MCGUIRK-HOWELL C #32-11(SI) - Wellbore #1 - No Su	6,600.00	6,542.33	6,306.22	6,225.57	78.191	ES
MCGUIRK-HOWELL C #32-11(SI) - Wellbore #1 - No Su	7,131.09	6,826.33	6,392.72	6,308.00	75.456	SF
MCGUIRK-HOWELL C #32-14(TA) - Wellbore #1 - No Su	6,904.67	6,755.30	6,153.30	6,069.94	73.815	CC, ES
MCGUIRK-HOWELL C #32-14(TA) - Wellbore #1 - No Su	8,300.00	6,842.00	6,416.11	6,327.47	72.384	SF
MCGUIRK-HOWELL C #32-4(SI) - Wellbore #1 - No Sur	6,430.57	6,434.16	8,518.54	8,439.32	107.525	CC
MCGUIRK-HOWELL C #32-4(SI) - Wellbore #1 - No Sur	6,450.00	6,452.35	8,518.71	8,439.25	107.215	ES
MCGUIRK-HOWELL C #32-4(SI) - Wellbore #1 - No Sur	7,050.00	6,850.30	8,680.13	8,595.32	102.350	SF
NELSON #32-25(PR) - Wellbore #1 - No Surveys	6,451.77	6,443.00	7,641.88	7,562.52	96.297	CC, ES
NELSON #32-25(PR) - Wellbore #1 - No Surveys	7,050.00	6,839.30	7,784.65	7,699.94	91.906	SF
PLUSS #32-43(PA) - Wellbore #1 - Gyro Surveys	6,874.82	6,544.40	4,984.89	4,937.74	105.720	CC, ES
PLUSS #32-43(PA) - Wellbore #1 - Gyro Surveys	8,800.00	6,569.77	5,468.95	5,414.89	101.158	SF
PTF #C 32-1(SI) - Wellbore #1 - No Surveys	6,340.66	6,285.06	5,384.78	5,307.07	69.296	CC
PTF #C 32-1(SI) - Wellbore #1 - No Surveys	6,350.00	6,294.12	5,384.83	5,307.01	69.195	ES
PTF #C 32-1(SI) - Wellbore #1 - No Surveys	6,800.00	6,669.98	5,512.23	5,429.61	66.717	SF
PTF #C 32-16(SI) - Wellbore #1 - No Surveys	6,802.86	6,672.79	3,413.04	3,330.67	41.435	CC, ES
PTF #C 32-16(SI) - Wellbore #1 - No Surveys	7,100.00	6,801.20	3,439.47	3,355.12	40.776	SF

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

Noble Energy

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D09-750
Project:	Mustang	TVD Reference:	Well @ 4750.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4750.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D09-750	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen D09-750	Database:	EDMP
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
C Section 32						
PTF #C 32-8(SI) - Wellbore #1 - No Surveys	6,386.21	6,319.02	4,411.36	4,333.25	56.476	CC
PTF #C 32-8(SI) - Wellbore #1 - No Surveys	6,400.00	6,332.20	4,411.46	4,333.18	56.357	ES
PTF #C 32-8(SI) - Wellbore #1 - No Surveys	6,800.00	6,659.98	4,500.34	4,417.84	54.549	SF
PTF #C 32-9(SI) - Wellbore #1 - No Surveys	6,501.58	6,428.71	3,685.56	3,606.19	46.435	CC, ES
PTF #C 32-9(SI) - Wellbore #1 - No Surveys	6,900.00	6,718.95	3,746.72	3,663.50	45.022	SF

Noble Energy

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D09-750
Project:	Mustang	TVD Reference:	Well @ 4750.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4750.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D09-750	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen D09-750	Database:	EDMP
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
C Section 33						
GUTTERSEN C #33-31D (PR) - GUTTERSEN C #33-31	700.00	751.34	3,826.56	3,822.97	1,063.447	CC, ES
GUTTERSEN C #33-31D (PR) - GUTTERSEN C #33-31	6,700.00	6,854.76	4,716.54	4,666.19	93.666	SF
GUTTERSEN C #33-32 (PR) - Wellbore #1 - As-Drilled	6,379.69	6,325.81	3,353.18	3,186.63	20.133	CC, ES
GUTTERSEN C #33-32 (PR) - Wellbore #1 - As-Drilled	6,750.00	6,651.25	3,427.82	3,252.77	19.582	SF
GUTTERSEN C #33-33D (PR) - GUTTERSEN C #33-33	6,530.88	6,634.23	3,028.75	2,974.96	56.306	CC, ES
GUTTERSEN C #33-33D (PR) - GUTTERSEN C #33-33	6,850.00	6,882.82	3,066.11	3,010.69	55.317	SF
Guttersen C28-715 - Guttersen C28-715 - Plan #2	2,200.00	2,198.00	175.16	159.86	11.449	CC, ES
Guttersen C28-715 - Guttersen C28-715 - Plan #2	2,400.00	2,386.92	183.47	166.87	11.051	SF
Guttersen C28-725 - Guttersen C28-725 - Plan #2	2,200.00	2,196.00	164.68	149.39	10.769	CC, ES
Guttersen C28-725 - Guttersen C28-725 - Plan #2	2,400.00	2,384.88	172.57	155.99	10.405	SF
Guttersen C28-735 - Guttersen C28-735 - Plan #2	2,200.00	2,195.00	156.62	141.33	10.244	CC, ES
Guttersen C28-735 - Guttersen C28-735 - Plan #2	2,400.00	2,384.78	163.39	146.81	9.853	SF
Guttersen C28-745 - Guttersen C28-745 - Plan #2	2,200.00	2,194.00	151.90	136.61	9.938	CC, ES
Guttersen C28-745 - Guttersen C28-745 - Plan #2	7,094.94	7,171.42	261.64	211.69	5.238	SF
Guttersen C28-750 - Guttersen C28-750 - Plan #2	7,053.88	7,022.57	52.08	2.13	1.043	Level 2, CC, ES, SF
Guttersen C28-755 - Guttersen C28-755 - Plan #2	7,111.17	7,211.47	380.29	330.27	7.603	CC, ES
Guttersen C28-755 - Guttersen C28-755 - Plan #2	7,131.09	7,195.18	380.50	330.43	7.600	SF
Guttersen C28-765 - Guttersen C28-765 - Plan #2	7,004.78	6,940.66	1,035.29	986.71	21.311	CC, ES
Guttersen C28-765 - Guttersen C28-765 - Plan #2	7,050.00	6,912.60	1,036.02	987.38	21.300	SF
Guttersen C28-775 - Guttersen C28-775 - Plan #2	7,280.66	6,725.15	1,659.94	1,610.62	33.656	CC, ES
Guttersen C28-775 - Guttersen C28-775 - Plan #2	7,400.00	6,664.83	1,662.87	1,613.38	33.597	SF
Guttersen C28-785 - Guttersen C28-785 - Plan #2	3,235.57	2,857.16	1,999.41	1,978.59	96.031	CC, ES
Guttersen C28-785 - Guttersen C28-785 - Plan #2	7,800.00	6,411.49	2,273.38	2,222.52	44.698	SF
Guttersen D09-721 - Guttersen D09-721 - Plan #3	2,200.00	2,202.00	45.21	29.90	2.952	CC, ES, SF
Guttersen D09-745 - Guttersen D09-745 - Plan #3	2,200.00	2,200.00	22.61	7.30	1.477	Level 3, CC, ES, SF
Guttersen D09-755 - Guttersen D09-755 - Plan #2	7,491.34	7,518.83	314.54	264.55	6.292	CC
Guttersen D09-755 - Guttersen D09-755 - Plan #2	11,900.00	11,927.47	327.98	227.61	3.268	ES
Guttersen D09-755 - Guttersen D09-755 - Plan #2	12,000.00	12,027.37	332.13	230.28	3.261	SF
Guttersen D09-765 - Guttersen D09-765 - Plan #1	7,496.14	7,539.04	973.37	922.62	19.180	CC
Guttersen D09-765 - Guttersen D09-765 - Plan #1	11,900.00	11,942.88	979.82	879.16	9.734	ES
Guttersen D09-765 - Guttersen D09-765 - Plan #1	17,364.70	17,351.48	1,754.98	1,570.08	9.491	SF
Guttersen D09-770 - Guttersen D09-770 - Plan #2	7,488.21	7,476.95	1,296.32	1,245.78	25.651	CC
Guttersen D09-770 - Guttersen D09-770 - Plan #2	11,836.19	11,822.26	1,322.65	1,224.19	13.433	ES
Guttersen D09-770 - Guttersen D09-770 - Plan #2	17,364.70	17,290.87	2,123.92	1,940.57	11.584	SF
Guttersen D09-775 - Guttersen D09-775 - Plan #2	6,643.48	6,406.55	1,580.29	1,534.15	34.247	CC
Guttersen D09-775 - Guttersen D09-775 - Plan #2	6,650.00	6,412.62	1,580.30	1,534.11	34.215	ES
Guttersen D09-775 - Guttersen D09-775 - Plan #2	17,364.70	17,302.57	2,408.98	2,223.66	12.999	SF
Guttersen D09-785 - Guttersen D09-785 - Plan #2	3,107.12	2,734.14	2,005.26	1,985.25	100.212	CC, ES
Guttersen D09-785 - Guttersen D09-785 - Plan #2	17,364.70	17,451.68	3,059.25	2,873.98	16.513	SF
LINDAY C #33-2 (SI) - Wellbore #1 - Gyro Surveys	6,475.54	6,364.73	887.72	842.45	19.610	CC, ES
LINDAY C #33-2 (SI) - Wellbore #1 - Gyro Surveys	6,600.00	6,472.79	895.38	849.27	19.416	SF
LINDSAY #33-1 (SI) - LINDSAY #33-1 OH - As-Drilled	3,469.81	3,422.39	226.09	202.17	9.453	CC
LINDSAY #33-1 (SI) - LINDSAY #33-1 OH - As-Drilled	3,500.00	3,452.16	226.15	202.02	9.371	ES
LINDSAY #33-1 (SI) - LINDSAY #33-1 OH - As-Drilled	4,000.00	3,945.27	244.28	216.61	8.831	SF
LINDSAY #33-3 (SI) - Wellbore #1 - No Surveys	6,275.80	6,179.68	3,088.97	2,959.34	23.828	CC
LINDSAY #33-3 (SI) - Wellbore #1 - No Surveys	6,300.00	6,203.40	3,089.42	2,959.28	23.739	ES
LINDSAY #33-3 (SI) - Wellbore #1 - No Surveys	6,500.00	6,406.72	3,127.20	2,992.77	23.264	SF
LINDSAY #33-4 (SI) - Wellbore #1 - No Surveys	2,200.00	2,171.00	2,847.65	2,802.98	63.746	CC
LINDSAY #33-4 (SI) - Wellbore #1 - No Surveys	2,600.00	2,569.70	2,851.61	2,798.60	53.799	ES
LINDSAY #33-4 (SI) - Wellbore #1 - No Surveys	6,500.00	6,406.72	3,087.89	2,953.59	22.993	SF
LINDSAY #33-5 (SI) - Wellbore #1 - No Surveys	2,200.00	2,156.00	1,527.40	1,482.99	34.393	CC
LINDSAY #33-5 (SI) - Wellbore #1 - No Surveys	2,745.61	2,701.69	1,532.32	1,476.51	27.454	ES
LINDSAY #33-5 (SI) - Wellbore #1 - No Surveys	6,400.00	6,285.20	1,763.13	1,631.36	13.380	SF

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

Noble Energy

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D09-750
Project:	Mustang	TVD Reference:	Well @ 4750.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4750.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D09-750	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen D09-750	Database:	EDMP
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Summary

Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
C Section 33						
LINDSAY #33-6 (SI) - Wellbore #1 - No Surveys	6,300.64	5,812.02	1,848.14	1,724.82	14.987	CC, ES
LINDSAY #33-6 (SI) - Wellbore #1 - No Surveys	6,500.00	6,001.28	1,876.92	1,749.57	14.738	SF
LINDSAY #33-7 (SI) - Wellbore #1 - No Surveys	5,895.41	5,814.17	4,374.26	4,252.46	35.912	CC
LINDSAY #33-7 (SI) - Wellbore #1 - No Surveys	6,267.95	6,179.97	4,374.83	4,245.23	33.756	ES
LINDSAY #33-7 (SI) - Wellbore #1 - No Surveys	6,650.00	6,528.92	4,486.24	4,349.22	32.741	SF
LINDSAY #33-8 (SI) - Wellbore #1 - No Surveys	2,200.00	2,182.00	4,154.28	4,109.42	92.598	CC
LINDSAY #33-8 (SI) - Wellbore #1 - No Surveys	2,600.00	2,580.70	4,158.65	4,105.46	78.175	ES
LINDSAY #33-8 (SI) - Wellbore #1 - No Surveys	6,600.00	6,508.67	4,426.38	4,289.96	32.447	SF
LINDSAY #C33-10 (SI) - Wellbore #1 - No Surveys	6,302.39	6,229.73	4,853.08	4,722.47	37.157	CC, ES
LINDSAY #C33-10 (SI) - Wellbore #1 - No Surveys	6,700.00	6,583.21	4,962.95	4,824.79	35.922	SF
LINDSAY #C33-11 (PA) - LINDSAY #C33-11 OH - As-Dri	6,340.84	6,326.52	3,773.66	3,728.88	84.272	CC
LINDSAY #C33-11 (PA) - LINDSAY #C33-11 OH - As-Dri	6,350.00	6,335.70	3,773.71	3,728.87	84.148	ES
LINDSAY #C33-11 (PA) - LINDSAY #C33-11 OH - As-Dri	6,650.00	6,540.40	3,837.68	3,791.03	82.269	SF
LINDSAY #C33-12 (PA) - Wellbore #1 - As-Drilled	6,412.69	6,406.81	2,749.13	2,703.91	60.797	CC, ES
LINDSAY #C33-12 (PA) - Wellbore #1 - As-Drilled	6,750.00	6,760.55	2,808.51	2,760.95	59.060	SF
LINDSAY #C33-13 (SI) - LINDSAY #C33-13 OH - As-Dril	6,665.65	6,545.55	2,155.67	2,109.18	46.376	CC, ES
LINDSAY #C33-13 (SI) - LINDSAY #C33-13 OH - As-Dril	6,950.00	6,713.04	2,185.18	2,137.19	45.540	SF
LINDSAY #C33-14 (SI) - Wellbore #1 - No Surveys	2,200.00	2,181.00	4,286.02	4,241.18	95.571	CC
LINDSAY #C33-14 (SI) - Wellbore #1 - No Surveys	2,300.00	2,280.98	4,286.81	4,239.87	91.326	ES
LINDSAY #C33-14 (SI) - Wellbore #1 - No Surveys	6,600.00	6,509.67	4,765.15	4,628.84	34.958	SF
LINDSAY #C33-15 (SI) - Wellbore #1 - No Surveys	2,200.00	2,167.00	3,036.28	2,991.76	68.208	CC
LINDSAY #C33-15 (SI) - Wellbore #1 - No Surveys	2,300.00	2,266.98	3,037.23	2,990.63	65.166	ES
LINDSAY #C33-15 (SI) - Wellbore #1 - No Surveys	6,550.00	6,433.69	3,569.37	3,434.69	26.503	SF
LINDSAY #C33-16 (SI) - Wellbore #1 - As-Drilled	2,223.39	2,186.62	1,123.36	1,108.16	73.876	CC, ES
LINDSAY #C33-16 (SI) - Wellbore #1 - As-Drilled	6,500.00	6,381.45	1,845.50	1,800.30	40.826	SF
LINDSAY #C33-9 (PR) - Wellbore #1 - No Surveys	2,200.00	2,149.00	1,907.72	1,863.43	43.075	CC
LINDSAY #C33-9 (PR) - Wellbore #1 - No Surveys	2,300.00	2,248.98	1,909.00	1,862.62	41.159	ES
LINDSAY #C33-9 (PR) - Wellbore #1 - No Surveys	6,500.00	6,371.28	2,548.47	2,415.06	19.102	SF
LINDSAY C #33-02 (SI) - Wellbore #1 - As-Drilled	6,475.54	6,364.73	887.72	842.42	19.596	CC, ES
LINDSAY C #33-02 (SI) - Wellbore #1 - As-Drilled	6,600.00	6,472.79	895.38	849.24	19.402	SF
LINDSAY C #33-17 (SI) - Wellbore #1 - As-Drilled	2,200.00	2,192.07	3,497.48	3,451.84	76.636	CC
LINDSAY C #33-17 (SI) - Wellbore #1 - As-Drilled	2,500.00	2,546.44	3,501.96	3,448.44	65.430	ES
LINDSAY C #33-17 (SI) - Wellbore #1 - As-Drilled	6,700.00	6,606.83	3,936.49	3,767.79	23.334	SF
LINDSAY C #33-18 (SI) - Wellbore #1 - As-Drilled	1,100.72	1,091.75	2,893.09	2,878.88	203.596	CC
LINDSAY C #33-18 (SI) - Wellbore #1 - As-Drilled	1,200.00	1,147.00	2,893.89	2,878.60	189.185	ES
LINDSAY C #33-18 (SI) - Wellbore #1 - As-Drilled	6,550.00	6,525.01	3,711.14	3,598.58	32.971	SF
LINDSAY C #33-19 (PR) - Wellbore #1 - No Surveys	6,294.82	6,215.33	3,910.86	3,780.52	30.006	CC
LINDSAY C #33-19 (PR) - Wellbore #1 - No Surveys	6,300.00	6,220.40	3,910.88	3,780.44	29.982	ES
LINDSAY C #33-19 (PR) - Wellbore #1 - No Surveys	6,600.00	6,502.67	3,977.95	3,841.50	29.154	SF
LINDSAY C #33-20 (SI) - Wellbore #1 - As-Drilled	6,328.25	6,276.45	2,586.93	2,420.16	15.512	CC, ES
LINDSAY C #33-20 (SI) - Wellbore #1 - As-Drilled	6,600.00	6,574.64	2,638.08	2,463.40	15.102	SF
LINDSAY C #33-21 (SI) - Wellbore #1 - As-Drilled	4,600.00	4,595.09	2,135.27	2,023.42	19.090	CC
LINDSAY C #33-21 (SI) - Wellbore #1 - As-Drilled	6,000.00	6,098.95	2,149.17	1,989.68	13.475	ES
LINDSAY C #33-21 (SI) - Wellbore #1 - As-Drilled	6,400.00	6,312.39	2,172.37	2,008.29	13.240	SF
LINDSAY C #33-22 (SI) - Wellbore #1 - As-Drilled	2,200.00	2,177.17	2,061.91	2,013.41	42.511	CC
LINDSAY C #33-22 (SI) - Wellbore #1 - As-Drilled	2,500.00	2,523.23	2,068.40	2,010.71	35.855	ES
LINDSAY C #33-22 (SI) - Wellbore #1 - As-Drilled	6,267.95	6,179.32	2,446.03	2,285.72	15.259	SF
LINDSAY C #33-23 (SI) - Wellbore #1 - No Surveys	2,200.00	2,153.00	937.34	892.98	21.131	CC
LINDSAY C #33-23 (SI) - Wellbore #1 - No Surveys	2,300.00	2,252.98	938.42	891.97	20.203	ES
LINDSAY C #33-23 (SI) - Wellbore #1 - No Surveys	6,350.00	6,234.12	1,510.21	1,379.73	11.574	SF
LINDSAY C #33-24 (SI) - Wellbore #1 - As-Drilled	6,267.95	6,338.73	995.29	821.44	5.725	CC, ES, SF
LINDSAY C #33-25 (SI) - Wellbore #1 - No Surveys	6,414.33	6,318.83	1,676.27	1,543.82	12.656	CC
LINDSAY C #33-25 (SI) - Wellbore #1 - No Surveys	6,450.00	6,352.35	1,676.90	1,543.73	12.593	ES

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

Noble Energy

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D09-750
Project:	Mustang	TVD Reference:	Well @ 4750.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4750.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D09-750	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen D09-750	Database:	EDMP
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
C Section 33						
LINDSAY C #33-25 (SI) - Wellbore #1 - No Surveys	6,650.00	6,525.92	1,704.71	1,567.80	12.451	SF

Noble Energy

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D09-750
Project:	Mustang	TVD Reference:	Well @ 4750.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4750.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D09-750	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen D09-750	Database:	EDMP
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Summary

Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
C Section 34						
ALOYSIOUS #C34-08(PR) - Wellbore #1 - No Surveys	2,200.00	2,143.00	3,722.81	3,696.46	141.258	CC, ES
ALOYSIOUS #C34-08(PR) - Wellbore #1 - No Surveys	6,650.00	6,492.92	4,447.67	4,367.46	55.447	SF
ALOYSIOUS #C34-09(SI) - Wellbore #1 - Gyro Surveys	2,263.73	2,348.48	6,539.82	6,523.90	410.763	CC, ES
ALOYSIOUS #C34-09(SI) - Wellbore #1 - Gyro Surveys	6,850.00	6,850.00	7,394.05	7,346.18	154.486	SF
ALOYSIOUS #C34-11(PA) - Wellbore #1 - Gyro Surveys	166.20	110.96	4,028.49	4,027.94	7,213.700	CC
ALOYSIOUS #C34-11(PA) - Wellbore #1 - Gyro Surveys	2,200.00	2,125.15	4,029.66	4,014.76	270.460	ES
ALOYSIOUS #C34-2(PR) - Wellbore #1 - No Surveys	6,900.00	6,733.74	4,896.98	4,849.40	102.930	SF
ALOYSIOUS #34-1(PR) - Wellbore #1 - No Surveys	2,200.00	2,173.00	4,807.82	4,781.20	180.633	CC
ALOYSIOUS #34-1(PR) - Wellbore #1 - No Surveys	2,300.00	2,272.98	4,808.99	4,781.15	172.756	ES
ALOYSIOUS #34-1(PR) - Wellbore #1 - No Surveys	6,700.00	6,561.21	5,485.25	5,404.25	67.716	SF
ALOYSIOUS #34-2(PR) - Wellbore #1 - No Surveys	2,200.00	2,142.00	6,306.09	6,279.74	239.357	CC, ES
ALOYSIOUS #34-2(PR) - Wellbore #1 - No Surveys	7,200.00	6,743.60	7,178.74	7,094.97	85.696	SF
ALOYSIOUS #34-3(PR) - Wellbore #1 - No Surveys	2,200.00	2,147.00	5,590.62	5,564.23	211.849	CC, ES
ALOYSIOUS #34-3(PR) - Wellbore #1 - No Surveys	6,800.00	6,603.98	6,405.33	6,323.77	78.534	SF
ALOYSIOUS #34-4(SI) - Wellbore #1 - No Surveys	2,200.00	2,140.00	4,653.46	4,627.13	176.746	CC, ES
ALOYSIOUS #34-4(SI) - Wellbore #1 - No Surveys	6,800.00	6,596.98	5,509.85	5,428.37	67.623	SF
ALOYSIOUS #34-5(PA) - Wellbore #1 - Gyro Surveys	2,215.22	2,184.23	5,282.27	5,267.11	348.457	CC, ES
ALOYSIOUS #34-5(PA) - Wellbore #1 - Gyro Surveys	7,000.00	6,697.89	6,244.60	6,196.99	131.150	SF
ALOYSIOUS #34-6(PR) - Wellbore #1 - Gyro Surveys	1,061.61	1,010.00	3,748.73	3,741.81	541.280	CC
ALOYSIOUS #34-6(PR) - Wellbore #1 - Gyro Surveys	2,201.94	2,151.50	3,751.27	3,736.27	250.100	ES
ALOYSIOUS #34-6(PR) - Wellbore #1 - Gyro Surveys	7,150.00	6,750.83	4,576.11	4,527.86	94.838	SF
ALOYSIOUS #34-7(PR) - Wellbore #1 - Gyro Surveys	2,219.43	2,183.79	2,424.26	2,409.07	159.651	CC, ES
ALOYSIOUS #34-7(PR) - Wellbore #1 - Gyro Surveys	6,950.00	6,664.75	3,262.78	3,215.31	68.737	SF
ALOYSIOUS #C34-15(PR) - Wellbore #1 - No Surveys	2,200.00	2,143.00	5,059.10	5,032.74	191.962	CC, ES
ALOYSIOUS #C34-15(PR) - Wellbore #1 - No Surveys	7,200.00	6,744.60	5,943.79	5,860.04	70.970	SF
Aloysius C #34-18(PA) - Wellbore #1 - Gyro Surveys	1,996.60	1,936.71	5,480.57	5,467.05	405.278	CC
Aloysius C #34-18(PA) - Wellbore #1 - Gyro Surveys	2,000.00	1,937.88	5,480.57	5,467.03	404.791	ES
Aloysius C #34-18(PA) - Wellbore #1 - Gyro Surveys	6,900.00	6,900.00	6,398.68	6,350.63	133.166	SF
ALOYSIOUS C #34-19(PR) - Wellbore #1 - No Surveys	2,200.00	2,150.00	4,660.91	4,610.26	92.016	CC
ALOYSIOUS C #34-19(PR) - Wellbore #1 - No Surveys	2,300.00	2,249.98	4,662.31	4,609.31	87.967	ES
ALOYSIOUS C #34-19(PR) - Wellbore #1 - No Surveys	6,750.00	6,573.97	5,443.68	5,288.39	35.054	SF
Aloysius C #34-20D(PR) - Wellbore #1 - MWD Surveys	2,596.02	3,117.39	3,848.38	3,827.17	181.479	CC
Aloysius C #34-20D(PR) - Wellbore #1 - MWD Surveys	2,600.00	3,120.03	3,848.38	3,827.15	181.235	ES
Aloysius C #34-20D(PR) - Wellbore #1 - MWD Surveys	6,800.00	6,772.17	4,516.73	4,466.82	90.486	SF
Aloysius C #34-21D(SI) - Wellbore #1 - MWD Surveys	2,575.38	3,271.47	5,058.85	5,035.55	217.141	CC
Aloysius C #34-21D(SI) - Wellbore #1 - MWD Surveys	2,600.00	3,301.00	5,059.08	5,035.52	214.749	ES
Aloysius C #34-21D(SI) - Wellbore #1 - MWD Surveys	6,800.00	6,764.97	5,710.55	5,658.64	110.019	SF
ALOYSIOUS C #34-22D(PR) - Wellbore #1 - MWD Survey	2,498.30	3,194.90	6,387.51	6,364.94	283.017	CC
ALOYSIOUS C #34-22D(PR) - Wellbore #1 - MWD Survey	2,500.00	3,195.95	6,387.51	6,364.93	282.868	ES
ALOYSIOUS C #34-22D(PR) - Wellbore #1 - MWD Survey	6,950.00	6,860.24	7,159.08	7,107.48	138.726	SF
ALOYSIOUS C #34-23(PR) - Wellbore #1 - Gyro Surveys	2,226.04	2,228.57	5,754.79	5,739.41	374.258	CC, ES
ALOYSIOUS C #34-23(PR) - Wellbore #1 - Gyro Surveys	7,150.00	6,765.42	6,628.01	6,579.78	137.410	SF
Aloysius C #34-24(SI) - Wellbore #1 - No Surveys	2,200.00	2,145.00	4,622.49	4,596.12	175.279	CC, ES
Aloysius C #34-24(SI) - Wellbore #1 - No Surveys	7,050.00	6,719.30	5,542.74	5,459.57	66.643	SF
ALOYSIOUS C #34-27D(PR) - Wellbore #1 - MWD Survey	2,463.98	3,098.24	7,570.67	7,549.81	362.990	CC, ES
ALOYSIOUS C #34-27D(PR) - Wellbore #1 - MWD Survey	6,850.00	6,730.90	8,299.77	8,249.68	165.689	SF
ALOYSIOUS C #34-28D(PA) - Wellbore #1 - Gyro Surveys	764.92	713.18	5,623.70	5,618.87	1,164.740	CC
ALOYSIOUS C #34-28D(PA) - Wellbore #1 - Gyro Surveys	800.00	735.14	5,623.75	5,618.72	1,117.903	ES
ALOYSIOUS C #34-28D(PA) - Wellbore #1 - Gyro Surveys	6,800.00	6,695.44	7,407.23	7,359.17	154.144	SF
Aloysius C #34-31(PA) - Wellbore #1 - Gyro Surveys	2,180.67	2,150.78	4,015.92	4,000.99	269.064	CC
Aloysius C #34-31(PA) - Wellbore #1 - Gyro Surveys	2,200.00	2,167.48	4,015.92	4,000.87	266.785	ES
Aloysius C #34-31(PA) - Wellbore #1 - Gyro Surveys	6,600.00	6,566.01	4,633.88	4,587.63	100.194	SF
Aloysius C #34-32D(PR) - Wellbore #1 - MWD Surveys	2,522.47	2,851.01	2,893.81	2,873.57	142.947	CC, ES

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

Noble Energy

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D09-750
Project:	Mustang	TVD Reference:	Well @ 4750.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4750.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D09-750	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen D09-750	Database:	EDMP
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Summary

Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
C Section 34						
Aloysius C #34-32D(PR) - Wellbore #1 - MWD Surveys	6,500.00	6,577.24	3,428.17	3,374.85	64.289	SF
Aloysius C34-33D(PR) - Wellbore #1 - MWD Surveys	2,557.49	2,846.25	2,200.90	2,180.98	110.470	CC, ES
Aloysius C34-33D(PR) - Wellbore #1 - MWD Surveys	6,550.00	6,528.89	2,798.76	2,749.95	57.341	SF
Aloysius C34-99HZ - Original Drilling - Original Drilling - A	6,156.36	10,570.00	3,165.36	3,115.12	63.003	CC, ES
Aloysius C34-99HZ - Original Drilling - Original Drilling - A	8,700.00	10,570.00	4,298.72	4,212.92	50.099	SF
DONOVAN D #02-30(PR) - Wellbore #1 - No Surveys	2,200.00	2,146.00	6,854.07	6,827.68	259.812	CC, ES
DONOVAN D #02-30(PR) - Wellbore #1 - No Surveys	9,700.00	6,749.00	8,229.45	8,137.31	89.317	SF
Gittlein C22-750 - Wellbore #1 - Plan #2	2,200.00	2,179.00	4,076.64	4,061.41	267.646	CC, ES
Gittlein C22-750 - Wellbore #1 - Plan #2	9,200.00	6,375.34	5,535.00	5,481.06	102.618	SF
Gittlein C22-755 - Wellbore #1 - Plan #2	2,200.00	2,179.00	4,054.04	4,038.80	266.162	CC, ES
Gittlein C22-755 - Wellbore #1 - Plan #2	6,600.00	7,240.87	4,841.65	4,791.93	97.377	SF
Gittlein C22-765 - Wellbore #1 - Plan #2	2,626.73	3,201.47	4,019.36	3,999.35	200.862	CC, ES
Gittlein C22-765 - Wellbore #1 - Plan #2	6,850.00	7,089.19	4,209.43	4,159.41	84.156	SF
Gittlein C22-770 - Wellbore #1 - Plan #2	6,175.55	7,465.24	3,846.57	3,797.39	78.201	CC
Gittlein C22-770 - Wellbore #1 - Plan #2	6,200.00	7,464.28	3,846.65	3,797.37	78.050	ES
Gittlein C22-770 - Wellbore #1 - Plan #2	6,750.00	7,317.18	3,880.51	3,829.92	76.706	SF
Gittlein C22-775 - Wellbore #1 - Plan #2	6,201.60	7,562.69	3,517.75	3,467.89	70.550	CC, ES
Gittlein C22-775 - Wellbore #1 - Plan #2	6,550.00	7,488.16	3,534.07	3,483.36	69.692	SF
Gittlein C22-785 - Wellbore #1 - Plan #2	6,303.21	7,805.73	2,988.44	2,936.85	57.925	CC, ES
Gittlein C22-785 - Wellbore #1 - Plan #2	6,450.00	7,761.67	2,992.20	2,940.39	57.751	SF
Gittlein D10-755 - Wellbore #1 - Plan #2	2,200.00	2,179.00	4,079.27	4,064.04	267.819	CC
Gittlein D10-755 - Wellbore #1 - Plan #2	17,364.70	17,335.46	4,162.46	3,976.47	22.380	ES, SF
Gittlein D10-765 - Wellbore #1 - Plan #2	17,364.70	17,269.56	3,512.38	3,326.60	18.906	CC, ES, SF
Gittlein D10-770 - Wellbore #1 - Plan #2	17,364.70	17,502.53	3,215.70	3,027.55	17.091	CC, ES, SF
Gittlein D10-775 - Wellbore #1 - Plan #2	17,364.70	17,478.93	2,858.10	2,672.04	15.361	CC, ES, SF
Gittlein D10-785 - Wellbore #1 - Plan #2	17,364.70	17,639.14	2,210.35	2,025.29	11.944	CC, ES, SF
Guttersen C22-715 - Wellbore #1 - Plan #2	2,200.00	2,177.00	5,386.57	5,371.34	353.814	CC, ES
Guttersen C22-715 - Wellbore #1 - Plan #2	14,100.00	6,257.23	9,757.24	9,681.42	128.679	SF
Guttersen C22-725 - Wellbore #1 - Plan #2	2,200.00	2,177.00	5,363.96	5,348.73	352.329	CC, ES
Guttersen C22-725 - Wellbore #1 - Plan #2	11,200.00	6,121.37	7,820.47	7,758.57	126.353	SF
Guttersen C22-730 - Wellbore #1 - Plan #2	2,200.00	2,177.00	5,341.63	5,326.41	350.863	CC, ES
Guttersen C22-730 - Wellbore #1 - Plan #2	10,600.00	6,300.00	7,290.91	7,231.46	122.650	SF
Guttersen C22-735 - Wellbore #1 - Plan #2	2,200.00	2,177.00	5,319.04	5,303.81	349.378	CC, ES
Guttersen C22-735 - Wellbore #1 - Plan #2	10,300.00	6,300.00	6,895.81	6,838.12	119.540	SF
Guttersen C22-745 - Wellbore #1 - Plan #2	2,585.57	3,264.68	5,275.42	5,255.29	262.078	CC
Guttersen C22-745 - Wellbore #1 - Plan #2	2,600.00	3,278.87	5,275.45	5,255.22	260.767	ES
Guttersen C22-745 - Wellbore #1 - Plan #2	9,200.00	6,550.00	5,913.38	5,859.41	109.554	SF
GUTTERSEN D #03-27(PR) - Wellbore #1 - No Surveys	2,200.00	2,146.00	5,717.36	5,690.98	216.723	CC, ES
GUTTERSEN D #03-27(PR) - Wellbore #1 - No Surveys	8,500.00	6,749.00	6,763.27	6,676.01	77.504	SF
Guttersen D10-715 - Wellbore #1 - Plan #2	2,200.00	2,177.00	5,408.73	5,393.50	355.270	CC, ES
Guttersen D10-715 - Wellbore #1 - Plan #2	17,364.70	17,522.55	6,771.40	6,585.63	36.450	SF
Guttersen D10-725 - Wellbore #1 - Plan #2	2,200.00	2,177.00	5,386.12	5,370.90	353.785	CC, ES
Guttersen D10-725 - Wellbore #1 - Plan #2	17,364.70	17,287.84	6,120.57	5,935.03	32.987	SF
Guttersen D10-730 - Wellbore #1 - Plan #2	2,200.00	2,177.00	5,363.52	5,348.29	352.300	CC, ES
Guttersen D10-730 - Wellbore #1 - Plan #2	17,364.70	17,429.38	5,809.53	5,623.43	31.217	SF
Guttersen D10-735 - Wellbore #1 - Plan #2	2,200.00	2,177.00	5,341.19	5,325.97	350.834	CC
Guttersen D10-735 - Wellbore #1 - Plan #2	17,364.70	17,327.88	5,466.98	5,282.05	29.563	ES, SF
Guttersen D10-745 - Wellbore #1 - Plan #2	17,364.70	17,265.80	4,816.25	4,631.13	26.018	CC, ES, SF
Guttersen D10-750 - Wellbore #1 - Plan #2	17,364.70	17,481.65	4,509.91	4,322.87	24.112	CC, ES, SF
LANE #34-214(PR) - Wellbore #1 - No Surveys	2,200.00	2,139.00	6,595.53	6,569.21	250.592	CC, ES
LANE #34-214(PR) - Wellbore #1 - No Surveys	6,900.00	6,652.95	7,508.14	7,425.97	91.367	SF
LANE #34-814(PR) - Wellbore #1 - No Surveys	2,200.00	2,139.00	7,066.16	7,039.84	268.473	CC, ES
LANE #34-814(PR) - Wellbore #1 - No Surveys	7,000.00	6,696.72	8,029.38	7,946.60	97.004	SF

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

Noble Energy
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Gutteresen D09-750
Project:	Mustang	TVD Reference:	Well @ 4750.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4750.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Gutteresen D09-750	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Gutteresen D09-750	Database:	EDMP
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
C Section 34						
LANE C #34-17(PR) - Wellbore #1 - No Surveys	2,200.00	2,137.00	6,780.57	6,754.26	257.793	CC, ES
LANE C #34-17(PR) - Wellbore #1 - No Surveys	6,950.00	6,674.56	7,725.76	7,643.29	93.683	SF
POLLOCK-HADDIX #2(PA) - Wellbore #1 - Gyro Surveys	2,217.62	2,197.38	7,635.24	7,620.03	501.813	CC, ES
POLLOCK-HADDIX #2(PA) - Wellbore #1 - Gyro Surveys	6,900.00	6,550.82	8,587.65	8,540.86	183.566	SF
POLLOCK-HADDIX #34-1(SI) - Wellbore #1 - No Survey	2,200.00	2,140.00	5,863.55	5,837.22	222.707	CC, ES
POLLOCK-HADDIX #34-1(SI) - Wellbore #1 - No Survey	6,900.00	6,653.95	6,782.68	6,700.48	82.514	SF
TWO E RANCHES #1(PR) - Wellbore #1 - Gyro Surveys	2,207.74	2,160.80	3,004.34	2,989.26	199.256	CC, ES
TWO E RANCHES #1(PR) - Wellbore #1 - Gyro Surveys	6,800.00	6,556.55	3,891.88	3,845.28	83.511	SF

Noble Energy

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersten D09-750
Project:	Mustang	TVD Reference:	Well @ 4750.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4750.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersten D09-750	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersten D09-750	Database:	EDMP
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
D Section 03						
Becca D 3-11 (PR) - Wellbore #1 - No Surveys	10,290.59	6,776.00	4,573.13	4,264.77	14.830	CC
Becca D 3-11 (PR) - Wellbore #1 - No Surveys	10,300.00	6,776.00	4,573.14	4,264.72	14.828	ES
Becca D 3-11 (PR) - Wellbore #1 - No Surveys	10,600.00	6,776.00	4,583.59	4,273.54	14.784	SF
Becca D 3-12 (PR) - Wellbore #1 - No Surveys	10,337.78	6,772.00	3,247.66	2,939.15	10.527	CC, ES
Becca D 3-12 (PR) - Wellbore #1 - No Surveys	10,500.00	6,772.00	3,251.71	2,942.38	10.512	SF
Becca D 3-13 (PR) - Wellbore #1 - No Surveys	11,582.70	6,784.00	3,369.40	3,051.91	10.613	CC
Becca D 3-13 (PR) - Wellbore #1 - No Surveys	11,600.00	6,784.00	3,369.45	3,051.86	10.609	ES
Becca D 3-13 (PR) - Wellbore #1 - No Surveys	11,800.00	6,784.00	3,376.40	3,057.74	10.595	SF
Becca D 3-14 (PR) - Wellbore #1 - No Surveys	11,448.93	6,774.00	4,588.16	4,272.01	14.513	CC
Becca D 3-14 (PR) - Wellbore #1 - No Surveys	11,500.00	6,774.00	4,588.44	4,271.99	14.500	ES
Becca D 3-14 (PR) - Wellbore #1 - No Surveys	12,400.00	6,774.00	4,634.65	4,313.41	14.427	SF
Becca D03-24 (PR) - Wellbore #1 - No Surveys	10,854.04	6,778.00	5,166.69	4,854.57	16.553	CC
Becca D03-24 (PR) - Wellbore #1 - No Surveys	10,900.00	6,778.00	5,166.90	4,854.50	16.540	ES
Becca D03-24 (PR) - Wellbore #1 - No Surveys	11,300.00	6,778.00	5,185.91	4,871.22	16.479	SF
Becca D03-32D - Wellbore #1 - Wellbore #1- As Drilled	9,571.01	6,922.84	2,513.47	2,453.59	41.977	CC
Becca D03-32D - Wellbore #1 - Wellbore #1- As Drilled	9,600.00	6,922.67	2,513.64	2,453.59	41.857	ES
Becca D03-32D - Wellbore #1 - Wellbore #1- As Drilled	10,700.00	6,916.19	2,755.38	2,684.78	39.029	SF
Cody D #03-28(SI) - Wellbore #1 - No Surveys	2,200.00	2,149.00	4,579.68	4,553.27	173.426	CC, ES
Cody D #03-28(SI) - Wellbore #1 - No Surveys	7,900.00	6,752.00	5,448.53	5,363.07	63.759	SF
Cody D 03-28 (SI) - Wellbore #1 - No Surveys	2,200.00	2,165.00	4,579.68	4,487.75	49.815	CC
Cody D 03-28 (SI) - Wellbore #1 - No Surveys	2,300.00	2,264.98	4,581.34	4,485.06	47.583	ES
Cody D 03-28 (SI) - Wellbore #1 - No Surveys	7,200.00	6,766.60	5,366.49	5,073.14	18.293	SF
Cody D 3-20 (PR) - Wellbore #1 - No Surveys	9,625.70	6,774.00	3,906.20	3,602.11	12.846	CC, ES
Cody D 3-20 (PR) - Wellbore #1 - No Surveys	9,900.00	6,774.00	3,915.82	3,610.39	12.821	SF
Cody D 3-7 (PR) - Wellbore #1 - No Surveys	2,200.00	2,155.00	5,680.82	5,589.16	61.982	CC
Cody D 3-7 (PR) - Wellbore #1 - No Surveys	9,015.73	6,758.00	5,885.73	5,585.67	19.615	ES
Cody D 3-7 (PR) - Wellbore #1 - No Surveys	9,600.00	6,758.00	5,914.66	5,611.76	19.527	SF
CODY WHITE #D 3-2(PR) - Wellbore #1 - No Surveys	2,200.00	2,145.00	5,170.64	5,144.27	196.064	CC, ES
CODY WHITE #D 3-2(PR) - Wellbore #1 - No Surveys	9,100.00	6,748.00	6,075.36	5,985.38	67.519	SF
Cody White D 3-1 (PR) - Wellbore #1 - No Surveys	2,200.00	2,154.00	6,465.59	6,373.97	70.575	CC
Cody White D 3-1 (PR) - Wellbore #1 - No Surveys	2,300.00	2,253.98	6,467.21	6,371.25	67.395	ES
Cody White D 3-1 (PR) - Wellbore #1 - No Surveys	8,100.00	6,757.00	7,213.72	6,918.15	24.407	SF
Cody White D 3-2 (PR) - Wellbore #1 - No Surveys	2,200.00	2,155.00	5,170.65	5,078.99	56.415	CC
Cody White D 3-2 (PR) - Wellbore #1 - No Surveys	2,300.00	2,254.98	5,172.24	5,076.24	53.877	ES
Cody White D 3-2 (PR) - Wellbore #1 - No Surveys	7,900.00	6,758.00	5,882.03	5,587.10	19.944	SF
Cody White D 3-8 (PR) - Wellbore #1 - No Surveys	2,200.00	2,156.00	6,815.50	6,723.80	74.329	CC
Cody White D 3-8 (PR) - Wellbore #1 - No Surveys	2,300.00	2,255.98	6,816.97	6,720.93	70.980	ES
Cody White D 3-8 (PR) - Wellbore #1 - No Surveys	9,700.00	6,759.00	7,246.40	6,942.99	23.883	SF
Guttersten D 02-32D (PR) - Wellbore #1 - As Drilled Surv	831.74	828.90	6,846.15	6,841.95	1,629.345	CC, ES
Guttersten D 02-32D (PR) - Wellbore #1 - As Drilled Surv	14,400.00	6,839.59	8,954.38	8,865.94	101.240	SF
Guttersten D 03-17 (PR) - Wellbore #1 - No Surveys	2,200.00	2,162.00	5,958.95	5,867.11	64.889	CC
Guttersten D 03-17 (PR) - Wellbore #1 - No Surveys	2,300.00	2,261.98	5,960.46	5,864.28	61.972	ES
Guttersten D 03-17 (PR) - Wellbore #1 - No Surveys	8,900.00	6,765.00	6,528.19	6,228.93	21.814	SF
Guttersten D 03-25 (PR) - Wellbore #1 - No Surveys	10,744.04	6,776.00	3,913.61	3,602.35	12.573	CC, ES
Guttersten D 03-25 (PR) - Wellbore #1 - No Surveys	11,000.00	6,776.00	3,921.97	3,609.32	12.544	SF
Guttersten D 10-29 (PR) - Wellbore #1 - No Surveys	12,693.36	6,785.00	3,994.16	3,669.67	12.309	CC
Guttersten D 10-29 (PR) - Wellbore #1 - No Surveys	12,700.00	6,785.00	3,994.16	3,669.64	12.308	ES
Guttersten D 10-29 (PR) - Wellbore #1 - No Surveys	12,900.00	6,785.00	3,999.50	3,674.05	12.289	SF
HSR-Gittlein, D 4-3 (PR) - Wellbore #1 - No Surveys	2,200.00	2,162.00	2,424.88	2,332.94	26.376	CC
HSR-Gittlein, D 4-3 (PR) - Wellbore #1 - No Surveys	2,400.00	2,361.84	2,430.65	2,330.04	24.159	ES
HSR-Gittlein, D 4-3 (PR) - Wellbore #1 - No Surveys	7,400.00	6,765.00	3,060.48	2,766.61	10.415	SF
HSR-Gittlein, D 5-3 (PR) - Wellbore #1 - No Surveys	8,860.18	6,772.00	3,068.23	2,768.42	10.234	CC, ES
HSR-Gittlein, D 5-3 (PR) - Wellbore #1 - No Surveys	9,000.00	6,772.00	3,071.42	2,771.04	10.225	SF

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

Noble Energy
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Gutttersen D09-750
Project:	Mustang	TVD Reference:	Well @ 4750.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4750.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Gutttersen D09-750	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Gutttersen D09-750	Database:	EDMP
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
D Section 03						
HSR-Gittlein, L 3-3 (PR) - Wellbore #1 - No Surveys	2,200.00	2,159.00	3,883.54	3,791.72	42.298	CC
HSR-Gittlein, L 3-3 (PR) - Wellbore #1 - No Surveys	2,300.00	2,258.98	3,885.07	3,788.91	40.402	ES
HSR-Gittlein, L 3-3 (PR) - Wellbore #1 - No Surveys	7,700.00	6,762.00	4,545.05	4,250.54	15.433	SF
HSR-Gittlein, L 6-3 (PR) - Wellbore #1 - No Surveys	2,200.00	2,163.00	4,444.49	4,352.52	48.324	CC
HSR-Gittlein, L 6-3 (PR) - Wellbore #1 - No Surveys	8,859.05	6,766.00	4,553.09	4,253.52	15.199	ES
HSR-Gittlein, L 6-3 (PR) - Wellbore #1 - No Surveys	9,200.00	6,766.00	4,565.84	4,264.76	15.165	SF
HSR-Gutttersen "A" 16-3 (SI) - Wellbore #1 - Gyro Survey	12,563.38	6,745.21	7,145.59	7,067.81	91.869	CC
HSR-Gutttersen "A" 16-3 (SI) - Wellbore #1 - Gyro Survey	12,600.00	6,745.43	7,145.68	7,067.68	91.609	ES
HSR-Gutttersen "A" 16-3 (SI) - Wellbore #1 - Gyro Survey	15,000.00	6,759.88	7,549.59	7,459.62	83.905	SF
HSR-Gutttersen "A" 9-3 (SI) - Wellbore #1 - Gyro Surveys	10,407.67	6,763.42	6,984.42	6,920.65	109.523	CC, ES
HSR-Gutttersen "A" 9-3 (SI) - Wellbore #1 - Gyro Surveys	14,100.00	6,771.85	7,628.86	7,546.25	92.343	SF
HSR-Gutttersen 10-3 (SI) - Wellbore #1 - No Surveys	10,203.27	6,771.00	5,895.48	5,587.87	19.166	CC, ES
HSR-Gutttersen 10-3 (SI) - Wellbore #1 - No Surveys	10,800.00	6,771.00	5,925.60	5,614.64	19.056	SF
HSR-Gutttersen 15-3 (SI) - Wellbore #1 - Gyro Surveys	12,537.68	6,794.88	5,984.00	5,906.19	76.910	CC
HSR-Gutttersen 15-3 (SI) - Wellbore #1 - Gyro Surveys	12,600.00	6,795.64	5,984.32	5,906.16	76.560	ES
HSR-Gutttersen 15-3 (SI) - Wellbore #1 - Gyro Surveys	14,200.00	6,815.23	6,210.56	6,124.76	72.378	SF
UPRR 39 PAN AM A 01 (PA) - Wellbore #1 - No Surveys	11,539.91	6,785.00	3,254.61	2,937.42	10.261	CC, ES
UPRR 39 PAN AM A 01 (PA) - Wellbore #1 - No Surveys	11,700.00	6,785.00	3,258.54	2,940.49	10.245	SF

Noble Energy

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D09-750
Project:	Mustang	TVD Reference:	Well @ 4750.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4750.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D09-750	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen D09-750	Database:	EDMP
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Summary

Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
D Section 04						
Burghart D04-22 - Wellbore #1 - Wellbore #1- As Drilled	9,417.00	6,765.91	1,284.02	1,226.40	22.285	CC, ES
Burghart D04-22 - Wellbore #1 - Wellbore #1- As Drilled	9,500.00	6,764.79	1,286.70	1,228.88	22.254	SF
Gittlein Blue D04-08 (SI) - Wellbore #1 - Wellbore #1- As	8,969.37	6,748.38	1,869.01	1,813.95	33.942	CC, ES
Gittlein Blue D04-08 (SI) - Wellbore #1 - Wellbore #1- As	9,100.00	6,747.15	1,873.57	1,818.09	33.768	SF
GITTLEIN D #04-24(PR) - GITTLEIN D #04-24 - No Surv	10,957.67	6,772.00	136.28	-43.13	0.760	Level 1, CC, ES, SF
Gittlein D #04-33(PR) - Gittlein D #04-33 - INC Only	10,944.14	2,054.71	2,430.58	2,234.52	12.397	CC, ES
Gittlein D #04-33(PR) - Gittlein D #04-33 - INC Only	11,200.00	2,054.71	2,444.01	2,245.89	12.336	SF
Guttersen D 04-18(PR) - Guttersen D 04-18 - Wellbore #	8,259.86	6,773.93	325.06	284.03	7.923	CC, ES
Guttersen D 04-18(PR) - Guttersen D 04-18 - Wellbore #	8,300.00	6,773.87	327.53	286.07	7.901	SF
Guttersen D 04-21(SI) - Guttersen D 04-21 - Wellbore #1	9,726.62	6,768.07	144.70	95.53	2.943	CC, ES, SF
Guttersen D 04-32 (SI) - Wellbore #1 - As-Drilled	9,354.10	6,814.89	2,521.29	2,463.80	43.859	CC, ES
Guttersen D 04-32 (SI) - Wellbore #1 - As-Drilled	10,000.00	6,815.24	2,602.71	2,541.04	42.207	SF
Guttersen D03-33D - Wellbore #1 - Wellbore #1- As Drill	10,763.13	6,836.57	2,398.59	2,328.89	34.409	CC, ES
Guttersen D03-33D - Wellbore #1 - Wellbore #1- As Drill	11,000.00	6,838.03	2,410.26	2,339.90	34.255	SF
Guttersen D04-30D - Plan B - Plan B	7,027.71	6,816.01	2,758.13	2,710.28	57.637	CC, ES
Guttersen D04-30D - Plan B - Plan B	7,300.00	6,850.83	2,778.02	2,729.47	57.221	SF
Guttersen D04-31D - Plan B - Plan B	8,293.74	7,062.44	2,739.49	2,681.67	47.380	CC
Guttersen D04-31D - Plan B - Plan B	8,300.00	7,062.22	2,739.50	2,681.64	47.347	ES
Guttersen D04-31D - Plan B - Plan B	9,000.00	7,037.60	2,828.96	2,766.75	45.475	SF
Guttersen D04-69HN - Original Drilling - Original Drilling	6,898.97	8,888.92	93.05	43.41	1.874	CC
Guttersen D04-69HN - Original Drilling - Original Drilling	6,950.00	8,885.24	107.80	34.26	1.466	Level 3, ES, SF
Karch Blue D04-02 - Wellbore #1 - Wellbore #1- As Drille	7,691.78	6,739.57	734.32	684.80	14.827	CC, ES, SF
Karch Blue D04-07 - Wellbore #1 - Wellbore #1- As Drille	9,022.88	6,754.44	583.84	528.53	10.555	CC, ES, SF
Karch D04-17 - Wellbore #1 - Wellbore #1- As Drilled	8,287.77	6,769.24	1,270.25	1,218.29	24.450	CC, ES
Karch D04-17 - Wellbore #1 - Wellbore #1- As Drilled	8,300.00	6,769.13	1,270.31	1,218.33	24.439	SF
MARIE #D4-11(PR) - MARIE #D4-11 - No Surveys	10,219.87	6,766.00	491.06	316.67	2.816	CC, ES, SF
MARIE D #04-20(PR) - MARIE D #04-20 - As-Drilled	9,547.59	6,777.04	1,344.64	1,172.60	7.816	CC, ES
MARIE D #04-20(PR) - MARIE D #04-20 - As-Drilled	9,600.00	6,777.27	1,345.65	1,173.15	7.801	SF
Marie D #4-10 (TA) - Wellbore #1 - Wellbore #1- As Drille	10,359.02	6,767.81	683.66	620.26	10.783	CC, ES, SF
MARIE D #4-12 (PR) - Wellbore #1 - Gyro Surveys	10,229.81	6,757.27	1,914.50	1,851.89	30.577	CC, ES
MARIE D #4-12 (PR) - Wellbore #1 - Gyro Surveys	10,600.00	6,755.78	1,949.96	1,884.61	29.836	SF
MARIE D #4-13 (PR) - MARIE D #4-13 - No Surveys	11,581.83	6,772.00	1,805.87	1,640.22	10.902	CC
MARIE D #4-13 (PR) - MARIE D #4-13 - No Surveys	11,600.00	6,772.00	1,805.96	1,640.14	10.891	ES
MARIE D #4-13 (PR) - MARIE D #4-13 - No Surveys	11,700.00	6,772.00	1,809.73	1,643.02	10.856	SF
MARIE D #4-14(PR) - MARIE D #4-14 - No Surveys	11,571.29	6,770.00	658.69	493.15	3.979	CC, ES
MARIE D #4-14(PR) - MARIE D #4-14 - No Surveys	11,600.00	6,770.00	659.31	493.41	3.974	SF
Marie D #4-15 (PA) - Wellbore #1 - Wellbore #1- As Drille	11,548.62	6,766.39	640.72	569.20	8.959	CC, ES, SF
Marie D #4-16 (PA) - Wellbore #1 - Wellbore #1- As Drille	11,470.46	6,751.74	1,898.96	1,828.07	26.785	CC, ES
Marie D #4-16 (PA) - Wellbore #1 - Wellbore #1- As Drille	11,600.00	6,752.35	1,903.38	1,831.95	26.650	SF
MARIE D #4-19 (PR) - MARIE D #4-19 - No Surveys	8,230.59	6,786.00	1,106.66	960.88	7.591	CC, ES
MARIE D #4-19 (PR) - MARIE D #4-19 - No Surveys	8,300.00	6,786.00	1,108.83	962.62	7.584	SF
MARIE D #4-23 (SI) - Wellbore #1 - As-Drilled	10,880.44	6,758.84	1,287.25	1,220.39	19.252	CC, ES
MARIE D #4-23 (SI) - Wellbore #1 - As-Drilled	10,900.00	6,758.87	1,287.40	1,220.48	19.236	SF
MARIE D #4-25 (PR) - MARIE D #4-25 - No Surveys	10,781.91	6,771.00	1,262.29	1,102.22	7.885	CC
MARIE D #4-25 (PR) - MARIE D #4-25 - No Surveys	10,800.00	6,771.00	1,262.42	1,102.16	7.877	ES
MARIE D #4-25 (PR) - MARIE D #4-25 - No Surveys	10,900.00	6,771.00	1,267.81	1,106.64	7.867	SF
MARIE D #4-3(SI) - MARIE D #4-3 - As-Drilled	7,559.14	6,771.65	671.44	621.92	13.557	CC, ES
MARIE D #4-3(SI) - MARIE D #4-3 - As-Drilled	7,600.00	6,771.66	672.68	622.96	13.528	SF
MARIE D #4-4(SI) - MARIE D #4-4 - No Surveys	7,629.61	6,788.00	2,043.60	1,881.75	12.627	CC, ES
MARIE D #4-4(SI) - MARIE D #4-4 - No Surveys	7,700.00	6,788.00	2,044.81	1,882.69	12.614	SF
MARIE D #4-5(SI) - MARIE D #4-5 - No Surveys	8,929.25	6,783.00	2,020.51	1,853.36	12.088	CC, ES
MARIE D #4-5(SI) - MARIE D #4-5 - No Surveys	9,100.00	6,783.00	2,027.71	1,859.42	12.049	SF
MARIE D #4-6(SI) - MARIE D #4-6 - No Surveys	9,036.00	6,767.00	687.19	519.80	4.105	CC, ES, SF

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

Noble Energy

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersten D09-750
Project:	Mustang	TVD Reference:	Well @ 4750.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4750.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersten D09-750	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersten D09-750	Database:	EDMP
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
D Section 04						
Marie D #4-9 (PR) - Wellbore #1 - Wellbore #1- As Drilled	10,187.25	6,781.25	1,919.50	1,857.08	30.752	CC
Marie D #4-9 (PR) - Wellbore #1 - Wellbore #1- As Drilled	10,200.00	6,781.25	1,919.55	1,857.07	30.726	ES
Marie D #4-9 (PR) - Wellbore #1 - Wellbore #1- As Drilled	10,400.00	6,781.21	1,931.26	1,868.07	30.564	SF
Marie D04-72-1HN - Original Drilling - Original Drilling - A	7,242.21	11,395.00	2,258.29	2,146.47	20.197	SF
Marie D04-72-1HN - Original Drilling - Original Drilling - A	12,390.74	6,419.45	2,167.75	2,093.63	29.246	CC
Marie D04-72-1HN - Original Drilling - Original Drilling - A	12,400.00	6,419.16	2,167.77	2,093.61	29.229	ES
Marie D04-73-1HN - Original Drilling - Original Drilling - A	7,400.00	11,120.00	1,447.98	1,338.06	13.172	SF
Marie D04-73-1HN - Original Drilling - Original Drilling - A	7,423.03	11,120.00	1,447.80	1,337.92	13.177	ES
Marie D04-73-1HN - Original Drilling - Original Drilling - A	9,312.66	9,258.71	1,437.81	1,352.70	16.894	CC
Marie D04-74-1HN - Original Drilling - Original Drilling - P	12,251.56	6,808.91	933.29	859.75	12.691	SF
Marie D04-74-1HN - Original Drilling - Original Drilling - P	12,259.71	6,808.92	933.25	859.74	12.695	CC, ES
Marie D04-74-1HN - Original Drilling - ST01 - ST-01- As	7,442.21	11,212.53	933.19	866.90	14.079	SF
Marie D04-74-1HN - Original Drilling - ST01 - ST-01- As	7,800.00	10,871.61	925.78	860.83	14.255	ES
Marie D04-74-1HN - Original Drilling - ST01 - ST-01- As	7,810.16	10,863.27	925.77	860.85	14.261	CC
Two E Ranch 01-04 - Wellbore #1 - Wellbore #1- As Drill	2,233.21	2,193.06	1,462.11	1,446.83	95.744	CC
Two E Ranch 01-04 - Wellbore #1 - Wellbore #1- As Drill	2,300.00	2,259.60	1,462.38	1,446.64	92.934	ES
Two E Ranch 01-04 - Wellbore #1 - Wellbore #1- As Drill	7,700.00	6,762.63	1,609.98	1,560.30	32.407	SF

Noble Energy

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersten D09-750
Project:	Mustang	TVD Reference:	Well @ 4750.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4750.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersten D09-750	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersten D09-750	Database:	EDMP
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Summary

Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Separation Factor	Warning
D Section 05						
BECKER #12-10I(PA) - Wellbore #1 - Gyro Surveys	9,387.20	6,626.22	4,114.03	4,056.76	71.828	CC
BECKER #12-10I(PA) - Wellbore #1 - Gyro Surveys	9,400.00	6,626.12	4,114.05	4,056.69	71.724	ES
BECKER #12-10I(PA) - Wellbore #1 - Gyro Surveys	10,900.00	6,584.34	4,383.34	4,316.98	66.047	SF
BECKER #15-9I(PR) - Wellbore #1 - Gyro Surveys	10,814.61	6,777.30	5,391.26	5,324.73	81.032	CC, ES
BECKER #15-9I(PR) - Wellbore #1 - Gyro Surveys	12,400.00	6,758.57	5,668.10	5,590.81	73.341	SF
BECKER #5-12(PA) - Wellbore #1 - Gyro	8,925.64	6,627.06	4,716.81	4,662.13	86.259	CC, ES
BECKER #5-12(PA) - Wellbore #1 - Gyro	10,900.00	6,629.12	5,113.35	5,047.15	77.233	SF
BECKER #5-13(PA) - Wellbore #1 - Gyro Surveys	10,231.31	5,842.15	6,231.04	6,170.83	103.492	CC
BECKER #5-13(PA) - Wellbore #1 - Gyro Surveys	10,300.00	5,839.56	6,231.41	6,170.74	102.702	ES
BECKER #5-13(PA) - Wellbore #1 - Gyro Surveys	11,000.00	11,000.00	6,278.16	6,194.62	75.153	SF
BECKER #5-14(PA) - Wellbore #1 - Gyro Surveys	11,507.39	11,507.39	7,216.00	7,128.00	82.006	CC
BECKER #5-14(PA) - Wellbore #1 - Gyro Surveys	11,600.00	11,600.00	7,216.59	7,127.56	81.059	ES, SF
BECKER #5-16(PA) - Wellbore #1 - Gyro Surveys	10,213.59	6,865.97	3,492.87	3,430.11	55.657	CC, ES
BECKER #5-16(PA) - Wellbore #1 - Gyro Surveys	11,300.00	6,880.76	3,657.89	3,587.93	52.284	SF
BECKER #5-2(PA) - Wellbore #1 - Gyro Surveys	11,386.00	6,889.47	6,231.16	6,160.40	88.065	CC
BECKER #5-2(PA) - Wellbore #1 - Gyro Surveys	11,400.00	6,889.36	6,231.18	6,160.31	87.931	ES
BECKER #5-2(PA) - Wellbore #1 - Gyro Surveys	13,400.00	6,876.77	6,731.26	6,646.93	79.822	SF
BECKER #5-3(PA) - Wellbore #1 - Gyro Surveys	8,829.00	6,717.77	5,934.28	5,879.66	108.634	CC, ES
BECKER #5-3(PA) - Wellbore #1 - Gyro Surveys	11,700.00	6,576.08	6,590.38	6,519.65	93.176	SF
BECKER #5-4(PA) - Wellbore #1 - Gyro Surveys	8,906.69	6,742.25	3,444.97	3,390.06	62.741	CC, ES
BECKER #5-4(PA) - Wellbore #1 - Gyro Surveys	10,000.00	6,716.43	3,614.16	3,552.83	58.928	SF
BECKER #5-5(PA) - Wellbore #1 - Gyro Surveys	11,483.66	6,799.58	3,479.47	3,408.32	48.902	CC
BECKER #5-5(PA) - Wellbore #1 - Gyro Surveys	11,500.00	6,799.42	3,479.51	3,408.22	48.809	ES
BECKER #5-5(PA) - Wellbore #1 - Gyro Surveys	12,200.00	6,793.22	3,574.84	3,498.44	46.788	SF
BECKER #5-8(PR) - Wellbore #1 - Gyro Surveys	10,659.92	6,900.00	7,094.63	7,028.76	107.701	CC
BECKER #5-8(PR) - Wellbore #1 - Gyro Surveys	10,700.00	6,900.00	7,094.75	7,028.58	107.228	ES
BECKER #5-8(PR) - Wellbore #1 - Gyro Surveys	13,400.00	6,900.00	7,783.79	7,700.06	92.964	SF
BECKER #6(SI) - Wellbore #1 - Gyro Surveys	10,790.74	6,614.03	4,073.02	4,006.95	61.643	CC
BECKER #6(SI) - Wellbore #1 - Gyro Surveys	10,800.00	6,613.95	4,073.03	4,006.89	61.577	ES
BECKER #6(SI) - Wellbore #1 - Gyro Surveys	12,000.00	6,602.44	4,253.19	4,178.96	57.299	SF
BECKER #7(PA) - Wellbore #1 - Gyro Surveys	10,880.94	6,849.64	6,606.92	6,539.56	98.076	CC
BECKER #7(PA) - Wellbore #1 - Gyro Surveys	10,900.00	6,849.23	6,606.95	6,539.44	97.871	ES
BECKER #7(PA) - Wellbore #1 - Gyro Surveys	13,200.00	6,800.12	7,156.12	7,073.49	86.604	SF
Becker 05-1(PA) - Wellbore #1 - Gyro Surveys	10,258.75	6,790.80	4,696.04	4,633.11	74.617	CC
Becker 05-1(PA) - Wellbore #1 - Gyro Surveys	10,300.00	6,790.39	4,696.22	4,632.99	74.265	ES
Becker 05-1(PA) - Wellbore #1 - Gyro Surveys	11,900.00	6,774.74	4,975.23	4,901.62	67.591	SF
Becker 05-15(PA) - Wellbore #1 - Gyro Surveys	11,783.13	6,612.68	4,918.78	4,843.67	65.492	CC
Becker 05-15(PA) - Wellbore #1 - Gyro Surveys	11,836.19	6,609.56	4,919.06	4,843.57	65.155	ES
Becker 05-15(PA) - Wellbore #1 - Gyro Surveys	12,800.00	6,549.45	5,127.99	5,046.19	62.687	SF
Becker 08-12I (SI) - Wellbore #1 - As-Drilled	9,700.34	6,478.68	6,685.88	6,627.19	113.918	CC, ES
Becker 08-12I (SI) - Wellbore #1 - As-Drilled	12,300.00	6,484.40	7,207.30	7,132.13	95.882	SF
Becker D17-715 - Wellbore #1 - Plan #2	12,043.87	7,368.01	3,023.74	2,943.26	37.571	CC, ES
Becker D17-715 - Wellbore #1 - Plan #2	17,364.70	12,426.56	3,758.93	3,603.88	24.243	SF
Becker D17-725 - Wellbore #1 - Plan #2	11,978.37	7,164.84	3,661.22	3,582.58	46.556	CC
Becker D17-725 - Wellbore #1 - Plan #2	12,000.00	7,177.01	3,661.34	3,582.46	46.421	ES
Becker D17-725 - Wellbore #1 - Plan #2	17,364.70	12,334.28	4,407.03	4,252.22	28.467	SF
Becker D17-735 - Wellbore #1 - Plan #2	11,863.44	6,790.40	4,281.19	4,204.80	56.044	CC
Becker D17-735 - Wellbore #1 - Plan #2	11,900.00	6,807.41	4,281.54	4,204.79	55.786	ES
Becker D17-735 - Wellbore #1 - Plan #2	17,364.70	12,327.43	5,055.12	4,900.52	32.697	SF
Becker D17-745 - Wellbore #1 - Plan #2	11,613.26	6,057.35	4,812.88	4,740.66	66.636	CC
Becker D17-745 - Wellbore #1 - Plan #2	11,700.00	6,088.39	4,813.56	4,740.52	65.897	ES
Becker D17-745 - Wellbore #1 - Plan #2	17,364.70	12,405.67	5,703.19	5,548.85	36.953	SF
Becker D17-755 - Wellbore #1 - Plan #2	12,018.83	7,550.00	5,602.91	5,521.57	68.888	CC, ES

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

Noble Energy

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D09-750
Project:	Mustang	TVD Reference:	Well @ 4750.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4750.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D09-750	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen D09-750	Database:	EDMP
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Summary

Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
D Section 05						
Becker D17-755 - Wellbore #1 - Plan #2	17,364.70	12,484.13	6,351.29	6,197.72	41.357	SF
Becker D17-765 - Wellbore #1 - Plan #2	11,994.99	7,400.00	6,245.30	6,162.44	75.370	CC
Becker D17-765 - Wellbore #1 - Plan #2	12,000.00	7,400.00	6,245.31	6,162.41	75.336	ES
Becker D17-765 - Wellbore #1 - Plan #2	17,364.70	12,365.75	6,998.96	6,829.69	41.349	SF
Becker D17-775 - Wellbore #1 - Plan #2	11,956.13	7,218.79	6,885.83	6,805.51	85.738	CC
Becker D17-775 - Wellbore #1 - Plan #2	12,000.00	7,237.55	6,886.25	6,805.47	85.252	ES
Becker D17-775 - Wellbore #1 - Plan #2	17,364.70	12,281.70	7,647.38	7,478.39	45.253	SF
Becker D17-785 - Wellbore #1 - Plan #2	11,854.15	6,619.58	7,505.57	7,430.43	99.884	CC, ES
Becker D17-785 - Wellbore #1 - Plan #2	17,364.70	12,201.29	8,295.28	8,142.33	54.234	SF
Becker Ranch #5E-323 (PR) - Wellbore #1 - As Drilled	11,336.79	10,937.00	7,415.61	7,294.85	61.410	CC
Becker Ranch #5E-323 (PR) - Wellbore #1 - As Drilled	11,400.00	11,400.00	7,415.75	7,286.89	57.547	ES
Becker Ranch #5E-323 (PR) - Wellbore #1 - As Drilled	13,200.00	11,398.00	7,717.85	7,576.17	54.474	SF
Becker Ranch #5E-403 (PR) - As Drilled - As Drilled	10,578.62	10,379.37	7,688.51	7,581.20	71.648	CC
Becker Ranch #5E-403 (PR) - As Drilled - As Drilled	11,836.19	11,599.00	7,714.27	7,577.90	56.565	ES
Becker Ranch #5E-403 (PR) - As Drilled - As Drilled	13,300.00	11,599.00	8,035.04	7,887.85	54.589	SF
Becker Ranch #5J-103 (PA) - Wellbore #1 - As Drilled	8,166.45	7,681.00	6,719.45	6,661.32	115.588	CC
Becker Ranch #5J-103 (PA) - Wellbore #1 - As Drilled	8,700.00	8,163.74	6,725.46	6,659.07	101.300	ES
Becker Ranch #5J-103 (PA) - Wellbore #1 - As Drilled	11,500.00	8,438.00	7,212.53	7,128.23	85.561	SF
Becker Ranch #5J-203 (PR) - Wellbore #1 - As-Drilled	11,781.35	11,523.00	6,424.86	6,288.66	47.173	CC
Becker Ranch #5J-203 (PR) - Wellbore #1 - As-Drilled	11,836.19	11,523.00	6,425.09	6,288.40	47.004	ES
Becker Ranch #5J-203 (PR) - Wellbore #1 - As-Drilled	12,800.00	11,523.00	6,611.97	6,467.90	45.894	SF
Becker Ranch #5J-303 (PR) - Wellbore #1 - As Drilled	11,797.52	11,473.00	6,759.25	6,622.52	49.433	CC
Becker Ranch #5J-303 (PR) - Wellbore #1 - As Drilled	11,836.19	11,473.00	6,759.36	6,622.34	49.331	ES
Becker Ranch #5J-303 (PR) - Wellbore #1 - As Drilled	12,600.00	11,473.00	6,885.98	6,744.05	48.519	SF
Becker Ranch #5J-323 (PA) - Wellbore #1 - As Drilled	10,776.21	10,417.00	6,109.86	5,998.39	54.810	CC
Becker Ranch #5J-323 (PA) - Wellbore #1 - As Drilled	11,836.19	11,430.00	6,111.41	5,975.43	44.943	ES
Becker Ranch #5J-323 (PA) - Wellbore #1 - As Drilled	12,600.00	11,430.00	6,244.00	6,102.33	44.073	SF
Becker Ranch #5J-323R (PR) - Wellbore #1 - As-Drilled	11,787.88	11,390.00	6,002.07	5,866.47	44.263	CC
Becker Ranch #5J-323R (PR) - Wellbore #1 - As-Drilled	11,836.19	11,390.00	6,002.26	5,866.26	44.134	ES
Becker Ranch #5J-323R (PR) - Wellbore #1 - As-Drilled	12,500.00	11,390.00	6,109.19	5,968.41	43.395	SF
Becker Ranch #5J-343 (PR) - Wellbore #1 - As Drilled	11,773.22	11,500.00	7,078.81	6,943.39	52.270	CC
Becker Ranch #5J-343 (PR) - Wellbore #1 - As Drilled	11,836.19	11,500.00	7,079.09	6,943.17	52.081	ES
Becker Ranch #5J-343 (PR) - Wellbore #1 - As Drilled	12,800.00	11,500.00	7,260.06	7,117.59	50.957	SF
Becker Ranch #5M-203 (PR) - Wellbore #1 - As-Drilled	10,797.97	10,261.83	5,162.30	5,049.64	45.820	CC
Becker Ranch #5M-203 (PR) - Wellbore #1 - As-Drilled	11,836.19	11,239.00	5,166.85	5,030.35	37.854	ES
Becker Ranch #5M-203 (PR) - Wellbore #1 - As-Drilled	12,400.00	11,239.00	5,254.96	5,113.97	37.273	SF
Becker Ranch #5M-243 (PR) - Wellbore #1 - As-Drilled	11,781.39	11,420.00	5,754.57	5,619.17	42.501	CC
Becker Ranch #5M-243 (PR) - Wellbore #1 - As-Drilled	11,836.19	11,420.00	5,754.83	5,619.01	42.369	ES
Becker Ranch #5M-243 (PR) - Wellbore #1 - As-Drilled	12,400.00	11,420.00	5,838.61	5,698.95	41.804	SF
Becker Ranch #5M-303 (PR) - Wellbore #1 - As-Drilled	11,761.34	11,467.00	5,447.01	5,312.63	40.533	CC
Becker Ranch #5M-303 (PR) - Wellbore #1 - As-Drilled	11,800.00	11,467.00	5,447.15	5,312.49	40.450	ES
Becker Ranch #5M-303 (PR) - Wellbore #1 - As-Drilled	12,251.56	11,467.00	5,498.84	5,361.30	39.980	SF
Becker Ranch #5M-323 (PR) - Wellbore #1 - As-Drilled	11,770.65	11,327.00	4,738.16	4,602.53	34.935	CC
Becker Ranch #5M-323 (PR) - Wellbore #1 - As-Drilled	11,800.00	11,327.00	4,738.25	4,602.37	34.870	ES
Becker Ranch #5M-323 (PR) - Wellbore #1 - As-Drilled	12,200.00	11,327.00	4,780.46	4,641.56	34.416	SF
Becker Ranch #5M-423 (PR) - Wellbore #1 - As-Drilled	9,283.08	8,951.00	4,937.78	4,858.88	62.579	CC
Becker Ranch #5M-423 (PR) - Wellbore #1 - As-Drilled	11,500.00	11,105.36	4,939.88	4,811.66	38.527	ES
Becker Ranch #5M-423 (PR) - Wellbore #1 - As-Drilled	12,251.56	11,441.00	5,001.10	4,861.58	35.845	SF
Becker Ranch #5R-203 (PR) - Wellbore #1 - As-Drilled	11,759.75	11,265.00	3,804.97	3,669.47	28.081	CC
Becker Ranch #5R-203 (PR) - Wellbore #1 - As-Drilled	11,800.00	11,265.00	3,805.19	3,669.32	28.007	ES
Becker Ranch #5R-203 (PR) - Wellbore #1 - As-Drilled	12,100.00	11,265.00	3,832.21	3,693.99	27.725	SF
Becker Ranch #5R-243 (PR) - Wellbore #1 - As-Drilled	11,766.85	11,254.39	4,500.36	4,364.61	33.152	CC
Becker Ranch #5R-243 (PR) - Wellbore #1 - As-Drilled	11,800.00	11,249.00	4,500.47	4,364.54	33.109	ES

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

Noble Energy

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersten D09-750
Project:	Mustang	TVD Reference:	Well @ 4750.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4750.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersten D09-750	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersten D09-750	Database:	EDMP
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
D Section 05						
Becker Ranch #5R-243 (PR) - Wellbore #1 - As-Drilled	12,200.00	11,249.00	4,543.88	4,405.18	32.761	SF
Becker Ranch #5R-303 (PR) - Wellbore #1 - As-Drilled	7,509.55	7,060.00	4,051.42	4,000.71	79.901	CC
Becker Ranch #5R-303 (PR) - Wellbore #1 - As-Drilled	11,800.00	11,320.00	4,080.31	3,944.75	30.099	ES
Becker Ranch #5R-303 (PR) - Wellbore #1 - As-Drilled	12,100.00	11,320.00	4,106.15	3,968.76	29.887	SF
Becker Ranch #5R-323 (PR) - Wellbore #1 - As-Drilled	11,757.88	11,322.00	3,600.63	3,465.17	26.581	CC
Becker Ranch #5R-323 (PR) - Wellbore #1 - As-Drilled	11,800.00	11,322.00	3,600.88	3,465.05	26.511	ES
Becker Ranch #5R-323 (PR) - Wellbore #1 - As-Drilled	12,100.00	11,322.00	3,628.90	3,490.90	26.298	SF
Becker Ranch #5R-443 (PR) - Wellbore #1 - As-Drilled	11,764.05	11,409.00	4,361.46	4,226.20	32.245	CC
Becker Ranch #5R-443 (PR) - Wellbore #1 - As-Drilled	11,800.00	11,409.00	4,361.61	4,226.07	32.180	ES
Becker Ranch #5R-443 (PR) - Wellbore #1 - As-Drilled	12,100.00	11,409.00	4,386.45	4,248.90	31.889	SF
Becker Ranch #5U-243 (PR) - Wellbore #1 - As-Drilled	11,600.00	11,600.00	3,227.12	3,086.80	22.999	ES, SF
Becker Ranch #5U-243 (PR) - Wellbore #1 - As-Drilled	11,751.31	11,244.00	3,223.98	3,088.59	23.813	CC
Becker Ranch #5U-303 (PR) - Wellbore #1 - As-Drilled	11,428.77	11,026.89	2,816.31	2,688.70	22.071	CC
Becker Ranch #5U-303 (PR) - Wellbore #1 - As-Drilled	11,800.00	11,346.21	2,820.77	2,685.19	20.804	ES
Becker Ranch #5U-303 (PR) - Wellbore #1 - As-Drilled	11,900.00	11,347.00	2,825.07	2,688.99	20.759	SF
Becker Ranch #5U-443 (PR) - Wellbore #1 - As-Drilled	11,749.63	11,408.00	3,019.02	2,883.87	22.339	CC, ES
Becker Ranch #5U-443 (PR) - Wellbore #1 - As-Drilled	11,900.00	11,408.00	3,023.47	2,887.40	22.219	SF
LDS #D08-18D(SI) - Wellbore #1 - MWD Surveys	12,815.42	7,283.35	5,362.58	5,266.68	55.923	CC, ES
LDS #D08-18D(SI) - Wellbore #1 - MWD Surveys	14,100.00	7,276.30	5,514.28	5,411.09	53.434	SF
LDS #D08-29 (PR) - Wellbore #1 - Gyro Surveys	11,921.24	6,791.90	6,622.51	6,548.33	89.269	CC, ES
LDS #D08-29 (PR) - Wellbore #1 - Gyro Surveys	14,300.00	6,772.88	7,272.29	7,181.89	80.445	SF
LDS D08-28D (SI) - Wellbore #1 - MWD Surveys	11,922.89	6,900.10	5,495.08	5,419.67	72.864	CC, ES
LDS D08-28D (SI) - Wellbore #1 - MWD Surveys	13,600.00	6,862.71	5,908.30	5,820.92	67.616	SF
LDS D08-30D (PR) - Wellbore #1 - MWD Surveys	11,926.91	6,986.06	8,030.77	7,954.77	105.663	CC, ES
LDS D08-30D (PR) - Wellbore #1 - MWD Surveys	14,600.00	14,600.00	8,728.47	8,608.34	72.659	SF

Noble Energy

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersten D09-750
Project:	Mustang	TVD Reference:	Well @ 4750.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4750.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersten D09-750	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersten D09-750	Database:	EDMP
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
D Section 08						
HSR-ALVIN DECHANT #12-8 (SI) - Wellbore #1 - As-Dri	14,437.30	6,921.49	7,574.63	7,481.85	81.643	CC
HSR-ALVIN DECHANT #12-8 (SI) - Wellbore #1 - As-Dri	14,500.00	6,919.96	7,574.89	7,481.53	81.138	ES
HSR-ALVIN DECHANT #12-8 (SI) - Wellbore #1 - As-Dri	17,364.70	6,849.93	8,120.32	8,005.64	70.808	SF
HSR-ALVIN DECHANT #13-8 (SI) - Wellbore #1 - As-Dri	15,979.81	6,800.00	7,928.67	7,823.81	75.609	CC
HSR-ALVIN DECHANT #13-8 (SI) - Wellbore #1 - As-Dri	16,100.00	6,800.00	7,929.59	7,823.59	74.810	ES
HSR-ALVIN DECHANT #13-8 (SI) - Wellbore #1 - As-Dri	17,364.70	6,821.79	8,048.68	7,931.80	68.860	SF
HSR-LDS #14-8(SI) - Wellbore #1 - As-Drilled	15,597.22	6,839.35	6,682.71	6,581.04	65.733	CC
HSR-LDS #14-8(SI) - Wellbore #1 - As-Drilled	15,700.00	6,838.86	6,683.50	6,580.84	65.108	ES
HSR-LDS #14-8(SI) - Wellbore #1 - As-Drilled	17,364.70	6,830.89	6,912.49	6,796.42	59.554	SF
HSR-LDS #15-8(SI) - Wellbore #1 - As-Drilled	16,111.96	6,738.43	5,315.96	5,210.45	50.385	CC
HSR-LDS #15-8(SI) - Wellbore #1 - As-Drilled	16,200.00	6,738.52	5,316.69	5,210.29	49.972	ES
HSR-LDS #15-8(SI) - Wellbore #1 - As-Drilled	17,364.70	6,739.78	5,461.57	5,345.53	47.065	SF
HSR-LDS #16-8(SI) - Wellbore #1 - Gyro Surveys	16,438.02	6,713.07	4,027.22	3,898.14	31.199	CC
HSR-LDS #16-8(SI) - Wellbore #1 - Gyro Surveys	16,500.00	6,714.74	4,027.70	3,897.93	31.037	ES
HSR-LDS #16-8(SI) - Wellbore #1 - Gyro Surveys	17,300.00	6,736.37	4,118.37	3,981.44	30.075	SF
HSR-LDS #3-8(SI) - Wellbore #1 - As-Drilled	12,199.84	6,733.35	6,244.37	6,169.02	82.871	CC
HSR-LDS #3-8(SI) - Wellbore #1 - As-Drilled	12,200.00	6,733.34	6,244.37	6,169.02	82.870	ES
HSR-LDS #3-8(SI) - Wellbore #1 - As-Drilled	14,700.00	6,634.90	6,766.50	6,672.86	72.264	SF
HSR-LDS #4-8(SI) - Wellbore 1 - As-Drilled	12,220.41	6,472.72	7,325.01	7,250.35	98.113	CC
HSR-LDS #4-8(SI) - Wellbore 1 - As-Drilled	12,251.56	6,472.33	7,325.24	7,250.31	97.763	ES
HSR-LDS #4-8(SI) - Wellbore 1 - As-Drilled	15,500.00	6,422.31	8,057.87	7,959.58	81.981	SF
HSR-LDS #5-8(SI) - Wellbore #1 - As-Drilled	13,263.42	6,651.64	7,648.84	7,565.90	92.224	CC
HSR-LDS #5-8(SI) - Wellbore #1 - As-Drilled	13,300.00	6,650.49	7,648.93	7,565.66	91.862	ES
HSR-LDS #5-8(SI) - Wellbore #1 - As-Drilled	16,600.00	6,600.00	8,344.64	8,237.32	77.756	SF
HSR-LDS #6-8(SI) - Wellbore #1 - As-Drilled	13,350.08	6,709.38	6,328.32	6,244.52	75.516	CC
HSR-LDS #6-8(SI) - Wellbore #1 - As-Drilled	13,400.00	6,709.11	6,328.52	6,244.25	75.102	ES
HSR-LDS #6-8(SI) - Wellbore #1 - As-Drilled	15,800.00	6,692.71	6,785.97	6,683.60	66.287	SF
HSR-LDS #9-8(SI) - Wellbore #1 - As-Drilled	14,886.19	6,803.54	3,768.56	3,672.53	39.243	CC
HSR-LDS #9-8(SI) - Wellbore #1 - As-Drilled	14,900.00	6,803.70	3,768.58	3,672.40	39.182	ES
HSR-LDS #9-8(SI) - Wellbore #1 - As-Drilled	15,800.00	6,813.80	3,877.75	3,773.73	37.277	SF
HSR-LDS A #10-8(SI) - Wellbore #1 - As-Drilled	14,992.56	6,795.48	5,092.96	4,996.49	52.797	CC
HSR-LDS A #10-8(SI) - Wellbore #1 - As-Drilled	15,000.00	6,795.53	5,092.96	4,996.42	52.756	ES
HSR-LDS A #10-8(SI) - Wellbore #1 - As-Drilled	16,500.00	6,805.70	5,311.36	5,202.73	48.896	SF
HSR-LDS A #11-8(SI) - Wellbore #1 - As-Drilled	14,634.21	6,845.95	6,453.89	6,359.88	68.652	CC
HSR-LDS A #11-8(SI) - Wellbore #1 - As-Drilled	14,700.00	6,845.21	6,454.22	6,359.59	68.200	ES
HSR-LDS A #11-8(SI) - Wellbore #1 - As-Drilled	16,900.00	6,820.44	6,840.02	6,728.58	61.379	SF
LDS #18-8(SI) - Wellbore #1 - Gyro Surveys	12,747.88	6,822.70	6,844.34	6,764.87	86.123	CC
LDS #18-8(SI) - Wellbore #1 - Gyro Surveys	12,800.00	6,821.73	6,844.54	6,764.60	85.619	ES
LDS #18-8(SI) - Wellbore #1 - Gyro Surveys	15,700.00	6,800.00	7,453.74	7,352.45	73.589	SF
LDS #20-8(SI) - Wellbore #1 - No Surveys	15,653.92	6,789.00	4,529.69	4,391.83	32.858	CC
LDS #20-8(SI) - Wellbore #1 - No Surveys	15,700.00	6,789.00	4,529.92	4,391.58	32.746	ES
LDS #20-8(SI) - Wellbore #1 - No Surveys	16,600.00	6,789.00	4,627.43	4,481.27	31.660	SF
LDS D #09-30(SI) - Wellbore #1 - As-Drilled	12,138.02	6,793.30	2,861.20	2,692.50	16.960	CC, ES
LDS D #09-30(SI) - Wellbore #1 - As-Drilled	12,500.00	6,793.30	2,895.98	2,723.83	16.822	SF
LDS D #09-31D(SI) - Wellbore #1 - As-Drilled	13,216.96	6,973.65	2,955.26	2,845.35	26.888	CC, ES
LDS D #09-31D(SI) - Wellbore #1 - As-Drilled	13,800.00	6,970.11	3,012.22	2,896.81	26.099	SF
RUBY RED #D #8-1D(PA) - Wellbore #1 - Gyro Surveys	12,719.39	6,749.47	3,816.22	3,737.21	48.303	CC, ES
RUBY RED #D #8-1D(PA) - Wellbore #1 - Gyro Surveys	13,800.00	6,739.48	3,966.25	3,878.04	44.965	SF
RUBY RED #D 8-7(PR) - Wellbore #1 - Gyro Surveys	13,610.22	6,808.24	5,050.05	4,964.05	58.719	CC
RUBY RED #D 8-7(PR) - Wellbore #1 - Gyro Surveys	13,700.00	6,807.84	5,050.85	4,963.96	58.134	ES
RUBY RED #D 8-7(PR) - Wellbore #1 - Gyro Surveys	15,300.00	6,800.42	5,325.25	5,225.83	53.560	SF
RUBY RED #D 8-8(PR) - Wellbore #1 - Gyro Surveys	13,850.04	6,827.72	3,420.16	3,332.29	38.923	CC
RUBY RED #D 8-8(PR) - Wellbore #1 - Gyro Surveys	13,900.00	6,826.94	3,420.53	3,332.11	38.689	ES

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

Noble Energy

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersten D09-750
Project:	Mustang	TVD Reference:	Well @ 4750.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4750.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersten D09-750	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersten D09-750	Database:	EDMP
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
D Section 08						
RUBY RED #D 8-8(PR) - Wellbore #1 - Gyro Surveys	14,700.00	6,815.03	3,524.18	3,428.79	36.946	SF
RUBY RED D8-2(PA) - Wellbore #1 - Gyro Surveys	12,184.69	6,813.50	4,914.38	4,838.96	65.165	CC
RUBY RED D8-2(PA) - Wellbore #1 - Gyro Surveys	12,200.00	6,813.46	4,914.44	4,838.89	65.044	ES
RUBY RED D8-2(PA) - Wellbore #1 - Gyro Surveys	14,200.00	14,200.00	5,354.15	5,238.10	46.139	SF
TWO E RANCHES #1(PA) - Wellbore #1 - Gyro Surveys	14,896.62	6,882.28	7,389.45	7,293.35	76.896	CC
TWO E RANCHES #1(PA) - Wellbore #1 - Gyro Surveys	15,000.00	6,883.42	7,390.17	7,293.10	76.135	ES
TWO E RANCHES #1(PA) - Wellbore #1 - Gyro Surveys	17,364.70	6,909.66	7,790.68	7,675.36	67.559	SF

Noble Energy

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D09-750
Project:	Mustang	TVD Reference:	Well @ 4750.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4750.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D09-750	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen D09-750	Database:	EDMP
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
D Section 09						
ART RED #D 9-14(PR) - ART RED #D 9-14 - No Surveys	16,803.23	6,794.00	1,264.00	1,040.19	5.648	CC, ES
ART RED #D 9-14(PR) - ART RED #D 9-14 - No Surveys	16,900.00	6,794.00	1,267.70	1,042.48	5.629	SF
ART RED #D 9-3J(PA) - Wellbore #1 - Gyro Surveys	16,252.38	6,697.51	2,409.91	2,270.20	17.250	CC
ART RED #D 9-3J(PA) - Wellbore #1 - Gyro Surveys	16,300.00	6,698.39	2,410.38	2,270.07	17.179	ES
ART RED #D 9-3J(PA) - Wellbore #1 - Gyro Surveys	16,600.00	6,703.93	2,434.84	2,291.39	16.974	SF
ART RED #D 9-4J(PR) - ART RED #D 9-4J - No Surveys	15,972.80	6,784.00	991.81	774.94	4.573	CC, ES, SF
ART RED D #9-10(PR) - ART RED D #9-10 - No Surveys	15,500.00	6,790.00	200.66	-12.57	0.941	Level 1, ES, SF
ART RED D #9-10(PR) - ART RED D #9-10 - No Surveys	15,501.16	6,790.00	200.66	-12.52	0.941	Level 1, CC
ART RED D #9-11(PR) - ART RED D #9-11 - No Surveys	15,367.67	6,782.00	1,167.47	955.52	5.508	CC
ART RED D #9-11(PR) - ART RED D #9-11 - No Surveys	15,400.00	6,782.00	1,167.92	955.43	5.496	ES
ART RED D #9-11(PR) - ART RED D #9-11 - No Surveys	15,500.00	6,782.00	1,174.95	961.13	5.495	SF
Art Red D 9-16 (PR) - Wellbore #1 - Gyro Surveys	17,151.47	6,800.80	1,434.80	1,320.44	12.547	CC, ES, SF
FRONT RANGE #D09-20D(PR) - FRONT RANGE #D09	14,718.48	7,147.28	1,712.48	1,609.02	16.553	CC, ES
FRONT RANGE #D09-20D(PR) - FRONT RANGE #D09	15,100.00	7,150.12	1,754.46	1,644.47	15.952	SF
FRONT RANGE #D09-25D(PR) - FRONT RANGE #D09	15,841.61	7,011.30	1,718.05	1,612.62	16.295	CC, ES
FRONT RANGE #D09-25D(PR) - FRONT RANGE #D09	16,100.00	7,010.57	1,737.37	1,628.72	15.990	SF
FRONT RANGE #D09-32D(PR) - FRONT RANGE #D09	14,518.94	7,035.46	2,939.96	2,837.51	28.696	CC, ES
FRONT RANGE #D09-32D(PR) - FRONT RANGE #D09	15,100.00	7,035.83	2,996.83	2,888.91	27.770	SF
FRONT RANGE D #09-28(SI) - FRONT RANGE D #09-2	12,409.46	6,775.00	64.61	-124.15	0.342	Level 1, CC, ES, SF
FRONT RANGE D #09-33(SI) - Wellbore #1 - Gyro Surve	15,862.91	6,758.72	3,087.83	2,984.04	29.750	CC
FRONT RANGE D #09-33(SI) - Wellbore #1 - Gyro Surve	15,900.00	6,759.00	3,088.06	2,983.84	29.630	ES
FRONT RANGE D #09-33(SI) - Wellbore #1 - Gyro Surve	16,500.00	6,763.56	3,152.87	3,043.24	28.759	SF
FRONT RANGE D #16-29(SI) - FRONT RANGE D #16-2	17,096.21	6,798.55	2,174.08	2,070.10	20.909	CC
FRONT RANGE D #16-29(SI) - FRONT RANGE D #16-2	17,100.00	6,798.54	2,174.08	2,070.06	20.899	ES
FRONT RANGE D #16-29(SI) - FRONT RANGE D #16-2	17,364.70	6,797.96	2,190.60	2,083.69	20.490	SF
FRONT RANGE D #16-30(SI) - Wellbore #1 - Gyro Surve	16,711.55	6,783.26	3,144.43	3,033.71	28.399	CC, ES
FRONT RANGE D #16-30(SI) - Wellbore #1 - Gyro Surve	17,300.00	6,781.32	3,199.02	3,082.87	27.541	SF
GITTLEIN #18-9(PR) - GITTLEIN #18-9 - No Surveys	13,508.99	6,897.25	1,800.11	1,714.90	21.125	CC, ES
GITTLEIN #18-9(PR) - GITTLEIN #18-9 - No Surveys	13,800.00	6,897.25	1,823.48	1,734.86	20.574	SF
GITTLEIN #D 9-7(PR) - GITTLEIN #D 9-7 - No Survey	14,353.67	6,738.00	151.45	-51.54	0.746	Level 1, CC, ES, SF
GITTLEIN WHITE #D 9-2(SI) - GITTLEIN WHITE #D 9-2	12,959.14	6,772.00	646.91	454.07	3.355	CC, ES, SF
GITTLEIN-UPRC #9-12(PA) - GITTLEIN-UPRC #9-12 - W	15,228.58	6,781.46	2,285.11	2,197.55	26.098	CC, ES
GITTLEIN-UPRC #9-12(PA) - GITTLEIN-UPRC #9-12 - W	15,700.00	6,787.36	2,333.23	2,241.09	25.325	SF
GUTTERSEN #9-15(PR) - GUTTERSEN #9-15 - No Sur	16,854.02	6,785.00	42.22	-181.83	0.188	Level 1, CC, ES, SF
GUTTERSEN D #09-09(PR) - GUTTERSEN D #09-09 -	15,606.34	6,778.00	1,596.08	1,382.29	7.466	CC, ES, SF
GUTTERSEN D #09-21(PR) - GUTTERSEN D #09-21 -	14,929.54	6,782.00	381.95	173.50	1.832	CC, ES, SF
GUTTERSEN D #09-22(SI) - GUTTERSEN D #09-22 - N	15,000.00	6,785.00	870.31	660.96	4.157	SF
GUTTERSEN D #09-22(SI) - GUTTERSEN D #09-22 - N	15,024.91	6,785.00	869.95	660.69	4.157	CC, ES
GUTTERSEN D #09-24(PR) - GUTTERSEN D #09-24 -	16,100.03	6,794.00	454.00	235.91	2.082	CC, ES, SF
GUTTERSEN D #16-28(PR) - GUTTERSEN D #16-28 -	17,364.70	6,789.00	867.15	638.91	3.799	CC, ES, SF
Guttersen D09-27D - Wellbore #1 - Wellbore #1 - As Drill	12,288.53	6,889.87	1,275.96	1,193.52	15.477	CC
Guttersen D09-27D - Wellbore #1 - Wellbore #1 - As Drill	12,300.00	6,889.95	1,276.01	1,193.51	15.467	ES
Guttersen D09-27D - Wellbore #1 - Wellbore #1 - As Drill	12,400.00	6,890.59	1,280.82	1,197.98	15.462	SF
Guttersen D10-30D - Wellbore #1 - Wellbore #1 - As Drill	12,631.66	6,829.79	2,490.34	2,410.02	31.005	CC, ES
Guttersen D10-30D - Wellbore #1 - Wellbore #1 - As Drill	12,700.00	6,829.79	2,491.28	2,410.85	30.977	SF
HSR TIM GITTLEIN #3-9(SI) - HSR TIM GITTLEIN #3-9	12,764.85	6,775.00	788.77	597.35	4.121	CC, ES
HSR TIM GITTLEIN #3-9(SI) - HSR TIM GITTLEIN #3-9	12,800.00	6,775.00	789.56	597.44	4.110	SF
HSR TIM GITTLEIN #4-9(SI) - HSR TIM GITTLEIN #4-9	12,748.99	6,777.00	1,970.10	1,778.76	10.296	CC, ES
HSR TIM GITTLEIN #4-9(SI) - HSR TIM GITTLEIN #4-9	13,000.00	6,777.00	1,986.03	1,791.81	10.226	SF
HSR TIM GITTLEIN #5-9(SI) - HSR TIM GITTLEIN #5-9	13,774.94	6,779.00	2,117.00	1,917.73	10.624	CC
HSR TIM GITTLEIN #5-9(SI) - HSR TIM GITTLEIN #5-9	13,800.00	6,779.00	2,117.15	1,917.56	10.608	ES
HSR TIM GITTLEIN #5-9(SI) - HSR TIM GITTLEIN #5-9	14,000.00	6,779.00	2,128.93	1,927.07	10.547	SF
HSR TIM GITTLEIN #6-9(SI) - HSR TIM GITTLEIN #6-9	13,853.15	6,778.00	936.89	737.03	4.688	CC, ES

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

Noble Energy

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D09-750
Project:	Mustang	TVD Reference:	Well @ 4750.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4750.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D09-750	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen D09-750	Database:	EDMP
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
D Section 09						
HSR TIM GITTLEIN #6-9(SI) - HSR TIM GITTLEIN #6-9	13,900.00	6,778.00	938.07	737.37	4.674	SF
KARCH WHITE #D 9-1(SI) - KARCH WHITE #D 9-1 - No	13,123.77	6,770.00	1,787.99	1,593.94	9.214	CC, ES, SF
KARCH WHITE #D 9-8(PR) - KARCH WHITE #D 9-8 - N	14,633.04	6,773.00	1,516.60	1,310.69	7.366	CC, ES, SF
ROADHOUSE D #9-17(SI) - ROADHOUSE D #9-17 - No	13,692.47	6,774.00	1,111.66	913.13	5.600	CC, ES, SF

Noble Energy

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D09-750
Project:	Mustang	TVD Reference:	Well @ 4750.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4750.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D09-750	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen D09-750	Database:	EDMP
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
D Section 10						
Duncan D 10-6 (SI) - Wellbore #1 - No Surveys	14,347.87	6,806.00	3,946.92	3,608.70	11.669	CC, ES
Duncan D 10-6 (SI) - Wellbore #1 - No Surveys	14,600.00	6,806.00	3,954.97	3,615.56	11.653	SF
Guttersen State D 10-24 (SI) - Wellbore #1 - No Surveys	16,841.21	6,840.00	4,575.83	4,216.28	12.727	CC, ES
Guttersen State D 10-24 (SI) - Wellbore #1 - No Surveys	17,100.00	6,840.00	4,583.14	4,222.23	12.699	SF
Guttersen State D15-27 - Wellbore #1 - Wellbore #1- As	17,364.70	6,837.97	5,880.70	5,763.69	50.257	CC, ES, SF
Karch Blue D 10-02 (SI) - Wellbore #1 - Gyro Surveys	13,936.00	6,786.63	5,517.19	5,428.74	62.372	CC
Karch Blue D 10-02 (SI) - Wellbore #1 - Gyro Surveys	14,000.00	6,786.76	5,517.56	5,428.73	62.114	ES
Karch Blue D 10-02 (SI) - Wellbore #1 - Gyro Surveys	15,200.00	6,789.36	5,660.13	5,565.70	59.938	SF
Karch Blue D 10-07 (SI) - Wellbore #1 - Gyro Surveys	15,047.41	6,816.02	5,413.41	5,316.02	55.587	CC
Karch Blue D 10-07 (SI) - Wellbore #1 - Gyro Surveys	15,100.00	6,815.74	5,413.67	5,315.97	55.413	ES
Karch Blue D 10-07 (SI) - Wellbore #1 - Gyro Surveys	16,100.00	6,810.46	5,514.79	5,412.38	53.847	SF
Karch Blue D 10-08 (SI) - Wellbore #1 - Gyro Surveys	12,500.00	12,500.00	7,287.77	6,869.39	17.419	SF
Karch Blue D 10-08 (SI) - Wellbore #1 - Gyro Surveys	15,434.29	6,830.25	6,671.00	6,383.25	23.183	CC
Karch Blue D 10-08 (SI) - Wellbore #1 - Gyro Surveys	15,500.00	6,830.59	6,671.32	6,383.14	23.150	ES
Karch State D 10-22 (SI) - Wellbore #1 - No Surveys	15,703.00	6,827.00	6,017.54	5,667.72	17.201	CC, ES
Karch State D 10-22 (SI) - Wellbore #1 - No Surveys	16,200.00	6,827.00	6,038.03	5,685.34	17.120	SF
Spike D 10-10 (SI) - Wellbore #1 - No Surveys	16,414.41	6,831.00	5,420.84	5,065.01	15.234	CC, ES
Spike D 10-10 (SI) - Wellbore #1 - No Surveys	16,800.00	6,831.00	5,434.53	5,076.54	15.181	SF
Spike ST GWS D 10-09 (SI) - Wellbore #1 - No Surveys	16,552.96	6,832.00	6,582.55	6,225.55	18.439	CC
Spike ST GWS D 10-09 (SI) - Wellbore #1 - No Surveys	16,600.00	6,832.00	6,582.71	6,225.42	18.424	ES
Spike ST GWS D 10-09 (SI) - Wellbore #1 - No Surveys	17,200.00	6,832.00	6,614.27	6,253.47	18.332	SF
Spike ST GWS D 10-12 (SI) - Wellbore #1 - As-Drilled	15,914.84	6,837.99	2,694.15	2,589.68	25.791	CC, ES
Spike ST GWS D 10-12 (SI) - Wellbore #1 - As-Drilled	16,100.00	6,838.26	2,700.50	2,595.46	25.709	SF
Spike ST GWS D 10-14 (PR) - Wellbore #1 - Gyro Surveys	17,364.70	6,841.52	3,840.53	3,723.79	32.899	CC, ES, SF
Spike ST GWS D 10-16 (PA) - Wellbore #1 - No Surveys	17,364.70	6,831.00	6,436.75	6,207.04	28.021	CC, ES, SF
Spike State D 10-21D (SI) - Wellbore #1 - Wellbore #1	15,769.05	6,961.19	4,843.83	4,740.26	46.766	CC
Spike State D 10-21D (SI) - Wellbore #1 - Wellbore #1	15,800.00	6,961.15	4,843.93	4,740.19	46.692	ES
Spike State D 10-21D (SI) - Wellbore #1 - Wellbore #1	16,600.00	6,960.02	4,914.59	4,807.30	45.805	SF
Spike State D 10-23 (SI) - Wellbore #1 - No Surveys	17,055.60	6,836.00	5,986.39	5,625.16	16.572	CC
Spike State D 10-23 (SI) - Wellbore #1 - No Surveys	17,100.00	6,836.00	5,986.56	5,625.04	16.560	ES
Spike State D 10-23 (SI) - Wellbore #1 - No Surveys	17,364.70	6,836.00	5,994.37	5,631.28	16.510	SF
Spike State GWS D 10-11 (PR) - Wellbore #1 - No Surveys	16,087.42	6,817.00	4,028.62	3,676.01	11.425	CC
Spike State GWS D 10-11 (PR) - Wellbore #1 - No Surveys	16,100.00	6,817.00	4,028.64	3,675.96	11.423	ES
Spike State GWS D 10-11 (PR) - Wellbore #1 - No Surveys	16,300.00	6,817.00	4,034.23	3,680.57	11.407	SF
Spike State GWS D 10-13J (PR) - Wellbore #1 - No Surveys	16,541.30	6,825.00	3,239.04	2,882.50	9.085	CC, ES
Spike State GWS D 10-13J (PR) - Wellbore #1 - No Surveys	16,700.00	6,825.00	3,242.92	2,885.72	9.079	SF
Spike State GWS D 10-15 (PA) - Wellbore #1 - No Surveys	17,364.70	7,106.00	5,647.71	5,425.52	25.418	CC, ES, SF
Two E Ranch 1-10 (PR) - Wellbore #1 - No Surveys	14,284.64	6,823.00	6,666.41	6,328.03	19.701	CC
Two E Ranch 1-10 (PR) - Wellbore #1 - No Surveys	14,300.00	6,823.00	6,666.43	6,327.95	19.695	ES
Two E Ranch 1-10 (PR) - Wellbore #1 - No Surveys	15,000.00	6,823.00	6,704.68	6,362.14	19.573	SF
Two E Ranch 2-10 (PR) - Wellbore #1 - No Surveys	13,252.01	6,782.00	3,252.50	2,923.78	9.894	CC, ES
Two E Ranch 2-10 (PR) - Wellbore #1 - No Surveys	13,400.00	6,782.00	3,255.87	2,926.54	9.886	SF
Two E Ranch 3-10 (PR) - Wellbore #1 - No Surveys	13,339.81	6,784.00	4,477.42	4,147.96	13.590	CC, ES
Two E Ranch 3-10 (PR) - Wellbore #1 - No Surveys	13,600.00	6,784.00	4,484.97	4,154.21	13.559	SF
Two E Ranch 4-10 (SI) - Wellbore #1 - No Surveys	14,698.16	6,801.03	3,032.72	2,691.94	8.899	CC
Two E Ranch 4-10 (SI) - Wellbore #1 - No Surveys	14,700.00	6,801.03	3,032.72	2,691.93	8.899	ES
Two E Ranch 4-10 (SI) - Wellbore #1 - No Surveys	14,800.00	6,801.03	3,034.43	2,693.24	8.894	SF
Volley State D 10-13 (PR) - Wellbore #1 - Gyro Surveys	17,335.15	6,845.13	2,431.93	2,316.13	21.002	CC, ES
Volley State D 10-13 (PR) - Wellbore #1 - Gyro Surveys	17,364.70	6,844.76	2,432.11	2,316.21	20.985	SF

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

Noble Energy

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersten D09-750
Project:	Mustang	TVD Reference:	Well @ 4750.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4750.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersten D09-750	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersten D09-750	Database:	EDMP
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
D Section 15						
Cally Blue D 15-12 (PR) - Wellbore #1 - Gyro Surveys	17,364.70	6,805.26	4,120.64	4,038.39	50.101	CC, ES, SF
Cally Blue D 15-14 (PR) - Wellbore #1 - Gyro Surveys	17,364.70	6,878.73	6,312.40	6,226.69	73.646	CC, ES, SF
Cally Blue D15-04J - Wellbore #1 - Wellbore #1- As Drilled	17,364.70	6,759.00	7,600.57	7,500.13	75.669	CC, ES, SF
Cally Blue D15-09 - Wellbore #1 - Wellbore #1- As Drilled	17,364.70	6,738.91	7,302.67	7,197.19	69.228	CC, ES, SF
Cally Blue D15-10 - Wellbore #1 - Wellbore #1- As Drilled	17,364.70	6,837.60	6,177.56	6,075.21	60.358	CC, ES, SF
Cally Blue D15-11 (PA) - Wellbore #1 - Gyro Surveys	17,364.70	6,804.53	5,124.87	5,028.13	52.977	CC, ES, SF
Cally Blue D15-15 - Wellbore #1 - Wellbore #1- As Drilled	17,364.70	6,969.89	7,016.70	6,921.56	73.750	CC, ES, SF
Cally D15-02 - Wellbore #1 - Wellbore #1-As Drilled	17,364.70	6,828.54	5,264.19	5,148.43	45.474	CC, ES, SF
Cally White D15-01 - Wellbore #1 - Wellbore #1- As Drille	17,364.70	6,787.06	6,562.68	6,446.80	56.637	CC, ES, SF
Cally White D15-07 - Wellbore #1 - Wellbore #1- As Drille	17,364.70	6,780.40	5,484.80	5,374.96	49.936	CC, ES, SF
Cally White D15-08 - Wellbore #1 - Wellbore #1- As Drille	17,364.70	6,752.61	6,876.46	6,764.32	61.319	CC, ES, SF
Chandler State D15-72-1HN - Original Drilling - Original D	17,364.70	6,697.92	6,803.41	6,689.66	59.807	CC, ES, SF
Chandler State D15-73-1HN - Original Drilling - Original D	15,800.00	15,800.00	6,656.43	6,530.68	52.932	SF
Chandler State D15-73-1HN - Original Drilling - Original D	17,364.70	6,537.00	6,168.38	6,055.04	54.424	CC, ES
Chandler State D15-74-1HN - Original Drilling - Original D	17,364.70	7,031.00	5,513.26	5,396.91	47.384	CC, ES, SF
Chandler State D23-79HN - Original Drilling - Original Dr	17,364.70	6,350.01	8,619.26	8,518.04	85.153	CC, ES, SF
Duff D15-5 (PR) - Wellbore #1 - Gyro Surveys	17,364.70	6,731.22	3,265.37	3,169.97	34.226	CC, ES, SF
Guttersten D 15-21 (PR) - Wellbore #1 - Gyro Surveys	17,364.70	6,835.92	5,420.29	5,316.75	52.351	CC, ES, SF
Guttersten D 15-24 (PR) - Wellbore #1 - Gyro Surveys	17,364.70	6,857.32	6,081.74	5,987.15	64.296	CC, ES, SF
Guttersten D 15-29 (SI) - Wellbore #1 - Gyro Surveys	17,364.70	6,831.41	3,202.73	3,086.41	27.533	CC, ES, SF
Guttersten D 22-28 (PR) - Wellbore #1 - Gyro Surveys	17,364.70	6,843.99	6,901.28	6,814.72	79.733	CC, ES, SF
Guttersten D14-32 - Wellbore #1 - Wellbore #1- As Drilled	17,364.70	6,806.51	7,491.54	7,380.68	67.576	CC, ES, SF
Guttersten D15-17 - Wellbore #1 - Wellbore #1- As Drilled	17,364.70	6,774.90	5,994.73	5,880.65	52.548	CC, ES, SF
Guttersten D15-18 (SI) - Wellbore #1 - Gyro Surveys	17,364.70	6,830.34	4,842.48	4,728.80	42.597	CC, ES, SF
Guttersten D15-20 (PR) - Wellbore #1 - Gyro Surveys	17,364.70	6,813.02	4,138.07	4,042.31	43.214	CC, ES, SF
Guttersten D15-22 - Wellbore #1 - Wellbore #1- As Drilled	17,364.70	6,816.54	6,546.04	6,438.95	61.128	CC, ES, SF
Guttersten D15-28 (SI) - Wellbore #1 - Gyro Surveys	17,364.70	6,797.10	4,494.44	4,377.88	38.559	CC, ES, SF
Guttersten D15-30 (SI) - Wellbore #1 - Gyro Surveys	17,364.70	6,807.84	2,213.84	2,099.72	19.399	CC, ES, SF
Guttersten D22-27 - Wellbore #1 - Wellbore #1- As Drilled	17,364.70	6,819.11	7,798.22	7,703.31	82.159	CC, ES, SF
Guttersten D23-69HN - Guttersten D23-69HN OH - As-Dri	17,364.70	6,207.01	8,949.76	8,854.25	93.706	CC, ES, SF
HSR Guttersten 03-15 (SI) - Wellbore #1 - Gyro Surveys	17,364.70	6,850.41	3,919.58	3,804.75	34.132	CC, ES, SF
HSR Guttersten 6-15 (SI) - Wellbore #1 - Gyro Surveys	17,364.70	6,826.89	4,607.17	4,501.68	43.677	CC, ES, SF
Mills UPRC D 15-04 (SI) - Wellbore #1 - Gyro Surveys	17,364.70	6,815.69	3,074.63	2,963.95	27.779	CC, ES, SF
Two E Ranch 1-15B (SI) - Wellbore #1 - Gyro Surveys	17,364.70	6,851.87	5,311.04	5,232.43	67.567	CC, ES, SF

Noble Energy

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersten D09-750
Project:	Mustang	TVD Reference:	Well @ 4750.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4750.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersten D09-750	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersten D09-750	Database:	EDMP
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
D Section 16						
Diggen State D16-23 (SI) - Wellbore #1 - Gyro Surveys	17,364.70	6,827.00	4,185.42	4,130.86	76.705	CC, ES, SF
Diggin State D 16-07 (SI) - Wellbore #1 - No Surveys	17,364.70	6,831.00	2,281.82	2,114.36	13.626	CC, ES, SF
Diggin State D 16-19J (PR) - Wellbore #1 - As-Drilled	17,364.70	6,700.00	2,691.13	2,590.66	26.785	CC, ES, SF
Diggin State D16-13 (PR) - Wellbore #1 - Gyro Surveys	17,364.70	6,784.84	5,546.97	5,469.22	71.343	CC, ES, SF
Guttersten ST D 15-32 (SI) - Wellbore #1 - Gyro Surveys	17,364.70	6,839.71	3,414.61	3,337.23	44.133	CC, ES, SF
Guttersten ST D 16-21 (SI) - Wellbore #1 - Gyro Surveys	17,364.70	6,825.64	3,032.84	2,972.59	50.333	CC, ES, SF
Guttersten ST D 16-22D (SI) - Wellbore #1 - MWD Surve	17,364.70	6,957.58	2,816.08	2,756.98	47.648	CC, ES, SF
Guttersten ST D 16-33 (SI) - Wellbore #1 - Gyros	17,364.70	6,804.62	5,196.96	5,108.92	59.026	CC, ES, SF
Guttersten State D 15-31 (PR) - Wellbore #1 - Gyro Surve	17,364.70	6,827.58	2,085.48	1,984.81	20.715	CC, ES, SF
Guttersten State D 15-33 (SI) - Wellbore #1 - Gyro Survey	17,364.70	6,775.68	4,542.61	4,473.43	65.665	CC, ES, SF
Guttersten State D 16-15X (PR) - Wellbore #1 - Gyro Sur	17,364.70	6,854.86	4,701.54	4,648.06	87.910	CC, ES, SF
Guttersten State D 16-18 (SI) - Wellbore #1 - As-Drilled	17,364.70	6,870.96	1,591.35	1,516.81	21.349	CC, ES, SF
Guttersten State D 16-20 (SI) - Wellbore #1 - Gyro Survey	17,364.70	6,774.02	3,565.86	3,481.92	42.485	CC, ES, SF
Guttersten State D 16-24 (SI) - Wellbore #1 - Gyro Survey	17,364.70	6,832.34	4,130.20	4,072.45	71.518	CC, ES, SF
Guttersten State D 16-27 (PR) - Wellbore #1 - As-Drilled	17,364.70	6,799.26	711.66	610.97	7.067	CC, ES, SF
Guttersten State D 16-31 (PR) - Wellbore #1 - As-Drilled	17,364.70	6,922.10	3,647.12	3,538.36	33.532	CC, ES, SF
Guttersten State D 16-32D (SI) - Guttersten State D 16-32	17,364.70	6,985.22	4,234.09	4,118.30	36.569	CC, ES, SF
Guttersten State D 16-32D (SI) - Guttersten State D 16-32	17,364.70	6,998.22	4,234.10	4,118.32	36.569	CC, ES, SF
Guttersten State D16-63-1HN - Original Drilling - As-Drille	17,364.70	8,355.99	4,527.34	4,446.65	56.103	CC, ES, SF
Guttersten State D16-65-1HN - Original Drilling - As-Drille	16,200.00	16,200.00	4,354.45	4,082.20	15.994	SF
Guttersten State D16-65-1HN - Original Drilling - As-Drille	17,364.70	8,284.98	3,198.70	3,119.81	40.547	CC, ES
Spike ST GWS D 16-01 (SI) - Wellbore #1 - Gyro Survey	17,364.70	6,826.32	1,431.78	1,326.84	13.643	CC, ES, SF
Spike ST GWS D 16-02 (P&A) - Wellbore #1 - Gyro Surv	17,364.70	6,815.88	820.26	737.60	9.924	CC, ES, SF
Spike ST GWS D 16-03 (PR) - Wellbore #1 - As-Drilled	17,364.70	6,798.68	1,713.16	1,606.61	16.078	CC, ES, SF
Spike ST GWS D 16-04 (SI) - Wellbore #1 - As-Drilled	17,364.70	6,860.28	2,837.46	2,724.02	25.013	CC, ES, SF
Spike ST GWS D 16-05 (PR) - Wellbore #1 - Gyro Surve	17,364.70	6,802.00	3,566.91	3,467.47	35.872	CC, ES, SF
Spike ST GWS D 16-06 (SI) - Wellbore #1 - As-Drilled	17,364.70	6,823.93	2,574.36	2,494.84	32.374	CC, ES, SF
Spike ST GWS D 16-08 (PR) - Wellbore #1 - Gyro Surve	17,364.70	6,827.74	2,611.23	2,532.81	33.296	CC, ES, SF
Spike ST GWS D 16-12 (PA) - Wellbore #1 - Gyro Surve	17,364.70	6,787.38	4,413.07	4,323.77	49.416	CC, ES, SF
Spike ST GWS D 16-14 (SI) - Wellbore #1 - No Surveys	17,364.70	6,840.00	5,223.37	5,048.58	29.884	CC, ES, SF
Spike ST GWS D 16-16 (SI) - Wellbore #1 - As-Drilled	17,364.70	6,819.29	4,996.74	4,937.24	83.976	CC, ES, SF
Spike State D 16-10 (SI) - Wellbore #1 - Gyro Surveys	17,364.70	6,811.46	3,475.64	3,422.18	65.011	CC, ES, SF
Spike State D 16-11 (SI) - Wellbore #1 - Gyro Surveys	17,364.70	6,826.83	3,668.49	3,599.90	53.479	CC, ES, SF
Spike State D 16-9 (SI) - Wellbore #1 - Gyro Surveys	17,364.70	6,833.26	3,738.29	3,673.89	58.046	CC, ES, SF
Spike State D16-15 (P&A) - Wellbore #1 - Wellbore #1	17,364.70	6,951.95	4,781.13	4,716.23	73.675	CC, ES, SF
Spike State D16-99HZ - Original Drilling - As-Drilled	14,700.00	14,700.00	6,429.33	6,204.32	28.573	SF
Spike State D16-99HZ - Original Drilling - As-Drilled	17,364.70	7,933.96	3,766.41	3,693.24	51.478	CC, ES
Spike State GWS D 16-7J (PR) - Wellbore #1 - As-Drilled	17,364.70	6,812.01	1,485.87	1,417.79	21.826	CC, ES, SF
Spike State GWS D16-13J (PR) - Wellbore #1 - Gyro Su	17,364.70	6,784.22	4,734.44	4,660.15	63.726	CC, ES, SF

Noble Energy

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Gutteresen D09-750
Project:	Mustang	TVD Reference:	Well @ 4750.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4750.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Gutteresen D09-750	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Gutteresen D09-750	Database:	EDMP
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
D Section 17						
Butterball D19-27D - Butterball D19-27D OH - As-Drilled						Out of range
Butterball D19-27D - Gyros - Gyro Surveys						Out of range
Gutteresen State D16-33 (SI) - Wellbore #1 - No Surveys	17,364.70	6,805.00	5,268.72	5,144.74	42.496	CC, ES, SF
HSR LDS 6-17 (PA) - Wellbore #1 - Gyro Surveys	17,364.70	6,885.30	7,135.97	7,022.31	62.784	CC, ES, SF
HSR LDS B5-17 (SI) - Wellbore #1 - Gyro Surveys	17,364.70	6,872.09	8,309.78	8,195.00	72.399	CC, ES, SF
HSR Mike Gutteresen 16-17X (SI) - Wellbore #1 - As-Dri	17,364.70	6,784.45	6,432.47	6,345.04	73.575	CC, ES, SF
HSR Mike Gutteresen 16-17 (DA) - Wellbore #1 - As-Drille	17,364.70	1,666.00	8,229.49	8,115.26	72.042	CC, ES, SF
HSR Weeks 10-17 (TA) - Wellbore #1 - Gyro Surveys	17,364.70	6,824.59	6,470.99	6,367.44	62.491	CC, ES, SF
HSR Weeks 15-17 (PA) - Wellbore #1 - As-Drilled	17,364.70	6,901.17	7,250.35	7,153.90	75.168	CC, ES, SF
HSR Weeks 9-17 (TA) - Wellbore #1 - Gyro Surveys	17,364.70	6,783.13	5,529.43	5,431.23	56.308	CC, ES, SF
HSR-LDS 3-17 (PA) - Wellbore #1 - Gyro Surveys	17,364.70	6,849.93	6,992.49	6,876.30	60.179	CC, ES, SF
HSR-LDS 4-17 (SI) - Wellbore #1 - Gyro Surveys	17,237.58	6,800.00	8,123.45	8,008.35	70.579	CC
HSR-LDS 4-17 (SI) - Wellbore #1 - Gyro Surveys	17,300.00	6,800.00	8,123.69	8,007.99	70.219	ES
HSR-LDS 4-17 (SI) - Wellbore #1 - Gyro Surveys	17,364.70	6,800.00	8,124.44	8,008.14	69.857	SF
LDS 18-17 (PA) - Wellbore #1 - Gyro Surveys	17,364.70	6,861.08	7,362.54	7,247.42	63.957	CC, ES, SF
LDS D17-13 (PA) - Wellbore #1 - Gyro Surveys	17,364.70	7,159.74	9,798.71	9,693.53	93.163	CC, ES, SF
LDS D17-18 (SI) - Wellbore #1 - Gyro Surveys	17,364.70	6,866.37	6,143.80	6,029.30	53.658	CC, ES, SF
LDS D17-20 (PA) - Wellbore #1 - As-Drilled	17,364.70	6,816.17	7,961.41	7,848.63	70.592	CC, ES, SF
LDS D17-21 (PA) - Wellbore #1 - As-Drilled	17,364.70	6,808.18	6,938.13	6,827.72	62.838	CC, ES, SF
LDS D17-22 (TA) - Wellbore #1 - As-Drilled	17,364.70	6,831.87	5,552.63	5,446.66	52.396	CC, ES, SF
LDS D17-24D (PA) - LDS D17-24D Gyros - As-Drilled	17,364.70	6,875.85	7,356.88	7,239.04	62.432	CC, ES, SF
LDS D17-24D (PA) - LDS D17-24D OH - As-Drilled	17,364.70	6,959.63	7,361.39	7,258.25	71.373	CC, ES, SF
LDS D17-25D (PA) - LDS D17-25D Gyros - As-Drilled	17,364.70	7,075.49	8,313.57	8,205.04	76.604	CC, ES, SF
LDS D17-25D (PA) - LDS D17-25D OH - LDS D17-25D -	17,364.70	7,059.57	8,312.78	8,207.39	78.879	CC, ES, SF
LDS D17-31D (PR) - Gyros - As-Drilled	17,364.70	7,101.93	8,870.84	8,721.67	59.471	CC, ES, SF
LDS D17-31D (PR) - LDS D17-31D OH - As-Drilled	17,364.70	7,098.61	8,881.91	8,760.38	73.083	CC, ES, SF
LDS D17-32D (PA) - Gyros - As-Drilled	17,364.70	6,864.81	9,160.92	9,047.47	80.747	CC, ES, SF
LDS D17-32D (PA) - LDS D17-32D OH - As-Drilled	17,364.70	6,877.98	9,160.24	9,053.76	86.027	CC, ES, SF
LDS D17-33 (PA) - LDS D17-33 - As-Drilled	17,364.70	6,841.41	9,454.83	9,345.97	86.851	CC, ES, SF
LDS D17-7 (PA) - Wellbore #1 - As-Drilled	16,900.00	16,900.00	6,129.25	5,987.45	43.224	SF
LDS D17-7 (PA) - Wellbore #1 - As-Drilled	17,364.70	6,872.15	6,003.32	5,891.92	53.890	CC, ES
LDS D20-29D (PA) - Gyros - As-Drilled	17,364.70	7,011.78	9,320.09	9,198.99	76.964	CC, ES, SF
LDS D20-29D (PA) - LDS D20-29D OH - As-Drilled	17,364.70	7,035.99	9,312.58	9,210.11	90.886	CC, ES, SF
LDS D20-30D (TA) - Gyros - As-Drilled						Out of range
LDS D20-30D (TA) - LDS D20-30D OH - As-Drilled						Out of range
LDS RED D17-11 (SI) - Wellbore #1 - As Drilled	17,364.70	6,889.71	7,480.84	7,373.02	69.380	CC, ES, SF
LDS Red D17-12 (PA) - Wellbore #1 - Gyro Surveys	17,364.70	6,775.86	8,781.51	8,670.65	79.213	CC, ES, SF
LDS Red D17-14 (DA) - LDS Red D17-14 - No Surveys	17,364.70	6,821.00	8,194.63	7,846.93	23.568	CC, ES, SF
LDS Red D17-14X (PA) - Wellbore #1 - As-Drilled	17,364.70	7,018.80	8,028.31	7,926.32	78.720	CC, ES, SF
LDS Red D17-3J (PA) - Wellbore #1 - Gyro Surveys	17,364.70	6,755.92	8,972.89	8,867.11	84.830	CC, ES, SF
LDS White D17-1 (PA) - Wellbore #1 - Gyro Surveys	17,364.70	6,840.56	4,188.78	4,073.68	36.393	CC, ES, SF
LDS White D17-2 (SI) - Wellbore #1 - As-Drilled	17,364.70	6,709.17	5,549.98	5,434.19	47.935	CC, ES, SF
LDS White D17-8 (SI) - Wellbore #1 - As-Drilled	17,364.70	6,803.05	4,756.26	4,648.43	44.109	CC, ES, SF
Thomson D20-31D (TA) - Gyros - Gyro Surveys						Out of range
Thomson D20-31D (TA) - Thomson D20-31D OH - As-Dr						Out of range
Weeks 20-17 (PA) - Wellbore #1 - Gyro Surveys	17,364.70	6,769.28	6,486.34	6,389.74	67.152	CC, ES, SF