

Project: Mustang
Site: C Section 33
Well: Gutteresen D09-775
Wellbore: Gutteresen D09-775
Design: Plan #1

Northern Region - DJ Basin

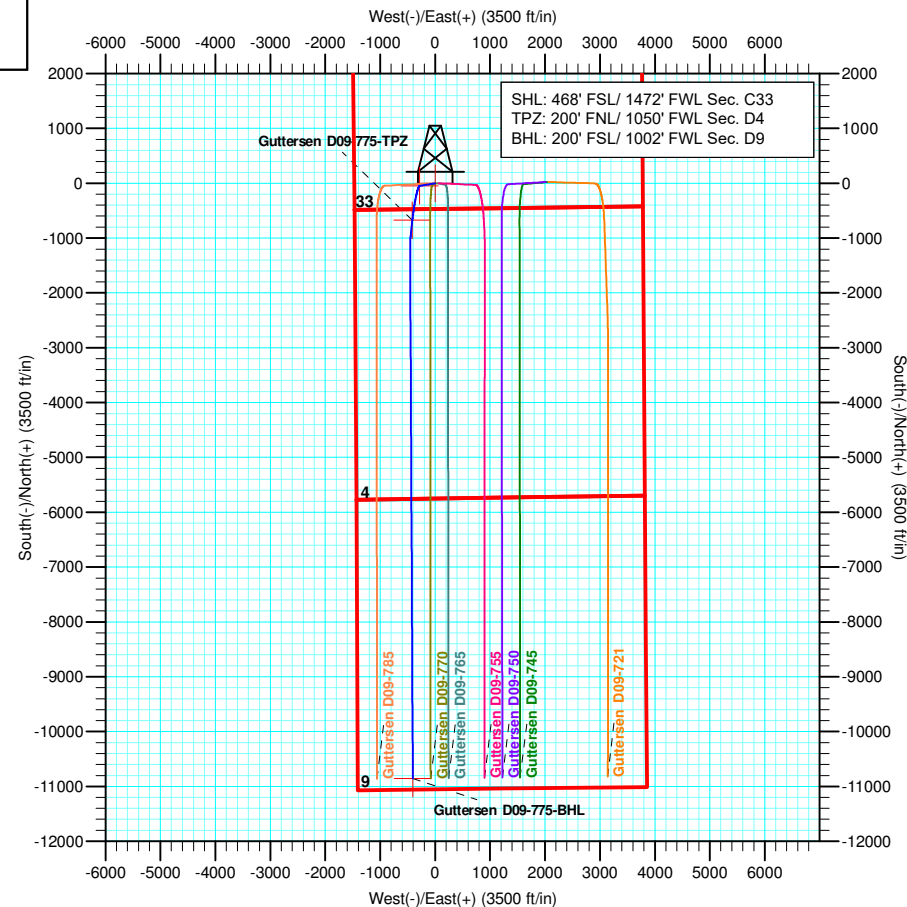
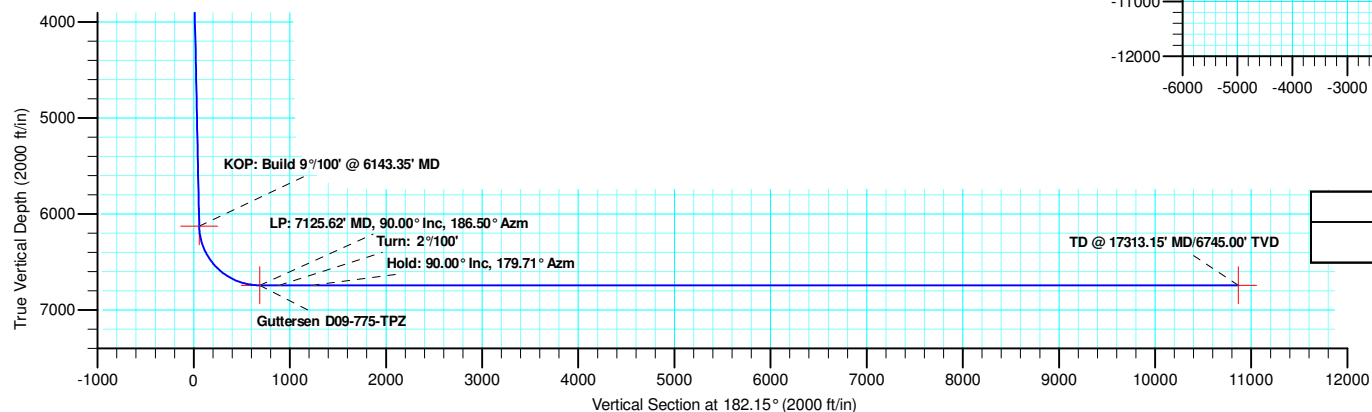
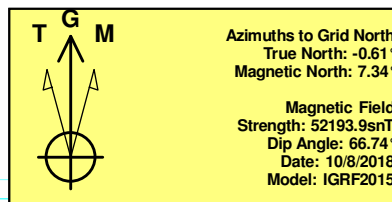
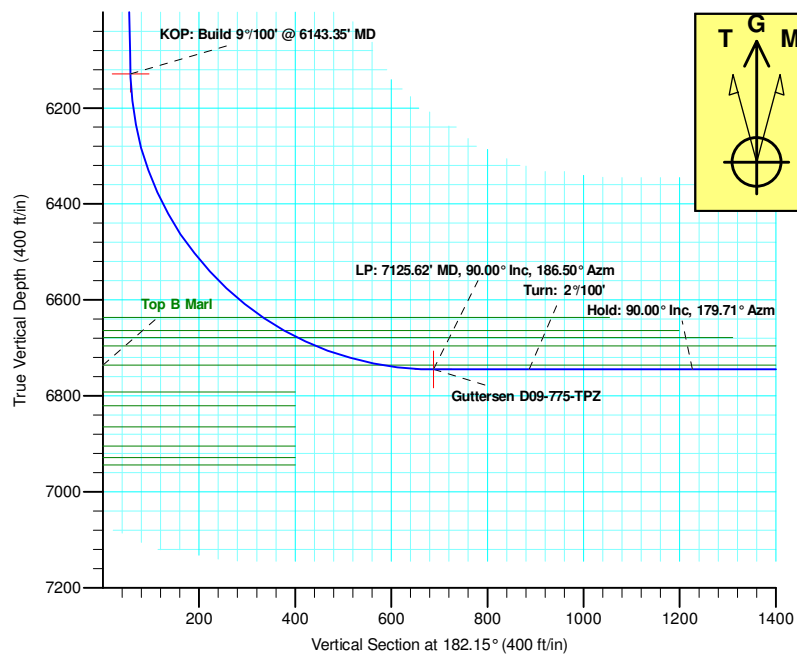
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Colorado Northern Zone
System Datum: Mean Sea Level

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	3170.00	0.00	0.00	3170.00	0.00	0.00	0.00	0.00	0.00	
3	3460.66	5.81	260.54	3460.16	-2.42	-14.53	2.00	260.54	2.97	
4	6143.35	5.81	260.54	6129.06	-47.09	-282.56	0.00	0.00	57.65	
5	7125.62	90.00	186.50	6745.00	-672.55	-414.50	9.00	-74.12	687.61	Gutteresen D09-775-TPZ
6	7325.62	90.00	186.50	6745.00	-871.26	-437.14	0.00	0.00	887.04	
7	7664.90	90.00	179.71	6745.00	-1209.84	-455.52	2.00	-90.00	1226.07	
8	17313.15	90.00	179.71	6745.00	-10857.97	-407.43	0.00	0.00	10865.62	Gutteresen D09-775-BHL

WELL DETAILS: Gutteresen D09-775

+N/-S	+E/-W	Northing	Ground Level: Easting	4725.00 Latitude	Longitude	Slot
0.00	0.00	1340051.65	3262298.38	40.2630250	-104.5600910	



Plan: Plan #1 (Gutteresen D09-775/Gutteresen D09-775)

Created By: Keith Noack Date: 11:20, October 09 2018

Northern Region - DJ Basin

Mustang

C Section 33

Guttersen D09-775

Guttersen D09-775

Plan: Plan #1

Standard Planning Report

09 October, 2018

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Guttersen D09-775
Company:	Northern Region - DJ Basin	TVD Reference:	Well @ 4755.00ft
Project:	Mustang	MD Reference:	Well @ 4755.00ft
Site:	C Section 33	North Reference:	Grid
Well:	Guttersen D09-775	Survey Calculation Method:	Minimum Curvature
Wellbore:	Guttersen D09-775		
Design:	Plan #1		

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 D09-775					
Well Position	+N/-S	149.97 ft	Northing:	1,340,051.65 usft	Latitude:	40.2630250
	+E/-W	22.41 ft	Easting:	3,262,298.38 usft	Longitude:	-104.5600910
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	4,725.00 ft

Wellbore	Guttersen D09-775				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	10/8/2018	7.95	66.74	52,193.88613023

Design	Plan #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	182.15

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	
3,170.00	0.00	0.00	3,170.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,460.66	5.81	260.54	3,460.16	-2.42	-14.53	2.00	2.00	0.00	260.54	
6,143.35	5.81	260.54	6,129.06	-47.09	-282.56	0.00	0.00	0.00	0.00	
7,125.62	90.00	186.50	6,745.00	-672.55	-414.50	9.00	8.57	-7.54	-74.12	Guttersen D09-775
7,325.62	90.00	186.50	6,745.00	-871.26	-437.14	0.00	0.00	0.00	0.00	
7,664.90	90.00	179.71	6,745.00	-1,209.84	-455.52	2.00	0.00	-2.00	-90.00	
17,313.15	90.00	179.71	6,745.00	-10,857.97	-407.43	0.00	0.00	0.00	0.00	Guttersen D09-775

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Guttersen D09-775
Company:	Northern Region - DJ Basin	TVD Reference:	Well @ 4755.00ft
Project:	Mustang	MD Reference:	Well @ 4755.00ft
Site:	C Section 33	North Reference:	Grid
Well:	Guttersen D09-775	Survey Calculation Method:	Minimum Curvature
Wellbore:	Guttersen D09-775		
Design:	Plan #1		

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
475.00	0.00	0.00	475.00	0.00	0.00	0.00	0.00	0.00	0.00
Pierre									
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
608.00	0.00	0.00	608.00	0.00	0.00	0.00	0.00	0.00	0.00
Upper Pierre Aquifer Top									
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,528.00	0.00	0.00	1,528.00	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
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,170.00	0.00	0.00	3,170.00	0.00	0.00	0.00	0.00	0.00	0.00
Build: 2°/100'									
3,200.00	0.60	260.54	3,200.00	-0.03	-0.15	0.03	2.00	2.00	0.00
3,300.00	2.60	260.54	3,299.96	-0.48	-2.91	0.59	2.00	2.00	0.00
3,400.00	4.60	260.54	3,399.75	-1.52	-9.10	1.86	2.00	2.00	0.00
3,460.66	5.81	260.54	3,460.16	-2.42	-14.53	2.97	2.00	2.00	0.00
Hold: 5.81° Inc, 260.54° Azm									
3,500.00	5.81	260.54	3,499.30	-3.08	-18.46	3.77	0.00	0.00	0.00
3,600.00	5.81	260.54	3,598.79	-4.74	-28.45	5.81	0.00	0.00	0.00
3,608.26	5.81	260.54	3,607.00	-4.88	-29.28	5.97	0.00	0.00	0.00
Parkman									
3,700.00	5.81	260.54	3,698.27	-6.41	-38.44	7.84	0.00	0.00	0.00
3,800.00	5.81	260.54	3,797.76	-8.07	-48.44	9.88	0.00	0.00	0.00
3,900.00	5.81	260.54	3,897.24	-9.74	-58.43	11.92	0.00	0.00	0.00
4,000.00	5.81	260.54	3,996.73	-11.40	-68.42	13.96	0.00	0.00	0.00

Noble Energy, Inc.

Planning Report

Database: EDMP
Company: Northern Region - DJ Basin
Project: Mustang
Site: C Section 33
Well: Guttersen D09-775
Wellbore: Guttersen D09-775
Design: Plan #1

Local Co-ordinate Reference: Well Guttersen D09-775
TVD Reference: Well @ 4755.00ft
MD Reference: Well @ 4755.00ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
4,015.35	5.81	260.54	4,012.00	-11.66	-69.95	14.27	0.00	0.00	0.00	
Sussex										
4,100.00	5.81	260.54	4,096.21	-13.07	-78.41	16.00	0.00	0.00	0.00	
4,200.00	5.81	260.54	4,195.70	-14.73	-88.40	18.04	0.00	0.00	0.00	
4,300.00	5.81	260.54	4,295.19	-16.40	-98.39	20.07	0.00	0.00	0.00	
4,400.00	5.81	260.54	4,394.67	-18.06	-108.38	22.11	0.00	0.00	0.00	
4,500.00	5.81	260.54	4,494.16	-19.73	-118.37	24.15	0.00	0.00	0.00	
4,570.20	5.81	260.54	4,564.00	-20.90	-125.39	25.58	0.00	0.00	0.00	
Shannon										
4,600.00	5.81	260.54	4,593.64	-21.39	-128.36	26.19	0.00	0.00	0.00	
4,700.00	5.81	260.54	4,693.13	-23.06	-138.35	28.23	0.00	0.00	0.00	
4,800.00	5.81	260.54	4,792.61	-24.72	-148.34	30.27	0.00	0.00	0.00	
4,900.00	5.81	260.54	4,892.10	-26.39	-158.33	32.30	0.00	0.00	0.00	
5,000.00	5.81	260.54	4,991.59	-28.05	-168.33	34.34	0.00	0.00	0.00	
5,100.00	5.81	260.54	5,091.07	-29.72	-178.32	36.38	0.00	0.00	0.00	
5,200.00	5.81	260.54	5,190.56	-31.38	-188.31	38.42	0.00	0.00	0.00	
5,300.00	5.81	260.54	5,290.04	-33.05	-198.30	40.46	0.00	0.00	0.00	
5,400.00	5.81	260.54	5,389.53	-34.71	-208.29	42.50	0.00	0.00	0.00	
5,500.00	5.81	260.54	5,489.01	-36.38	-218.28	44.54	0.00	0.00	0.00	
5,600.00	5.81	260.54	5,588.50	-38.04	-228.27	46.57	0.00	0.00	0.00	
5,700.00	5.81	260.54	5,687.99	-39.71	-238.26	48.61	0.00	0.00	0.00	
5,800.00	5.81	260.54	5,787.47	-41.37	-248.25	50.65	0.00	0.00	0.00	
5,900.00	5.81	260.54	5,886.96	-43.04	-258.24	52.69	0.00	0.00	0.00	
5,957.34	5.81	260.54	5,944.00	-43.99	-263.97	53.86	0.00	0.00	0.00	
Teepee Buttes										
6,000.00	5.81	260.54	5,986.44	-44.70	-268.23	54.73	0.00	0.00	0.00	
6,100.00	5.81	260.54	6,085.93	-46.37	-278.23	56.77	0.00	0.00	0.00	
6,143.35	5.81	260.54	6,129.06	-47.09	-282.56	57.65	0.00	0.00	0.00	
KOP: Build 9°/100' @ 6143.35' MD										
6,150.00	6.00	255.03	6,135.67	-47.23	-283.22	57.82	9.00	2.88	-82.88	
6,200.00	8.71	226.19	6,185.27	-50.53	-288.49	61.31	9.00	5.42	-57.67	
6,250.00	12.50	212.71	6,234.41	-57.71	-294.15	68.70	9.00	7.57	-26.97	
6,300.00	16.64	205.62	6,282.80	-68.72	-300.17	79.93	9.00	8.28	-14.17	
6,350.00	20.92	201.33	6,330.13	-83.50	-306.51	94.93	9.00	8.57	-8.57	
6,400.00	25.28	198.46	6,376.11	-101.95	-313.15	113.62	9.00	8.72	-5.75	
6,450.00	29.68	196.39	6,420.46	-123.96	-320.02	135.88	9.00	8.80	-4.14	
6,500.00	34.10	194.81	6,462.90	-149.40	-327.10	161.56	9.00	8.84	-3.16	
6,550.00	38.54	193.56	6,503.18	-178.11	-334.34	190.52	9.00	8.88	-2.51	
6,600.00	42.99	192.53	6,541.04	-209.91	-341.70	222.57	9.00	8.90	-2.06	
6,650.00	47.45	191.66	6,576.25	-244.60	-349.12	257.52	9.00	8.91	-1.74	
6,700.00	51.91	190.90	6,608.60	-281.98	-356.56	295.15	9.00	8.93	-1.51	
6,748.41	56.23	190.25	6,637.00	-320.51	-363.75	333.92	9.00	8.93	-1.34	
Sharon Springs										
6,750.00	56.38	190.23	6,637.88	-321.81	-363.99	335.23	9.00	8.94	-1.27	
6,800.00	60.85	189.63	6,663.92	-363.84	-371.34	377.51	9.00	8.94	-1.20	
6,800.17	60.85	189.63	6,664.00	-363.99	-371.36	377.66	0.00	0.00	0.00	
Top A Chalk										
6,832.45	63.75	189.27	6,679.00	-392.18	-376.05	406.00	9.05	8.99	-1.12	
Top A Marl										
6,850.00	65.32	189.08	6,686.55	-407.82	-378.58	421.73	9.00	8.95	-1.08	
6,873.59	67.43	188.83	6,696.00	-429.17	-381.94	443.19	9.00	8.95	-1.04	
Top B Chalk										
6,900.00	69.79	188.56	6,705.63	-453.48	-385.66	467.62	9.00	8.95	-1.01	

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Guttersen D09-775
Company:	Northern Region - DJ Basin	TVD Reference:	Well @ 4755.00ft
Project:	Mustang	MD Reference:	Well @ 4755.00ft
Site:	C Section 33	North Reference:	Grid
Well:	Guttersen D09-775	Survey Calculation Method:	Minimum Curvature
Wellbore:	Guttersen D09-775		
Design:	Plan #1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
6,950.00	74.27	188.08	6,721.05	-500.52	-392.54	514.89	9.00	8.95	-0.97
7,000.00	78.75	187.62	6,732.71	-548.68	-399.18	563.26	9.00	8.95	-0.93
7,018.17	80.38	187.45	6,736.00	-566.39	-401.52	581.04	9.00	8.96	-0.91
Top B Marl									
7,050.00	83.23	187.17	6,740.54	-597.64	-405.53	612.42	9.00	8.96	-0.90
7,100.00	87.71	186.72	6,744.49	-647.10	-411.55	662.08	9.00	8.96	-0.88
7,125.62	90.00	186.50	6,745.00	-672.55	-414.50	687.61	9.00	8.96	-0.88
LP: 7125.62' MD, 90.00° Inc, 186.50° Azm									
7,200.00	90.00	186.50	6,745.00	-746.45	-422.92	761.78	0.00	0.00	0.00
7,300.00	90.00	186.50	6,745.00	-845.80	-434.24	861.49	0.00	0.00	0.00
7,325.62	90.00	186.50	6,745.00	-871.26	-437.14	887.04	0.00	0.00	0.00
Turn: 2°/100'									
7,400.00	90.00	185.01	6,745.00	-945.26	-444.60	961.27	2.00	0.00	-2.00
7,500.00	90.00	183.01	6,745.00	-1,045.01	-451.60	1,061.21	2.00	0.00	-2.00
7,600.00	90.00	181.01	6,745.00	-1,144.95	-455.11	1,161.20	2.00	0.00	-2.00
7,664.90	90.00	179.71	6,745.00	-1,209.84	-455.52	1,226.07	2.00	0.00	-2.00
Hold: 90.00° Inc, 179.71° Azm									
7,700.00	90.00	179.71	6,745.00	-1,244.94	-455.35	1,261.14	0.00	0.00	0.00
7,800.00	90.00	179.71	6,745.00	-1,344.94	-454.85	1,361.05	0.00	0.00	0.00
7,900.00	90.00	179.71	6,745.00	-1,444.94	-454.35	1,460.96	0.00	0.00	0.00
8,000.00	90.00	179.71	6,745.00	-1,544.94	-453.85	1,560.87	0.00	0.00	0.00
8,100.00	90.00	179.71	6,745.00	-1,644.94	-453.35	1,660.78	0.00	0.00	0.00
8,200.00	90.00	179.71	6,745.00	-1,744.94	-452.85	1,760.69	0.00	0.00	0.00
8,300.00	90.00	179.71	6,745.00	-1,844.94	-452.36	1,860.60	0.00	0.00	0.00
8,400.00	90.00	179.71	6,745.00	-1,944.93	-451.86	1,960.51	0.00	0.00	0.00
8,500.00	90.00	179.71	6,745.00	-2,044.93	-451.36	2,060.42	0.00	0.00	0.00
8,600.00	90.00	179.71	6,745.00	-2,144.93	-450.86	2,160.33	0.00	0.00	0.00
8,700.00	90.00	179.71	6,745.00	-2,244.93	-450.36	2,260.24	0.00	0.00	0.00
8,800.00	90.00	179.71	6,745.00	-2,344.93	-449.86	2,360.15	0.00	0.00	0.00
8,900.00	90.00	179.71	6,745.00	-2,444.93	-449.36	2,460.06	0.00	0.00	0.00
9,000.00	90.00	179.71	6,745.00	-2,544.93	-448.87	2,559.97	0.00	0.00	0.00
9,100.00	90.00	179.71	6,745.00	-2,644.93	-448.37	2,659.88	0.00	0.00	0.00
9,200.00	90.00	179.71	6,745.00	-2,744.92	-447.87	2,759.79	0.00	0.00	0.00
9,300.00	90.00	179.71	6,745.00	-2,844.92	-447.37	2,859.70	0.00	0.00	0.00
9,400.00	90.00	179.71	6,745.00	-2,944.92	-446.87	2,959.61	0.00	0.00	0.00
9,500.00	90.00	179.71	6,745.00	-3,044.92	-446.37	3,059.52	0.00	0.00	0.00
9,600.00	90.00	179.71	6,745.00	-3,144.92	-445.88	3,159.43	0.00	0.00	0.00
9,700.00	90.00	179.71	6,745.00	-3,244.92	-445.38	3,259.34	0.00	0.00	0.00
9,800.00	90.00	179.71	6,745.00	-3,344.92	-444.88	3,359.24	0.00	0.00	0.00
9,900.00	90.00	179.71	6,745.00	-3,444.92	-444.38	3,459.15	0.00	0.00	0.00
10,000.00	90.00	179.71	6,745.00	-3,544.91	-443.88	3,559.06	0.00	0.00	0.00
10,100.00	90.00	179.71	6,745.00	-3,644.91	-443.38	3,658.97	0.00	0.00	0.00
10,200.00	90.00	179.71	6,745.00	-3,744.91	-442.89	3,758.88	0.00	0.00	0.00
10,300.00	90.00	179.71	6,745.00	-3,844.91	-442.39	3,858.79	0.00	0.00	0.00
10,400.00	90.00	179.71	6,745.00	-3,944.91	-441.89	3,958.70	0.00	0.00	0.00
10,500.00	90.00	179.71	6,745.00	-4,044.91	-441.39	4,058.61	0.00	0.00	0.00
10,600.00	90.00	179.71	6,745.00	-4,144.91	-440.89	4,158.52	0.00	0.00	0.00
10,700.00	90.00	179.71	6,745.00	-4,244.91	-440.39	4,258.43	0.00	0.00	0.00
10,800.00	90.00	179.71	6,745.00	-4,344.90	-439.90	4,358.34	0.00	0.00	0.00
10,900.00	90.00	179.71	6,745.00	-4,444.90	-439.40	4,458.25	0.00	0.00	0.00
11,000.00	90.00	179.71	6,745.00	-4,544.90	-438.90	4,558.16	0.00	0.00	0.00
11,100.00	90.00	179.71	6,745.00	-4,644.90	-438.40	4,658.07	0.00	0.00	0.00
11,200.00	90.00	179.71	6,745.00	-4,744.90	-437.90	4,757.98	0.00	0.00	0.00

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Guttersen D09-775
Company:	Northern Region - DJ Basin	TVD Reference:	Well @ 4755.00ft
Project:	Mustang	MD Reference:	Well @ 4755.00ft
Site:	C Section 33	North Reference:	Grid
Well:	Guttersen D09-775	Survey Calculation Method:	Minimum Curvature
Wellbore:	Guttersen D09-775		
Design:	Plan #1		

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)
11,300.00	90.00	179.71	6,745.00	-4,844.90	-437.40	4,857.89	0.00	0.00	0.00
11,400.00	90.00	179.71	6,745.00	-4,944.90	-436.91	4,957.80	0.00	0.00	0.00
11,500.00	90.00	179.71	6,745.00	-5,044.90	-436.41	5,057.71	0.00	0.00	0.00
11,600.00	90.00	179.71	6,745.00	-5,144.89	-435.91	5,157.62	0.00	0.00	0.00
11,700.00	90.00	179.71	6,745.00	-5,244.89	-435.41	5,257.53	0.00	0.00	0.00
11,800.00	90.00	179.71	6,745.00	-5,344.89	-434.91	5,357.44	0.00	0.00	0.00
11,900.00	90.00	179.71	6,745.00	-5,444.89	-434.41	5,457.35	0.00	0.00	0.00
12,000.00	90.00	179.71	6,745.00	-5,544.89	-433.91	5,557.26	0.00	0.00	0.00
12,100.00	90.00	179.71	6,745.00	-5,644.89	-433.42	5,657.17	0.00	0.00	0.00
12,200.00	90.00	179.71	6,745.00	-5,744.89	-432.92	5,757.08	0.00	0.00	0.00
12,300.00	90.00	179.71	6,745.00	-5,844.89	-432.42	5,856.99	0.00	0.00	0.00
12,400.00	90.00	179.71	6,745.00	-5,944.88	-431.92	5,956.90	0.00	0.00	0.00
12,500.00	90.00	179.71	6,745.00	-6,044.88	-431.42	6,056.81	0.00	0.00	0.00
12,600.00	90.00	179.71	6,745.00	-6,144.88	-430.92	6,156.72	0.00	0.00	0.00
12,700.00	90.00	179.71	6,745.00	-6,244.88	-430.43	6,256.63	0.00	0.00	0.00
12,800.00	90.00	179.71	6,745.00	-6,344.88	-429.93	6,356.54	0.00	0.00	0.00
12,900.00	90.00	179.71	6,745.00	-6,444.88	-429.43	6,456.45	0.00	0.00	0.00
13,000.00	90.00	179.71	6,745.00	-6,544.88	-428.93	6,556.36	0.00	0.00	0.00
13,100.00	90.00	179.71	6,745.00	-6,644.88	-428.43	6,656.27	0.00	0.00	0.00
13,200.00	90.00	179.71	6,745.00	-6,744.87	-427.93	6,756.18	0.00	0.00	0.00
13,300.00	90.00	179.71	6,745.00	-6,844.87	-427.44	6,856.09	0.00	0.00	0.00
13,400.00	90.00	179.71	6,745.00	-6,944.87	-426.94	6,956.00	0.00	0.00	0.00
13,500.00	90.00	179.71	6,745.00	-7,044.87	-426.44	7,055.91	0.00	0.00	0.00
13,600.00	90.00	179.71	6,745.00	-7,144.87	-425.94	7,155.82	0.00	0.00	0.00
13,700.00	90.00	179.71	6,745.00	-7,244.87	-425.44	7,255.73	0.00	0.00	0.00
13,800.00	90.00	179.71	6,745.00	-7,344.87	-424.94	7,355.64	0.00	0.00	0.00
13,900.00	90.00	179.71	6,745.00	-7,444.87	-424.45	7,455.55	0.00	0.00	0.00
14,000.00	90.00	179.71	6,745.00	-7,544.86	-423.95	7,555.45	0.00	0.00	0.00
14,100.00	90.00	179.71	6,745.00	-7,644.86	-423.45	7,655.36	0.00	0.00	0.00
14,200.00	90.00	179.71	6,745.00	-7,744.86	-422.95	7,755.27	0.00	0.00	0.00
14,300.00	90.00	179.71	6,745.00	-7,844.86	-422.45	7,855.18	0.00	0.00	0.00
14,400.00	90.00	179.71	6,745.00	-7,944.86	-421.95	7,955.09	0.00	0.00	0.00
14,500.00	90.00	179.71	6,745.00	-8,044.86	-421.45	8,055.00	0.00	0.00	0.00
14,600.00	90.00	179.71	6,745.00	-8,144.86	-420.96	8,154.91	0.00	0.00	0.00
14,700.00	90.00	179.71	6,745.00	-8,244.86	-420.46	8,254.82	0.00	0.00	0.00
14,800.00	90.00	179.71	6,745.00	-8,344.85	-419.96	8,354.73	0.00	0.00	0.00
14,900.00	90.00	179.71	6,745.00	-8,444.85	-419.46	8,454.64	0.00	0.00	0.00
15,000.00	90.00	179.71	6,745.00	-8,544.85	-418.96	8,554.55	0.00	0.00	0.00
15,100.00	90.00	179.71	6,745.00	-8,644.85	-418.46	8,654.46	0.00	0.00	0.00
15,200.00	90.00	179.71	6,745.00	-8,744.85	-417.97	8,754.37	0.00	0.00	0.00
15,300.00	90.00	179.71	6,745.00	-8,844.85	-417.47	8,854.28	0.00	0.00	0.00
15,400.00	90.00	179.71	6,745.00	-8,944.85	-416.97	8,954.19	0.00	0.00	0.00
15,500.00	90.00	179.71	6,745.00	-9,044.85	-416.47	9,054.10	0.00	0.00	0.00
15,600.00	90.00	179.71	6,745.00	-9,144.84	-415.97	9,154.01	0.00	0.00	0.00
15,700.00	90.00	179.71	6,745.00	-9,244.84	-415.47	9,253.92	0.00	0.00	0.00
15,800.00	90.00	179.71	6,745.00	-9,344.84	-414.98	9,353.83	0.00	0.00	0.00
15,900.00	90.00	179.71	6,745.00	-9,444.84	-414.48	9,453.74	0.00	0.00	0.00
16,000.00	90.00	179.71	6,745.00	-9,544.84	-413.98	9,553.65	0.00	0.00	0.00
16,100.00	90.00	179.71	6,745.00	-9,644.84	-413.48	9,653.56	0.00	0.00	0.00
16,200.00	90.00	179.71	6,745.00	-9,744.84	-412.98	9,753.47	0.00	0.00	0.00
16,300.00	90.00	179.71	6,745.00	-9,844.84	-412.48	9,853.38	0.00	0.00	0.00
16,400.00	90.00	179.71	6,745.00	-9,944.83	-411.99	9,953.29	0.00	0.00	0.00
16,500.00	90.00	179.71	6,745.00	-10,044.83	-411.49	10,053.20	0.00	0.00	0.00
16,600.00	90.00	179.71	6,745.00	-10,144.83	-410.99	10,153.11	0.00	0.00	0.00

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Guttersen D09-775
Company:	Northern Region - DJ Basin	TVD Reference:	Well @ 4755.00ft
Project:	Mustang	MD Reference:	Well @ 4755.00ft
Site:	C Section 33	North Reference:	Grid
Well:	Guttersen D09-775	Survey Calculation Method:	Minimum Curvature
Wellbore:	Guttersen D09-775		
Design:	Plan #1		

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)
16,700.00	90.00	179.71	6,745.00	-10,244.83	-410.49	10,253.02	0.00	0.00	0.00
16,800.00	90.00	179.71	6,745.00	-10,344.83	-409.99	10,352.93	0.00	0.00	0.00
16,900.00	90.00	179.71	6,745.00	-10,444.83	-409.49	10,452.84	0.00	0.00	0.00
17,000.00	90.00	179.71	6,745.00	-10,544.83	-409.00	10,552.75	0.00	0.00	0.00
17,100.00	90.00	179.71	6,745.00	-10,644.83	-408.50	10,652.66	0.00	0.00	0.00
17,200.00	90.00	179.71	6,745.00	-10,744.82	-408.00	10,752.57	0.00	0.00	0.00
17,300.00	90.00	179.71	6,745.00	-10,844.82	-407.50	10,852.48	0.00	0.00	0.00
17,313.15	90.00	179.71	6,745.00	-10,857.97	-407.43	10,865.62	0.00	0.00	0.00
TD @ 17313.15' MD/6745.00' TVD									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Guttersen D09-775-SI - hit/miss target - Shape - Point	0.00	0.00	0.00	0.00	0.00	1,340,051.65	3,262,298.38	40.2630250	-104.5600910
Guttersen D09-775-KI - plan hits target center - Point	0.00	0.01	6,129.06	-47.09	-282.56	1,340,004.56	3,262,015.83	40.2629040	-104.5611052
Guttersen D09-775-BI - plan hits target center - Point	0.00	0.00	6,745.00	-10,857.97	-407.43	1,329,193.70	3,261,890.95	40.2332324	-104.5619624
Guttersen D09-775-TI - plan hits target center - Point	0.00	0.00	6,745.00	-672.55	-414.50	1,339,379.11	3,261,883.89	40.2611910	-104.5616017

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
475.00	475.00	Pierre				
608.00	608.00	Upper Pierre Aquifer Top				
1,528.00	1,528.00	Upper Pierre Aquifer Base				
3,608.26	3,607.00	Parkman				
4,015.35	4,012.00	Sussex				
4,570.20	4,564.00	Shannon				
5,957.34	5,944.00	Teepee Buttes				
6,748.41	6,637.00	Sharon Springs				
6,800.17	6,664.00	Top A Chalk				
6,832.45	6,679.00	Top A Marl				
6,873.59	6,696.00	Top B Chalk				
7,018.17	6,736.00	Top B Marl				

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Guttersen D09-775
Company:	Northern Region - DJ Basin	TVD Reference:	Well @ 4755.00ft
Project:	Mustang	MD Reference:	Well @ 4755.00ft
Site:	C Section 33	North Reference:	Grid
Well:	Guttersen D09-775	Survey Calculation Method:	Minimum Curvature
Wellbore:	Guttersen D09-775		
Design:	Plan #1		

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
3,170.00	3,170.00	0.00	0.00	Build: 2°/100'	
3,460.66	3,460.16	-2.42	-14.53	Hold: 5.81° Inc, 260.54° Azm	
6,143.35	6,129.06	-47.09	-282.56	KOP: Build 9°/100' @ 6143.35' MD	
7,125.62	6,745.00	-672.55	-414.50	LP: 7125.62' MD, 90.00° Inc, 186.50° Azm	
7,325.62	6,745.00	-871.26	-437.14	Turn: 2°/100'	
7,664.90	6,745.00	-1,209.84	-455.52	Hold: 90.00° Inc, 179.71° Azm	
17,313.15	6,745.00	-10,857.97	-407.43	TD @ 17313.15' MD/6745.00' TVD	

Northern Region - DJ Basin

Mustang

C Section 33

Guttersen D09-775

Guttersen D09-775

Plan #1

Anticollision Summary Report

08 October, 2018

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D09-775
Project:	Mustang	TVD Reference:	Well @ 4755.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4755.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D09-775	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen D09-775	Database:	EDMP
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

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

Survey Tool Program		Date	10/8/2018		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.00	17,313.15	Plan #1 (Guttersen D09-775)	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	6,295.60	6,293.58	3,507.18	3,430.18	45.551	CC
HENNINGTON C #32-10(PR) - Wellbore #1 - No Surveys	6,300.00	6,297.80	3,507.18	3,430.14	45.520	ES
HENNINGTON C #32-10(PR) - Wellbore #1 - No Surveys	6,800.00	6,678.92	3,585.49	3,503.60	43.782	SF
HENNINGTON C #32-2(PR) - Wellbore #1 - No Surveys	6,184.05	6,185.48	5,366.20	5,290.48	70.872	CC
HENNINGTON C #32-2(PR) - Wellbore #1 - No Surveys	6,200.00	6,201.27	5,366.35	5,290.44	70.693	ES
HENNINGTON C #32-2(PR) - Wellbore #1 - No Surveys	6,700.00	6,624.60	5,514.12	5,432.95	67.939	SF
HENNINGTON C #32-7(PA) - Wellbore #1 - Gyro Survey	6,204.44	6,161.06	4,450.17	4,407.03	103.136	CC, ES
HENNINGTON C #32-7(PA) - Wellbore #1 - Gyro Survey	6,700.00	6,479.68	4,566.66	4,520.83	99.651	SF
HOWELL #1(SI) - Wellbore #1 - No Surveys	6,805.53	6,711.59	5,254.16	5,172.03	63.970	CC, ES
HOWELL #1(SI) - Wellbore #1 - No Surveys	7,325.62	6,790.00	5,297.87	5,213.87	63.069	SF
HOWELL #32-1(SI) - Wellbore #1 - No Surveys	6,267.06	6,280.02	5,200.40	5,123.62	67.725	CC
HOWELL #32-1(SI) - Wellbore #1 - No Surveys	6,300.00	6,311.80	5,200.76	5,123.58	67.387	ES
HOWELL #32-1(SI) - Wellbore #1 - No Surveys	6,850.00	6,715.55	5,312.40	5,230.06	64.518	SF
HOWELL #32-2(SI) - Wellbore #1 - No Surveys	6,213.22	6,221.32	5,979.28	5,903.17	78.559	CC, ES
HOWELL #32-2(SI) - Wellbore #1 - No Surveys	6,800.00	6,686.92	6,132.28	6,050.31	74.818	SF
HOWELL #32-23(PR) - Wellbore #1 - No Surveys	6,289.34	6,328.56	6,372.67	6,295.39	82.462	CC
HOWELL #32-23(PR) - Wellbore #1 - No Surveys	6,300.00	6,338.80	6,372.70	6,295.29	82.328	ES
HOWELL #32-23(PR) - Wellbore #1 - No Surveys	6,950.00	6,777.05	6,499.37	6,416.26	78.200	SF
HOWELL #C 32-12(SI) - Wellbore #1 - No Surveys	6,527.81	6,555.59	5,976.40	5,896.39	74.700	CC
HOWELL #C 32-12(SI) - Wellbore #1 - No Surveys	6,550.00	6,573.18	5,976.48	5,896.25	74.494	ES
HOWELL #C 32-12(SI) - Wellbore #1 - No Surveys	7,100.00	6,814.49	6,035.39	5,951.64	72.068	SF
MCGUIRK-HOWELL C #32-11(SI) - Wellbore #1 - No Su	6,378.72	6,384.73	4,771.88	4,693.83	61.136	CC
MCGUIRK-HOWELL C #32-11(SI) - Wellbore #1 - No Su	6,400.00	6,404.11	4,771.97	4,693.68	60.950	ES
MCGUIRK-HOWELL C #32-11(SI) - Wellbore #1 - No Su	6,950.00	6,749.05	4,848.05	4,765.18	58.506	SF
MCGUIRK-HOWELL C #32-14(TA) - Wellbore #1 - No Si	6,955.86	6,756.61	4,556.22	4,473.34	54.973	CC, ES
MCGUIRK-HOWELL C #32-14(TA) - Wellbore #1 - No Si	7,400.00	6,779.00	4,588.10	4,504.02	54.567	SF
MCGUIRK-HOWELL C #32-4(SI) - Wellbore #1 - No Sur	6,232.06	6,287.85	7,147.22	7,070.47	93.126	CC
MCGUIRK-HOWELL C #32-4(SI) - Wellbore #1 - No Sur	6,250.00	6,305.41	7,147.35	7,070.39	92.866	ES
MCGUIRK-HOWELL C #32-4(SI) - Wellbore #1 - No Sur	6,900.00	6,776.63	7,318.84	7,235.86	88.195	SF
NELSON #32-25(PR) - Wellbore #1 - No Surveys	6,244.49	6,289.03	6,233.31	6,156.51	81.167	CC
NELSON #32-25(PR) - Wellbore #1 - No Surveys	6,250.00	6,294.41	6,233.32	6,156.46	81.097	ES
NELSON #32-25(PR) - Wellbore #1 - No Surveys	6,850.00	6,746.55	6,366.84	6,284.23	77.071	SF
PLUSS #32-43(PA) - Wellbore #1 - Gyro Surveys	6,908.04	6,589.94	3,388.67	3,341.92	72.491	CC, ES
PLUSS #32-43(PA) - Wellbore #1 - Gyro Surveys	7,400.00	6,600.00	3,432.17	3,384.25	71.626	SF
PTF #C 32-1(SI) - Wellbore #1 - No Surveys	6,164.06	6,157.65	4,442.58	4,367.16	58.909	CC, ES
PTF #C 32-1(SI) - Wellbore #1 - No Surveys	6,600.00	6,549.04	4,566.34	4,486.11	56.913	SF
PTF #C 32-16(SI) - Wellbore #1 - No Surveys	6,665.84	6,595.82	1,834.58	1,753.83	22.718	CC, ES

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D09-775
Project:	Mustang	TVD Reference:	Well @ 4755.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4755.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D09-775	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen D09-775	Database:	EDMP
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
C Section 32						
PTF #C 32-16(SI) - Wellbore #1 - No Surveys	6,900.00	6,714.63	1,850.95	1,768.52	22.455	SF
PTF #C 32-8(SI) - Wellbore #1 - No Surveys	6,181.12	6,164.58	3,242.92	3,167.39	42.938	CC
PTF #C 32-8(SI) - Wellbore #1 - No Surveys	6,200.00	6,183.27	3,243.13	3,167.37	42.810	ES
PTF #C 32-8(SI) - Wellbore #1 - No Surveys	6,550.00	6,501.18	3,322.51	3,242.83	41.699	SF
PTF #C 32-9(SI) - Wellbore #1 - No Surveys	6,238.53	6,223.19	2,244.64	2,168.44	29.456	CC
PTF #C 32-9(SI) - Wellbore #1 - No Surveys	6,250.00	6,234.41	2,244.69	2,168.35	29.403	ES
PTF #C 32-9(SI) - Wellbore #1 - No Surveys	6,550.00	6,503.18	2,284.25	2,204.57	28.670	SF

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D09-775
Project:	Mustang	TVD Reference:	Well @ 4755.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4755.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D09-775	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen D09-775	Database:	EDMP
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
C Section 33						
GUTTERSEN C #33-31D - GUTTERSEN C #33-31D OH	715.84	749.33	2,363.72	2,360.07	647.493	CC, ES
GUTTERSEN C #33-31D - GUTTERSEN C #33-31D OH	6,500.00	6,666.71	3,841.17	3,794.27	81.900	SF
GUTTERSEN C #33-32 - Wellbore #1 - No Surveys	6,164.99	6,159.57	2,280.46	2,014.72	8.581	CC
GUTTERSEN C #33-32 - Wellbore #1 - No Surveys	6,200.00	6,205.73	2,281.28	2,013.56	8.521	ES
GUTTERSEN C #33-32 - Wellbore #1 - No Surveys	6,400.00	6,385.11	2,317.25	2,041.67	8.409	SF
GUTTERSEN C #33-33D - GUTTERSEN C #33-33D OH	6,204.88	6,331.79	1,565.21	1,514.40	30.809	CC, ES
GUTTERSEN C #33-33D - GUTTERSEN C #33-33D OH	6,400.00	6,548.53	1,577.41	1,525.55	30.417	SF
Guttersen C28-715 - Guttersen C28-715 - Plan #1	2,200.00	2,193.00	2,110.07	2,094.79	138.079	CC, ES
Guttersen C28-715 - Guttersen C28-715 - Plan #1	8,700.00	6,100.65	3,952.90	3,902.62	78.619	SF
Guttersen C28-725 - Guttersen C28-725 - Plan #1	2,200.00	2,191.00	2,087.78	2,072.50	136.684	CC, ES
Guttersen C28-725 - Guttersen C28-725 - Plan #1	6,950.00	6,950.00	3,152.73	3,104.01	64.712	SF
Guttersen C28-735 - Guttersen C28-735 - Plan #1	2,200.00	2,190.00	2,065.20	2,049.93	135.238	CC
Guttersen C28-735 - Guttersen C28-735 - Plan #1	2,400.00	2,372.24	2,066.02	2,049.42	124.493	ES
Guttersen C28-735 - Guttersen C28-735 - Plan #1	6,750.00	7,255.72	2,504.19	2,456.36	52.354	SF
Guttersen C28-745 - Guttersen C28-745 - Plan #1	6,466.00	7,338.14	1,829.12	1,782.00	38.820	CC, ES
Guttersen C28-745 - Guttersen C28-745 - Plan #1	6,650.00	7,225.48	1,838.47	1,790.83	38.596	SF
Guttersen C28-750 - Guttersen C28-750 - Plan #1	6,643.47	7,446.43	1,542.93	1,494.43	31.812	CC
Guttersen C28-750 - Guttersen C28-750 - Plan #1	6,650.00	7,441.75	1,542.94	1,494.42	31.797	ES
Guttersen C28-750 - Guttersen C28-750 - Plan #1	6,800.00	7,331.43	1,549.41	1,500.45	31.645	SF
Guttersen C28-755 - Guttersen C28-755 - Plan #1	2,200.00	2,198.00	164.57	149.27	10.756	CC, ES
Guttersen C28-755 - Guttersen C28-755 - Plan #1	2,400.00	2,387.27	170.86	154.24	10.277	SF
Guttersen C28-765 - Guttersen C28-765 - Plan #1	2,200.00	2,198.00	156.62	141.32	10.237	CC, ES
Guttersen C28-765 - Guttersen C28-765 - Plan #1	2,400.00	2,387.56	163.05	146.43	9.811	SF
Guttersen C28-770 - Guttersen C28-770 - Plan #1	2,200.00	2,198.00	151.90	136.60	9.928	CC, ES
Guttersen C28-770 - Guttersen C28-770 - Plan #1	7,100.00	6,931.53	280.73	232.50	5.820	SF
Guttersen C28-775 - Guttersen C28-775 - Plan #1	7,073.57	6,930.08	48.16	0.47	1.010	Level 2, CC, ES, SF
Guttersen C28-785 - Guttersen C28-785 - Plan #1	2,200.00	2,199.00	151.63	136.33	9.909	CC, ES
Guttersen C28-785 - Guttersen C28-785 - Plan #1	2,400.00	2,391.11	156.68	140.03	9.409	SF
GUTTERSEN D #03-30D - Wellbore #1 - No Surveys	3,170.00	3,129.00	539.10	404.81	4.014	CC
GUTTERSEN D #03-30D - Wellbore #1 - No Surveys	3,300.00	3,258.96	541.99	402.06	3.873	ES
GUTTERSEN D #03-30D - Wellbore #1 - No Surveys	6,250.00	6,206.59	835.99	567.87	3.118	SF
Guttersen D09-721 - Guttersen D09-721 - Plan #1	2,200.00	2,197.00	2,061.52	2,046.22	134.775	CC, ES
Guttersen D09-721 - Guttersen D09-721 - Plan #1	17,313.96	17,566.03	3,556.94	3,372.73	19.309	SF
Guttersen D09-745 - Guttersen D09-745 - Plan #1	6,244.85	6,480.33	1,885.37	1,840.76	42.259	CC
Guttersen D09-745 - Guttersen D09-745 - Plan #1	17,301.51	17,392.37	1,957.57	1,773.37	10.628	ES, SF
Guttersen D09-750 - Guttersen D09-750 - Plan #1	6,508.77	6,831.95	1,597.46	1,550.55	34.051	CC
Guttersen D09-750 - Guttersen D09-750 - Plan #1	17,302.06	17,559.29	1,642.00	1,456.97	8.874	ES, SF
Guttersen D09-755 - Guttersen D09-755 - Plan #1	2,200.00	2,199.00	67.54	52.24	4.413	CC, ES
Guttersen D09-755 - Guttersen D09-755 - Plan #1	2,300.00	2,296.69	69.21	53.21	4.327	SF
Guttersen D09-765 - Guttersen D09-765 - Plan #1	3,170.00	3,170.00	45.22	22.95	2.031	CC
Guttersen D09-765 - Guttersen D09-765 - Plan #1	3,200.00	3,200.00	45.37	22.90	2.019	ES, SF
Guttersen D09-770 - Guttersen D09-770 - Plan #1	3,170.00	3,170.00	22.61	0.35	1.016	Level 2, CC
Guttersen D09-770 - Guttersen D09-770 - Plan #1	3,200.00	3,200.00	22.76	0.29	1.013	Level 2, ES, SF
Guttersen D09-785 - Guttersen D09-785 - Plan #1	2,200.00	2,200.00	22.33	7.02	1.459	Level 3, CC, ES, SF
LINDSAY #33-1 - LINDSAY #33-1 OH - As-Drilled	3,202.54	3,186.13	1,801.71	1,779.50	81.149	CC, ES
LINDSAY #33-1 - LINDSAY #33-1 OH - As-Drilled	6,550.00	6,464.74	2,136.93	2,091.71	47.249	SF
LINDSAY #33-3 - Wellbore #1 - No Surveys	3,170.00	3,136.00	2,879.20	2,744.63	21.395	CC
LINDSAY #33-3 - Wellbore #1 - No Surveys	6,143.35	6,104.94	2,983.83	2,720.06	11.312	ES
LINDSAY #33-3 - Wellbore #1 - No Surveys	6,350.00	6,303.87	3,025.12	2,752.68	11.104	SF
LINDSAY #33-4 - Wellbore #1 - No Surveys	3,170.00	3,136.00	3,380.25	3,245.68	25.119	CC
LINDSAY #33-4 - Wellbore #1 - No Surveys	3,400.00	3,365.75	3,386.39	3,241.84	23.428	ES
LINDSAY #33-4 - Wellbore #1 - No Surveys	6,450.00	6,386.46	3,661.18	3,385.17	13.265	SF
LINDSAY #33-5 - Wellbore #1 - No Surveys	3,170.00	3,121.00	2,373.61	2,239.64	17.717	CC

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

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D09-775
Project:	Mustang	TVD Reference:	Well @ 4755.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4755.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D09-775	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen D09-775	Database:	EDMP
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Separation Factor	Warning
C Section 33						
LINDSAY #33-5 - Wellbore #1 - No Surveys	3,300.00	3,250.96	2,376.14	2,236.53	17.020	ES
LINDSAY #33-5 - Wellbore #1 - No Surveys	6,400.00	6,327.11	2,681.20	2,407.75	9.805	SF
LINDSAY #33-6 - Wellbore #1 - No Surveys	3,170.00	2,744.00	1,597.45	1,478.56	13.436	CC
LINDSAY #33-6 - Wellbore #1 - No Surveys	3,460.66	3,034.16	1,604.21	1,472.72	12.200	ES
LINDSAY #33-6 - Wellbore #1 - No Surveys	6,300.00	5,856.80	1,773.78	1,519.41	6.973	SF
LINDSAY #33-7 - Wellbore #1 - No Surveys	3,170.00	3,144.00	4,184.32	4,049.43	31.020	CC
LINDSAY #33-7 - Wellbore #1 - No Surveys	6,150.00	6,109.67	4,270.89	4,006.89	16.178	ES
LINDSAY #33-7 - Wellbore #1 - No Surveys	6,450.00	6,405.54	4,352.87	4,076.04	15.724	SF
LINDSAY #33-8 - Wellbore #1 - No Surveys	3,170.00	3,147.00	4,529.03	4,394.02	33.546	CC
LINDSAY #33-8 - Wellbore #1 - No Surveys	3,400.00	3,376.75	4,533.98	4,389.00	31.272	ES
LINDSAY #33-8 - Wellbore #1 - No Surveys	6,550.00	6,480.18	4,829.36	4,549.30	17.244	SF
LINDSAY #C33-10 - Wellbore #1 - No Surveys	5,376.01	5,355.66	4,277.89	4,046.81	18.512	CC
LINDSAY #C33-10 - Wellbore #1 - No Surveys	6,150.00	6,125.67	4,278.65	4,013.99	16.167	ES
LINDSAY #C33-10 - Wellbore #1 - No Surveys	6,550.00	6,506.82	4,401.19	4,119.99	15.651	SF
LINDSAY #C33-11 - LINDSAY #C33-11 OH - As-Drilled	1,770.05	1,755.10	2,958.74	2,946.67	245.067	CC
LINDSAY #C33-11 - LINDSAY #C33-11 OH - As-Drilled	2,200.00	2,159.75	2,960.87	2,945.85	197.098	ES
LINDSAY #C33-11 - LINDSAY #C33-11 OH - As-Drilled	6,400.00	6,395.18	3,063.36	3,018.67	68.553	SF
LINDSAY #C33-12 - Wellbore #1 - No Surveys	6,155.49	6,118.13	1,651.80	1,387.42	6.248	CC
LINDSAY #C33-12 - Wellbore #1 - No Surveys	6,200.00	6,162.27	1,653.21	1,386.91	6.208	ES
LINDSAY #C33-12 - Wellbore #1 - No Surveys	6,350.00	6,307.13	1,678.72	1,406.11	6.158	SF
LINDSAY #C33-13 - LINDSAY #C33-13 OH - As-Drilled	6,309.88	6,279.08	619.72	575.81	14.115	CC, ES
LINDSAY #C33-13 - LINDSAY #C33-13 OH - As-Drilled	6,400.00	6,364.14	622.68	578.18	13.991	SF
LINDSAY #C33-14 - Wellbore #1 - No Surveys	3,170.00	3,146.00	5,190.11	5,055.14	38.454	CC
LINDSAY #C33-14 - Wellbore #1 - No Surveys	3,300.00	3,275.96	5,192.23	5,051.62	36.926	ES
LINDSAY #C33-14 - Wellbore #1 - No Surveys	6,600.00	6,517.04	5,564.03	5,282.40	19.757	SF
LINDSAY #C33-15 - Wellbore #1 - No Surveys	3,170.00	3,132.00	4,217.66	4,083.45	31.426	CC
LINDSAY #C33-15 - Wellbore #1 - No Surveys	3,300.00	3,261.96	4,220.13	4,080.28	30.176	ES
LINDSAY #C33-15 - Wellbore #1 - No Surveys	6,600.00	6,503.04	4,611.80	4,330.95	16.421	SF
LINDSAY #C33-16 - Wellbore #1 - No Surveys	3,170.00	3,119.00	3,131.92	2,998.03	23.392	CC
LINDSAY #C33-16 - Wellbore #1 - No Surveys	3,300.00	3,248.96	3,134.86	2,995.33	22.467	ES
LINDSAY #C33-16 - Wellbore #1 - No Surveys	6,750.00	6,586.88	3,534.01	3,249.19	12.408	SF
LINDSAY #C33-9 - Wellbore #1 - No Surveys	3,170.00	3,114.00	3,490.64	3,356.95	26.110	CC
LINDSAY #C33-9 - Wellbore #1 - No Surveys	3,300.00	3,243.96	3,493.45	3,354.12	25.073	ES
LINDSAY #C33-9 - Wellbore #1 - No Surveys	6,600.00	6,485.04	3,890.54	3,610.21	13.878	SF
LINDSAY C #33-17 - Wellbore #1 - No Surveys	3,170.00	3,145.00	4,182.55	4,047.62	30.998	CC
LINDSAY C #33-17 - Wellbore #1 - No Surveys	3,400.00	3,374.75	4,188.78	4,043.87	28.907	ES
LINDSAY C #33-17 - Wellbore #1 - No Surveys	6,450.00	6,404.54	4,465.04	4,188.31	16.135	SF
LINDSAY C #33-18 - Wellbore #1 - As-Drilled	1,172.61	1,158.67	3,409.72	3,394.36	222.087	CC
LINDSAY C #33-18 - Wellbore #1 - As-Drilled	1,300.00	1,241.00	3,410.56	3,393.66	201.804	ES
LINDSAY C #33-18 - Wellbore #1 - As-Drilled	6,400.00	6,445.90	3,875.18	3,759.65	33.543	SF
LINDSAY C #33-19 - Wellbore #1 - No Surveys	3,170.00	3,153.00	3,450.03	3,314.78	25.508	CC
LINDSAY C #33-19 - Wellbore #1 - No Surveys	6,150.00	6,118.67	3,485.05	3,220.69	13.183	ES
LINDSAY C #33-19 - Wellbore #1 - No Surveys	6,450.00	6,403.46	3,561.90	3,285.14	12.870	SF
LINDSAY C #33-20 - Wellbore #1 - No Surveys	3,170.00	3,149.00	1,995.11	1,860.02	14.769	CC
LINDSAY C #33-20 - Wellbore #1 - No Surveys	6,150.00	6,114.67	2,037.24	1,773.03	7.711	ES
LINDSAY C #33-20 - Wellbore #1 - No Surveys	6,350.00	6,309.13	2,074.78	1,802.10	7.609	SF
LINDSAY C #33-21 - Wellbore #1 - No Surveys	3,170.00	3,132.00	2,317.98	2,183.57	17.246	CC
LINDSAY C #33-21 - Wellbore #1 - No Surveys	3,400.00	3,361.75	2,323.79	2,179.41	16.095	ES
LINDSAY C #33-21 - Wellbore #1 - No Surveys	6,350.00	6,307.87	2,551.37	2,278.81	9.361	SF
LINDSAY C #33-22 - Wellbore #1 - No Surveys	3,170.00	3,129.00	3,182.79	3,048.49	23.701	CC
LINDSAY C #33-22 - Wellbore #1 - No Surveys	3,300.00	3,258.96	3,185.33	3,045.40	22.764	ES
LINDSAY C #33-22 - Wellbore #1 - No Surveys	6,500.00	6,421.90	3,530.88	3,253.34	12.722	SF
LINDSAY C #33-23 - Wellbore #1 - No Surveys	3,170.00	3,118.00	2,577.17	2,443.32	19.254	CC

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersten D09-775
Project:	Mustang	TVD Reference:	Well @ 4755.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4755.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersten D09-775	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersten D09-775	Database:	EDMP
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
C Section 33						
LINDSAY C #33-23 - Wellbore #1 - No Surveys	3,300.00	3,247.96	2,580.07	2,440.58	18.496	ES
LINDSAY C #33-23 - Wellbore #1 - No Surveys	6,550.00	6,451.18	2,952.43	2,673.59	10.588	SF
LINDSAY C #33-24 - Wellbore #1 - No Surveys	3,170.00	3,129.00	1,404.96	1,270.67	10.462	CC
LINDSAY C #33-24 - Wellbore #1 - No Surveys	3,300.00	3,258.96	1,407.57	1,267.64	10.059	ES
LINDSAY C #33-24 - Wellbore #1 - No Surveys	6,250.00	6,206.59	1,679.58	1,411.45	6.264	SF
LINDSAY C #33-25 - Wellbore #1 - No Surveys	3,170.00	3,141.00	775.24	640.47	5.752	CC
LINDSAY C #33-25 - Wellbore #1 - No Surveys	6,150.00	6,106.67	831.29	567.42	3.150	ES
LINDSAY C #33-25 - Wellbore #1 - No Surveys	6,200.00	6,156.27	835.60	569.57	3.141	SF
D Section 03						
Becca D03-32D - Wellbore #1 - Wellbore #1- As Drilled	9,563.91	6,826.14	4,168.22	4,109.19	70.621	CC
Becca D03-32D - Wellbore #1 - Wellbore #1- As Drilled	9,600.00	6,825.94	4,168.37	4,109.12	70.349	ES
Becca D03-32D - Wellbore #1 - Wellbore #1- As Drilled	11,800.00	6,814.31	4,730.12	4,652.12	60.646	SF

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D09-775
Project:	Mustang	TVD Reference:	Well @ 4755.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4755.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D09-775	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen D09-775	Database:	EDMP
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
D Section 04						
Burghart D04-22 - Wellbore #1 - Wellbore #1- As Drilled	9,407.39	6,698.55	2,940.47	2,883.74	51.826	CC, ES
Burghart D04-22 - Wellbore #1 - Wellbore #1- As Drilled	10,000.00	6,690.93	2,999.58	2,940.21	50.523	SF
Gittlein Blue D04-08 - Wellbore #1 - Wellbore #1- As Drill	8,961.37	6,668.44	3,528.02	3,473.88	65.171	CC, ES
Gittlein Blue D04-08 - Wellbore #1 - Wellbore #1- As Drill	9,800.00	6,656.34	3,626.31	3,568.51	62.737	SF
GITTLEIN D #04-24(PR) - GITTLEIN D #04-24 - No Surv	10,943.86	6,709.00	1,516.72	1,339.15	8.541	CC, ES
GITTLEIN D #04-24(PR) - GITTLEIN D #04-24 - No Surv	11,000.00	6,709.00	1,517.76	1,339.93	8.535	SF
Gittlein D #04-33(PR) - Gittlein D #04-33 - No Surveys	10,925.04	6,713.00	777.54	600.02	4.380	CC, ES, SF
GUTTERSEN D #04-32(PR) - GUTTERSEN D #04-32 -	9,417.55	6,735.00	834.49	666.21	4.959	CC, ES, SF
Guttersen D 04-18(PR) - Guttersen D 04-18 - Wellbore #	8,245.71	6,699.58	1,333.67	1,293.45	33.165	CC, ES
Guttersen D 04-18(PR) - Guttersen D 04-18 - Wellbore #	8,400.00	6,699.47	1,342.56	1,301.95	33.061	SF
Guttersen D 04-21(SI) - Guttersen D 04-21 - Wellbore #1	9,714.30	6,714.62	1,800.80	1,752.40	37.202	CC, ES
Guttersen D 04-21(SI) - Guttersen D 04-21 - Wellbore #1	9,900.00	6,715.09	1,810.34	1,761.16	36.815	SF
Guttersen D03-33D - Wellbore #1 - Wellbore #1- As Drill	10,754.62	6,765.86	4,051.45	3,982.48	58.742	CC, ES
Guttersen D03-33D - Wellbore #1 - Wellbore #1- As Drill	11,600.00	6,770.50	4,138.70	4,066.00	56.928	SF
Guttersen D04-30D - Plan B - Plan B	7,020.68	6,784.62	1,148.78	1,101.79	24.451	CC, ES
Guttersen D04-30D - Plan B - Plan B	7,050.00	6,788.66	1,149.21	1,102.17	24.432	SF
Guttersen D04-31D - Plan B - Plan B	8,277.66	6,949.12	1,082.85	1,025.97	19.037	CC, ES
Guttersen D04-31D - Plan B - Plan B	8,400.00	6,945.32	1,089.74	1,031.80	18.808	SF
Guttersen D04-69HN - Original Drilling - Original Drilling	6,875.49	7,276.79	104.47	76.06	3.678	CC
Guttersen D04-69HN - Original Drilling - Original Drilling	6,900.00	7,274.44	107.74	72.50	3.058	ES
Guttersen D04-69HN - Original Drilling - Original Drilling	6,950.00	7,269.58	131.60	86.34	2.908	SF
Karch Blue D04-02 - Wellbore #1 - Wellbore #1- As Drille	451.76	409.89	2,198.82	2,196.17	830.841	CC
Karch Blue D04-02 - Wellbore #1 - Wellbore #1- As Drille	3,217.71	3,199.14	2,212.13	2,189.83	99.231	ES
Karch Blue D04-02 - Wellbore #1 - Wellbore #1- As Drille	8,000.00	6,587.65	2,411.10	2,361.98	49.079	SF
Karch Blue D04-07 - Wellbore #1 - Wellbore #1- As Drille	9,011.61	6,662.01	2,239.92	2,185.56	41.207	CC, ES
Karch Blue D04-07 - Wellbore #1 - Wellbore #1- As Drille	9,300.00	6,659.29	2,258.41	2,202.91	40.692	SF
Karch D04-17 - Wellbore #1 - Wellbore #1- As Drilled	8,277.75	6,717.55	2,929.76	2,878.72	57.403	CC, ES
Karch D04-17 - Wellbore #1 - Wellbore #1- As Drilled	8,900.00	6,711.24	2,995.10	2,941.83	56.229	SF
MARIE #D4-11(PR) - MARIE #D4-11 - No Surveys	10,205.25	6,703.00	1,163.65	991.14	6.746	CC, ES, SF
MARIE D #04-20(PR) - MARIE D #04-20 - No Surveys	9,531.00	6,713.00	311.62	143.11	1.849	CC, ES, SF
MARIE D #4-12(PR) - MARIE D #4-12 - No Surveys	10,226.40	6,715.00	267.84	94.96	1.549	CC, ES, SF
MARIE D #4-13 (PR) - MARIE D #4-13 - No Surveys	11,564.18	6,709.00	154.30	27.63	0.848	Level 1, CC, ES, SF
MARIE D #4-14(PR) - MARIE D #4-14 - No Surveys	11,556.28	6,707.00	992.90	811.07	5.460	CC, ES, SF
MARIE D #4-19 (SI) - MARIE D #4-19 - No Surveys	8,214.55	6,723.00	552.63	390.71	3.413	CC, ES, SF
MARIE D #4-25(PR) - MARIE D #4-25 - No Surveys	10,765.51	6,708.00	391.11	214.78	2.218	CC, ES, SF
MARIE D #4-3(SI) - MARIE D #4-3 - No Surveys	7,571.77	6,705.00	983.59	824.25	6.173	CC, ES
MARIE D #4-3(SI) - MARIE D #4-3 - No Surveys	7,600.00	6,705.00	983.85	824.47	6.173	SF
MARIE D #4-4(SI) - MARIE D #4-4 - No Surveys	7,617.73	6,725.00	383.36	223.51	2.398	CC, ES, SF
MARIE D #4-5(SI) - MARIE D #4-5 - No Surveys	8,911.11	6,720.00	362.83	197.67	2.197	CC, ES, SF
MARIE D #4-6(SI) - MARIE D #4-6 - No Surveys	9,020.93	6,704.00	970.24	804.81	5.865	CC, ES, SF
Marie D04-09 - Wellbore #1 - Wellbore #1- As Drilled	10,181.73	6,741.09	3,572.04	3,510.34	57.902	CC
Marie D04-09 - Wellbore #1 - Wellbore #1- As Drilled	10,200.00	6,741.18	3,572.08	3,510.29	57.805	ES
Marie D04-09 - Wellbore #1 - Wellbore #1- As Drilled	11,000.00	6,744.46	3,664.56	3,598.77	55.700	SF
Marie D04-10 - Wellbore #1 - Wellbore #1- As Drilled	10,347.29	6,689.79	2,337.57	2,275.03	37.376	CC, ES
Marie D04-10 - Wellbore #1 - Wellbore #1- As Drilled	10,700.00	6,689.16	2,364.03	2,299.88	36.849	SF
Marie D04-15 - Wellbore #1 - Wellbore #1- As Drilled	11,536.26	6,705.18	2,292.25	2,221.46	32.382	CC, ES
Marie D04-15 - Wellbore #1 - Wellbore #1- As Drilled	11,800.00	6,706.03	2,307.37	2,235.28	32.006	SF
Marie D04-16 - Wellbore #1 - Wellbore #1- As Drilled	11,461.08	6,684.03	3,550.34	3,480.17	50.595	CC
Marie D04-16 - Wellbore #1 - Wellbore #1- As Drilled	11,500.00	6,684.14	3,550.56	3,480.14	50.424	ES
Marie D04-16 - Wellbore #1 - Wellbore #1- As Drilled	12,200.00	6,686.31	3,626.42	3,552.38	48.980	SF
Marie D04-23 - Wellbore #1 - Wellbore #1-As Drilled	10,866.21	6,693.40	2,940.03	2,873.98	44.516	CC
Marie D04-23 - Wellbore #1 - Wellbore #1-As Drilled	10,900.00	6,693.43	2,940.22	2,873.98	44.388	ES
Marie D04-23 - Wellbore #1 - Wellbore #1-As Drilled	11,400.00	6,693.88	2,988.09	2,919.40	43.501	SF

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersten D09-775
Project:	Mustang	TVD Reference:	Well @ 4755.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4755.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersten D09-775	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersten D09-775	Database:	EDMP
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
D Section 04						
Marie D04-72-1HN - Original Drilling - Original Drilling - A	6,950.00	11,395.00	3,879.52	3,768.79	35.036	SF
Marie D04-72-1HN - Original Drilling - Original Drilling - A	12,066.35	5,887.83	3,778.11	3,707.63	53.608	CC
Marie D04-72-1HN - Original Drilling - Original Drilling - A	12,100.00	5,888.88	3,778.26	3,707.54	53.427	ES
Marie D04-73-1HN - Original Drilling - Original Drilling - A	7,023.06	11,120.00	3,078.26	2,969.35	28.264	CC
Marie D04-73-1HN - Original Drilling - Original Drilling - A	7,050.00	11,120.00	3,078.32	2,969.34	28.246	ES
Marie D04-73-1HN - Original Drilling - Original Drilling - A	7,200.00	11,120.00	3,081.20	2,971.95	28.203	SF
Marie D04-74-1HN - Original Drilling - Original Drilling - P	12,112.14	6,741.86	2,604.70	2,531.84	35.751	CC, ES
Marie D04-74-1HN - Original Drilling - Original Drilling - P	12,500.00	6,740.72	2,633.42	2,558.63	35.212	SF
Marie D04-74-1HN - Original Drilling - ST01 - ST-01- As	7,139.67	11,217.00	2,570.63	2,505.64	39.556	CC, ES
Marie D04-74-1HN - Original Drilling - ST01 - ST-01- As	12,500.00	6,362.47	2,688.21	2,615.17	36.806	SF
Two E Ranch 01-04 - Wellbore #1 - Wellbore #1- As Drill	1,834.32	1,783.39	3,044.12	3,031.71	245.370	CC
Two E Ranch 01-04 - Wellbore #1 - Wellbore #1- As Drill	3,200.00	3,161.22	3,046.22	3,024.12	137.797	ES
Two E Ranch 01-04 - Wellbore #1 - Wellbore #1- As Drill	8,300.00	6,689.84	3,337.66	3,287.16	66.092	SF

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D09-775
Project:	Mustang	TVD Reference:	Well @ 4755.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4755.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D09-775	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen D09-775	Database:	EDMP
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
D Section 05						
BECKER #15-9I(PR) - Wellbore #1 - Gyro Surveys	10,789.35	6,721.17	3,737.68	3,672.02	56.924	CC
BECKER #15-9I(PR) - Wellbore #1 - Gyro Surveys	10,800.00	6,721.05	3,737.69	3,671.95	56.855	ES
BECKER #15-9I(PR) - Wellbore #1 - Gyro Surveys	11,900.00	6,708.17	3,899.18	3,826.42	53.594	SF
BECKER #5-13(PA) - Wellbore #1 - No Surveys	10,318.88	6,758.00	4,295.33	4,197.17	43.758	CC, ES
BECKER #5-13(PA) - Wellbore #1 - No Surveys	11,400.00	6,758.00	4,429.30	4,324.01	42.070	SF
BECKER #5-14(PA) - Wellbore #1 - Gyro Surveys	10,800.00	10,800.00	5,604.52	5,525.00	70.477	SF
BECKER #5-14(PA) - Wellbore #1 - Gyro Surveys	11,478.72	6,655.56	5,563.46	5,493.21	79.188	CC
BECKER #5-14(PA) - Wellbore #1 - Gyro Surveys	11,500.00	6,653.67	5,563.51	5,493.09	79.013	ES
BECKER #5-16(PA) - Wellbore #1 - Gyro Surveys	10,191.13	6,784.70	1,839.85	1,778.02	29.756	CC
BECKER #5-16(PA) - Wellbore #1 - Gyro Surveys	10,200.00	6,784.76	1,839.88	1,777.97	29.722	ES
BECKER #5-16(PA) - Wellbore #1 - Gyro Surveys	10,500.00	6,786.79	1,865.60	1,801.62	29.162	SF
BECKER #5-2(PA) - Wellbore #1 - Gyro Surveys	11,358.73	6,820.50	4,580.16	4,510.26	65.528	CC
BECKER #5-2(PA) - Wellbore #1 - Gyro Surveys	11,400.00	6,820.20	4,580.35	4,510.13	65.235	ES
BECKER #5-2(PA) - Wellbore #1 - Gyro Surveys	12,800.00	6,808.84	4,801.56	4,722.31	60.590	SF
BECKER #5-5(PA) - Wellbore #1 - Gyro Surveys	11,462.54	6,715.38	1,827.90	1,757.61	26.004	CC, ES
BECKER #5-5(PA) - Wellbore #1 - Gyro Surveys	11,700.00	6,714.87	1,843.26	1,771.18	25.570	SF
BECKER #5-8(PR) - Wellbore #1 - Gyro Surveys	10,200.00	10,200.00	5,459.05	5,385.30	74.017	SF
BECKER #5-8(PR) - Wellbore #1 - Gyro Surveys	10,630.08	6,900.00	5,442.08	5,376.93	83.533	CC
BECKER #5-8(PR) - Wellbore #1 - Gyro Surveys	10,700.00	6,900.00	5,442.53	5,376.88	82.895	ES
BECKER #6(SI) - Wellbore #1 - Gyro Surveys	10,767.75	6,627.36	2,418.48	2,353.15	37.019	CC
BECKER #6(SI) - Wellbore #1 - Gyro Surveys	10,800.00	6,627.05	2,418.69	2,353.11	36.879	ES
BECKER #6(SI) - Wellbore #1 - Gyro Surveys	11,300.00	6,622.29	2,476.35	2,407.48	35.956	SF
Becker 5-1(PA) - Wellbore #1 - Gyro Surveys	10,234.95	6,738.60	3,041.05	2,979.00	49.009	CC, ES
Becker 5-1(PA) - Wellbore #1 - Gyro Surveys	11,000.00	6,731.10	3,135.80	3,068.81	46.809	SF
Becker 5-15(PA) - Wellbore #1 - Gyro Surveys	11,758.48	6,609.75	3,266.47	3,192.10	43.923	CC
Becker 5-15(PA) - Wellbore #1 - Gyro Surveys	11,800.00	6,607.30	3,266.73	3,192.07	43.751	ES
Becker 5-15(PA) - Wellbore #1 - Gyro Surveys	12,400.00	6,572.02	3,328.66	3,250.38	42.526	SF
Becker Ranch #5E-223 - Wellbore #1 - As Drilled	11,269.74	10,904.90	5,763.05	5,643.82	48.338	CC
Becker Ranch #5E-223 - Wellbore #1 - As Drilled	11,600.00	11,128.00	5,765.48	5,640.09	45.980	ES
Becker Ranch #5E-223 - Wellbore #1 - As Drilled	13,000.00	11,398.00	5,903.27	5,764.06	42.406	SF
Becker Ranch #5E-403 - As Drilled - As Drilled	0.00	54.02	5,897.71			
Becker Ranch #5E-403 - As Drilled - As Drilled	13,100.00	11,599.00	6,210.25	6,065.52	42.910	SF
Becker Ranch #5J-103 - Wellbore #1 - As Drilled	8,137.47	7,681.00	5,059.55	5,002.25	88.301	CC
Becker Ranch #5J-103 - Wellbore #1 - As Drilled	8,700.00	8,192.00	5,067.02	5,000.95	76.685	ES
Becker Ranch #5J-103 - Wellbore #1 - As Drilled	10,300.00	8,438.00	5,269.20	5,192.13	68.365	SF
Becker Ranch #5J-203 - Wellbore #1 - Plan #1	100.00	175.00	4,602.44	4,601.89	8,419.057	CC
Becker Ranch #5J-203 - Wellbore #1 - Plan #1	200.00	230.11	4,602.81	4,601.70	4,175.923	ES
Becker Ranch #5J-203 - Wellbore #1 - Plan #1	12,900.00	11,568.80	4,916.13	4,813.40	47.856	SF
Becker Ranch #5J-303 - Wellbore #1 - As Drilled	11,768.45	11,473.00	5,108.77	4,972.71	37.547	CC
Becker Ranch #5J-303 - Wellbore #1 - As Drilled	11,800.00	11,473.00	5,108.87	4,972.58	37.485	ES
Becker Ranch #5J-303 - Wellbore #1 - As Drilled	12,500.00	11,473.00	5,160.89	5,020.66	36.805	SF
Becker Ranch #5J-323 - Wellbore #1 - As Drilled	10,748.64	10,417.00	4,457.42	4,346.70	40.262	CC
Becker Ranch #5J-323 - Wellbore #1 - As Drilled	11,800.00	11,430.00	4,460.84	4,325.64	32.994	ES
Becker Ranch #5J-323 - Wellbore #1 - As Drilled	12,500.00	11,430.00	4,521.58	4,381.61	32.302	SF
Becker Ranch #5J-323R - Wellbore #1 - Plan #1	11,113.05	10,800.20	4,378.04	4,292.77	51.347	CC
Becker Ranch #5J-323R - Wellbore #1 - Plan #1	11,200.00	10,844.18	4,378.34	4,292.13	50.790	ES
Becker Ranch #5J-323R - Wellbore #1 - Plan #1	12,800.00	11,454.00	4,569.03	4,468.01	45.231	SF
Becker Ranch #5J-343 - Wellbore #1 - As Drilled	11,743.41	11,500.00	5,428.16	5,293.43	40.289	CC
Becker Ranch #5J-343 - Wellbore #1 - As Drilled	11,800.00	11,500.00	5,428.45	5,293.28	40.158	ES
Becker Ranch #5J-343 - Wellbore #1 - As Drilled	12,700.00	11,500.00	5,511.80	5,371.14	39.186	SF
Becker Ranch #5M-203 - Wellbore #1 - Plan #1	404.90	444.40	3,442.80	3,440.19	1,319.144	CC
Becker Ranch #5M-203 - Wellbore #1 - Plan #1	11,800.00	11,268.00	3,506.11	3,411.22	36.949	ES
Becker Ranch #5M-203 - Wellbore #1 - Plan #1	12,400.00	11,268.00	3,565.67	3,466.54	35.970	SF

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

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D09-775
Project:	Mustang	TVD Reference:	Well @ 4755.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4755.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D09-775	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen D09-775	Database:	EDMP
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Separation Factor	Warning
D Section 05						
Becker Ranch #5M-243 - Wellbore #1 - Plan #1	11,756.06	11,282.50	4,116.92	4,023.19	43.924	CC
Becker Ranch #5M-243 - Wellbore #1 - Plan #1	11,800.00	11,282.50	4,117.15	4,023.07	43.764	ES
Becker Ranch #5M-243 - Wellbore #1 - Plan #1	12,600.00	11,282.50	4,202.53	4,103.44	42.411	SF
Becker Ranch #5M-303 - Wellbore #1 - Plan #1	11,754.09	11,462.20	3,788.19	3,694.13	40.274	CC
Becker Ranch #5M-303 - Wellbore #1 - Plan #1	11,800.00	11,462.20	3,788.47	3,694.06	40.128	ES
Becker Ranch #5M-303 - Wellbore #1 - Plan #1	12,400.00	11,462.20	3,842.86	3,744.78	39.180	SF
Becker Ranch #5M-323 - Wellbore #1 - Plan #1	11,746.81	11,315.70	3,093.30	2,999.35	32.927	CC, ES
Becker Ranch #5M-323 - Wellbore #1 - Plan #1	12,300.00	11,315.70	3,142.37	3,044.69	32.167	SF
Becker Ranch #5M-423 - Wellbore #1 - Plan #1	11,747.80	11,437.50	3,305.72	3,211.74	35.175	CC
Becker Ranch #5M-423 - Wellbore #1 - Plan #1	11,800.00	11,437.50	3,306.13	3,211.70	35.009	ES
Becker Ranch #5M-423 - Wellbore #1 - Plan #1	12,300.00	11,437.50	3,351.53	3,253.57	34.216	SF
Becker Ranch #5R-203 - Wellbore #1 - Plan #1	11,738.31	11,257.60	2,160.51	2,066.41	22.959	CC, ES
Becker Ranch #5R-203 - Wellbore #1 - Plan #1	12,000.00	11,257.60	2,176.34	2,080.22	22.643	SF
Becker Ranch #5R-243 - Wellbore #1 - Plan #1	11,745.50	11,231.80	2,855.37	2,761.62	30.458	CC, ES
Becker Ranch #5R-243 - Wellbore #1 - Plan #1	12,200.00	11,231.80	2,891.31	2,794.59	29.892	SF
Becker Ranch #5R-303 - Wellbore #1 - Plan #1	11,736.81	11,319.79	2,443.32	2,349.19	25.956	CC, ES
Becker Ranch #5R-303 - Wellbore #1 - Plan #1	12,000.00	11,308.90	2,457.17	2,361.41	25.660	SF
Becker Ranch #5R-323 - Wellbore #1 - Plan #1	11,736.90	11,332.80	1,951.85	1,858.11	20.820	CC, ES
Becker Ranch #5R-323 - Wellbore #1 - Plan #1	12,000.00	11,332.80	1,969.52	1,873.93	20.605	SF
Becker Ranch #5R-443 - Wellbore #1 - Plan #1	11,745.09	11,417.20	2,804.14	2,710.36	29.901	CC, ES
Becker Ranch #5R-443 - Wellbore #1 - Plan #1	12,100.00	11,417.20	2,826.51	2,730.30	29.379	SF
Becker Ranch #5U-243 - Wellbore #1 - Plan #1	11,730.88	11,243.60	1,585.36	1,491.58	16.904	CC, ES
Becker Ranch #5U-243 - Wellbore #1 - Plan #1	11,900.00	11,243.60	1,594.36	1,499.49	16.807	SF
Becker Ranch #5U-303 - Wellbore #1 - Plan #1	11,726.43	11,352.79	1,173.96	1,079.67	12.451	CC, ES
Becker Ranch #5U-303 - Wellbore #1 - Plan #1	11,800.00	11,348.00	1,176.11	1,081.41	12.418	SF
Becker Ranch #5U-443 - Wellbore #1 - Plan #1	11,732.92	11,417.91	1,392.69	1,298.81	14.835	CC, ES
Becker Ranch #5U-443 - Wellbore #1 - Plan #1	11,800.00	11,407.70	1,394.48	1,300.17	14.786	SF
LDS #D08-18D(PR) - Wellbore #1 - MWD Surveys	13,561.30	7,211.46	3,545.05	3,445.16	35.490	CC, ES
LDS #D08-18D(PR) - Wellbore #1 - MWD Surveys	13,900.00	7,210.54	3,561.19	3,460.19	35.261	SF
LDS #D08-29(SI) - Wellbore #1 - Gyro Surveys	11,979.40	6,703.23	4,842.65	4,768.62	65.411	CC
LDS #D08-29(SI) - Wellbore #1 - Gyro Surveys	12,000.00	6,703.15	4,842.70	4,768.50	65.268	ES
LDS #D08-29(SI) - Wellbore #1 - Gyro Surveys	13,500.00	6,697.83	5,075.77	4,991.81	60.455	SF
LDS D08-28D(PR) - Wellbore #1 - MWD Surveys	12,067.83	6,857.41	3,837.53	3,761.51	50.485	CC
LDS D08-28D(PR) - Wellbore #1 - MWD Surveys	12,100.00	6,856.68	3,837.66	3,761.40	50.320	ES
LDS D08-28D(PR) - Wellbore #1 - MWD Surveys	13,100.00	6,835.15	3,973.84	3,890.78	47.844	SF
LDS D08-30D(SI) - Wellbore #1 - MWD Surveys	12,154.39	6,922.73	6,371.74	6,294.53	82.524	CC
LDS D08-30D(SI) - Wellbore #1 - MWD Surveys	12,200.00	6,923.70	6,371.90	6,294.33	82.135	ES
LDS D08-30D(SI) - Wellbore #1 - MWD Surveys	15,700.00	15,700.00	7,290.61	7,163.48	57.345	SF

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

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D09-775
Project:	Mustang	TVD Reference:	Well @ 4755.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4755.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D09-775	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen D09-775	Database:	EDMP
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
D Section 08						
Becker D17-715 - Wellbore #1 - Plan #1	17,313.96	12,447.71	1,356.14	1,202.12	8.805	CC, ES, SF
Becker D17-725 - Wellbore #1 - Plan #1	12,430.64	7,393.23	1,997.08	1,914.06	24.056	CC
Becker D17-725 - Wellbore #1 - Plan #1	17,313.96	12,275.45	1,999.79	1,846.32	13.031	ES, SF
Becker D17-730 - Wellbore #1 - Plan #1	11,971.70	7,064.04	2,317.83	2,240.40	29.933	CC
Becker D17-730 - Wellbore #1 - Plan #1	17,313.96	12,478.89	2,352.61	2,199.28	15.344	ES, SF
Becker D17-735 - Wellbore #1 - Plan #1	11,895.27	6,867.10	2,625.86	2,549.74	34.499	CC
Becker D17-735 - Wellbore #1 - Plan #1	17,313.15	12,407.35	2,650.15	2,496.96	17.300	ES
Becker D17-735 - Wellbore #1 - Plan #1	17,313.96	12,406.54	2,650.15	2,496.96	17.300	SF
Becker D17-745 - Wellbore #1 - Plan #1	11,723.67	6,362.98	3,202.24	3,128.85	43.638	CC
Becker D17-745 - Wellbore #1 - Plan #1	11,800.00	6,409.08	3,203.02	3,128.81	43.157	ES
Becker D17-745 - Wellbore #1 - Plan #1	17,313.96	12,345.96	3,295.95	3,142.93	21.540	SF
Becker D17-750 - Wellbore #1 - Plan #1	11,521.54	6,071.69	3,386.58	3,316.28	48.172	CC, ES
Becker D17-750 - Wellbore #1 - Plan #1	17,313.96	12,612.86	3,625.83	3,473.27	23.767	SF
Becker D17-755 - Wellbore #1 - Plan #1	12,454.82	7,735.31	3,934.12	3,849.12	46.287	CC
Becker D17-755 - Wellbore #1 - Plan #1	17,313.96	12,585.18	3,945.54	3,792.82	25.836	ES, SF
Becker D17-765 - Wellbore #1 - Plan #1	12,450.05	7,471.46	4,577.76	4,491.13	52.843	CC
Becker D17-765 - Wellbore #1 - Plan #1	17,313.96	12,319.58	4,591.73	4,423.56	27.304	ES, SF
Becker D17-770 - Wellbore #1 - Plan #1	12,449.46	7,604.28	4,904.65	4,818.47	56.908	CC
Becker D17-770 - Wellbore #1 - Plan #1	17,313.96	12,452.83	4,920.40	4,752.26	29.264	ES, SF
Becker D17-775 - Wellbore #1 - Plan #1	12,439.04	7,450.00	5,224.05	5,138.88	61.339	CC
Becker D17-775 - Wellbore #1 - Plan #1	17,313.96	12,306.35	5,241.28	5,073.40	31.222	ES, SF
Becker D17-785 - Wellbore #1 - Plan #1	11,896.76	6,668.55	5,855.05	5,779.87	77.880	CC
Becker D17-785 - Wellbore #1 - Plan #1	17,313.96	12,207.50	5,888.38	5,736.63	38.804	ES, SF
HSR-ALVIN DECHANT #12-8 (SI) - Wellbore #1 - No Su	15,449.72	6,752.00	5,470.49	5,334.41	40.202	CC
HSR-ALVIN DECHANT #12-8 (SI) - Wellbore #1 - No Su	15,500.00	6,752.00	5,470.72	5,334.22	40.080	ES
HSR-ALVIN DECHANT #12-8 (SI) - Wellbore #1 - No Su	16,600.00	6,752.00	5,590.11	5,445.94	38.773	SF
HSR-ALVIN DECHANT #13-8(SI) - Wellbore #1 - No Sur	17,034.82	6,741.00	5,551.31	5,402.83	37.388	CC
HSR-ALVIN DECHANT #13-8(SI) - Wellbore #1 - No Sur	17,100.00	6,741.00	5,551.69	5,402.66	37.253	ES
HSR-ALVIN DECHANT #13-8(SI) - Wellbore #1 - No Sur	17,313.96	6,741.00	5,558.32	5,407.56	36.869	SF
HSR-LDS #14-8(SI) - Wellbore #1 - No Surveys	16,511.38	6,732.00	4,412.23	4,267.98	30.587	CC, ES
HSR-LDS #14-8(SI) - Wellbore #1 - No Surveys	17,300.00	6,732.00	4,482.15	4,332.34	29.919	SF
HSR-LDS #15-8(SI) - Wellbore #1 - No Surveys	16,787.72	6,729.00	2,978.47	2,832.06	20.343	CC
HSR-LDS #15-8(SI) - Wellbore #1 - No Surveys	16,800.00	6,729.00	2,978.49	2,831.97	20.328	ES
HSR-LDS #15-8(SI) - Wellbore #1 - No Surveys	17,100.00	6,729.00	2,994.80	2,845.99	20.126	SF
HSR-LDS #16-8(SI) - Wellbore #1 - No Surveys	16,904.11	6,728.00	1,620.94	1,473.61	11.002	CC, ES
HSR-LDS #16-8(SI) - Wellbore #1 - No Surveys	17,000.00	6,728.00	1,623.78	1,475.63	10.961	SF
HSR-LDS #3-8(SI) - Wellbore #1 - No Surveys	13,006.79	6,730.00	4,392.13	4,275.05	37.513	CC, ES
HSR-LDS #3-8(SI) - Wellbore #1 - No Surveys	13,900.00	6,730.00	4,482.04	4,358.61	36.314	SF
HSR-LDS #4-8(SI) - Wellbore 1 - No Surveys	13,158.64	6,755.00	5,530.25	5,411.81	46.690	CC
HSR-LDS #4-8(SI) - Wellbore 1 - No Surveys	13,200.00	6,755.00	5,530.41	5,411.63	46.560	ES
HSR-LDS #4-8(SI) - Wellbore 1 - No Surveys	14,600.00	6,755.00	5,715.00	5,586.64	44.523	SF
HSR-LDS #5-8(SI) - Wellbore #1 - No Surveys	14,310.69	6,748.00	5,694.36	5,567.17	44.773	CC
HSR-LDS #5-8(SI) - Wellbore #1 - No Surveys	14,400.00	6,748.00	5,695.06	5,567.14	44.522	ES
HSR-LDS #5-8(SI) - Wellbore #1 - No Surveys	15,700.00	6,748.00	5,861.39	5,724.58	42.842	SF
HSR-LDS #6-8(SI) - Wellbore #1 - No Surveys	14,252.13	6,728.00	4,293.26	4,166.70	33.924	CC
HSR-LDS #6-8(SI) - Wellbore #1 - No Surveys	14,300.00	6,728.00	4,293.53	4,166.57	33.818	ES
HSR-LDS #6-8(SI) - Wellbore #1 - No Surveys	15,100.00	6,728.00	4,376.18	4,243.63	33.015	SF
HSR-LDS #9-8(SI) - Wellbore #1 - No Surveys	15,345.16	6,723.00	1,660.27	1,525.27	12.298	CC, ES
HSR-LDS #9-8(SI) - Wellbore #1 - No Surveys	15,500.00	6,723.00	1,667.48	1,531.24	12.240	SF
HSR-LDS A #10-8(SI) - Wellbore #1 - No Surveys	15,621.52	6,727.00	2,892.72	2,755.52	21.084	CC, ES
HSR-LDS A #10-8(SI) - Wellbore #1 - No Surveys	16,000.00	6,727.00	2,917.38	2,777.38	20.838	SF
HSR-LDS A #11-8(SI) - Wellbore #1 - No Surveys	15,472.82	6,729.00	4,350.85	4,214.80	31.979	CC
HSR-LDS A #11-8(SI) - Wellbore #1 - No Surveys	15,500.00	6,729.00	4,350.94	4,214.65	31.925	ES

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersten D09-775
Project:	Mustang	TVD Reference:	Well @ 4755.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4755.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersten D09-775	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersten D09-775	Database:	EDMP
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
D Section 08						
HSR-LDS A #11-8(SI) - Wellbore #1 - No Surveys	16,200.00	6,729.00	4,411.20	4,269.89	31.215	SF
LDS #18-8(SI) - Wellbore #1 - No Surveys	13,701.86	6,750.00	4,932.73	4,810.20	40.259	CC, ES
LDS #18-8(SI) - Wellbore #1 - No Surveys	14,800.00	6,750.00	5,053.48	4,923.26	38.806	SF
LDS #20-8(SI) - Wellbore #1 - No Surveys	16,248.60	6,726.00	2,319.74	2,177.62	16.322	CC, ES
LDS #20-8(SI) - Wellbore #1 - No Surveys	16,500.00	6,726.00	2,333.33	2,189.30	16.200	SF
LDS D #09-30(SI) - Wellbore #1 - No Surveys	12,418.33	6,717.00	1,179.85	1,067.27	10.480	CC, ES
LDS D #09-30(SI) - Wellbore #1 - No Surveys	12,500.00	6,717.00	1,182.67	1,069.37	10.438	SF
LDS D #09-31D(SI) - Wellbore #1 - No Surveys	12,442.75	6,717.00	1,181.95	1,069.19	10.482	CC, ES
LDS D #09-31D(SI) - Wellbore #1 - No Surveys	12,500.00	6,717.00	1,183.33	1,070.05	10.445	SF
RUBY RED #D #8-1D(PA) - Wellbore #1 - Gyro Surveys	13,242.95	6,693.03	2,030.47	1,947.13	24.362	CC, ES
RUBY RED #D #8-1D(PA) - Wellbore #1 - Gyro Surveys	13,500.00	6,690.54	2,046.68	1,961.39	23.997	SF
RUBY RED #D 8-7(PR) - Wellbore #1 - Gyro Surveys	14,300.06	6,729.00	3,125.58	3,034.02	34.138	CC, ES
RUBY RED #D 8-7(PR) - Wellbore #1 - Gyro Surveys	14,900.00	6,725.39	3,182.63	3,086.94	33.258	SF
RUBY RED #D 8-8(PR) - Wellbore #1 - Gyro Surveys	14,306.10	6,732.17	1,478.53	1,386.95	16.144	CC, ES
RUBY RED #D 8-8(PR) - Wellbore #1 - Gyro Surveys	14,500.00	6,730.41	1,491.19	1,398.19	16.034	SF
RUBY RED D8-2(PA) - Wellbore #1 - Gyro Surveys	12,755.94	6,707.06	3,208.15	3,128.41	40.232	CC
RUBY RED D8-2(PA) - Wellbore #1 - Gyro Surveys	12,800.00	6,706.69	3,208.46	3,128.35	40.051	ES
RUBY RED D8-2(PA) - Wellbore #1 - Gyro Surveys	13,400.00	6,701.55	3,272.16	3,187.94	38.851	SF
TWO E RANCHES #1(PA) - Wellbore #1 - Gyro Surveys	15,904.83	6,800.00	5,258.94	5,154.68	50.439	CC, ES
TWO E RANCHES #1(PA) - Wellbore #1 - Gyro Surveys	17,200.00	6,800.00	5,416.08	5,303.13	47.953	SF

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

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D09-775
Project:	Mustang	TVD Reference:	Well @ 4755.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4755.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D09-775	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen D09-775	Database:	EDMP
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
D Section 09						
Offset Well - Wellbore - Design						
ART RED #D 9-14(PR) - ART RED #D 9-14 - No Surveys	16,921.84	6,731.00	1,076.19	852.81	4.818	CC, ES, SF
ART RED #D 9-3J(PA) - ART RED #D 9-3J - No Surveys	16,453.06	6,723.00	39.03	180.48	0.178	Level 1, CC, ES, SF
ART RED #D 9-4J(PR) - ART RED #D 9-4J - No Surveys	15,779.06	6,721.00	3,190.98	2,976.83	14.900	CC
ART RED #D 9-4J(PR) - ART RED #D 9-4J - No Surveys	15,800.00	6,721.00	3,191.05	2,976.75	14.891	ES
ART RED #D 9-4J(PR) - ART RED #D 9-4J - No Surveys	16,000.00	6,721.00	3,198.62	2,983.13	14.844	SF
ART RED D #9-10(PR) - ART RED D #9-10 - No Surveys	15,424.72	6,727.00	2,340.81	2,129.31	11.068	CC, ES
ART RED D #9-10(PR) - ART RED D #9-10 - No Surveys	15,600.00	6,727.00	2,347.36	2,134.93	11.050	SF
ART RED D #9-11(PR) - ART RED D #9-11 - No Surveys	15,487.14	6,719.00	967.60	755.77	4.568	CC, ES
ART RED D #9-11(PR) - ART RED D #9-11 - No Surveys	15,500.00	6,719.00	967.68	755.81	4.567	SF
Art Red D 9-16 (PR) - Wellbore #1 - Gyro Surveys	16,882.17	6,728.63	3,796.85	3,685.08	33.971	CC
Art Red D 9-16 (PR) - Wellbore #1 - Gyro Surveys	16,900.00	6,728.77	3,796.89	3,685.00	33.933	ES
Art Red D 9-16 (PR) - Wellbore #1 - Gyro Surveys	17,313.96	6,732.04	3,821.32	3,707.02	33.433	SF
FRONT RANGE #D09-20D(PR) - FRONT RANGE #D09	14,900.00	7,084.34	336.54	228.90	3.127	SF
FRONT RANGE #D09-20D(PR) - FRONT RANGE #D09	14,921.61	7,084.50	335.85	228.87	3.140	CC, ES
FRONT RANGE #D09-25D(PR) - FRONT RANGE #D09	16,034.68	6,960.03	490.33	383.17	4.576	CC, ES, SF
FRONT RANGE #D09-32D(PR) - FRONT RANGE #D09	14,899.19	6,951.83	908.49	802.90	8.604	CC
FRONT RANGE #D09-32D(PR) - FRONT RANGE #D09	14,900.00	6,951.83	908.49	802.89	8.603	ES, SF
FRONT RANGE D #09-28(SI) - FRONT RANGE D #09-2	12,402.17	6,712.00	1,638.59	1,450.50	8.712	CC, ES
FRONT RANGE D #09-28(SI) - FRONT RANGE D #09-2	12,500.00	6,712.00	1,641.50	1,452.96	8.706	SF
FRONT RANGE D #09-33(PR) - FRONT RANGE D #09-	16,196.61	6,728.00	823.59	606.00	3.785	CC
FRONT RANGE D #09-33(PR) - FRONT RANGE D #09-	16,200.00	6,728.00	823.59	605.97	3.785	ES, SF
FRONT RANGE D #16-29(SI) - FRONT RANGE D #16-2	17,313.96	6,727.48	218.59	113.33	2.077	CC, ES, SF
FRONT RANGE D #16-30(SI) - FRONT RANGE D #16-3	17,077.45	6,729.00	756.43	531.86	3.368	CC, ES
FRONT RANGE D #16-30(SI) - FRONT RANGE D #16-3	17,100.00	6,729.00	756.76	531.95	3.366	SF
GITTLEIN #18-9(PR) - GITTLEIN #18-9 - No Surveys	13,737.31	6,834.25	77.07	10.30	0.882	Level 1, CC, ES, SF
GITTLEIN #D #9-7(PR) - GITTLEIN #D #9-7 - No Survey	14,295.89	6,675.00	2,128.92	1,927.24	10.556	CC
GITTLEIN #D #9-7(PR) - GITTLEIN #D #9-7 - No Survey	14,300.00	6,675.00	2,128.92	1,927.21	10.555	ES
GITTLEIN #D #9-7(PR) - GITTLEIN #D #9-7 - No Survey	14,400.00	6,675.00	2,131.46	1,929.21	10.539	SF
GITTLEIN WHITE #D 9-2(SI) - GITTLEIN WHITE #D 9-2	12,845.08	6,709.00	2,421.04	2,229.72	12.654	CC, ES
GITTLEIN WHITE #D 9-2(SI) - GITTLEIN WHITE #D 9-2	13,000.00	6,709.00	2,425.99	2,233.81	12.623	SF
GITTLEIN-UPRC #9-12(PA) - GITTLEIN-UPRC #9-12 - V	15,507.69	6,725.21	158.36	68.49	1.762	CC, ES, SF
GUTTERSEN #9-15(PR) - GUTTERSEN #9-15 - No Sur	16,798.38	6,722.00	2,292.78	2,070.57	10.318	CC
GUTTERSEN #9-15(PR) - GUTTERSEN #9-15 - No Sur	16,800.00	6,722.00	2,292.78	2,070.56	10.317	ES
GUTTERSEN #9-15(PR) - GUTTERSEN #9-15 - No Sur	16,900.00	6,722.00	2,295.03	2,072.24	10.301	SF
GUTTERSEN D #09-09(PR) - GUTTERSEN D #09-09 -	15,330.40	6,715.00	3,737.00	3,526.48	17.751	CC, ES
GUTTERSEN D #09-09(PR) - GUTTERSEN D #09-09 -	15,700.00	6,715.00	3,755.23	3,542.48	17.651	SF
GUTTERSEN D #09-21(PR) - GUTTERSEN D #09-21 -	14,941.76	6,719.00	1,682.84	1,475.27	8.107	CC, ES
GUTTERSEN D #09-21(PR) - GUTTERSEN D #09-21 -	15,000.00	6,719.00	1,683.84	1,475.98	8.101	SF
GUTTERSEN D #09-22(SI) - GUTTERSEN D #09-22 - N	14,858.14	6,722.00	2,935.57	2,728.59	14.183	CC, ES
GUTTERSEN D #09-22(SI) - GUTTERSEN D #09-22 - N	15,100.00	6,722.00	2,945.52	2,737.15	14.136	SF
GUTTERSEN D #09-24(PR) - GUTTERSEN D #09-24 -	16,110.60	6,731.00	1,777.96	1,561.00	8.195	CC, ES
GUTTERSEN D #09-24(PR) - GUTTERSEN D #09-24 -	16,200.00	6,731.00	1,780.20	1,562.80	8.188	SF
GUTTERSEN D #16-28(PR) - GUTTERSEN D #16-28 -	17,313.96	6,726.00	1,553.50	1,327.08	6.861	CC, ES, SF
Guttersen D09-27D - Wellbore #1 - Wellbore #1- As Drill	12,091.44	6,822.92	2,948.00	2,867.64	36.682	CC
Guttersen D09-27D - Wellbore #1 - Wellbore #1- As Drill	12,100.00	6,822.96	2,948.01	2,867.57	36.647	ES
Guttersen D09-27D - Wellbore #1 - Wellbore #1- As Drill	12,700.00	6,825.98	3,010.16	2,925.28	35.465	SF
Guttersen D10-30D - Wellbore #1 - Wellbore #1- As Drill	12,258.90	6,751.09	4,198.61	4,120.05	53.449	CC
Guttersen D10-30D - Wellbore #1 - Wellbore #1- As Drill	12,300.00	6,750.99	4,198.81	4,120.03	53.297	ES
Guttersen D10-30D - Wellbore #1 - Wellbore #1- As Drill	13,100.00	6,749.11	4,282.02	4,199.58	51.941	SF
HSR TIM GITTLEIN #3-9(SI) - HSR TIM GITTLEIN #3-9	12,856.92	6,712.00	972.32	780.85	5.078	CC, ES, SF
HSR TIM GITTLEIN #4-9(SI) - HSR TIM GITTLEIN #4-9	13,009.22	6,714.00	199.26	6.61	1.034	Level 2, CC, ES, SF
HSR TIM GITTLEIN #5-9(SI) - HSR TIM GITTLEIN #5-9	14,045.62	6,716.00	198.78	-1.80	0.991	Level 1, CC, ES, SF
HSR TIM GITTLEIN #6-9(SI) - HSR TIM GITTLEIN #6-9	13,955.22	6,715.00	980.46	780.60	4.906	CC, ES, SF

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

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Gutttersen D09-775
Project:	Mustang	TVD Reference:	Well @ 4755.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4755.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Gutttersen D09-775	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Gutttersen D09-775	Database:	EDMP
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
D Section 09						
KARCH WHITE #D 9-1(SI) - KARCH WHITE #D 9-1 - No	12,845.77	6,707.00	3,573.94	3,382.65	18.684	CC, ES
KARCH WHITE #D 9-1(SI) - KARCH WHITE #D 9-1 - No	13,200.00	6,707.00	3,591.45	3,398.05	18.571	SF
KARCH WHITE #D 9-8(PR) - KARCH WHITE #D 9-8 - N	14,378.29	6,710.00	3,519.92	3,316.90	17.338	CC
KARCH WHITE #D 9-8(PR) - KARCH WHITE #D 9-8 - N	14,400.00	6,710.00	3,519.99	3,316.82	17.326	ES
KARCH WHITE #D 9-8(PR) - KARCH WHITE #D 9-8 - N	14,700.00	6,710.00	3,534.59	3,329.64	17.246	SF
ROADHOUSE D #9-17(SI) - ROADHOUSE D #9-17 - No	13,504.87	6,711.00	2,985.35	2,789.01	15.205	CC, ES
ROADHOUSE D #9-17(SI) - ROADHOUSE D #9-17 - No	13,700.00	6,711.00	2,991.72	2,794.21	15.148	SF
D Section 10						
Duncan D 10-6 (SI) - Wellbore #1 - No Surveys	13,750.42	6,743.00	5,885.00	5,553.48	17.752	CC
Duncan D 10-6 (SI) - Wellbore #1 - No Surveys	13,800.00	6,743.00	5,885.20	5,553.34	17.734	ES
Duncan D 10-6 (SI) - Wellbore #1 - No Surveys	14,400.00	6,743.00	5,920.74	5,584.95	17.632	SF
Gutttersen State D15-27 - Wellbore #1 - Wellbore #1- As	17,262.38	6,793.88	8,287.82	8,172.75	72.027	CC
Gutttersen State D15-27 - Wellbore #1 - Wellbore #1- As	17,313.96	6,794.39	8,287.98	8,172.52	71.786	ES, SF
Karch Blue D 10-07 (SI) - Wellbore #1 - Gyro Surveys	14,234.56	6,763.93	7,436.25	7,345.09	81.572	CC
Karch Blue D 10-07 (SI) - Wellbore #1 - Gyro Surveys	14,300.00	6,763.63	7,436.54	7,344.90	81.155	ES
Karch Blue D 10-07 (SI) - Wellbore #1 - Gyro Surveys	16,700.00	6,752.76	7,834.29	7,728.88	74.321	SF
Karch Blue D 10-08 (SI) - Wellbore #1 - Gyro Surveys	14,438.32	6,819.71	8,736.04	8,456.36	31.237	CC
Karch Blue D 10-08 (SI) - Wellbore #1 - Gyro Surveys	14,700.00	14,700.00	8,739.98	8,245.27	17.667	ES
Karch Blue D 10-08 (SI) - Wellbore #1 - Gyro Surveys	15,300.00	15,300.00	8,778.48	8,263.34	17.041	SF
Karch State D 10-22 (SI) - Wellbore #1 - No Surveys	14,797.33	6,764.00	8,127.28	7,786.91	23.878	CC
Karch State D 10-22 (SI) - Wellbore #1 - No Surveys	14,900.00	6,764.00	8,127.93	7,786.81	23.828	ES
Karch State D 10-22 (SI) - Wellbore #1 - No Surveys	16,000.00	6,764.00	8,215.78	7,867.28	23.574	SF
Spike ST GWS D 10-14 (PR) - Wellbore #1 - Gyro Surve	16,978.37	6,761.34	6,234.20	6,121.58	55.354	CC
Spike ST GWS D 10-14 (PR) - Wellbore #1 - Gyro Surve	17,000.00	6,761.40	6,234.24	6,121.46	55.276	ES
Spike ST GWS D 10-14 (PR) - Wellbore #1 - Gyro Surve	17,313.96	6,762.24	6,243.23	6,128.24	54.293	SF
Spike ST GWS D 10-16 (PA) - Wellbore #1 - No Surveys	16,818.64	6,768.00	8,826.07	8,602.78	39.526	CC
Spike ST GWS D 10-16 (PA) - Wellbore #1 - No Surveys	16,900.00	6,768.00	8,826.45	8,602.54	39.420	ES
Spike ST GWS D 10-16 (PA) - Wellbore #1 - No Surveys	17,313.96	6,768.00	8,839.96	8,613.05	38.958	SF
Spike State D 10-21D (SI) - Wellbore #1 - Wellbore #1	15,029.76	6,903.43	6,974.66	6,876.49	71.048	CC
Spike State D 10-21D (SI) - Wellbore #1 - Wellbore #1	15,100.00	6,903.27	6,975.01	6,876.37	70.713	ES
Spike State D 10-21D (SI) - Wellbore #1 - Wellbore #1	17,100.00	6,898.74	7,275.42	7,165.76	66.344	SF
Spike State D 10-23 (SI) - Wellbore #1 - No Surveys	16,140.61	6,773.00	8,288.79	7,937.49	23.595	CC
Spike State D 10-23 (SI) - Wellbore #1 - No Surveys	16,200.00	6,773.00	8,289.00	7,937.26	23.566	ES
Spike State D 10-23 (SI) - Wellbore #1 - No Surveys	17,313.96	6,773.00	8,371.43	8,012.13	23.300	SF
Spike State GWS D 10-15 (PA) - Wellbore #1 - No Surve	16,678.55	7,106.00	7,887.14	7,663.84	35.321	CC
Spike State GWS D 10-15 (PA) - Wellbore #1 - No Surve	16,700.00	7,106.00	7,887.17	7,663.71	35.296	ES
Spike State GWS D 10-15 (PA) - Wellbore #1 - No Surve	17,313.96	7,106.00	7,912.69	7,684.88	34.733	SF
Two E Ranch 4-10 (SI) - Wellbore #1 - No Surveys	14,227.16	6,736.00	5,029.90	4,695.03	15.020	CC, ES
Two E Ranch 4-10 (SI) - Wellbore #1 - No Surveys	14,700.00	6,736.00	5,052.08	4,714.13	14.949	SF
Volley State D 10-13 (PR) - Wellbore #1 - Gyro Surveys	16,922.53	6,639.91	4,808.36	4,696.66	43.044	CC, ES
Volley State D 10-13 (PR) - Wellbore #1 - Gyro Surveys	17,313.96	6,640.52	4,824.27	4,710.00	42.220	SF

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

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D09-775
Project:	Mustang	TVD Reference:	Well @ 4755.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4755.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D09-775	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen D09-775	Database:	EDMP
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
D Section 16						
Diggen State D16-23 (SI) - Wellbore #1 - Gyro Surveys	17,313.96	6,754.05	5,077.84	4,993.77	60.401	CC, ES, SF
Diggin State D 16-07 (SI) - Wellbore #1 - No Surveys	17,313.96	6,768.00	3,144.23	2,939.29	15.342	CC, ES, SF
Diggin State D 16-19J (PR) - Wellbore #1 - No Surveys	17,313.96	6,727.00	1,586.27	1,417.27	9.386	CC, ES, SF
Diggin State D16-13 (PR) - Wellbore #1 - Gyro Surveys	17,313.96	6,734.61	4,786.88	4,734.47	91.340	CC, ES, SF
Guttersen ST D 15-32 (SI) - Wellbore #1 - Gyro Surveys	17,313.96	6,756.36	5,083.91	4,981.48	49.634	CC, ES, SF
Guttersen ST D 16-21 (SI) - Wellbore #1 - Gyro Surveys	17,313.96	6,740.68	3,383.57	3,305.35	43.252	CC, ES, SF
Guttersen ST D 16-22D (SI) - Wellbore #1 - MWD Surve	17,313.96	6,876.59	3,987.23	3,888.05	40.202	CC, ES, SF
Guttersen ST D 16-33 (SI) - Wellbore #1 - No Surveys	17,313.96	6,742.00	4,140.11	3,971.79	24.597	CC, ES, SF
Guttersen State D 15-31 (PR) - Wellbore #1 - Gyro Surve	17,313.96	6,762.83	4,270.82	4,157.92	37.830	CC, ES, SF
Guttersen State D 15-33 (SI) - Wellbore #1 - Gyro Survey	17,313.96	6,684.82	5,927.50	5,833.29	62.914	CC, ES, SF
Guttersen State D 16-15X (PR) - Wellbore #1 - Gyro Sur	17,313.96	6,784.78	5,191.00	5,117.44	70.575	CC, ES, SF
Guttersen State D 16-18 (SI) - Wellbore #1 - No Surveys	17,313.96	6,742.00	2,135.34	1,926.59	10.229	CC, ES, SF
Guttersen State D 16-20 (SI) - Wellbore #1 - Gyro Survey	17,313.96	6,751.49	2,887.02	2,832.02	52.489	CC, ES, SF
Guttersen State D 16-24 (SI) - Wellbore #1 - Gyro Survey	17,313.96	6,751.84	4,369.50	4,299.70	62.603	CC, ES, SF
Guttersen State D 16-27 (PR) - Wellbore #1 - No Survey	17,313.96	6,738.00	2,933.24	2,706.92	12.961	CC, ES, SF
Guttersen State D 16-31 (PR) - Wellbore #1 - No Survey	17,313.96	6,738.00	1,727.42	1,545.14	9.476	CC, ES, SF
Guttersen State D 16-32D (SI) - Wellbore #1 - MWD Sur	17,313.96	6,941.74	2,867.98	2,805.28	45.737	CC, ES, SF
Guttersen State D16-63-1HN - Original Drilling - Original	17,313.96	10,874.12	4,514.93	4,378.58	33.112	CC, ES, SF
Guttersen State D16-65-1HN - Original Drilling - Original	17,313.96	17,313.96	3,196.75	2,892.13	10.494	CC, ES, SF
Spike ST GWS D 16-01 (SI) - Wellbore #1 - Gyro Survey	17,313.96	6,763.91	3,709.82	3,595.39	32.421	CC, ES, SF
Spike ST GWS D 16-02 (P&A) - Wellbore #1 - Gyro Surv	17,313.96	6,761.25	2,273.70	2,144.79	17.639	CC, ES, SF
Spike ST GWS D 16-03 (PR) - Wellbore #1 - No Surveys	17,313.96	6,736.00	1,275.11	1,066.17	6.103	CC, ES, SF
Spike ST GWS D 16-04 (SI) - Wellbore #1 - No Surveys	17,313.96	6,731.00	909.74	733.99	5.176	CC, ES, SF
Spike ST GWS D 16-05 (PR) - Wellbore #1 - Gyro Survey	17,313.96	6,744.99	2,234.20	2,179.77	41.050	CC, ES, SF
Spike ST GWS D 16-06 (SI) - Wellbore #1 - No Surveys	17,313.96	6,744.00	2,364.46	2,180.97	12.886	CC, ES, SF
Spike ST GWS D 16-08 (PR) - Wellbore #1 - Gyro Survey	17,313.96	6,777.90	4,383.65	4,277.68	41.367	CC, ES, SF
Spike ST GWS D 16-12 (PA) - Wellbore #1 - Gyro Survey	17,313.96	6,737.60	3,349.67	3,296.05	62.474	CC, ES, SF
Spike ST GWS D 16-14 (SI) - Wellbore #1 - No Surveys	17,313.96	6,777.00	5,131.53	4,960.24	29.959	CC, ES, SF
Spike ST GWS D 16-16 (SI) - Wellbore #1 - No Surveys	17,313.96	6,776.00	6,028.53	5,830.66	30.467	CC, ES, SF
Spike State D 16-10 (SI) - Wellbore #1 - Gyro Surveys	17,313.96	6,754.37	4,122.74	4,041.13	50.516	CC, ES, SF
Spike State D 16-11 (SI) - Wellbore #1 - Gyro Surveys	17,313.96	6,742.29	3,539.33	3,475.18	55.177	CC, ES, SF
Spike State D 16-9 (SI) - Wellbore #1 - Gyro Surveys	17,313.96	6,743.47	5,055.33	4,960.72	53.431	CC, ES, SF
Spike State D16-15 (P&A) - Wellbore #1 - Wellbore #1	17,313.96	6,882.91	5,263.72	5,179.35	62.395	CC, ES, SF
Spike State D16-99HZ - Original Drilling - Original Drilling	17,313.96	10,383.06	3,977.33	3,851.48	31.603	CC, ES, SF
Spike State GWS D 16-7J (PR) - Wellbore #1 - No Surve	17,313.96	6,761.00	3,257.48	3,037.03	14.777	CC, ES, SF
Spike State GWS D16-13J (PR) - Wellbore #1 - Gyro Su	17,313.96	6,711.82	4,199.29	4,145.95	78.733	CC, ES, SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D09-775
Project:	Mustang	TVD Reference:	Well @ 4755.00ft
Reference Site:	C Section 33	MD Reference:	Well @ 4755.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D09-775	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen D09-775	Database:	EDMP
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to Well @ 4755.00ft

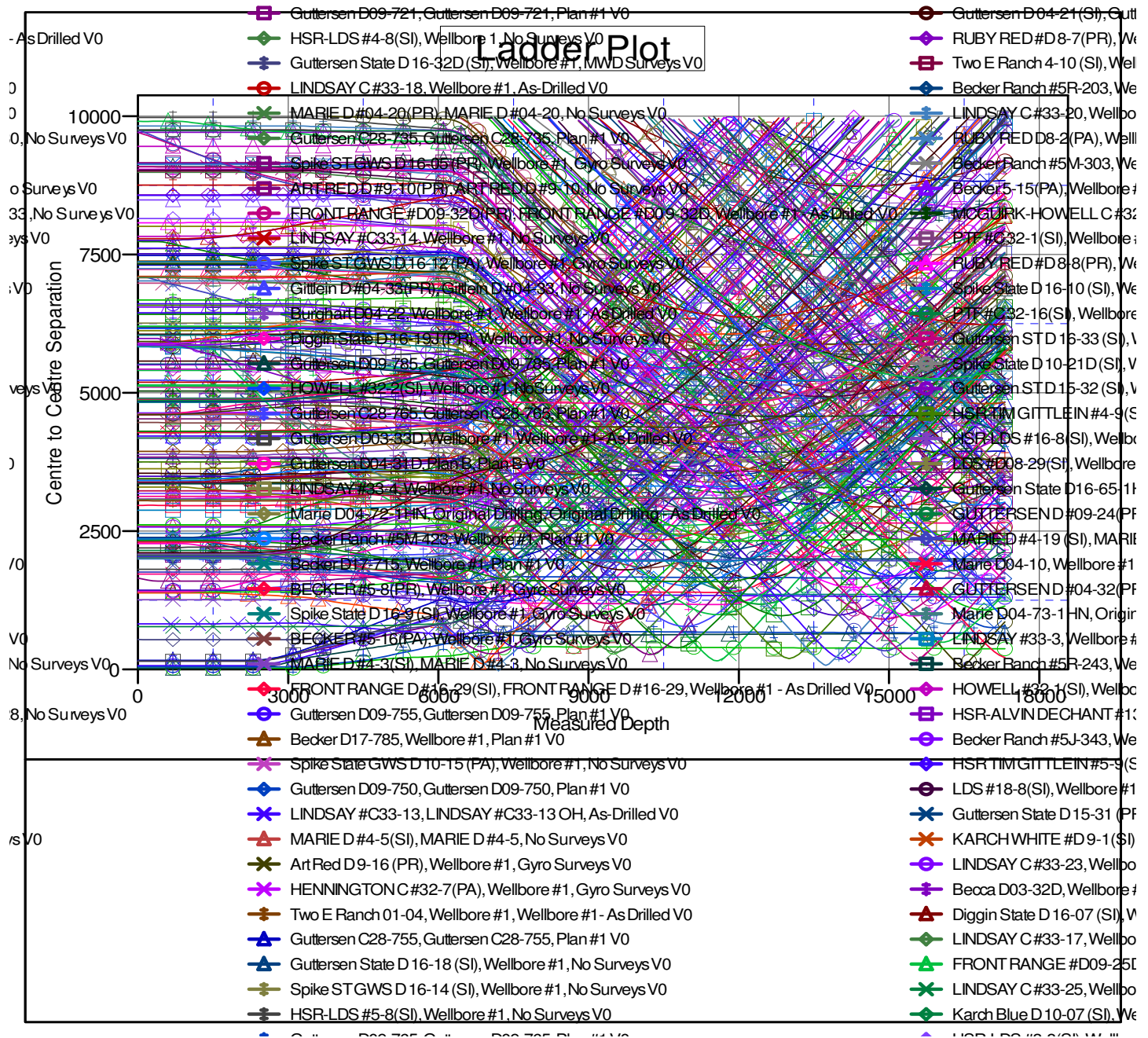
Coordinates are relative to: Guttersen D09-775

Offset Depths are relative to Offset Datum

Coordinate System is US State Plane 1983, Colorado Northern Zone

Central Meridian is -105.5000000

Grid Convergence at Surface is: 0.61°



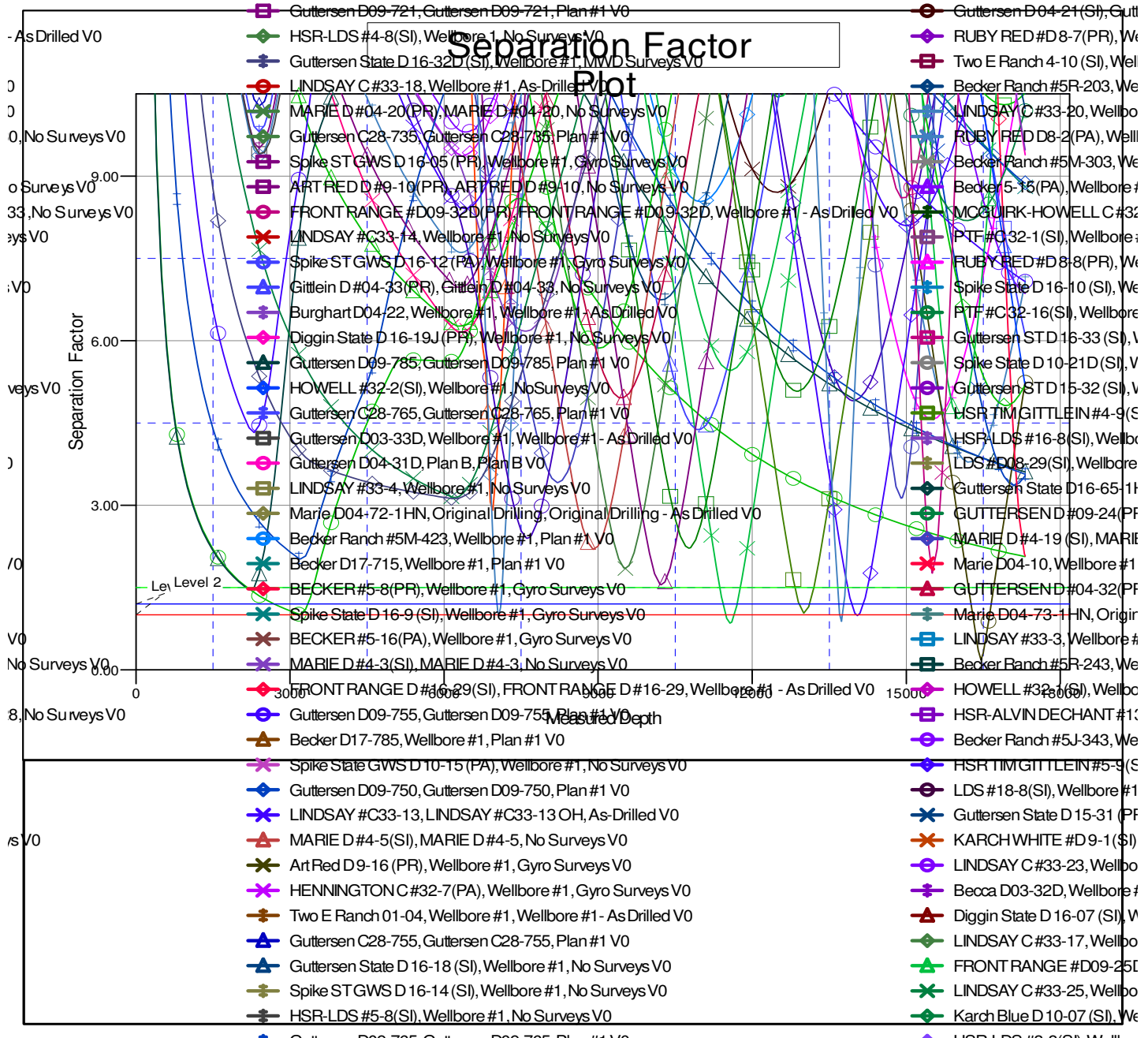
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D09-775
Project:	Mustang	TVD Reference:	Well @ 4755.00ft
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Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D09-775	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen D09-775	Database:	EDMP
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to Well @ 4755.00ft
Offset Depths are relative to Offset Datum
Central Meridian is -105.5000000

Coordinates are relative to: Guttersen D09-775
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.61°



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