

Project: Mustang
 Site: C Section 33
 Well: Gutteresen D09-745
 Wellbore: Gutteresen D09-745
 Design: Plan #3

Northern Region - DJ Basin

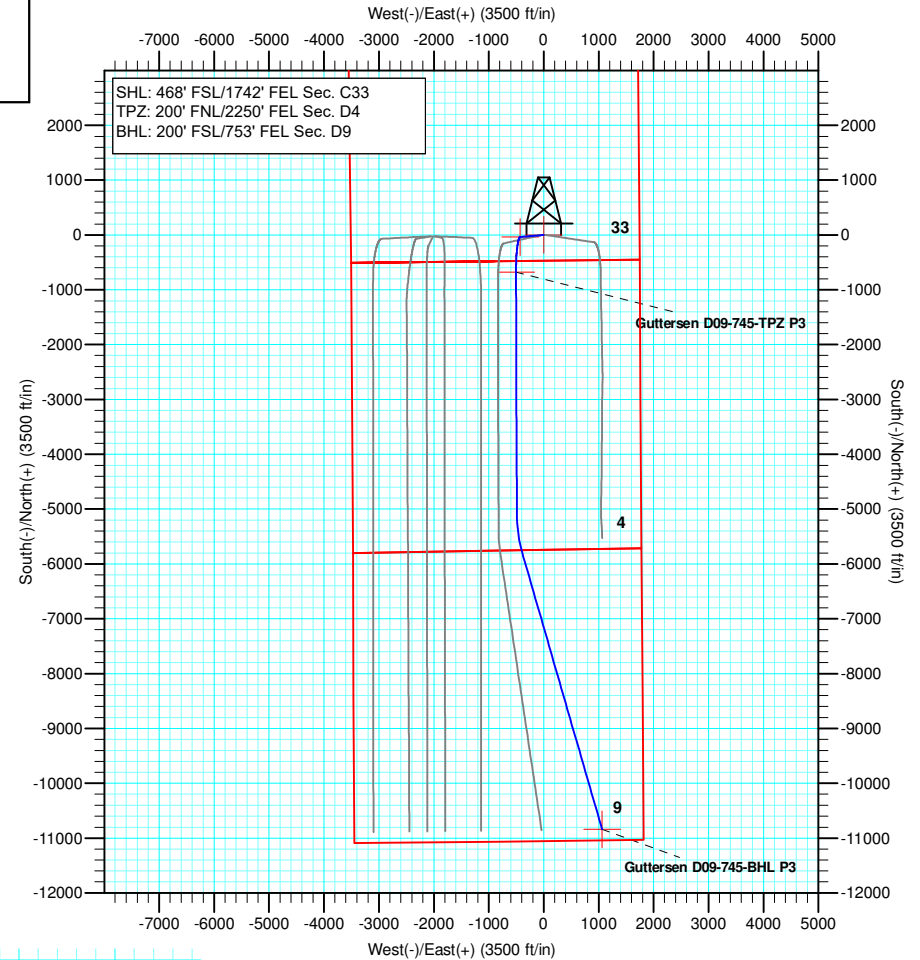
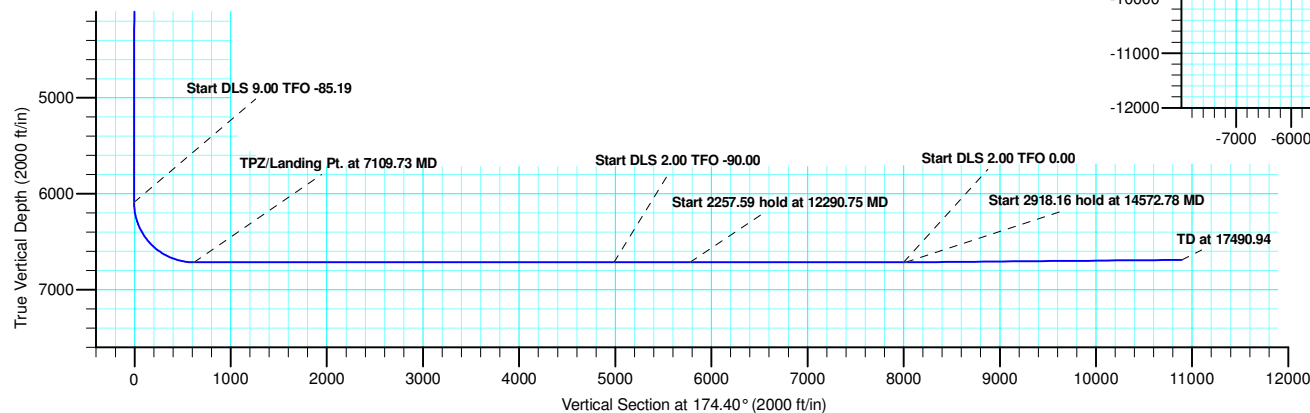
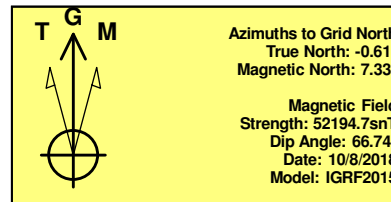
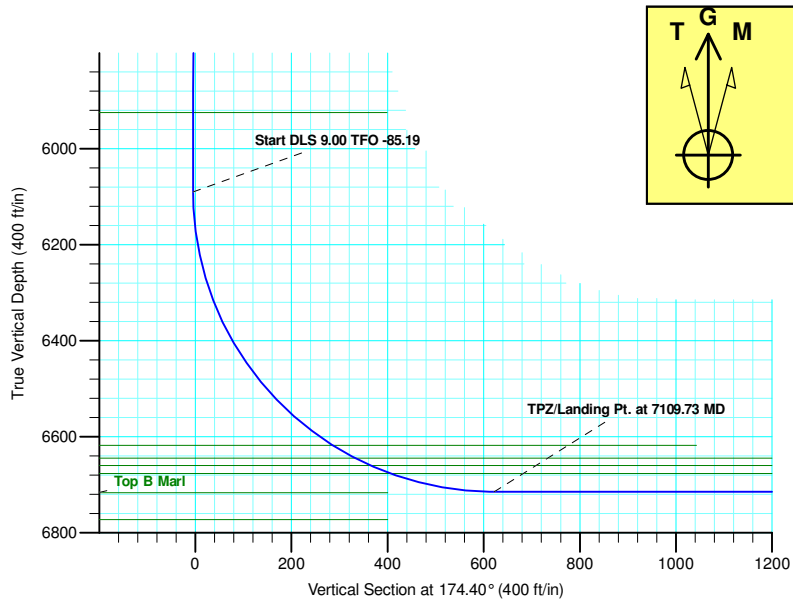
Geodetic System: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Zone: Colorado Northern Zone
 System Datum: Mean Sea Level

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	2510.00	0.00	0.00	2510.00	0.00	0.00	0.00	0.00	0.00	
3	2869.23	7.18	264.97	2868.29	-1.97	-22.41	2.00	264.97	-0.23	
4	6116.45	7.18	264.97	6090.02	-37.57	-426.96	0.00	0.00	-4.30	
5	7109.73	90.00	179.82	6715.00	-674.40	-503.42	9.00	-85.19	622.02	Gutteresen D09-745-TPZ P3
6	11495.59	90.00	179.82	6715.00	-5060.24	-489.37	0.00	0.00	4988.27	Gutteresen D09-745-IP1 P3
7	12290.75	90.00	163.91	6715.00	-5844.87	-377.21	2.00	-90.00	5780.11	
8	14548.34	90.00	163.91	6715.00	-8014.06	248.35	0.00	0.00	8000.02	Gutteresen D09-745-IP2 P3
9	14572.78	90.49	163.91	6714.90	-8037.55	255.12	2.00	0.00	8024.05	
10	17490.94	90.49	163.91	6690.00	-10841.34	1063.69	0.00	0.00	10893.40	Gutteresen D09-745-BHL P3

WELL DETAILS: Gutteresen D09-745

+N/-S	+E/-W	Northing	Ground Level: Easting	4720.00 Latitude	Longitude	Slot
0.00	0.00	1340074.81	3264337.16	40.2630290	-104.5527850	



Plan: Plan #3 (Gutteresen D09-745/Gutteresen D09-745)

Created By: Shelly Peterkin Date: 14:00, March 18 2020

Northern Region - DJ Basin

Mustang

C Section 33

Guttersen D09-745

Guttersen D09-745

Plan: Plan #3

Standard Planning Report

18 March, 2020

Noble Energy

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Guttersen D09-745
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 D09-745	Survey Calculation Method:	Minimum Curvature
Wellbore:	Guttersen D09-745		
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 D09-745					
Well Position	+N/-S	173.12 ft	Northing:	1,340,074.81 usft	Latitude:	40.2630290
	+E/-W	2,061.19 ft	Easting:	3,264,337.16 usft	Longitude:	-104.5527850
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	4,720.00 ft

Wellbore	Guttersen D09-745				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	10/8/2018	7.95	66.74	52,194.68419623

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	174.40

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	
2,510.00	0.00	0.00	2,510.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,869.23	7.18	264.97	2,868.29	-1.97	-22.41	2.00	2.00	0.00	264.97	
6,116.45	7.18	264.97	6,090.02	-37.57	-426.96	0.00	0.00	0.00	0.00	
7,109.73	90.00	179.82	6,715.00	-674.40	-503.42	9.00	8.34	-8.57	-85.19	Guttersen D09-745-TI
11,495.59	90.00	179.82	6,715.00	-5,060.24	-489.37	0.00	0.00	0.00	0.00	Guttersen D09-745-IF
12,290.75	90.00	163.91	6,715.00	-5,844.87	-377.21	2.00	0.00	-2.00	-90.00	
14,548.34	90.00	163.91	6,715.00	-8,014.06	248.35	0.00	0.00	0.00	0.00	Guttersen D09-745-IF
14,572.78	90.49	163.91	6,714.90	-8,037.55	255.12	2.00	2.00	0.00	0.00	
17,490.94	90.49	163.91	6,690.00	-10,841.34	1,063.69	0.00	0.00	0.00	0.00	Guttersen D09-745-B

Noble Energy

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Guttersen D09-745
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 D09-745	Survey Calculation Method:	Minimum Curvature
Wellbore:	Guttersen D09-745		
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
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
2,510.00	0.00	0.00	2,510.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
2,600.00	1.80	264.97	2,599.99	-0.12	-1.41	-0.01	2.00	2.00	0.00
2,700.00	3.80	264.97	2,699.86	-0.55	-6.27	-0.06	2.00	2.00	0.00
2,800.00	5.80	264.97	2,799.51	-1.29	-14.61	-0.15	2.00	2.00	0.00
2,869.23	7.18	264.97	2,868.29	-1.97	-22.41	-0.23	2.00	2.00	0.00
Start 3247.22 hold at 2869.23 MD									
2,900.00	7.18	264.97	2,898.82	-2.31	-26.24	-0.26	0.00	0.00	0.00
3,000.00	7.18	264.97	2,998.03	-3.41	-38.70	-0.39	0.00	0.00	0.00
3,100.00	7.18	264.97	3,097.25	-4.50	-51.16	-0.52	0.00	0.00	0.00
3,200.00	7.18	264.97	3,196.46	-5.60	-63.62	-0.64	0.00	0.00	0.00
3,300.00	7.18	264.97	3,295.68	-6.69	-76.07	-0.77	0.00	0.00	0.00
3,400.00	7.18	264.97	3,394.89	-7.79	-88.53	-0.89	0.00	0.00	0.00
3,500.00	7.18	264.97	3,494.11	-8.89	-100.99	-1.02	0.00	0.00	0.00
3,594.64	7.18	264.97	3,588.00	-9.92	-112.78	-1.14	0.00	0.00	0.00
Parkman									
3,600.00	7.18	264.97	3,593.32	-9.98	-113.45	-1.14	0.00	0.00	0.00
3,700.00	7.18	264.97	3,692.54	-11.08	-125.91	-1.27	0.00	0.00	0.00
3,800.00	7.18	264.97	3,791.75	-12.17	-138.37	-1.39	0.00	0.00	0.00
3,900.00	7.18	264.97	3,890.97	-13.27	-150.82	-1.52	0.00	0.00	0.00
4,000.00	7.18	264.97	3,990.18	-14.37	-163.28	-1.65	0.00	0.00	0.00

Noble Energy

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Guttersen D09-745
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 D09-745	Survey Calculation Method:	Minimum Curvature
Wellbore:	Guttersen D09-745		
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)
4,002.84	7.18	264.97	3,993.00	-14.40	-163.64	-1.65	0.00	0.00	0.00
Sussex									
4,100.00	7.18	264.97	4,089.40	-15.46	-175.74	-1.77	0.00	0.00	0.00
4,200.00	7.18	264.97	4,188.61	-16.56	-188.20	-1.90	0.00	0.00	0.00
4,300.00	7.18	264.97	4,287.83	-17.66	-200.66	-2.02	0.00	0.00	0.00
4,400.00	7.18	264.97	4,387.04	-18.75	-213.12	-2.15	0.00	0.00	0.00
4,500.00	7.18	264.97	4,486.26	-19.85	-225.58	-2.27	0.00	0.00	0.00
4,559.21	7.18	264.97	4,545.00	-20.50	-232.95	-2.35	0.00	0.00	0.00
Shannon									
4,600.00	7.18	264.97	4,585.47	-20.94	-238.03	-2.40	0.00	0.00	0.00
4,700.00	7.18	264.97	4,684.69	-22.04	-250.49	-2.52	0.00	0.00	0.00
4,800.00	7.18	264.97	4,783.90	-23.14	-262.95	-2.65	0.00	0.00	0.00
4,900.00	7.18	264.97	4,883.11	-24.23	-275.41	-2.77	0.00	0.00	0.00
5,000.00	7.18	264.97	4,982.33	-25.33	-287.87	-2.90	0.00	0.00	0.00
5,100.00	7.18	264.97	5,081.54	-26.43	-300.33	-3.03	0.00	0.00	0.00
5,200.00	7.18	264.97	5,180.76	-27.52	-312.78	-3.15	0.00	0.00	0.00
5,300.00	7.18	264.97	5,279.97	-28.62	-325.24	-3.28	0.00	0.00	0.00
5,400.00	7.18	264.97	5,379.19	-29.71	-337.70	-3.40	0.00	0.00	0.00
5,500.00	7.18	264.97	5,478.40	-30.81	-350.16	-3.53	0.00	0.00	0.00
5,600.00	7.18	264.97	5,577.62	-31.91	-362.62	-3.65	0.00	0.00	0.00
5,700.00	7.18	264.97	5,676.83	-33.00	-375.08	-3.78	0.00	0.00	0.00
5,800.00	7.18	264.97	5,776.05	-34.10	-387.54	-3.90	0.00	0.00	0.00
5,900.00	7.18	264.97	5,875.26	-35.20	-399.99	-4.03	0.00	0.00	0.00
5,950.13	7.18	264.97	5,925.00	-35.75	-406.24	-4.09	0.00	0.00	0.00
Teepee Buttes									
6,000.00	7.18	264.97	5,974.48	-36.29	-412.45	-4.16	0.00	0.00	0.00
6,100.00	7.18	264.97	6,073.69	-37.39	-424.91	-4.28	0.00	0.00	0.00
6,116.45	7.18	264.97	6,090.02	-37.57	-426.96	-4.30	0.00	0.00	0.00
Start DLS 9.00 TFO -85.19									
6,150.00	8.02	242.87	6,123.28	-38.82	-431.13	-3.46	9.00	2.49	-65.87
6,200.00	10.81	220.94	6,172.61	-43.96	-437.31	1.04	9.00	5.59	-43.87
6,250.00	14.48	208.91	6,221.40	-52.98	-443.41	9.43	9.00	7.34	-24.06
6,300.00	18.52	201.84	6,269.33	-65.83	-449.39	21.63	9.00	8.07	-14.14
6,350.00	22.72	197.27	6,316.12	-82.43	-455.22	37.59	9.00	8.41	-9.14
6,400.00	27.02	194.07	6,361.48	-102.68	-460.85	57.19	9.00	8.59	-6.39
6,450.00	31.37	191.71	6,405.12	-126.45	-466.25	80.32	9.00	8.70	-4.74
6,500.00	35.75	189.86	6,446.77	-153.60	-471.40	106.84	9.00	8.77	-3.68
6,550.00	40.16	188.38	6,486.19	-183.96	-476.25	136.58	9.00	8.81	-2.97
6,600.00	44.58	187.14	6,523.12	-217.34	-480.78	169.36	9.00	8.84	-2.48
6,650.00	49.02	186.08	6,557.34	-253.54	-484.97	204.97	9.00	8.87	-2.11
6,700.00	53.46	185.16	6,588.63	-292.33	-488.77	243.21	9.00	8.88	-1.85
6,750.00	57.91	184.33	6,616.81	-333.48	-492.18	283.82	9.00	8.90	-1.65
6,752.24	58.11	184.30	6,618.00	-335.37	-492.32	285.69	9.00	8.90	-1.56
Sharon Springs									
6,800.00	62.36	183.59	6,641.71	-376.72	-495.17	326.57	9.00	8.91	-1.49
6,807.18	63.00	183.49	6,645.00	-383.08	-495.56	332.86	9.00	8.91	-1.42
Top A Chalk									
6,842.09	66.11	183.01	6,660.00	-414.56	-497.35	364.02	9.00	8.91	-1.38
Top A Marl									
6,850.00	66.82	182.90	6,663.16	-421.80	-497.72	371.18	9.00	8.92	-1.33
6,887.78	70.19	182.41	6,677.00	-456.91	-499.35	405.97	9.00	8.92	-1.30
Top B Chalk									
6,900.00	71.28	182.26	6,681.03	-468.43	-499.82	417.39	9.00	8.92	-1.26

Noble Energy

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Guttersen D09-745
Company:	Northern Region - DJ Basin	TVD Reference:	Well @ 4750.00ft
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Site:	C Section 33	North Reference:	Grid
Well:	Guttersen D09-745	Survey Calculation Method:	Minimum Curvature
Wellbore:	Guttersen D09-745		
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)
6,950.00	75.74	181.65	6,695.22	-516.34	-501.44	464.91	9.00	8.92	-1.22
7,000.00	80.20	181.06	6,705.64	-565.21	-502.60	513.44	9.00	8.93	-1.17
7,050.00	84.67	180.49	6,712.22	-614.76	-503.26	562.68	9.00	8.93	-1.14
7,100.00	89.13	179.93	6,714.93	-664.67	-503.44	612.34	9.00	8.93	-1.13
7,109.73	90.00	179.82	6,715.00	-674.40	-503.42	622.02	9.00	8.93	-1.12
TPZ/Landing Pt. at 7109.73 MD									
7,200.00	90.00	179.82	6,715.00	-764.67	-503.13	711.89	0.00	0.00	0.00
7,300.00	90.00	179.82	6,715.00	-864.67	-502.81	811.44	0.00	0.00	0.00
7,400.00	90.00	179.82	6,715.00	-964.67	-502.49	911.00	0.00	0.00	0.00
7,500.00	90.00	179.82	6,715.00	-1,064.67	-502.17	1,010.55	0.00	0.00	0.00
7,600.00	90.00	179.82	6,715.00	-1,164.67	-501.85	1,110.10	0.00	0.00	0.00
7,700.00	90.00	179.82	6,715.00	-1,264.67	-501.53	1,209.65	0.00	0.00	0.00
7,800.00	90.00	179.82	6,715.00	-1,364.67	-501.21	1,309.21	0.00	0.00	0.00
7,900.00	90.00	179.82	6,715.00	-1,464.67	-500.89	1,408.76	0.00	0.00	0.00
8,000.00	90.00	179.82	6,715.00	-1,564.67	-500.57	1,508.31	0.00	0.00	0.00
8,100.00	90.00	179.82	6,715.00	-1,664.67	-500.25	1,607.87	0.00	0.00	0.00
8,200.00	90.00	179.82	6,715.00	-1,764.67	-499.93	1,707.42	0.00	0.00	0.00
8,300.00	90.00	179.82	6,715.00	-1,864.67	-499.61	1,806.97	0.00	0.00	0.00
8,400.00	90.00	179.82	6,715.00	-1,964.67	-499.29	1,906.53	0.00	0.00	0.00
8,500.00	90.00	179.82	6,715.00	-2,064.67	-498.97	2,006.08	0.00	0.00	0.00
8,600.00	90.00	179.82	6,715.00	-2,164.67	-498.65	2,105.63	0.00	0.00	0.00
8,700.00	90.00	179.82	6,715.00	-2,264.67	-498.33	2,205.18	0.00	0.00	0.00
8,800.00	90.00	179.82	6,715.00	-2,364.67	-498.01	2,304.74	0.00	0.00	0.00
8,900.00	90.00	179.82	6,715.00	-2,464.66	-497.69	2,404.29	0.00	0.00	0.00
9,000.00	90.00	179.82	6,715.00	-2,564.66	-497.37	2,503.84	0.00	0.00	0.00
9,100.00	90.00	179.82	6,715.00	-2,664.66	-497.05	2,603.40	0.00	0.00	0.00
9,200.00	90.00	179.82	6,715.00	-2,764.66	-496.72	2,702.95	0.00	0.00	0.00
9,300.00	90.00	179.82	6,715.00	-2,864.66	-496.40	2,802.50	0.00	0.00	0.00
9,400.00	90.00	179.82	6,715.00	-2,964.66	-496.08	2,902.05	0.00	0.00	0.00
9,500.00	90.00	179.82	6,715.00	-3,064.66	-495.76	3,001.61	0.00	0.00	0.00
9,600.00	90.00	179.82	6,715.00	-3,164.66	-495.44	3,101.16	0.00	0.00	0.00
9,700.00	90.00	179.82	6,715.00	-3,264.66	-495.12	3,200.71	0.00	0.00	0.00
9,800.00	90.00	179.82	6,715.00	-3,364.66	-494.80	3,300.27	0.00	0.00	0.00
9,900.00	90.00	179.82	6,715.00	-3,464.66	-494.48	3,399.82	0.00	0.00	0.00
10,000.00	90.00	179.82	6,715.00	-3,564.66	-494.16	3,499.37	0.00	0.00	0.00
10,100.00	90.00	179.82	6,715.00	-3,664.66	-493.84	3,598.92	0.00	0.00	0.00
10,200.00	90.00	179.82	6,715.00	-3,764.66	-493.52	3,698.48	0.00	0.00	0.00
10,300.00	90.00	179.82	6,715.00	-3,864.66	-493.20	3,798.03	0.00	0.00	0.00
10,400.00	90.00	179.82	6,715.00	-3,964.66	-492.88	3,897.58	0.00	0.00	0.00
10,500.00	90.00	179.82	6,715.00	-4,064.66	-492.56	3,997.14	0.00	0.00	0.00
10,600.00	90.00	179.82	6,715.00	-4,164.66	-492.24	4,096.69	0.00	0.00	0.00
10,700.00	90.00	179.82	6,715.00	-4,264.66	-491.92	4,196.24	0.00	0.00	0.00
10,800.00	90.00	179.82	6,715.00	-4,364.66	-491.60	4,295.79	0.00	0.00	0.00
10,900.00	90.00	179.82	6,715.00	-4,464.65	-491.28	4,395.35	0.00	0.00	0.00
11,000.00	90.00	179.82	6,715.00	-4,564.65	-490.96	4,494.90	0.00	0.00	0.00
11,100.00	90.00	179.82	6,715.00	-4,664.65	-490.64	4,594.45	0.00	0.00	0.00
11,200.00	90.00	179.82	6,715.00	-4,764.65	-490.32	4,694.01	0.00	0.00	0.00
11,300.00	90.00	179.82	6,715.00	-4,864.65	-490.00	4,793.56	0.00	0.00	0.00
11,400.00	90.00	179.82	6,715.00	-4,964.65	-489.68	4,893.11	0.00	0.00	0.00
11,495.59	90.00	179.82	6,715.00	-5,060.24	-489.37	4,988.27	0.00	0.00	0.00
Start DLS 2.00 TFO -90.00									
11,500.00	90.00	179.73	6,715.00	-5,064.65	-489.35	4,992.67	2.00	0.00	-2.00
11,600.00	90.00	177.73	6,715.00	-5,164.62	-487.13	5,092.37	2.00	0.00	-2.00
11,700.00	90.00	175.73	6,715.00	-5,264.45	-481.43	5,192.29	2.00	0.00	-2.00

Noble Energy

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Guttersen D09-745
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 D09-745	Survey Calculation Method:	Minimum Curvature
Wellbore:	Guttersen D09-745		
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)
11,800.00	90.00	173.73	6,715.00	-5,364.03	-472.24	5,292.28	2.00	0.00	-2.00
11,900.00	90.00	171.73	6,715.00	-5,463.22	-459.58	5,392.23	2.00	0.00	-2.00
12,000.00	90.00	169.73	6,715.00	-5,561.90	-443.47	5,492.02	2.00	0.00	-2.00
12,100.00	90.00	167.73	6,715.00	-5,659.97	-423.93	5,591.53	2.00	0.00	-2.00
12,200.00	90.00	165.73	6,715.00	-5,757.30	-400.97	5,690.63	2.00	0.00	-2.00
12,290.75	90.00	163.91	6,715.00	-5,844.87	-377.21	5,780.11	2.00	0.00	-2.00
Start 2257.59 hold at 12290.75 MD									
12,300.00	90.00	163.91	6,715.00	-5,853.76	-374.65	5,789.21	0.00	0.00	0.00
12,400.00	90.00	163.91	6,715.00	-5,949.85	-346.94	5,887.54	0.00	0.00	0.00
12,500.00	90.00	163.91	6,715.00	-6,045.93	-319.23	5,985.87	0.00	0.00	0.00
12,600.00	90.00	163.91	6,715.00	-6,142.02	-291.52	6,084.20	0.00	0.00	0.00
12,700.00	90.00	163.91	6,715.00	-6,238.10	-263.81	6,182.53	0.00	0.00	0.00
12,800.00	90.00	163.91	6,715.00	-6,334.18	-236.10	6,280.86	0.00	0.00	0.00
12,900.00	90.00	163.91	6,715.00	-6,430.27	-208.39	6,379.19	0.00	0.00	0.00
13,000.00	90.00	163.91	6,715.00	-6,526.35	-180.68	6,477.52	0.00	0.00	0.00
13,100.00	90.00	163.91	6,715.00	-6,622.44	-152.97	6,575.85	0.00	0.00	0.00
13,200.00	90.00	163.91	6,715.00	-6,718.52	-125.26	6,674.18	0.00	0.00	0.00
13,300.00	90.00	163.91	6,715.00	-6,814.61	-97.55	6,772.52	0.00	0.00	0.00
13,400.00	90.00	163.91	6,715.00	-6,910.69	-69.84	6,870.85	0.00	0.00	0.00
13,500.00	90.00	163.91	6,715.00	-7,006.78	-42.13	6,969.18	0.00	0.00	0.00
13,600.00	90.00	163.91	6,715.00	-7,102.86	-14.43	7,067.51	0.00	0.00	0.00
13,700.00	90.00	163.91	6,715.00	-7,198.94	13.28	7,165.84	0.00	0.00	0.00
13,800.00	90.00	163.91	6,715.00	-7,295.03	40.99	7,264.17	0.00	0.00	0.00
13,900.00	90.00	163.91	6,715.00	-7,391.11	68.70	7,362.50	0.00	0.00	0.00
14,000.00	90.00	163.91	6,715.00	-7,487.20	96.41	7,460.83	0.00	0.00	0.00
14,100.00	90.00	163.91	6,715.00	-7,583.28	124.12	7,559.16	0.00	0.00	0.00
14,200.00	90.00	163.91	6,715.00	-7,679.37	151.83	7,657.49	0.00	0.00	0.00
14,300.00	90.00	163.91	6,715.00	-7,775.45	179.54	7,755.82	0.00	0.00	0.00
14,400.00	90.00	163.91	6,715.00	-7,871.53	207.25	7,854.15	0.00	0.00	0.00
14,500.00	90.00	163.91	6,715.00	-7,967.62	234.96	7,952.49	0.00	0.00	0.00
14,548.34	90.00	163.91	6,715.00	-8,014.06	248.35	8,000.02	0.00	0.00	0.00
Start DLS 2.00 TFO 0.00									
14,572.78	90.49	163.91	6,714.90	-8,037.55	255.12	8,024.05	2.00	2.00	0.00
Start 2918.16 hold at 14572.78 MD									
14,600.00	90.49	163.91	6,714.66	-8,063.70	262.67	8,050.82	0.00	0.00	0.00
14,700.00	90.49	163.91	6,713.81	-8,159.78	290.37	8,149.14	0.00	0.00	0.00
14,800.00	90.49	163.91	6,712.96	-8,255.86	318.08	8,247.47	0.00	0.00	0.00
14,900.00	90.49	163.91	6,712.10	-8,351.94	345.79	8,345.80	0.00	0.00	0.00
15,000.00	90.49	163.91	6,711.25	-8,448.03	373.50	8,444.12	0.00	0.00	0.00
15,100.00	90.49	163.91	6,710.40	-8,544.11	401.21	8,542.45	0.00	0.00	0.00
15,200.00	90.49	163.91	6,709.54	-8,640.19	428.92	8,640.78	0.00	0.00	0.00
15,300.00	90.49	163.91	6,708.69	-8,736.27	456.62	8,739.11	0.00	0.00	0.00
15,400.00	90.49	163.91	6,707.84	-8,832.35	484.33	8,837.43	0.00	0.00	0.00
15,500.00	90.49	163.91	6,706.99	-8,928.43	512.04	8,935.76	0.00	0.00	0.00
15,600.00	90.49	163.91	6,706.13	-9,024.51	539.75	9,034.09	0.00	0.00	0.00
15,700.00	90.49	163.91	6,705.28	-9,120.59	567.46	9,132.42	0.00	0.00	0.00
15,800.00	90.49	163.91	6,704.43	-9,216.67	595.16	9,230.74	0.00	0.00	0.00
15,900.00	90.49	163.91	6,703.57	-9,312.75	622.87	9,329.07	0.00	0.00	0.00
16,000.00	90.49	163.91	6,702.72	-9,408.83	650.58	9,427.40	0.00	0.00	0.00
16,100.00	90.49	163.91	6,701.87	-9,504.91	678.29	9,525.72	0.00	0.00	0.00
16,200.00	90.49	163.91	6,701.01	-9,601.00	706.00	9,624.05	0.00	0.00	0.00
16,300.00	90.49	163.91	6,700.16	-9,697.08	733.71	9,722.38	0.00	0.00	0.00
16,400.00	90.49	163.91	6,699.31	-9,793.16	761.41	9,820.71	0.00	0.00	0.00

Noble Energy
Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Guttersten D09-745
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 D09-745	Survey Calculation Method:	Minimum Curvature
Wellbore:	Guttersten D09-745		
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)
16,500.00	90.49	163.91	6,698.45	-9,889.24	789.12	9,919.03	0.00	0.00	0.00
16,600.00	90.49	163.91	6,697.60	-9,985.32	816.83	10,017.36	0.00	0.00	0.00
16,700.00	90.49	163.91	6,696.75	-10,081.40	844.54	10,115.69	0.00	0.00	0.00
16,800.00	90.49	163.91	6,695.89	-10,177.48	872.25	10,214.02	0.00	0.00	0.00
16,900.00	90.49	163.91	6,695.04	-10,273.56	899.95	10,312.34	0.00	0.00	0.00
17,000.00	90.49	163.91	6,694.19	-10,369.64	927.66	10,410.67	0.00	0.00	0.00
17,100.00	90.49	163.91	6,693.34	-10,465.72	955.37	10,509.00	0.00	0.00	0.00
17,200.00	90.49	163.91	6,692.48	-10,561.80	983.08	10,607.32	0.00	0.00	0.00
17,300.00	90.49	163.91	6,691.63	-10,657.88	1,010.79	10,705.65	0.00	0.00	0.00
17,400.00	90.49	163.91	6,690.78	-10,753.97	1,038.50	10,803.98	0.00	0.00	0.00
17,490.94	90.49	163.91	6,690.00	-10,841.34	1,063.69	10,893.40	0.00	0.00	0.00
TD at 17490.94									

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									
Guttersten D09-745-SHL	0.00	0.01	0.00	0.00	0.00	1,340,074.81	3,264,337.16	40.2630290	-104.5527850
- plan hits target center									
- Point									
Guttersten D09-745-KOF	0.00	0.01	6,090.01	-37.57	-426.96	1,340,037.24	3,263,910.20	40.2629384	-104.5543162
- plan hits target center									
- Point									
Guttersten D09-745-BHL	0.00	0.00	6,690.00	-10,841.34	1,063.69	1,329,233.49	3,265,400.85	40.2332390	-104.5493901
- plan hits target center									
- Point									
Guttersten D09-745-TPZ	0.00	0.00	6,715.00	-674.40	-503.42	1,339,400.41	3,263,833.74	40.2611926	-104.5546145
- plan hits target center									
- Point									

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				
3,594.64	3,588.00	Parkman				
4,002.84	3,993.00	Sussex				
4,559.21	4,545.00	Shannon				
5,950.13	5,925.00	Teepee Buttes				
6,752.24	6,618.00	Sharon Springs				
6,807.18	6,645.00	Top A Chalk				
6,842.09	6,660.00	Top A Marl				
6,887.78	6,677.00	Top B Chalk				

Noble Energy

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Guttersen D09-745
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 D09-745	Survey Calculation Method:	Minimum Curvature
Wellbore:	Guttersen D09-745		
Design:	Plan #3		

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
2,510.00	2,510.00	0.00	0.00	Start Build 2.00	
2,869.23	2,868.29	-1.97	-22.41	Start 3247.22 hold at 2869.23 MD	
6,116.45	6,090.02	-37.57	-426.96	Start DLS 9.00 TFO -85.19	
7,109.73	6,715.00	-674.40	-503.42	TPZ/Landing Pt. at 7109.73 MD	
11,495.59	6,715.00	-5,060.24	-489.37	Start DLS 2.00 TFO -90.00	
12,290.75	6,715.00	-5,844.87	-377.21	Start 2257.59 hold at 12290.75 MD	
14,548.34	6,715.00	-8,014.06	248.35	Start DLS 2.00 TFO 0.00	
14,572.78	6,714.90	-8,037.55	255.12	Start 2918.16 hold at 14572.78 MD	
17,490.94	6,690.00	-10,841.34	1,063.69	TD at 17490.94	

Northern Region - DJ Basin

Mustang

C Section 33

Guttersen D09-745

Guttersen D09-745

Plan #3

Anticollision Summary Report

18 March, 2020

Noble Energy

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D09-745
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 D09-745	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen D09-745	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	17,490.94	Plan #3 (Guttersen D09-745)	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	6,353.93	6,339.74	5,261.47	5,183.77	67.717	CC, ES
HENNINGTON C #32-10(PR) - Wellbore #1 - No Surveys	6,900.00	6,701.03	5,345.10	5,262.69	64.861	SF
HENNINGTON C #32-2(PR) - Wellbore #1 - No Surveys	6,203.45	6,197.00	6,654.31	6,578.29	87.536	CC, ES
HENNINGTON C #32-2(PR) - Wellbore #1 - No Surveys	6,800.00	6,662.71	6,829.43	6,747.57	83.427	SF
HENNINGTON C #32-7(PA) - Wellbore #1 - Gyro Survey	6,230.01	6,128.30	5,983.45	5,940.21	138.364	CC, ES
HENNINGTON C #32-7(PA) - Wellbore #1 - Gyro Survey	6,850.00	6,453.15	6,138.50	6,092.27	132.800	SF
HOWELL #1(SI) - Wellbore #1 - No Surveys	6,656.91	6,611.84	7,144.95	7,064.00	88.262	CC
HOWELL #1(SI) - Wellbore #1 - No Surveys	6,700.00	6,638.63	7,145.27	7,063.96	87.884	ES
HOWELL #1(SI) - Wellbore #1 - No Surveys	8,900.00	6,765.00	7,681.74	7,591.89	85.488	SF
HOWELL #32-1(SI) - Wellbore #1 - No Surveys	6,299.69	6,303.04	6,893.33	6,816.12	89.276	CC
HOWELL #32-1(SI) - Wellbore #1 - No Surveys	6,300.00	6,303.33	6,893.33	6,816.12	89.272	ES
HOWELL #32-1(SI) - Wellbore #1 - No Surveys	6,950.00	6,729.22	7,026.51	6,943.73	84.884	SF
HOWELL #32-2(SI) - Wellbore #1 - No Surveys	6,234.97	6,234.81	7,482.05	7,405.62	97.893	CC
HOWELL #32-2(SI) - Wellbore #1 - No Surveys	6,250.00	6,249.40	7,482.15	7,405.54	97.664	ES
HOWELL #32-2(SI) - Wellbore #1 - No Surveys	6,900.00	6,709.03	7,663.12	7,580.62	92.894	SF
HOWELL #32-23(PR) - Wellbore #1 - No Surveys	6,311.11	6,340.84	8,094.33	8,016.75	104.338	CC, ES
HOWELL #32-23(PR) - Wellbore #1 - No Surveys	7,000.00	6,766.64	8,234.92	8,151.71	98.965	SF
HOWELL #C 32-12(SI) - Wellbore #1 - No Surveys	6,484.56	6,509.13	7,825.09	7,745.52	98.342	CC
HOWELL #C 32-12(SI) - Wellbore #1 - No Surveys	6,500.00	6,521.77	7,825.14	7,745.41	98.147	ES
HOWELL #C 32-12(SI) - Wellbore #1 - No Surveys	7,100.00	6,789.93	7,902.71	7,819.12	94.541	SF
MCGUIRK-HOWELL C #32-11(SI) - Wellbore #1 - No Su	6,402.50	6,396.71	6,578.14	6,499.80	83.965	CC, ES
MCGUIRK-HOWELL C #32-11(SI) - Wellbore #1 - No Su	7,000.00	6,738.64	6,664.79	6,581.84	80.345	SF
MCGUIRK-HOWELL C #32-14(TA) - Wellbore #1 - No Su	6,768.78	6,665.56	6,466.48	6,384.78	79.143	CC
MCGUIRK-HOWELL C #32-14(TA) - Wellbore #1 - No Su	6,800.00	6,680.71	6,466.65	6,384.73	78.941	ES
MCGUIRK-HOWELL C #32-14(TA) - Wellbore #1 - No Su	8,700.00	6,754.00	6,867.81	6,778.91	77.260	SF
MCGUIRK-HOWELL C #32-4(SI) - Wellbore #1 - No Sur	6,249.66	6,297.07	8,724.88	8,647.87	113.287	CC
MCGUIRK-HOWELL C #32-4(SI) - Wellbore #1 - No Sur	6,250.00	6,297.40	8,724.88	8,647.86	113.281	ES
MCGUIRK-HOWELL C #32-4(SI) - Wellbore #1 - No Sur	6,950.00	6,771.22	8,909.10	8,825.96	107.150	SF
NELSON #32-25(PR) - Wellbore #1 - No Surveys	6,267.94	6,303.71	7,861.75	7,784.62	101.934	CC
NELSON #32-25(PR) - Wellbore #1 - No Surveys	6,300.00	6,334.33	7,862.12	7,784.61	101.442	ES
NELSON #32-25(PR) - Wellbore #1 - No Surveys	6,950.00	6,760.22	8,024.54	7,941.49	96.622	SF
PLUSS #32-43(PA) - Wellbore #1 - Gyro Surveys	6,750.35	6,479.34	5,296.18	5,250.13	115.008	CC, ES
PLUSS #32-43(PA) - Wellbore #1 - Gyro Surveys	9,100.00	6,488.08	5,903.34	5,849.13	108.909	SF
PTF #C 32-1(SI) - Wellbore #1 - No Surveys	6,184.29	6,170.16	5,499.50	5,423.77	72.615	CC
PTF #C 32-1(SI) - Wellbore #1 - No Surveys	6,200.00	6,185.61	5,499.64	5,423.72	72.434	ES
PTF #C 32-1(SI) - Wellbore #1 - No Surveys	6,700.00	6,601.63	5,648.20	5,567.11	69.651	SF
PTF #C 32-16(SI) - Wellbore #1 - No Surveys	6,678.62	6,589.62	3,718.78	3,637.96	46.016	CC

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 D09-745
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 D09-745	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen D09-745	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 32-16(SI) - Wellbore #1 - No Surveys	6,700.00	6,602.63	3,718.87	3,637.88	45.919	ES
PTF #C 32-16(SI) - Wellbore #1 - No Surveys	7,000.00	6,719.64	3,742.66	3,659.91	45.229	SF
PTF #C 32-8(SI) - Wellbore #1 - No Surveys	6,221.80	6,196.97	4,585.17	4,509.10	60.279	CC, ES
PTF #C 32-8(SI) - Wellbore #1 - No Surveys	6,700.00	6,591.63	4,690.60	4,609.60	57.911	SF
PTF #C 32-9(SI) - Wellbore #1 - No Surveys	6,328.05	6,300.74	3,932.61	3,855.33	50.888	CC
PTF #C 32-9(SI) - Wellbore #1 - No Surveys	6,350.00	6,321.12	3,932.75	3,855.22	50.725	ES
PTF #C 32-9(SI) - Wellbore #1 - No Surveys	6,800.00	6,646.71	4,002.28	3,920.58	48.988	SF

Noble Energy

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D09-745
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 D09-745	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen D09-745	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	751.50	3,846.00	3,842.40	1,068.765	CC, ES
GUTTERSEN C #33-31D (PR) - GUTTERSEN C #33-31	6,500.00	6,675.46	4,799.71	4,750.39	97.332	SF
GUTTERSEN C #33-32 (PR) - Wellbore #1 - As-Drilled	6,227.13	6,237.19	3,522.80	3,359.30	21.546	CC
GUTTERSEN C #33-32 (PR) - Wellbore #1 - As-Drilled	6,250.00	6,263.61	3,523.03	3,358.84	21.457	ES
GUTTERSEN C #33-32 (PR) - Wellbore #1 - As-Drilled	6,500.00	6,494.27	3,559.70	3,389.24	20.882	SF
GUTTERSEN C #33-33D (PR) - GUTTERSEN C #33-33	6,357.65	6,492.55	3,287.22	3,234.71	62.603	CC, ES
GUTTERSEN C #33-33D (PR) - GUTTERSEN C #33-33	6,750.00	6,807.90	3,330.62	3,276.16	61.161	SF
Guttersen C28-715 - Guttersen C28-715 - Plan #2	2,200.00	2,198.00	164.57	149.27	10.756	CC, ES
Guttersen C28-715 - Guttersen C28-715 - Plan #2	2,400.00	2,388.54	170.12	153.48	10.223	SF
Guttersen C28-725 - Guttersen C28-725 - Plan #2	2,200.00	2,196.00	156.62	141.33	10.242	CC, ES
Guttersen C28-725 - Guttersen C28-725 - Plan #2	2,400.00	2,385.91	162.78	146.16	9.794	SF
Guttersen C28-735 - Guttersen C28-735 - Plan #2	2,200.00	2,195.00	151.54	136.25	9.912	CC, ES
Guttersen C28-735 - Guttersen C28-735 - Plan #2	2,400.00	2,384.98	157.82	141.21	9.501	SF
Guttersen C28-745 - Guttersen C28-745 - Plan #2	7,275.39	6,956.25	58.47	9.08	1.184	Level 2, CC, ES, SF
Guttersen C28-750 - Guttersen C28-750 - Plan #2	2,200.00	2,194.00	151.63	136.35	9.920	CC, ES
Guttersen C28-750 - Guttersen C28-750 - Plan #2	7,166.61	6,852.46	363.54	314.42	7.400	SF
Guttersen C28-755 - Guttersen C28-755 - Plan #2	7,083.91	7,214.54	710.02	660.81	14.430	CC, ES
Guttersen C28-755 - Guttersen C28-755 - Plan #2	7,200.00	7,114.30	712.61	663.18	14.415	SF
Guttersen C28-765 - Guttersen C28-765 - Plan #2	7,002.11	6,915.61	1,354.32	1,306.41	28.268	CC, ES
Guttersen C28-765 - Guttersen C28-765 - Plan #2	7,050.00	6,880.28	1,354.83	1,306.87	28.249	SF
Guttersen C28-775 - Guttersen C28-775 - Plan #2	7,290.25	6,611.44	1,975.50	1,927.20	40.904	CC, ES
Guttersen C28-775 - Guttersen C28-775 - Plan #2	7,500.00	6,535.12	1,984.67	1,936.00	40.778	SF
Guttersen C28-785 - Guttersen C28-785 - Plan #2	2,200.00	2,204.00	2,068.45	2,053.13	135.007	CC, ES
Guttersen C28-785 - Guttersen C28-785 - Plan #2	8,000.00	6,322.89	2,612.68	2,562.18	51.730	SF
Guttersen D09-721 - Guttersen D09-721 - Plan #3	2,200.00	2,202.00	22.60	7.29	1.476	Level 3, CC, ES, SF
Guttersen D09-750 - Guttersen D09-750 - 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	7,459.79	7,521.41	636.75	586.16	12.588	CC
Guttersen D09-755 - Guttersen D09-755 - Plan #2	11,500.00	11,545.70	650.92	555.35	6.811	ES
Guttersen D09-755 - Guttersen D09-755 - Plan #2	11,800.00	11,845.07	668.12	568.24	6.689	SF
Guttersen D09-765 - Guttersen D09-765 - Plan #1	7,052.51	7,093.91	1,302.11	1,254.01	27.069	CC
Guttersen D09-765 - Guttersen D09-765 - Plan #1	11,500.00	11,561.68	1,315.88	1,221.11	13.886	ES
Guttersen D09-765 - Guttersen D09-765 - Plan #1	12,100.00	12,157.09	1,380.34	1,276.89	13.344	SF
Guttersen D09-770 - Guttersen D09-770 - Plan #2	6,757.14	6,583.80	1,621.50	1,575.06	34.920	CC
Guttersen D09-770 - Guttersen D09-770 - Plan #2	11,495.59	11,502.63	1,664.55	1,570.61	17.720	ES
Guttersen D09-770 - Guttersen D09-770 - Plan #2	12,200.00	12,205.93	1,755.41	1,651.28	16.857	SF
Guttersen D09-775 - Guttersen D09-775 - Plan #2	6,441.20	6,214.21	1,874.69	1,830.32	42.250	CC
Guttersen D09-775 - Guttersen D09-775 - Plan #2	6,450.00	6,220.64	1,874.70	1,830.28	42.203	ES
Guttersen D09-775 - Guttersen D09-775 - Plan #2	17,490.94	17,295.97	3,510.12	3,323.69	18.828	SF
Guttersen D09-785 - Guttersen D09-785 - Plan #2	2,200.00	2,205.00	2,061.24	2,045.91	134.505	CC, ES
Guttersen D09-785 - Guttersen D09-785 - Plan #2	17,490.94	17,440.16	4,163.81	3,977.47	22.345	SF
LINDAY C #33-2 (SI) - Wellbore #1 - Gyro Surveys	6,395.30	6,322.27	1,140.82	1,096.39	25.679	CC
LINDAY C #33-2 (SI) - Wellbore #1 - Gyro Surveys	6,400.00	6,326.54	1,140.82	1,096.37	25.662	ES
LINDAY C #33-2 (SI) - Wellbore #1 - Gyro Surveys	6,600.00	6,487.45	1,155.94	1,110.29	25.321	SF
LINDSAY #33-1 (SI) - LINDSAY #33-1 OH - As-Drilled	4,593.67	4,546.22	195.28	163.41	6.128	CC
LINDSAY #33-1 (SI) - LINDSAY #33-1 OH - As-Drilled	4,600.00	4,552.39	195.28	163.37	6.119	ES
LINDSAY #33-1 (SI) - LINDSAY #33-1 OH - As-Drilled	5,200.00	5,148.18	209.40	173.25	5.793	SF
LINDSAY #33-3 (SI) - Wellbore #1 - No Surveys	6,141.13	6,085.48	3,076.04	2,948.93	24.199	CC
LINDSAY #33-3 (SI) - Wellbore #1 - No Surveys	6,150.00	6,105.72	3,076.10	2,948.60	24.127	ES
LINDSAY #33-3 (SI) - Wellbore #1 - No Surveys	6,450.00	6,376.12	3,145.13	3,011.90	23.608	SF
LINDSAY #33-4 (SI) - Wellbore #1 - No Surveys	2,510.00	2,481.00	2,849.60	2,798.40	55.663	CC
LINDSAY #33-4 (SI) - Wellbore #1 - No Surveys	6,116.45	6,061.02	2,882.96	2,756.39	22.778	ES
LINDSAY #33-4 (SI) - Wellbore #1 - No Surveys	6,400.00	6,332.48	2,950.27	2,818.00	22.304	SF
LINDSAY #33-5 (SI) - Wellbore #1 - No Surveys	3,457.92	3,408.35	1,527.73	1,457.05	21.614	CC

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 D09-745
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 D09-745	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen D09-745	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 #33-5 (SI) - Wellbore #1 - No Surveys	5,500.00	5,434.40	1,548.93	1,435.54	13.661	ES
LINDSAY #33-5 (SI) - Wellbore #1 - No Surveys	6,250.00	6,177.40	1,580.92	1,451.85	12.249	SF
LINDSAY #33-6 (SI) - Wellbore #1 - No Surveys	6,167.00	5,719.10	1,904.84	1,784.05	15.770	CC, ES
LINDSAY #33-6 (SI) - Wellbore #1 - No Surveys	6,350.00	5,904.88	1,926.56	1,801.89	15.453	SF
LINDSAY #33-7 (SI) - Wellbore #1 - No Surveys	6,131.44	6,083.88	4,331.88	4,204.83	34.096	CC
LINDSAY #33-7 (SI) - Wellbore #1 - No Surveys	6,150.00	6,102.28	4,332.14	4,204.70	33.994	ES
LINDSAY #33-7 (SI) - Wellbore #1 - No Surveys	6,500.00	6,425.77	4,432.58	4,298.35	33.022	SF
LINDSAY #33-8 (SI) - Wellbore #1 - No Surveys	2,510.00	2,508.00	4,155.82	4,104.15	80.438	CC
LINDSAY #33-8 (SI) - Wellbore #1 - No Surveys	6,116.45	6,072.02	4,187.37	4,060.61	33.032	ES
LINDSAY #33-8 (SI) - Wellbore #1 - No Surveys	6,500.00	6,428.77	4,305.16	4,170.92	32.069	SF
LINDSAY #C33-10 (SI) - Wellbore #1 - No Surveys	6,156.81	6,125.01	4,897.20	4,769.35	38.305	CC, ES
LINDSAY #C33-10 (SI) - Wellbore #1 - No Surveys	6,600.00	6,518.12	5,026.66	4,890.54	36.928	SF
LINDSAY #C33-11 (PA) - LINDSAY #C33-11 OH - As-Dri	6,189.71	6,207.40	3,873.55	3,830.14	89.225	CC
LINDSAY #C33-11 (PA) - LINDSAY #C33-11 OH - As-Dri	6,200.00	6,219.24	3,873.61	3,830.12	89.068	ES
LINDSAY #C33-11 (PA) - LINDSAY #C33-11 OH - As-Dri	6,550.00	6,500.00	3,950.98	3,905.36	86.611	SF
LINDSAY #C33-12 (PA) - Wellbore #1 - As-Drilled	6,267.42	6,323.24	2,931.11	2,887.11	66.613	CC, ES
LINDSAY #C33-12 (PA) - Wellbore #1 - As-Drilled	6,650.00	6,694.85	2,999.08	2,952.62	64.561	SF
LINDSAY #C33-13 (SI) - LINDSAY #C33-13 OH - As-Dril	6,548.71	6,472.51	2,446.47	2,401.04	53.849	CC
LINDSAY #C33-13 (SI) - LINDSAY #C33-13 OH - As-Dril	6,550.00	6,473.40	2,446.47	2,401.03	53.841	ES
LINDSAY #C33-13 (SI) - LINDSAY #C33-13 OH - As-Dril	6,850.00	6,640.11	2,471.96	2,425.11	52.760	SF
LINDSAY #C33-14 (SI) - Wellbore #1 - No Surveys	2,510.00	2,509.00	4,280.56	4,228.88	82.825	CC
LINDSAY #C33-14 (SI) - Wellbore #1 - No Surveys	2,700.00	2,680.86	4,282.63	4,227.30	77.391	ES
LINDSAY #C33-14 (SI) - Wellbore #1 - No Surveys	6,500.00	6,427.77	4,564.01	4,429.84	34.017	SF
LINDSAY #C33-15 (SI) - Wellbore #1 - No Surveys	2,510.00	2,477.00	3,028.39	2,977.36	59.338	CC
LINDSAY #C33-15 (SI) - Wellbore #1 - No Surveys	2,600.00	2,566.99	3,029.00	2,976.08	57.236	ES
LINDSAY #C33-15 (SI) - Wellbore #1 - No Surveys	6,400.00	6,328.48	3,309.84	3,177.81	25.068	SF
LINDSAY #C33-16 (SI) - Wellbore #1 - As-Drilled	2,544.01	2,511.33	1,098.12	1,080.63	62.779	CC, ES
LINDSAY #C33-16 (SI) - Wellbore #1 - As-Drilled	6,400.00	6,327.64	1,526.03	1,481.60	34.347	SF
LINDSAY #C33-9 (PR) - Wellbore #1 - No Surveys	2,510.00	2,459.00	1,894.96	1,844.15	37.295	CC
LINDSAY #C33-9 (PR) - Wellbore #1 - No Surveys	2,600.00	2,548.99	1,895.85	1,843.16	35.978	ES
LINDSAY #C33-9 (PR) - Wellbore #1 - No Surveys	6,350.00	6,265.12	2,244.35	2,113.54	17.158	SF
LINDSAY #C33-02 (SI) - Wellbore #1 - As-Drilled	6,395.30	6,322.26	1,140.82	1,096.36	25.661	CC
LINDSAY #C33-02 (SI) - Wellbore #1 - As-Drilled	6,400.00	6,326.54	1,140.83	1,096.34	25.644	ES
LINDSAY #C33-02 (SI) - Wellbore #1 - As-Drilled	6,600.00	6,487.45	1,155.94	1,110.26	25.303	SF
LINDSAY #C33-17 (SI) - Wellbore #1 - As-Drilled	2,510.00	2,535.89	3,496.01	3,442.61	65.464	CC
LINDSAY #C33-17 (SI) - Wellbore #1 - As-Drilled	6,116.45	6,121.08	3,587.22	3,434.24	23.448	ES
LINDSAY #C33-17 (SI) - Wellbore #1 - As-Drilled	6,300.00	6,320.75	3,619.07	3,458.80	22.582	SF
LINDSAY #C33-18 (SI) - Wellbore #1 - As-Drilled	1,100.33	1,091.36	2,895.12	2,880.92	203.832	CC
LINDSAY #C33-18 (SI) - Wellbore #1 - As-Drilled	1,200.00	1,147.00	2,895.94	2,880.64	189.318	ES
LINDSAY #C33-18 (SI) - Wellbore #1 - As-Drilled	6,450.00	6,460.90	3,638.84	3,529.10	33.161	SF
LINDSAY #C33-19 (PR) - Wellbore #1 - No Surveys	6,152.92	6,114.16	3,940.54	3,812.89	30.870	CC, ES
LINDSAY #C33-19 (PR) - Wellbore #1 - No Surveys	6,450.00	6,406.88	4,001.10	3,867.34	29.912	SF
LINDSAY #C33-20 (SI) - Wellbore #1 - As-Drilled	6,182.45	6,165.04	2,682.46	2,518.87	16.397	CC
LINDSAY #C33-20 (SI) - Wellbore #1 - As-Drilled	6,200.00	6,183.28	2,682.64	2,518.62	16.355	ES
LINDSAY #C33-20 (SI) - Wellbore #1 - As-Drilled	6,500.00	6,454.95	2,744.09	2,572.93	16.032	SF
LINDSAY #C33-21 (SI) - Wellbore #1 - As-Drilled	6,100.00	6,079.95	2,087.05	1,927.55	13.085	CC, ES
LINDSAY #C33-21 (SI) - Wellbore #1 - As-Drilled	6,250.00	6,204.58	2,098.69	1,937.10	12.987	SF
LINDSAY #C33-22 (SI) - Wellbore #1 - As-Drilled	2,510.00	2,512.68	2,057.48	1,999.98	35.781	CC
LINDSAY #C33-22 (SI) - Wellbore #1 - As-Drilled	3,000.00	3,010.33	2,068.56	1,996.71	28.791	ES
LINDSAY #C33-22 (SI) - Wellbore #1 - As-Drilled	6,200.00	6,150.96	2,226.41	2,067.26	13.990	SF
LINDSAY #C33-23 (SI) - Wellbore #1 - No Surveys	2,510.00	2,463.00	927.75	876.87	18.234	CC
LINDSAY #C33-23 (SI) - Wellbore #1 - No Surveys	2,600.00	2,552.99	928.45	875.69	17.596	ES
LINDSAY #C33-23 (SI) - Wellbore #1 - No Surveys	6,200.00	6,125.61	1,211.57	1,083.71	9.475	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 D09-745
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 D09-745	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersten D09-745	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 #33-24 (SI) - Wellbore #1 - As-Drilled	6,156.39	6,113.25	991.17	822.28	5.869	CC, ES
LINDSAY C #33-24 (SI) - Wellbore #1 - As-Drilled	6,250.00	6,318.30	996.81	823.75	5.760	SF
LINDSAY C #33-25 (SI) - Wellbore #1 - No Surveys	6,273.47	6,220.02	1,886.07	1,756.25	14.528	CC
LINDSAY C #33-25 (SI) - Wellbore #1 - No Surveys	6,300.00	6,245.33	1,886.33	1,755.98	14.471	ES
LINDSAY C #33-25 (SI) - Wellbore #1 - No Surveys	6,550.00	6,462.19	1,916.41	1,781.46	14.201	SF

Noble Energy

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D09-745
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 D09-745	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen D09-745	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						
ALOYSIOUS #C34-08(PR) - Wellbore #1 - No Surveys	2,510.00	2,453.00	3,708.40	3,678.22	122.912	CC
ALOYSIOUS #C34-08(PR) - Wellbore #1 - No Surveys	2,600.00	2,542.99	3,709.39	3,678.12	118.623	ES
ALOYSIOUS #C34-08(PR) - Wellbore #1 - No Surveys	6,500.00	6,389.77	4,136.56	4,058.03	52.671	SF
ALOYSIOUS #C34-09(SI) - Wellbore #1 - Gyro Surveys	2,535.28	2,531.44	6,513.41	6,495.87	371.317	CC, ES
ALOYSIOUS #C34-09(SI) - Wellbore #1 - Gyro Surveys	7,000.00	7,000.00	7,138.39	7,090.23	148.215	SF
ALOYSIOUS #C34-11(PA) - Wellbore #1 - Gyro Surveys	165.86	110.66	4,007.68	4,007.12	7,199.119	CC
ALOYSIOUS #C34-11(PA) - Wellbore #1 - Gyro Surveys	2,510.00	2,433.13	4,010.28	3,993.19	234.697	ES
ALOYSIOUS #C34-11(PA) - Wellbore #1 - Gyro Surveys	6,750.00	6,645.86	4,549.31	4,502.85	97.911	SF
ALOYSIOUS #34-1(PR) - Wellbore #1 - No Surveys	2,510.00	2,483.00	4,796.73	4,766.29	157.616	CC
ALOYSIOUS #34-1(PR) - Wellbore #1 - No Surveys	2,600.00	2,572.99	4,797.53	4,766.00	152.146	ES
ALOYSIOUS #34-1(PR) - Wellbore #1 - No Surveys	6,550.00	6,459.19	5,201.86	5,122.56	65.596	SF
ALOYSIOUS #34-2(PR) - Wellbore #1 - No Surveys	2,510.00	2,452.00	6,283.51	6,253.34	208.322	CC, ES
ALOYSIOUS #34-2(PR) - Wellbore #1 - No Surveys	7,100.00	6,656.93	6,844.44	6,762.21	83.236	SF
ALOYSIOUS #34-3(PR) - Wellbore #1 - No Surveys	2,510.00	2,457.00	5,575.73	5,545.53	184.589	CC
ALOYSIOUS #34-3(PR) - Wellbore #1 - No Surveys	2,600.00	2,546.99	5,576.76	5,545.45	178.140	ES
ALOYSIOUS #34-3(PR) - Wellbore #1 - No Surveys	6,650.00	6,504.34	6,089.80	6,009.90	76.219	SF
ALOYSIOUS #34-4(SI) - Wellbore #1 - No Surveys	2,510.00	2,450.00	4,635.72	4,605.58	153.781	CC, ES
ALOYSIOUS #34-4(SI) - Wellbore #1 - No Surveys	6,650.00	6,497.34	5,174.79	5,094.96	64.822	SF
ALOYSIOUS #34-5(PA) - Wellbore #1 - Gyro Surveys	2,421.15	2,362.26	5,260.15	5,243.63	318.376	CC
ALOYSIOUS #34-5(PA) - Wellbore #1 - Gyro Surveys	2,510.00	2,436.45	5,260.30	5,243.20	307.620	ES
ALOYSIOUS #34-5(PA) - Wellbore #1 - Gyro Surveys	6,850.00	6,611.23	5,893.71	5,847.20	126.713	SF
ALOYSIOUS #34-6(PR) - Wellbore #1 - Gyro Surveys	1,061.48	1,009.84	3,726.18	3,719.25	538.105	CC
ALOYSIOUS #34-6(PR) - Wellbore #1 - Gyro Surveys	2,533.88	2,512.04	3,727.15	3,709.71	213.660	ES
ALOYSIOUS #34-6(PR) - Wellbore #1 - Gyro Surveys	6,900.00	6,665.27	4,215.48	4,168.55	89.828	SF
ALOYSIOUS #34-7(PR) - Wellbore #1 - Gyro Surveys	2,524.39	2,484.49	2,399.85	2,382.51	138.463	CC, ES
ALOYSIOUS #34-7(PR) - Wellbore #1 - Gyro Surveys	6,800.00	6,576.32	2,917.48	2,871.13	62.943	SF
ALOYSIOUS #C34-15(PR) - Wellbore #1 - No Surveys	2,510.00	2,453.00	5,036.52	5,006.35	166.931	CC, ES
ALOYSIOUS #C34-15(PR) - Wellbore #1 - No Surveys	7,050.00	6,655.22	5,600.54	5,518.42	68.199	SF
Aloysius C #34-18(PA) - Wellbore #1 - Gyro Surveys	1,996.59	1,936.70	5,463.34	5,449.81	404.005	CC
Aloysius C #34-18(PA) - Wellbore #1 - Gyro Surveys	2,534.88	2,514.04	5,467.11	5,449.65	313.010	ES
Aloysius C #34-18(PA) - Wellbore #1 - Gyro Surveys	7,000.00	7,000.00	6,221.81	6,173.87	129.805	SF
ALOYSIOUS C #34-19(PR) - Wellbore #1 - No Surveys	2,510.00	2,460.00	4,646.21	4,588.25	80.156	CC
ALOYSIOUS C #34-19(PR) - Wellbore #1 - No Surveys	2,600.00	2,549.99	4,647.23	4,587.15	77.353	ES
ALOYSIOUS C #34-19(PR) - Wellbore #1 - No Surveys	6,600.00	6,473.12	5,129.55	4,977.06	33.639	SF
Aloysius C #34-20D(PR) - Wellbore #1 - MWD Surveys	3,494.09	3,955.24	3,786.15	3,757.19	130.749	CC
Aloysius C #34-20D(PR) - Wellbore #1 - MWD Surveys	3,500.00	3,957.75	3,786.15	3,757.16	130.583	ES
Aloysius C #34-20D(PR) - Wellbore #1 - MWD Surveys	6,650.00	6,629.54	4,177.70	4,128.93	85.656	SF
Aloysius C #34-21D(SI) - Wellbore #1 - MWD Surveys	2,821.45	3,387.00	5,002.33	4,977.40	200.638	CC
Aloysius C #34-21D(SI) - Wellbore #1 - MWD Surveys	3,600.00	4,242.00	5,004.56	4,971.71	152.336	ES
Aloysius C #34-21D(SI) - Wellbore #1 - MWD Surveys	6,650.00	6,680.82	5,366.71	5,315.75	105.321	SF
ALOYSIOUS C #34-22D(PR) - Wellbore #1 - MWD Survey	2,796.34	3,454.02	6,336.07	6,310.99	252.558	CC
ALOYSIOUS C #34-22D(PR) - Wellbore #1 - MWD Survey	2,800.00	3,455.86	6,336.08	6,310.97	252.329	ES
ALOYSIOUS C #34-22D(PR) - Wellbore #1 - MWD Survey	6,900.00	6,791.33	6,850.61	6,799.79	134.798	SF
ALOYSIOUS C #34-23(PR) - Wellbore #1 - Gyro Surveys	2,515.91	2,478.01	5,730.86	5,713.57	331.471	CC, ES
ALOYSIOUS C #34-23(PR) - Wellbore #1 - Gyro Surveys	7,050.00	6,685.11	6,292.71	6,245.51	133.318	SF
Aloysius C #34-24(SI) - Wellbore #1 - No Surveys	2,510.00	2,455.00	4,600.32	4,570.13	152.386	CC, ES
Aloysius C #34-24(SI) - Wellbore #1 - No Surveys	6,900.00	6,626.03	5,193.53	5,111.99	63.694	SF
ALOYSIOUS C #34-27D(PR) - Wellbore #1 - MWD Survey	2,738.11	3,250.00	7,528.98	7,506.31	332.092	CC, ES
ALOYSIOUS C #34-27D(PR) - Wellbore #1 - MWD Survey	6,700.00	6,651.79	7,967.48	7,918.37	162.235	SF
ALOYSIOUS C #34-28D(PA) - Wellbore #1 - Gyro Surveys	764.50	712.81	5,608.92	5,604.09	1,162.355	CC
ALOYSIOUS C #34-28D(PA) - Wellbore #1 - Gyro Surveys	800.00	735.07	5,608.97	5,603.94	1,115.022	ES
ALOYSIOUS C #34-28D(PA) - Wellbore #1 - Gyro Surveys	6,750.00	6,650.38	7,149.45	7,101.98	150.596	SF
Aloysius C #34-31(PA) - Wellbore #1 - Gyro Surveys	2,423.62	2,393.73	4,005.16	3,988.52	240.638	CC

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 D09-745
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 D09-745	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersten D09-745	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						
Aloysius C #34-31(PA) - Wellbore #1 - Gyro Surveys	2,510.00	2,473.74	4,005.23	3,988.00	232.423	ES
Aloysius C #34-31(PA) - Wellbore #1 - Gyro Surveys	6,500.00	6,517.82	4,383.04	4,337.64	96.535	SF
Aloysius C #34-32D(PR) - Wellbore #1 - MWD Surveys	2,798.26	3,089.01	2,845.42	2,822.41	123.657	CC
Aloysius C #34-32D(PR) - Wellbore #1 - MWD Surveys	2,800.00	3,090.60	2,845.42	2,822.39	123.563	ES
Aloysius C #34-32D(PR) - Wellbore #1 - MWD Surveys	6,350.00	6,449.92	3,117.24	3,064.91	59.564	SF
Aloysius C34-33D(PR) - Wellbore #1 - MWD Surveys	2,811.02	3,055.60	2,144.54	2,122.50	97.309	CC, ES
Aloysius C34-33D(PR) - Wellbore #1 - MWD Surveys	6,450.00	6,473.30	2,477.45	2,429.37	51.522	SF
Aloysius C34-99HZ - Original Drilling - Original Drilling - A	6,229.67	10,570.00	2,869.78	2,819.84	57.462	CC, ES
Aloysius C34-99HZ - Original Drilling - Original Drilling - A	8,400.00	10,570.00	3,862.90	3,777.32	45.139	SF
DONOVAN D #02-30(PR) - Wellbore #1 - No Surveys	2,510.00	2,456.00	6,831.47	6,801.27	226.227	CC, ES
DONOVAN D #02-30(PR) - Wellbore #1 - No Surveys	9,600.00	6,661.00	7,889.92	7,799.01	86.785	SF
Gittlein C22-750 - Wellbore #1 - Plan #2	2,200.00	2,179.00	4,054.03	4,038.80	266.162	CC
Gittlein C22-750 - Wellbore #1 - Plan #2	2,300.00	2,254.74	4,054.27	4,038.42	255.771	ES
Gittlein C22-750 - Wellbore #1 - Plan #2	9,100.00	6,350.00	5,188.45	5,134.88	96.860	SF
Gittlein C22-755 - Wellbore #1 - Plan #2	2,200.00	2,179.00	4,031.43	4,016.20	264.678	CC
Gittlein C22-755 - Wellbore #1 - Plan #2	2,510.00	2,478.85	4,031.78	4,014.45	232.574	ES
Gittlein C22-755 - Wellbore #1 - Plan #2	6,600.00	7,269.67	4,540.45	4,491.05	91.907	SF
Gittlein C22-765 - Wellbore #1 - Plan #2	6,407.36	7,262.51	3,884.51	3,835.56	79.351	CC, ES
Gittlein C22-765 - Wellbore #1 - Plan #2	6,850.00	7,083.66	3,895.27	3,845.75	78.659	SF
Gittlein C22-770 - Wellbore #1 - Plan #2	6,417.15	7,502.65	3,562.91	3,513.08	71.495	CC, ES
Gittlein C22-770 - Wellbore #1 - Plan #2	6,800.00	7,300.00	3,574.16	3,523.99	71.244	SF
Gittlein C22-775 - Wellbore #1 - Plan #2	6,399.15	7,604.94	3,232.39	3,182.10	64.281	CC
Gittlein C22-775 - Wellbore #1 - Plan #2	6,400.00	7,604.56	3,232.39	3,182.10	64.279	ES
Gittlein C22-775 - Wellbore #1 - Plan #2	6,500.00	7,553.68	3,233.70	3,183.32	64.183	SF
Gittlein C22-785 - Wellbore #1 - Plan #2	6,453.18	7,809.03	2,698.01	2,646.43	52.314	CC, ES, SF
Gittlein D10-755 - Wellbore #1 - Plan #2	17,490.94	17,335.46	3,060.83	2,873.20	16.313	CC, ES, SF
Gittlein D10-765 - Wellbore #1 - Plan #2	17,490.94	17,269.56	2,407.32	2,219.67	12.828	CC, ES, SF
Gittlein D10-770 - Wellbore #1 - Plan #2	17,490.94	17,498.53	2,155.94	1,966.20	11.362	CC, ES, SF
Gittlein D10-775 - Wellbore #1 - Plan #2	17,490.94	17,478.93	1,757.30	1,569.00	9.333	CC, ES, SF
Gittlein D10-785 - Wellbore #1 - Plan #2	17,490.94	17,639.14	1,103.27	915.85	5.887	CC, ES, SF
Guttersten C22-715 - Wellbore #1 - Plan #2	2,200.00	2,177.00	5,363.96	5,348.73	352.329	CC
Guttersten C22-715 - Wellbore #1 - Plan #2	2,300.00	2,230.00	5,364.30	5,348.53	340.203	ES
Guttersten C22-715 - Wellbore #1 - Plan #2	13,800.00	6,261.06	9,122.74	9,046.64	119.876	SF
Guttersten C22-725 - Wellbore #1 - Plan #2	2,200.00	2,177.00	5,341.35	5,326.13	350.844	CC
Guttersten C22-725 - Wellbore #1 - Plan #2	2,300.00	2,235.89	5,341.65	5,325.86	338.348	ES
Guttersten C22-725 - Wellbore #1 - Plan #2	10,800.00	6,100.00	7,336.51	7,275.84	120.920	SF
Guttersten C22-730 - Wellbore #1 - Plan #2	2,200.00	2,177.00	5,319.02	5,303.80	349.378	CC
Guttersten C22-730 - Wellbore #1 - Plan #2	2,300.00	2,243.60	5,319.27	5,303.45	336.378	ES
Guttersten C22-730 - Wellbore #1 - Plan #2	10,400.00	6,300.00	6,906.23	6,847.26	117.115	SF
Guttersten C22-735 - Wellbore #1 - Plan #2	2,200.00	2,177.00	5,296.43	5,281.20	347.893	CC
Guttersten C22-735 - Wellbore #1 - Plan #2	2,500.00	2,436.85	5,297.47	5,280.31	308.654	ES
Guttersten C22-735 - Wellbore #1 - Plan #2	10,100.00	6,300.00	6,511.38	6,454.18	113.851	SF
Guttersten C22-745 - Wellbore #1 - Plan #2	6,171.25	7,273.90	5,179.58	5,131.78	108.349	CC
Guttersten C22-745 - Wellbore #1 - Plan #2	6,200.00	7,270.38	5,179.64	5,131.74	108.130	ES
Guttersten C22-745 - Wellbore #1 - Plan #2	9,000.00	6,550.00	5,535.55	5,482.25	103.851	SF
GUTTERSEN D #03-27(PR) - Wellbore #1 - No Surveys	2,510.00	2,456.00	5,694.77	5,664.57	188.585	CC, ES
GUTTERSEN D #03-27(PR) - Wellbore #1 - No Surveys	8,400.00	6,661.00	6,421.24	6,335.40	74.804	SF
Guttersten D10-715 - Wellbore #1 - Plan #2	2,200.00	2,177.00	5,386.12	5,370.90	353.785	CC, ES
Guttersten D10-715 - Wellbore #1 - Plan #2	17,490.94	17,524.34	5,668.56	5,481.31	30.273	SF
Guttersten D10-725 - Wellbore #1 - Plan #2	17,490.94	17,287.84	5,016.18	4,829.08	26.810	CC, ES, SF
Guttersten D10-730 - Wellbore #1 - Plan #2	17,490.94	17,429.38	4,722.40	4,535.05	25.206	CC, ES, SF
Guttersten D10-735 - Wellbore #1 - Plan #2	17,490.94	17,327.88	4,364.48	4,177.94	23.397	CC, ES, SF
Guttersten D10-745 - Wellbore #1 - Plan #2	17,490.94	17,265.80	3,711.73	3,524.84	19.861	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 Guttersen D09-745
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 D09-745	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen D09-745	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						
Guttersen D10-750 - Wellbore #1 - Plan #2	17,490.94	17,487.16	3,430.29	3,241.53	18.173	CC, ES, SF
LANE #34-214(PR) - Wellbore #1 - No Surveys	2,510.00	2,449.00	6,577.70	6,547.57	218.265	CC, ES
LANE #34-214(PR) - Wellbore #1 - No Surveys	6,750.00	6,555.81	7,171.16	7,090.62	89.033	SF
LANE #34-814(PR) - Wellbore #1 - No Surveys	2,510.00	2,449.00	7,045.88	7,015.75	233.800	CC, ES
LANE #34-814(PR) - Wellbore #1 - No Surveys	6,850.00	6,602.16	7,679.79	7,598.63	94.624	SF
LANE C #34-17(PR) - Wellbore #1 - No Surveys	2,510.00	2,447.00	6,761.41	6,731.29	224.491	CC, ES
LANE C #34-17(PR) - Wellbore #1 - No Surveys	6,800.00	6,578.71	7,381.02	7,300.17	91.296	SF
POLLOCK-HADDIX #2(PA) - Wellbore #1 - Gyro Surveys	2,534.48	2,527.57	7,614.49	7,596.99	434.969	CC, ES
POLLOCK-HADDIX #2(PA) - Wellbore #1 - Gyro Surveys	6,750.00	6,485.98	8,244.86	8,199.06	180.042	SF
POLLOCK-HADDIX #34-1(SI) - Wellbore #1 - No Survey	2,510.00	2,450.00	5,843.93	5,813.78	193.860	CC, ES
POLLOCK-HADDIX #34-1(SI) - Wellbore #1 - No Survey	6,800.00	6,581.71	6,460.97	6,380.09	79.883	SF
TWO E RANCHES #1(PR) - Wellbore #1 - Gyro Surveys	2,249.74	2,194.85	2,983.73	2,968.38	194.412	CC
TWO E RANCHES #1(PR) - Wellbore #1 - Gyro Surveys	2,400.00	2,326.81	2,984.22	2,967.88	182.617	ES
TWO E RANCHES #1(PR) - Wellbore #1 - Gyro Surveys	6,600.00	6,428.16	3,525.36	3,480.10	77.884	SF

Noble Energy

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D09-745
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 D09-745	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen D09-745	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						
Becca D 3-11 (PR) - Wellbore #1 - No Surveys	10,273.58	6,688.00	4,239.66	3,935.12	13.922	CC
Becca D 3-11 (PR) - Wellbore #1 - No Surveys	10,300.00	6,688.00	4,239.74	3,935.05	13.915	ES
Becca D 3-11 (PR) - Wellbore #1 - No Surveys	10,600.00	6,688.00	4,252.20	3,945.80	13.878	SF
Becca D 3-12 (PR) - Wellbore #1 - No Surveys	10,320.09	6,684.00	2,914.16	2,609.48	9.565	CC, ES
Becca D 3-12 (PR) - Wellbore #1 - No Surveys	10,500.00	6,684.00	2,919.71	2,614.06	9.552	SF
Becca D 3-13 (PR) - Wellbore #1 - No Surveys	12,404.27	6,704.00	3,009.69	2,691.65	9.463	CC, ES
Becca D 3-13 (PR) - Wellbore #1 - No Surveys	12,500.00	6,704.00	3,011.21	2,692.89	9.460	SF
Becca D 3-14 (PR) - Wellbore #1 - No Surveys	12,610.21	6,686.00	4,218.34	3,899.45	13.228	CC, ES
Becca D 3-14 (PR) - Wellbore #1 - No Surveys	12,800.00	6,686.00	4,222.61	3,902.90	13.208	SF
Becca D03-24 (PR) - Wellbore #1 - No Surveys	10,837.35	6,710.00	4,832.92	4,523.78	15.633	CC, ES
Becca D03-24 (PR) - Wellbore #1 - No Surveys	12,500.00	6,710.00	4,947.25	4,629.21	15.555	SF
Becca D03-32D - Wellbore #1 - Wellbore #1 - As Drilled	9,553.45	6,840.68	2,178.82	2,119.54	36.755	CC, ES
Becca D03-32D - Wellbore #1 - Wellbore #1 - As Drilled	10,500.00	6,835.38	2,375.54	2,306.07	34.199	SF
Cody D #03-28(SI) - Wellbore #1 - No Surveys	2,510.00	2,459.00	4,557.19	4,526.97	150.783	CC, ES
Cody D #03-28(SI) - Wellbore #1 - No Surveys	7,800.00	6,664.00	5,107.43	5,023.50	60.851	SF
Cody D 03-28 (SI) - Wellbore #1 - No Surveys	2,510.00	2,475.00	4,557.19	4,451.75	43.219	CC
Cody D 03-28 (SI) - Wellbore #1 - No Surveys	2,600.00	2,564.99	4,558.58	4,449.22	41.685	ES
Cody D 03-28 (SI) - Wellbore #1 - No Surveys	7,100.00	6,679.93	5,037.24	4,748.16	17.425	SF
Cody D 3-20 (PR) - Wellbore #1 - No Surveys	9,608.35	6,686.00	3,573.07	3,272.88	11.903	CC, ES
Cody D 3-20 (PR) - Wellbore #1 - No Surveys	9,800.00	6,686.00	3,578.21	3,277.01	11.880	SF
Cody D 3-7 (PR) - Wellbore #1 - No Surveys	8,999.42	6,670.00	5,552.92	5,256.82	18.754	CC
Cody D 3-7 (PR) - Wellbore #1 - No Surveys	9,000.00	6,670.00	5,552.92	5,256.82	18.753	ES
Cody D 3-7 (PR) - Wellbore #1 - No Surveys	9,500.00	6,670.00	5,575.44	5,276.78	18.668	SF
CODY WHITE #D 3-2(PR) - Wellbore #1 - No Surveys	2,510.00	2,455.00	5,148.50	5,118.31	170.544	CC, ES
CODY WHITE #D 3-2(PR) - Wellbore #1 - No Surveys	9,000.00	6,660.00	5,732.97	5,644.36	64.699	SF
Cody White D 3-1 (PR) - Wellbore #1 - No Surveys	2,510.00	2,464.00	6,443.26	6,338.14	61.292	CC
Cody White D 3-1 (PR) - Wellbore #1 - No Surveys	2,600.00	2,553.99	6,444.63	6,335.59	59.105	ES
Cody White D 3-1 (PR) - Wellbore #1 - No Surveys	8,100.00	6,669.00	6,884.11	6,592.52	23.609	SF
Cody White D 3-2 (PR) - Wellbore #1 - No Surveys	2,510.00	2,465.00	5,148.50	5,043.34	48.957	CC
Cody White D 3-2 (PR) - Wellbore #1 - No Surveys	2,600.00	2,554.99	5,149.85	5,040.78	47.213	ES
Cody White D 3-2 (PR) - Wellbore #1 - No Surveys	7,900.00	6,670.00	5,551.76	5,260.85	19.084	SF
Cody White D 3-8 (PR) - Wellbore #1 - No Surveys	2,510.00	2,466.00	6,794.27	6,689.06	64.581	CC
Cody White D 3-8 (PR) - Wellbore #1 - No Surveys	8,900.00	6,671.00	6,863.79	6,568.20	23.221	ES
Cody White D 3-8 (PR) - Wellbore #1 - No Surveys	9,700.00	6,671.00	6,918.04	6,618.31	23.081	SF
Guttersen D 02-32D (PR) - Wellbore #1 - As Drilled Surv	831.74	828.87	6,824.90	6,820.70	1,624.308	CC, ES
Guttersen D 02-32D (PR) - Wellbore #1 - As Drilled Surv	14,800.00	6,759.00	8,491.41	8,400.23	93.128	SF
Guttersen D 03-17 (PR) - Wellbore #1 - No Surveys	2,510.00	2,472.00	5,937.34	5,832.00	56.361	CC
Guttersen D 03-17 (PR) - Wellbore #1 - No Surveys	2,600.00	2,561.99	5,938.65	5,829.39	54.354	ES
Guttersen D 03-17 (PR) - Wellbore #1 - No Surveys	8,800.00	6,677.00	6,189.30	5,894.31	20.982	SF
Guttersen D 03-25 (PR) - Wellbore #1 - No Surveys	10,726.69	6,688.00	3,579.90	3,272.43	11.643	CC, ES
Guttersen D 03-25 (PR) - Wellbore #1 - No Surveys	11,000.00	6,688.00	3,590.32	3,281.28	11.618	SF
Guttersen D 10-29 (PR) - Wellbore #1 - No Surveys	13,097.26	6,703.00	3,515.63	3,192.35	10.875	CC
Guttersen D 10-29 (PR) - Wellbore #1 - No Surveys	13,100.00	6,703.00	3,515.63	3,192.34	10.875	ES
Guttersen D 10-29 (PR) - Wellbore #1 - No Surveys	13,200.00	6,703.00	3,517.13	3,193.46	10.866	SF
HSR-Gittlein, D 4-3 (PR) - Wellbore #1 - No Surveys	2,510.00	2,472.00	2,403.87	2,298.43	22.797	CC
HSR-Gittlein, D 4-3 (PR) - Wellbore #1 - No Surveys	2,600.00	2,561.99	2,405.13	2,295.77	21.993	ES
HSR-Gittlein, D 4-3 (PR) - Wellbore #1 - No Surveys	7,400.00	6,677.00	2,730.26	2,440.54	9.424	SF
HSR-Gittlein, D 5-3 (PR) - Wellbore #1 - No Surveys	8,842.39	6,684.00	2,735.51	2,439.68	9.247	CC, ES
HSR-Gittlein, D 5-3 (PR) - Wellbore #1 - No Surveys	9,000.00	6,684.00	2,740.04	2,443.53	9.241	SF
HSR-Gittlein, L 3-3 (PR) - Wellbore #1 - No Surveys	2,510.00	2,469.00	3,861.79	3,756.46	36.666	CC
HSR-Gittlein, L 3-3 (PR) - Wellbore #1 - No Surveys	2,600.00	2,558.99	3,863.11	3,753.87	35.364	ES
HSR-Gittlein, L 3-3 (PR) - Wellbore #1 - No Surveys	7,700.00	6,674.00	4,213.88	3,923.45	14.509	SF
HSR-Gittlein, L 6-3 (PR) - Wellbore #1 - No Surveys	8,842.04	6,678.00	4,220.36	3,924.78	14.278	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 Guttersten D09-745
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 D09-745	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersten D09-745	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 6-3 (PR) - Wellbore #1 - No Surveys	9,100.00	6,678.00	4,228.24	3,931.43	14.246	SF
HSR-Guttersten "A" 16-3 (SI) - Wellbore #1 - Gyro Survey	13,386.12	6,664.05	6,656.26	6,573.42	80.346	CC
HSR-Guttersten "A" 16-3 (SI) - Wellbore #1 - Gyro Survey	13,400.00	6,664.14	6,656.28	6,573.34	80.257	ES
HSR-Guttersten "A" 16-3 (SI) - Wellbore #1 - Gyro Survey	15,300.00	6,669.87	6,925.93	6,833.78	75.160	SF
HSR-Guttersten "A" 9-3 (SI) - Wellbore #1 - Gyro Surveys	10,391.77	6,700.00	6,651.14	6,587.87	105.126	CC
HSR-Guttersten "A" 9-3 (SI) - Wellbore #1 - Gyro Surveys	10,400.00	6,700.00	6,651.14	6,587.82	105.042	ES
HSR-Guttersten "A" 9-3 (SI) - Wellbore #1 - Gyro Surveys	14,500.00	6,703.55	7,165.60	7,080.72	84.417	SF
HSR-Guttersten 10-3 (SI) - Wellbore #1 - No Surveys	10,186.96	6,683.00	5,562.04	5,258.28	18.310	CC
HSR-Guttersten 10-3 (SI) - Wellbore #1 - No Surveys	10,200.00	6,683.00	5,562.06	5,258.21	18.306	ES
HSR-Guttersten 10-3 (SI) - Wellbore #1 - No Surveys	10,800.00	6,683.00	5,595.73	5,288.35	18.205	SF
HSR-Guttersten 15-3 (SI) - Wellbore #1 - Gyro Surveys	13,206.08	6,712.92	5,509.16	5,427.54	67.499	CC, ES
HSR-Guttersten 15-3 (SI) - Wellbore #1 - Gyro Surveys	14,500.00	6,727.66	5,659.05	5,571.63	64.737	SF
UPRR 39 PAN AM A 01 (PA) - Wellbore #1 - No Surveys	12,331.62	6,703.00	2,911.05	2,593.65	9.172	CC, ES
UPRR 39 PAN AM A 01 (PA) - Wellbore #1 - No Surveys	12,400.00	6,703.00	2,911.85	2,594.26	9.169	SF

Noble Energy

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D09-745
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 D09-745	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen D09-745	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	9,399.48	6,677.72	950.87	893.97	16.709	CC
Burghart D04-22 - Wellbore #1 - Wellbore #1- As Drilled	9,400.00	6,677.72	950.87	893.96	16.709	ES, SF
Gittlein Blue D04-08 (SI) - Wellbore #1 - Wellbore #1- As	8,951.87	6,660.19	1,535.56	1,481.25	28.274	CC, ES
Gittlein Blue D04-08 (SI) - Wellbore #1 - Wellbore #1- As	9,100.00	6,658.24	1,542.69	1,487.87	28.139	SF
GITTLEIN D #04-24(PR) - GITTLEIN D #04-24 - No Surv	10,938.20	6,684.00	470.10	292.73	2.650	CC, ES, SF
Gittlein D #04-33(PR) - Gittlein D #04-33 - INC Only	10,923.47	1,966.71	2,764.39	2,570.45	14.254	CC, ES
Gittlein D #04-33(PR) - Gittlein D #04-33 - INC Only	11,200.00	1,966.71	2,778.19	2,582.19	14.174	SF
Guttersen D 04-18(PR) - Guttersen D 04-18 - Wellbore #	8,240.39	6,687.41	658.08	617.70	16.299	CC, ES
Guttersen D 04-18(PR) - Guttersen D 04-18 - Wellbore #	8,300.00	6,687.32	660.78	620.01	16.210	SF
Guttersen D 04-21(SI) - Guttersen D 04-21 - Wellbore #1	9,708.57	6,678.66	188.04	139.45	3.870	CC, ES, SF
Guttersen D 04-32 (SI) - Wellbore #1 - As-Drilled	9,333.36	6,723.30	2,854.72	2,797.96	50.295	CC, ES
Guttersen D 04-32 (SI) - Wellbore #1 - As-Drilled	10,100.00	6,722.97	2,955.87	2,894.50	48.165	SF
Guttersen D03-33D - Wellbore #1 - Wellbore #1- As Drill	10,744.41	6,756.48	2,064.14	1,994.93	29.825	CC, ES
Guttersen D03-33D - Wellbore #1 - Wellbore #1- As Drill	10,900.00	6,757.03	2,070.00	2,000.32	29.707	SF
Guttersen D04-30D - Plan B - Plan B	6,958.64	6,744.24	3,079.10	3,032.20	65.660	CC, ES
Guttersen D04-30D - Plan B - Plan B	7,300.00	6,761.01	3,105.56	3,058.00	65.291	SF
Guttersen D04-31D - Plan B - Plan B	8,275.62	6,981.22	3,074.33	3,017.19	53.801	CC
Guttersen D04-31D - Plan B - Plan B	8,300.00	6,980.40	3,074.43	3,017.14	53.665	ES
Guttersen D04-31D - Plan B - Plan B	9,100.00	6,954.58	3,182.83	3,120.88	51.380	SF
Guttersen D04-69HN - Original Drilling - Original Drilling	6,879.71	9,211.07	127.93	84.40	2.939	CC
Guttersen D04-69HN - Original Drilling - Original Drilling	6,900.00	9,209.77	130.11	77.18	2.458	ES
Guttersen D04-69HN - Original Drilling - Original Drilling	6,950.00	9,206.96	150.05	78.32	2.092	SF
Karch Blue D04-02 - Wellbore #1 - Wellbore #1- As Drille	7,673.53	6,667.01	398.51	349.79	8.180	CC, ES, SF
Karch Blue D04-07 - Wellbore #1 - Wellbore #1- As Drille	9,000.00	6,672.39	249.57	194.94	4.569	SF
Karch Blue D04-07 - Wellbore #1 - Wellbore #1- As Drille	9,004.57	6,672.35	249.52	194.92	4.569	CC, ES
Karch D04-17 - Wellbore #1 - Wellbore #1- As Drilled	8,270.03	6,679.41	938.39	887.30	18.368	CC, ES
Karch D04-17 - Wellbore #1 - Wellbore #1- As Drilled	8,300.00	6,679.03	938.87	887.71	18.353	SF
MARIE #D4-11(PR) - MARIE #D4-11 - No Surveys	10,200.22	6,678.00	824.49	652.20	4.785	CC, ES, SF
MARIE D #04-20(PR) - MARIE D #04-20 - As-Drilled	9,527.28	6,689.00	1,677.72	1,507.80	9.873	CC, ES
MARIE D #04-20(PR) - MARIE D #04-20 - As-Drilled	9,600.00	6,689.15	1,679.30	1,508.84	9.852	SF
Marie D #4-10 (TA) - Wellbore #1 - Wellbore #1- As Drille	10,340.19	6,680.59	349.55	286.77	5.568	CC, ES, SF
MARIE D #4-12 (PR) - Wellbore #1 - Gyro Surveys	10,209.54	6,667.82	2,247.07	2,185.13	36.281	CC, ES
MARIE D #4-12 (PR) - Wellbore #1 - Gyro Surveys	10,700.00	6,667.98	2,299.97	2,234.80	35.293	SF
MARIE D #4-13 (PR) - MARIE D #4-13 - No Surveys	11,533.31	6,684.00	2,140.45	1,976.83	13.081	CC, ES
MARIE D #4-13 (PR) - MARIE D #4-13 - No Surveys	11,700.00	6,684.00	2,151.76	1,986.77	13.042	SF
MARIE D #4-14(PR) - MARIE D #4-14 - No Surveys	11,537.15	6,682.00	993.24	829.63	6.071	CC, ES
MARIE D #4-14(PR) - MARIE D #4-14 - No Surveys	11,600.00	6,682.00	995.91	831.70	6.065	SF
Marie D #4-15 (PA) - Wellbore #1 - Wellbore #1- As Drille	11,533.15	6,680.78	306.27	235.28	4.314	CC, ES, SF
Marie D #4-16 (PA) - Wellbore #1 - Wellbore #1- As Drille	11,451.76	6,669.78	1,564.33	1,493.92	22.220	CC, ES
Marie D #4-16 (PA) - Wellbore #1 - Wellbore #1- As Drille	11,600.00	6,670.22	1,569.44	1,498.42	22.099	SF
MARIE D #4-19 (PR) - MARIE D #4-19 - No Surveys	8,210.61	6,702.00	1,439.05	1,295.30	10.011	CC, ES
MARIE D #4-19 (PR) - MARIE D #4-19 - No Surveys	8,300.00	6,702.00	1,441.83	1,297.59	9.997	SF
MARIE D #4-23 (SI) - Wellbore #1 - As-Drilled	10,861.62	6,675.90	952.99	886.66	14.368	CC, ES
MARIE D #4-23 (SI) - Wellbore #1 - As-Drilled	10,900.00	6,675.93	953.76	887.32	14.354	SF
MARIE D #4-25 (PR) - MARIE D #4-25 - No Surveys	10,761.85	6,683.00	1,596.03	1,437.78	10.085	CC, ES
MARIE D #4-25 (PR) - MARIE D #4-25 - No Surveys	10,900.00	6,683.00	1,601.99	1,442.65	10.054	SF
MARIE D #4-3(SI) - MARIE D #4-3 - As-Drilled	7,539.37	6,685.48	1,003.74	955.15	20.659	CC, ES
MARIE D #4-3(SI) - MARIE D #4-3 - As-Drilled	7,600.00	6,685.48	1,005.57	956.75	20.598	SF
MARIE D #4-4(SI) - MARIE D #4-4 - No Surveys	7,609.14	6,700.00	2,375.68	2,216.23	14.899	CC, ES
MARIE D #4-4(SI) - MARIE D #4-4 - No Surveys	7,700.00	6,700.00	2,377.41	2,217.64	14.880	SF
MARIE D #4-5(SI) - MARIE D #4-5 - No Surveys	8,908.79	6,695.00	2,353.27	2,188.36	14.270	CC, ES
MARIE D #4-5(SI) - MARIE D #4-5 - No Surveys	9,100.00	6,695.00	2,361.03	2,194.94	14.215	SF
MARIE D #4-6(SI) - MARIE D #4-6 - No Surveys	9,016.24	6,679.00	1,020.01	854.84	6.175	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 Guttersten D09-745
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 D09-745	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersten D09-745	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 #4-6(SI) - MARIE D #4-6 - No Surveys	9,100.00	6,679.00	1,023.44	857.67	6.174	SF
Marie D #4-9 (PR) - Wellbore #1 - Wellbore #1- As Drilled	10,168.38	6,698.55	1,587.07	1,525.27	25.682	CC, ES
Marie D #4-9 (PR) - Wellbore #1 - Wellbore #1- As Drilled	10,300.00	6,699.92	1,592.52	1,530.16	25.540	SF
Marie D04-72-1HN - Original Drilling - Original Drilling - A	7,300.00	11,395.00	1,928.44	1,817.56	17.391	SF
Marie D04-72-1HN - Original Drilling - Original Drilling - A	12,545.18	6,432.00	1,737.72	1,662.11	22.982	CC, ES
Marie D04-73-1HN - Original Drilling - Original Drilling - A	7,400.00	11,120.00	1,114.03	1,004.42	10.163	SF
Marie D04-73-1HN - Original Drilling - Original Drilling - A	7,433.48	11,120.00	1,113.53	1,004.04	10.170	ES
Marie D04-73-1HN - Original Drilling - Original Drilling - A	9,292.50	9,260.22	1,102.63	1,017.59	12.966	CC
Marie D04-74-1HN - Original Drilling - Original Drilling - P	12,200.00	6,724.16	540.98	468.08	7.421	SF
Marie D04-74-1HN - Original Drilling - Original Drilling - P	12,254.51	6,724.00	538.74	466.54	7.462	CC, ES
Marie D04-74-1HN - Original Drilling - ST01 - ST-01- As	7,759.19	10,895.39	598.11	533.60	9.271	CC, ES
Marie D04-74-1HN - Original Drilling - ST01 - ST-01- As	12,000.00	6,709.16	625.78	555.87	8.951	SF
Two E Ranch 01-04 - Wellbore #1 - Wellbore #1- As Drill	7,620.41	6,669.33	1,276.79	1,228.19	26.270	CC, ES
Two E Ranch 01-04 - Wellbore #1 - Wellbore #1- As Drill	7,700.00	6,668.87	1,279.27	1,230.50	26.234	SF

Noble Energy

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersten D09-745
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 D09-745	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersten D09-745	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 #12-10I(PA) - Wellbore #1 - Gyro Surveys	9,365.27	6,475.81	4,441.67	4,385.46	79.020	CC
BECKER #12-10I(PA) - Wellbore #1 - Gyro Surveys	9,400.00	6,475.89	4,441.80	4,385.37	78.715	ES
BECKER #12-10I(PA) - Wellbore #1 - Gyro Surveys	11,000.00	6,479.56	4,732.94	4,667.07	71.850	SF
BECKER #15-9I(PR) - Wellbore #1 - Gyro Surveys	10,793.43	6,687.96	5,724.65	5,658.73	86.850	CC
BECKER #15-9I(PR) - Wellbore #1 - Gyro Surveys	10,800.00	6,687.88	5,724.65	5,658.69	86.787	ES
BECKER #15-9I(PR) - Wellbore #1 - Gyro Surveys	15,900.00	15,900.00	8,434.14	8,313.99	70.199	SF
BECKER #5-12(PA) - Wellbore #1 - Gyro	8,903.71	6,549.83	5,045.75	4,991.91	93.718	CC, ES
BECKER #5-12(PA) - Wellbore #1 - Gyro	11,100.00	6,543.69	5,503.02	5,436.80	83.099	SF
BECKER #5-13(PA) - Wellbore #1 - Gyro Surveys	10,218.06	5,647.81	6,545.57	6,486.70	111.169	CC
BECKER #5-13(PA) - Wellbore #1 - Gyro Surveys	10,300.00	5,643.79	6,546.09	6,486.66	110.158	ES
BECKER #5-13(PA) - Wellbore #1 - Gyro Surveys	12,200.00	5,565.75	6,917.56	6,846.24	96.986	SF
BECKER #5-14(PA) - Wellbore #1 - Gyro Surveys	11,488.13	6,600.00	7,548.42	7,477.92	107.078	CC
BECKER #5-14(PA) - Wellbore #1 - Gyro Surveys	11,500.00	6,600.00	7,548.43	7,477.85	106.943	ES
BECKER #5-14(PA) - Wellbore #1 - Gyro Surveys	13,800.00	6,535.40	8,377.08	8,291.68	98.085	SF
BECKER #5-16(PA) - Wellbore #1 - Gyro Surveys	10,191.62	6,804.76	3,828.03	3,765.82	61.536	CC
BECKER #5-16(PA) - Wellbore #1 - Gyro Surveys	10,200.00	6,804.82	3,828.04	3,765.77	61.476	ES
BECKER #5-16(PA) - Wellbore #1 - Gyro Surveys	11,400.00	6,813.40	4,014.22	3,944.41	57.505	SF
BECKER #5-2(PA) - Wellbore #1 - Gyro Surveys	11,363.87	6,824.64	6,566.38	6,496.10	93.427	CC
BECKER #5-2(PA) - Wellbore #1 - Gyro Surveys	11,400.00	6,824.42	6,566.48	6,495.93	93.070	ES
BECKER #5-2(PA) - Wellbore #1 - Gyro Surveys	13,000.00	6,817.10	7,053.91	6,972.62	86.778	SF
BECKER #5-3(PA) - Wellbore #1 - Gyro Surveys	8,811.98	6,628.33	6,264.88	6,211.10	116.487	CC
BECKER #5-3(PA) - Wellbore #1 - Gyro Surveys	9,100.00	9,100.00	6,271.48	6,207.16	97.511	ES
BECKER #5-3(PA) - Wellbore #1 - Gyro Surveys	10,300.00	10,300.00	6,438.60	6,363.19	85.386	SF
BECKER #5-4(PA) - Wellbore #1 - Gyro Surveys	8,887.71	6,670.21	3,775.84	3,721.71	69.764	CC
BECKER #5-4(PA) - Wellbore #1 - Gyro Surveys	8,900.00	6,669.93	3,775.86	3,721.66	69.674	ES
BECKER #5-4(PA) - Wellbore #1 - Gyro Surveys	10,200.00	6,640.54	3,997.23	3,935.80	65.059	SF
BECKER #5-5(PA) - Wellbore #1 - Gyro Surveys	11,462.86	6,686.05	3,813.80	3,743.25	54.059	CC
BECKER #5-5(PA) - Wellbore #1 - Gyro Surveys	11,495.59	6,686.01	3,813.94	3,743.13	53.864	ES
BECKER #5-5(PA) - Wellbore #1 - Gyro Surveys	12,000.00	6,685.39	3,894.94	3,820.48	52.307	SF
BECKER #5-8(PR) - Wellbore #1 - Gyro Surveys	10,636.80	6,900.00	7,429.54	7,364.02	113.394	CC
BECKER #5-8(PR) - Wellbore #1 - Gyro Surveys	10,700.00	6,900.00	7,429.80	7,363.83	112.622	ES
BECKER #5-8(PR) - Wellbore #1 - Gyro Surveys	12,900.00	6,900.00	8,022.16	7,941.83	99.856	SF
BECKER #6(SI) - Wellbore #1 - Gyro Surveys	10,769.90	6,537.44	4,402.62	4,337.22	67.323	CC
BECKER #6(SI) - Wellbore #1 - Gyro Surveys	10,800.00	6,537.26	4,402.72	4,337.10	67.095	ES
BECKER #6(SI) - Wellbore #1 - Gyro Surveys	11,800.00	6,530.83	4,537.11	4,464.78	62.728	SF
BECKER #7(PA) - Wellbore #1 - Gyro Surveys	10,859.97	6,763.60	6,941.20	6,874.42	103.939	CC
BECKER #7(PA) - Wellbore #1 - Gyro Surveys	10,900.00	6,762.73	6,941.32	6,874.25	103.492	ES
BECKER #7(PA) - Wellbore #1 - Gyro Surveys	12,800.00	6,723.25	7,439.73	7,360.19	93.544	SF
Becker 05-1(PA) - Wellbore #1 - Gyro Surveys	10,237.77	6,700.64	5,028.92	4,966.66	80.766	CC
Becker 05-1(PA) - Wellbore #1 - Gyro Surveys	10,300.00	6,700.04	5,029.31	4,966.60	80.208	ES
Becker 05-1(PA) - Wellbore #1 - Gyro Surveys	11,800.00	6,685.26	5,281.23	5,208.96	73.080	SF
Becker 05-15(PA) - Wellbore #1 - Gyro Surveys	11,591.21	6,522.93	5,254.17	5,181.07	71.873	CC
Becker 05-15(PA) - Wellbore #1 - Gyro Surveys	11,600.00	6,522.41	5,254.19	5,181.03	71.810	ES
Becker 05-15(PA) - Wellbore #1 - Gyro Surveys	12,500.00	6,464.66	5,463.27	5,384.07	68.976	SF
Becker 08-12I (SI) - Wellbore #1 - As-Drilled	9,677.37	6,400.00	7,014.23	6,956.32	121.140	CC
Becker 08-12I (SI) - Wellbore #1 - As-Drilled	9,700.00	6,400.00	7,014.26	6,956.21	120.837	ES
Becker 08-12I (SI) - Wellbore #1 - As-Drilled	12,100.00	6,392.23	7,479.37	7,406.24	102.282	SF
Becker D17-715 - Wellbore #1 - Plan #2	11,796.42	7,270.13	3,385.88	3,307.80	43.365	CC
Becker D17-715 - Wellbore #1 - Plan #2	11,800.00	7,271.57	3,385.88	3,307.76	43.344	ES
Becker D17-715 - Wellbore #1 - Plan #2	17,490.94	12,419.60	4,863.64	4,707.08	31.067	SF
Becker D17-725 - Wellbore #1 - Plan #2	11,714.56	7,022.06	4,014.02	3,938.19	52.930	CC, ES
Becker D17-725 - Wellbore #1 - Plan #2	17,490.94	12,326.66	5,511.60	5,355.38	35.280	SF
Becker D17-735 - Wellbore #1 - Plan #2	11,617.73	6,611.38	4,615.89	4,542.39	62.798	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 Guttersten D09-745
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 D09-745	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersten D09-745	Database:	EDMP
Reference Design:	Plan #3	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 D17-735 - Wellbore #1 - Plan #2	17,490.94	12,319.16	6,159.54	6,003.60	39.499	SF
Becker D17-745 - Wellbore #1 - Plan #2	11,507.19	5,878.48	5,120.10	5,050.00	73.035	CC, ES
Becker D17-745 - Wellbore #1 - Plan #2	17,490.94	12,403.26	6,807.52	6,651.86	43.733	SF
Becker D17-755 - Wellbore #1 - Plan #2	11,758.49	7,500.00	5,961.14	5,881.90	75.227	CC, ES
Becker D17-755 - Wellbore #1 - Plan #2	17,490.94	12,474.53	7,454.33	7,299.25	48.069	SF
Becker D17-765 - Wellbore #1 - Plan #2	11,723.65	7,326.65	6,601.26	6,520.86	82.109	CC, ES
Becker D17-765 - Wellbore #1 - Plan #2	17,490.94	12,355.57	8,103.11	7,932.45	47.481	SF
Becker D17-775 - Wellbore #1 - Plan #2	11,672.02	7,100.00	7,236.44	7,159.08	93.549	CC
Becker D17-775 - Wellbore #1 - Plan #2	11,700.00	7,113.10	7,236.60	7,158.95	93.191	ES
Becker D17-775 - Wellbore #1 - Plan #2	17,490.94	12,270.78	8,751.54	8,581.21	51.378	SF
Becker D17-785 - Wellbore #1 - Plan #2	11,582.95	6,440.33	7,839.62	7,767.44	108.618	CC
Becker D17-785 - Wellbore #1 - Plan #2	11,600.00	6,445.66	7,839.69	7,767.36	108.392	ES
Becker D17-785 - Wellbore #1 - Plan #2	17,490.94	12,187.58	9,398.50	9,244.26	60.932	SF
Becker Ranch #5E-323 (PR) - Wellbore #1 - As Drilled	11,313.51	10,937.00	7,749.49	7,629.08	64.358	CC
Becker Ranch #5E-323 (PR) - Wellbore #1 - As Drilled	11,400.00	11,400.00	7,749.73	7,621.04	60.220	ES
Becker Ranch #5E-323 (PR) - Wellbore #1 - As Drilled	12,700.00	11,398.00	8,030.83	7,892.62	58.104	SF
Becker Ranch #5E-403 (PR) - As Drilled - As Drilled	0.00	52.32	7,926.64			
Becker Ranch #5E-403 (PR) - As Drilled - As Drilled	10,800.00	10,517.73	8,026.57	7,915.58	72.317	ES
Becker Ranch #5E-403 (PR) - As Drilled - As Drilled	12,800.00	11,599.00	8,359.14	8,215.52	58.202	SF
Becker Ranch #5J-103 (PA) - Wellbore #1 - As Drilled	8,143.53	7,681.00	7,051.33	6,993.82	122.604	CC
Becker Ranch #5J-103 (PA) - Wellbore #1 - As Drilled	8,700.00	8,175.57	7,057.73	6,991.63	106.784	ES
Becker Ranch #5J-103 (PA) - Wellbore #1 - As Drilled	11,600.00	8,438.00	7,568.39	7,484.14	89.836	SF
Becker Ranch #5J-203 (PR) - Wellbore #1 - As-Drilled	0.00	67.88	6,625.93			
Becker Ranch #5J-203 (PR) - Wellbore #1 - As-Drilled	100.00	154.90	6,626.18	6,625.80	10,000.000	ES
Becker Ranch #5J-203 (PR) - Wellbore #1 - As-Drilled	12,400.00	11,523.00	6,926.88	6,785.89	49.130	SF
Becker Ranch #5J-303 (PR) - Wellbore #1 - As Drilled	11,575.83	11,473.00	7,098.18	6,963.20	52.589	CC
Becker Ranch #5J-303 (PR) - Wellbore #1 - As Drilled	11,600.00	11,473.00	7,098.32	6,963.16	52.519	ES
Becker Ranch #5J-303 (PR) - Wellbore #1 - As Drilled	12,200.00	11,473.00	7,192.61	7,053.25	51.613	SF
Becker Ranch #5J-323 (PA) - Wellbore #1 - As Drilled	10,753.61	10,417.00	6,444.67	6,333.58	58.013	CC
Becker Ranch #5J-323 (PA) - Wellbore #1 - As Drilled	11,600.00	11,430.00	6,450.20	6,316.39	48.205	ES
Becker Ranch #5J-323 (PA) - Wellbore #1 - As Drilled	12,290.75	11,430.00	6,576.03	6,436.72	47.201	SF
Becker Ranch #5J-323R (PR) - Wellbore #1 - As-Drilled	11,555.65	11,313.17	6,340.23	6,207.92	47.918	CC
Becker Ranch #5J-323R (PR) - Wellbore #1 - As-Drilled	11,600.00	11,359.20	6,340.57	6,207.15	47.525	ES
Becker Ranch #5J-323R (PR) - Wellbore #1 - As-Drilled	12,200.00	11,390.00	6,436.96	6,298.41	46.458	SF
Becker Ranch #5J-343 (PR) - Wellbore #1 - As Drilled	11,566.52	11,500.00	7,416.86	7,283.19	55.488	CC, ES
Becker Ranch #5J-343 (PR) - Wellbore #1 - As Drilled	12,400.00	11,500.00	7,579.96	7,440.20	54.234	SF
Becker Ranch #5M-203 (PR) - Wellbore #1 - As-Drilled	0.00	36.94	5,457.26			
Becker Ranch #5M-203 (PR) - Wellbore #1 - As-Drilled	11,600.00	11,241.63	5,504.02	5,369.85	41.024	ES
Becker Ranch #5M-203 (PR) - Wellbore #1 - As-Drilled	12,200.00	11,239.00	5,603.50	5,464.27	40.246	SF
Becker Ranch #5M-243 (PR) - Wellbore #1 - As-Drilled	11,524.20	11,245.32	6,089.78	5,959.40	46.708	CC
Becker Ranch #5M-243 (PR) - Wellbore #1 - As-Drilled	11,600.00	11,297.71	6,090.93	5,959.10	46.203	ES
Becker Ranch #5M-243 (PR) - Wellbore #1 - As-Drilled	12,200.00	11,420.00	6,189.35	6,051.16	44.791	SF
Becker Ranch #5M-303 (PR) - Wellbore #1 - As-Drilled	11,576.25	11,467.00	5,784.85	5,651.95	43.529	CC
Becker Ranch #5M-303 (PR) - Wellbore #1 - As-Drilled	11,600.00	11,467.00	5,784.99	5,651.92	43.472	ES
Becker Ranch #5M-303 (PR) - Wellbore #1 - As-Drilled	12,100.00	11,467.00	5,855.80	5,719.34	42.912	SF
Becker Ranch #5M-323 (PR) - Wellbore #1 - As-Drilled	11,586.94	11,327.00	5,076.99	4,943.10	37.919	CC
Becker Ranch #5M-323 (PR) - Wellbore #1 - As-Drilled	11,600.00	11,327.00	5,077.04	4,943.03	37.886	ES
Becker Ranch #5M-323 (PR) - Wellbore #1 - As-Drilled	12,100.00	11,327.00	5,148.16	5,010.20	37.315	SF
Becker Ranch #5M-423 (PR) - Wellbore #1 - As-Drilled	9,261.09	8,951.00	5,273.41	5,195.01	67.260	CC
Becker Ranch #5M-423 (PR) - Wellbore #1 - As-Drilled	11,495.59	11,108.36	5,276.98	5,148.91	41.205	ES
Becker Ranch #5M-423 (PR) - Wellbore #1 - As-Drilled	12,100.00	11,441.00	5,359.74	5,221.53	38.781	SF
Becker Ranch #5R-203 (PR) - Wellbore #1 - As-Drilled	10,348.48	9,874.64	4,138.60	4,036.45	40.515	CC
Becker Ranch #5R-203 (PR) - Wellbore #1 - As-Drilled	11,600.00	11,214.80	4,142.14	4,009.05	31.123	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 D09-745
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 D09-745	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen D09-745	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-203 (PR) - Wellbore #1 - As-Drilled	12,000.00	11,265.00	4,190.53	4,053.32	30.540	SF
Becker Ranch #5R-243 (PR) - Wellbore #1 - As-Drilled	11,516.50	11,053.96	4,834.99	4,704.67	37.099	CC
Becker Ranch #5R-243 (PR) - Wellbore #1 - As-Drilled	11,600.00	11,137.62	4,836.21	4,703.86	36.540	ES
Becker Ranch #5R-243 (PR) - Wellbore #1 - As-Drilled	12,000.00	11,249.00	4,884.51	4,747.32	35.604	SF
Becker Ranch #5R-303 (PR) - Wellbore #1 - As-Drilled	7,115.46	6,583.00	4,382.38	4,335.11	92.704	CC
Becker Ranch #5R-303 (PR) - Wellbore #1 - As-Drilled	11,300.00	11,300.00	4,413.65	4,282.15	33.563	ES
Becker Ranch #5R-443 (PR) - Wellbore #1 - As-Drilled	11,900.00	11,320.00	4,446.51	4,310.45	32.680	SF
Becker Ranch #5R-323 (PR) - Wellbore #1 - As-Drilled	11,596.80	11,321.32	3,939.83	3,805.98	29.435	CC
Becker Ranch #5R-323 (PR) - Wellbore #1 - As-Drilled	11,600.00	11,324.52	3,939.83	3,805.90	29.417	ES
Becker Ranch #5R-323 (PR) - Wellbore #1 - As-Drilled	11,900.00	11,322.00	3,967.36	3,830.97	29.088	SF
Becker Ranch #5R-443 (PR) - Wellbore #1 - As-Drilled	11,589.09	11,409.00	4,702.84	4,569.05	35.152	CC
Becker Ranch #5R-443 (PR) - Wellbore #1 - As-Drilled	11,600.00	11,409.00	4,702.87	4,569.00	35.128	ES
Becker Ranch #5R-443 (PR) - Wellbore #1 - As-Drilled	12,000.00	11,409.00	4,749.91	4,613.15	34.731	SF
Becker Ranch #5U-243 (PR) - Wellbore #1 - As-Drilled	10,724.47	10,237.83	3,559.41	3,448.41	32.067	CC
Becker Ranch #5U-243 (PR) - Wellbore #1 - As-Drilled	11,600.00	11,220.51	3,561.26	3,427.61	26.646	ES
Becker Ranch #5U-243 (PR) - Wellbore #1 - As-Drilled	11,900.00	11,244.00	3,589.51	3,453.33	26.360	SF
Becker Ranch #5U-303 (PR) - Wellbore #1 - As-Drilled	11,407.03	11,026.17	3,151.23	3,023.97	24.762	CC
Becker Ranch #5U-303 (PR) - Wellbore #1 - As-Drilled	11,500.00	11,094.52	3,151.82	3,022.78	24.425	ES
Becker Ranch #5U-303 (PR) - Wellbore #1 - As-Drilled	11,800.00	11,347.00	3,172.22	3,036.82	23.428	SF
Becker Ranch #5U-443 (PR) - Wellbore #1 - As-Drilled	11,522.60	11,233.53	3,360.42	3,229.98	25.763	CC
Becker Ranch #5U-443 (PR) - Wellbore #1 - As-Drilled	11,600.00	11,338.87	3,361.17	3,228.39	25.314	ES
Becker Ranch #5U-443 (PR) - Wellbore #1 - As-Drilled	11,800.00	11,408.00	3,374.31	3,238.98	24.934	SF
LDS #D08-18D(SI) - Wellbore #1 - MWD Surveys	12,186.72	7,188.10	5,780.39	5,688.85	63.145	CC
LDS #D08-18D(SI) - Wellbore #1 - MWD Surveys	12,200.00	7,188.07	5,780.44	5,688.80	63.077	ES
LDS #D08-18D(SI) - Wellbore #1 - MWD Surveys	13,700.00	7,185.42	6,026.29	5,925.11	59.561	SF
LDS #D08-29 (PR) - Wellbore #1 - Gyro Surveys	11,670.42	6,644.82	6,970.42	6,898.70	97.185	CC
LDS #D08-29 (PR) - Wellbore #1 - Gyro Surveys	11,700.00	6,644.65	6,970.64	6,898.68	96.871	ES
LDS #D08-29 (PR) - Wellbore #1 - Gyro Surveys	14,700.00	14,700.00	8,117.08	7,997.69	67.988	SF
LDS D08-28D (SI) - Wellbore #1 - MWD Surveys	11,684.26	6,832.46	5,843.80	5,770.49	79.715	CC
LDS D08-28D (SI) - Wellbore #1 - MWD Surveys	11,700.00	6,832.13	5,843.87	5,770.43	79.582	ES
LDS D08-28D (SI) - Wellbore #1 - MWD Surveys	13,300.00	6,804.00	6,322.57	6,237.81	74.596	SF
LDS D08-30D (PR) - Wellbore #1 - MWD Surveys	11,662.40	3,939.99	8,375.22	8,311.53	131.510	CC, ES
LDS D08-30D (PR) - Wellbore #1 - MWD Surveys	15,500.00	3,852.00	9,838.62	9,749.80	110.766	SF

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

Noble Energy

Anticollision Summary Report

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Reference Well:	Guttersten D09-745	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersten D09-745	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	13,291.88	6,867.45	8,183.65	8,100.92	98.925	CC
HSR-ALVIN DECHANT #12-8 (SI) - Wellbore #1 - As-Dri	13,400.00	6,865.03	8,184.36	8,100.60	97.714	ES
HSR-ALVIN DECHANT #12-8 (SI) - Wellbore #1 - As-Dri	17,200.00	6,757.45	9,068.60	8,955.45	80.151	SF
HSR-ALVIN DECHANT #13-8 (SI) - Wellbore #1 - As-Dri	14,771.03	6,737.12	8,737.90	8,643.48	92.548	CC
HSR-ALVIN DECHANT #13-8 (SI) - Wellbore #1 - As-Dri	14,900.00	6,738.24	8,738.85	8,643.16	91.323	ES
HSR-ALVIN DECHANT #13-8 (SI) - Wellbore #1 - As-Dri	17,490.94	6,757.37	9,151.39	9,033.46	77.598	SF
HSR-LDS #14-8(SI) - Wellbore #1 - As-Drilled	14,558.73	6,760.60	7,452.76	7,360.10	80.430	CC
HSR-LDS #14-8(SI) - Wellbore #1 - As-Drilled	14,600.00	6,760.12	7,452.88	7,359.80	80.071	ES
HSR-LDS #14-8(SI) - Wellbore #1 - As-Drilled	17,490.94	6,724.22	8,008.85	7,892.16	68.636	SF
HSR-LDS #15-8(SI) - Wellbore #1 - As-Drilled	15,250.78	6,666.28	6,164.80	6,066.63	62.798	CC
HSR-LDS #15-8(SI) - Wellbore #1 - As-Drilled	15,300.00	6,666.71	6,165.00	6,066.30	62.467	ES
HSR-LDS #15-8(SI) - Wellbore #1 - As-Drilled	17,400.00	6,610.89	6,528.65	6,412.36	56.138	SF
HSR-LDS #16-8(SI) - Wellbore #1 - Gyro Surveys	15,742.26	6,580.26	4,929.20	4,807.91	40.638	CC
HSR-LDS #16-8(SI) - Wellbore #1 - Gyro Surveys	15,800.00	6,581.16	4,929.54	4,807.58	40.420	ES
HSR-LDS #16-8(SI) - Wellbore #1 - Gyro Surveys	17,100.00	6,601.49	5,112.73	4,978.70	38.145	SF
HSR-LDS #3-8(SI) - Wellbore #1 - As-Drilled	11,942.64	6,687.13	6,620.22	6,547.02	90.437	CC, ES
HSR-LDS #3-8(SI) - Wellbore #1 - As-Drilled	13,600.00	13,600.00	6,996.06	6,885.16	63.088	SF
HSR-LDS #4-8(SI) - Wellbore #1 - As-Drilled	11,953.34	6,365.91	7,698.18	7,625.97	106.611	CC, ES
HSR-LDS #4-8(SI) - Wellbore #1 - As-Drilled	15,300.00	6,330.76	8,728.90	8,632.79	90.821	SF
HSR-LDS #5-8(SI) - Wellbore #1 - As-Drilled	12,245.85	6,576.47	8,099.62	8,025.65	109.502	CC, ES
HSR-LDS #5-8(SI) - Wellbore #1 - As-Drilled	16,400.00	6,549.56	9,159.84	9,054.40	86.871	SF
HSR-LDS #6-8(SI) - Wellbore #1 - As-Drilled	12,379.13	6,651.36	6,801.78	6,726.73	90.627	CC
HSR-LDS #6-8(SI) - Wellbore #1 - As-Drilled	12,400.00	6,651.15	6,801.81	6,726.56	90.388	ES
HSR-LDS #6-8(SI) - Wellbore #1 - As-Drilled	15,500.00	6,604.69	7,483.34	7,383.45	74.913	SF
HSR-LDS #9-8(SI) - Wellbore #1 - As-Drilled	14,239.36	6,730.57	4,469.85	4,379.88	49.684	CC
HSR-LDS #9-8(SI) - Wellbore #1 - As-Drilled	14,300.00	6,731.47	4,470.26	4,379.60	49.313	ES
HSR-LDS #9-8(SI) - Wellbore #1 - As-Drilled	15,700.00	6,743.73	4,702.48	4,599.31	45.580	SF
HSR-LDS A #10-8(SI) - Wellbore #1 - As-Drilled	14,169.61	6,702.77	5,796.22	5,706.88	64.879	CC
HSR-LDS A #10-8(SI) - Wellbore #1 - As-Drilled	14,200.00	6,702.98	5,796.30	5,706.64	64.648	ES
HSR-LDS A #10-8(SI) - Wellbore #1 - As-Drilled	16,300.00	6,702.47	6,175.32	6,067.84	57.452	SF
HSR-LDS A #11-8(SI) - Wellbore #1 - As-Drilled	13,635.22	6,773.22	7,098.38	7,013.24	83.368	CC
HSR-LDS A #11-8(SI) - Wellbore #1 - As-Drilled	13,700.00	6,772.57	7,098.68	7,012.89	82.743	ES
HSR-LDS A #11-8(SI) - Wellbore #1 - As-Drilled	16,700.00	6,724.12	7,731.74	7,621.88	70.375	SF
LDS #18-8(SI) - Wellbore #1 - Gyro Surveys	12,127.15	6,800.00	7,251.16	7,176.92	97.670	CC, ES
LDS #18-8(SI) - Wellbore #1 - Gyro Surveys	15,400.00	6,746.51	8,119.46	8,020.59	82.116	SF
LDS #20-8(SI) - Wellbore #1 - No Surveys	14,900.51	6,698.10	5,325.71	5,195.14	40.790	CC
LDS #20-8(SI) - Wellbore #1 - No Surveys	15,000.00	6,697.25	5,326.64	5,195.00	40.464	ES
LDS #20-8(SI) - Wellbore #1 - No Surveys	16,400.00	6,685.31	5,532.76	5,388.64	38.389	SF
LDS D #09-30(SI) - Wellbore #1 - As-Drilled	11,930.28	6,705.30	3,234.12	3,067.99	19.466	CC, ES
LDS D #09-30(SI) - Wellbore #1 - As-Drilled	12,200.00	6,705.30	3,257.96	3,089.23	19.309	SF
LDS D #09-31D(SI) - Wellbore #1 - As-Drilled	12,694.46	6,891.40	3,442.44	3,338.50	33.120	CC
LDS D #09-31D(SI) - Wellbore #1 - As-Drilled	12,700.00	6,891.37	3,442.44	3,338.43	33.095	ES
LDS D #09-31D(SI) - Wellbore #1 - As-Drilled	13,600.00	6,886.72	3,559.55	3,445.64	31.249	SF
RUBY RED #D #8-1D(PA) - Wellbore #1 - Gyro Surveys	12,208.69	6,664.23	4,231.74	4,157.67	57.132	CC, ES
RUBY RED #D #8-1D(PA) - Wellbore #1 - Gyro Surveys	13,600.00	6,650.25	4,491.14	4,404.87	52.054	SF
RUBY RED #D 8-7(PR) - Wellbore #1 - Gyro Surveys	12,806.24	6,714.26	5,570.55	5,492.09	70.998	CC
RUBY RED #D 8-7(PR) - Wellbore #1 - Gyro Surveys	12,900.00	6,713.61	5,571.34	5,491.92	70.154	ES
RUBY RED #D 8-7(PR) - Wellbore #1 - Gyro Surveys	15,000.00	6,693.30	5,986.93	5,889.96	61.737	SF
RUBY RED #D 8-8(PR) - Wellbore #1 - Gyro Surveys	13,260.47	6,733.20	3,987.46	3,905.39	48.587	CC
RUBY RED #D 8-8(PR) - Wellbore #1 - Gyro Surveys	13,300.00	6,732.93	3,987.66	3,905.15	48.329	ES
RUBY RED #D 8-8(PR) - Wellbore #1 - Gyro Surveys	14,548.34	6,724.22	4,190.27	4,096.31	44.593	SF
RUBY RED D8-2(PA) - Wellbore #1 - Gyro Surveys	11,941.15	6,680.39	5,290.03	5,216.90	72.343	CC, ES
RUBY RED D8-2(PA) - Wellbore #1 - Gyro Surveys	13,600.00	6,675.45	5,713.60	5,627.65	66.475	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 D09-745
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 D09-745	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Gutteresen D09-745	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						
TWO E RANCHES #1(PA) - Wellbore #1 - Gyro Surveys	13,769.29	6,812.01	8,060.34	7,973.97	93.322	CC
TWO E RANCHES #1(PA) - Wellbore #1 - Gyro Surveys	13,800.00	6,811.64	8,060.40	7,973.72	92.998	ES
TWO E RANCHES #1(PA) - Wellbore #1 - Gyro Surveys	17,490.94	6,808.51	8,878.19	8,762.42	76.690	SF

Noble Energy

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D09-745
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 D09-745	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen D09-745	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	16,473.08	6,689.68	2,241.42	2,022.27	10.228	CC
ART RED #D 9-14(PR) - ART RED #D 9-14 - No Surveys	16,500.00	6,689.45	2,241.58	2,022.04	10.210	ES
ART RED #D 9-14(PR) - ART RED #D 9-14 - No Surveys	16,700.00	6,687.75	2,252.88	2,030.78	10.144	SF
ART RED #D 9-3J(PA) - Wellbore #1 - Gyro Surveys	15,774.52	6,558.45	3,299.46	3,166.20	24.758	CC
ART RED #D 9-3J(PA) - Wellbore #1 - Gyro Surveys	15,800.00	6,558.57	3,299.56	3,165.97	24.699	ES
ART RED #D 9-3J(PA) - Wellbore #1 - Gyro Surveys	16,400.00	6,561.44	3,358.23	3,218.24	23.990	SF
ART RED #D 9-4J(PR) - ART RED #D 9-4J - No Surveys	15,949.33	6,684.15	104.64	-109.96	0.488	Level 1, CC, ES, SF
ART RED D #9-10(PR) - ART RED D #9-10 - No Surveys	15,376.85	6,695.04	616.93	406.93	2.938	CC
ART RED D #9-10(PR) - ART RED D #9-10 - No Surveys	15,400.00	6,694.84	617.36	406.69	2.930	ES, SF
ART RED D #9-11(PR) - ART RED D #9-11 - No Surveys	15,062.98	6,689.71	1,955.24	1,747.98	9.434	CC
ART RED D #9-11(PR) - ART RED D #9-11 - No Surveys	15,100.00	6,689.40	1,955.59	1,747.77	9.410	ES
ART RED D #9-11(PR) - ART RED D #9-11 - No Surveys	15,300.00	6,687.69	1,969.56	1,759.12	9.359	SF
Art Red D 9-16 (PR) - Wellbore #1 - Gyro Surveys	17,175.47	6,693.63	387.18	272.60	3.379	CC, ES, SF
FRONT RANGE #D09-20D(PR) - FRONT RANGE #D09	14,346.52	7,046.73	2,408.97	2,310.99	24.588	CC
FRONT RANGE #D09-20D(PR) - FRONT RANGE #D09	14,400.00	7,047.04	2,409.56	2,310.58	24.343	ES
FRONT RANGE #D09-20D(PR) - FRONT RANGE #D09	15,000.00	7,047.20	2,496.01	2,387.83	23.072	SF
FRONT RANGE #D09-25D(PR) - FRONT RANGE #D09	15,460.21	6,910.96	2,563.36	2,461.46	25.154	CC
FRONT RANGE #D09-25D(PR) - FRONT RANGE #D09	15,500.00	6,910.46	2,563.67	2,461.25	25.032	ES
FRONT RANGE #D09-25D(PR) - FRONT RANGE #D09	16,000.00	6,904.38	2,619.57	2,511.77	24.300	SF
FRONT RANGE #D09-32D(PR) - FRONT RANGE #D09	13,986.41	6,961.69	3,600.44	3,503.33	37.079	CC
FRONT RANGE #D09-32D(PR) - FRONT RANGE #D09	14,000.00	6,961.71	3,600.46	3,503.19	37.014	ES
FRONT RANGE #D09-32D(PR) - FRONT RANGE #D09	14,900.00	6,960.39	3,714.57	3,608.13	34.896	SF
FRONT RANGE D #09-28(SI) - FRONT RANGE D #09-2	12,279.17	6,687.00	469.60	284.68	2.540	CC
FRONT RANGE D #09-28(SI) - FRONT RANGE D #09-2	12,290.75	6,687.00	469.76	284.44	2.535	ES
FRONT RANGE D #09-28(SI) - FRONT RANGE D #09-2	12,300.00	6,687.00	470.12	284.49	2.533	SF
FRONT RANGE D #09-33(SI) - Wellbore #1 - Gyro Surve	15,299.00	6,651.06	3,923.00	3,824.47	39.813	CC
FRONT RANGE D #09-33(SI) - Wellbore #1 - Gyro Surve	15,300.00	6,651.06	3,923.00	3,824.46	39.809	ES
FRONT RANGE D #09-33(SI) - Wellbore #1 - Gyro Surve	16,300.00	6,649.10	4,048.69	3,940.51	37.423	SF
FRONT RANGE D #16-29(SI) - FRONT RANGE D #16-2	16,642.82	6,690.06	3,182.60	3,082.20	31.701	CC
FRONT RANGE D #16-29(SI) - FRONT RANGE D #16-2	16,700.00	6,689.53	3,183.11	3,081.99	31.476	ES
FRONT RANGE D #16-29(SI) - FRONT RANGE D #16-2	17,300.00	6,684.07	3,249.74	3,142.55	30.317	SF
FRONT RANGE D #16-30(SI) - Wellbore #1 - Gyro Surve	16,133.11	6,700.00	4,092.99	3,987.30	38.727	CC
FRONT RANGE D #16-30(SI) - Wellbore #1 - Gyro Surve	16,200.00	6,700.00	4,093.54	3,987.06	38.445	ES
FRONT RANGE D #16-30(SI) - Wellbore #1 - Gyro Surve	17,200.00	6,683.65	4,229.71	4,114.03	36.563	SF
GITTLEIN #18-9(PR) - GITTLEIN #18-9 - No Surveys	13,136.76	6,809.25	2,335.64	2,254.67	28.847	CC
GITTLEIN #18-9(PR) - GITTLEIN #18-9 - No Surveys	13,200.00	6,809.25	2,336.49	2,254.65	28.550	ES
GITTLEIN #18-9(PR) - GITTLEIN #18-9 - No Surveys	13,700.00	6,809.25	2,402.59	2,315.12	27.467	SF
GITTLEIN #D #9-7(PR) - GITTLEIN #D #9-7 - No Survey	14,232.95	6,650.00	513.43	313.82	2.572	CC, ES
GITTLEIN #D #9-7(PR) - GITTLEIN #D #9-7 - No Survey	14,300.00	6,650.00	517.79	316.29	2.570	SF
GITTLEIN WHITE #D 9-2(SI) - GITTLEIN WHITE #D 9-2	12,900.00	6,684.00	163.55	-27.20	0.857	Level 1, ES, SF
GITTLEIN WHITE #D 9-2(SI) - GITTLEIN WHITE #D 9-2	12,916.51	6,684.00	162.71	-27.00	0.858	Level 1, CC
GITTLEIN-UPRC #9-12(PA) - GITTLEIN-UPRC #9-12 - W	14,775.78	6,681.07	3,044.04	2,960.75	36.547	CC
GITTLEIN-UPRC #9-12(PA) - GITTLEIN-UPRC #9-12 - W	14,800.00	6,681.13	3,044.14	2,960.54	36.412	ES
GITTLEIN-UPRC #9-12(PA) - GITTLEIN-UPRC #9-12 - W	15,600.00	6,683.27	3,153.65	3,062.14	34.461	SF
GUTTERSEN #9-15(PR) - GUTTERSEN #9-15 - No Sur	16,685.57	6,678.87	1,037.18	816.43	4.698	CC
GUTTERSEN #9-15(PR) - GUTTERSEN #9-15 - No Sur	16,700.00	6,678.75	1,037.28	816.22	4.692	ES
GUTTERSEN #9-15(PR) - GUTTERSEN #9-15 - No Sur	16,800.00	6,677.89	1,043.47	820.67	4.683	SF
GUTTERSEN D #09-09(PR) - GUTTERSEN D #09-09 -	15,666.29	6,680.57	752.19	540.05	3.546	CC, ES, SF
GUTTERSEN D #09-21(PR) - GUTTERSEN D #09-21 -	14,732.96	6,692.53	1,118.52	913.95	5.468	CC, ES
GUTTERSEN D #09-21(PR) - GUTTERSEN D #09-21 -	14,800.00	6,691.96	1,120.53	914.68	5.443	SF
GUTTERSEN D #09-22(SI) - GUTTERSEN D #09-22 - N	14,993.62	6,693.31	109.65	-97.11	0.530	Level 1, CC, ES, SF
GUTTERSEN D #09-24(PR) - GUTTERSEN D #09-24 -	15,883.57	6,694.71	1,345.27	1,131.02	6.279	CC
GUTTERSEN D #09-24(PR) - GUTTERSEN D #09-24 -	15,900.00	6,694.57	1,345.37	1,130.81	6.270	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 D09-745
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 D09-745	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen D09-745	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						
GUTTERSEN D #09-24(PR) - GUTTERSEN D #09-24 -	16,000.00	6,693.72	1,350.30	1,134.12	6.246	SF
GUTTERSEN D #16-28(PR) - GUTTERSEN D #16-28 -	17,086.64	6,679.45	1,923.17	1,698.98	8.578	CC
GUTTERSEN D #16-28(PR) - GUTTERSEN D #16-28 -	17,100.00	6,679.34	1,923.21	1,698.81	8.571	ES
GUTTERSEN D #16-28(PR) - GUTTERSEN D #16-28 -	17,300.00	6,677.63	1,934.96	1,707.91	8.522	SF
Guttersen D09-27D - Wellbore #1 - Wellbore #1- As Drill	12,334.74	6,807.43	874.93	792.58	10.624	CC, ES, SF
Guttersen D10-30D - Wellbore #1 - Wellbore #1- As Drill	12,800.00	6,743.57	2,032.92	1,952.86	25.392	SF
Guttersen D10-30D - Wellbore #1 - Wellbore #1- As Drill	12,836.47	6,743.58	2,032.59	1,952.55	25.394	CC, ES
HSR TIM GITTLEIN #3-9(SI) - HSR TIM GITTLEIN #3-9	12,533.42	6,687.00	1,234.49	1,047.69	6.608	CC, ES
HSR TIM GITTLEIN #3-9(SI) - HSR TIM GITTLEIN #3-9	12,700.00	6,687.00	1,245.68	1,056.14	6.572	SF
HSR TIM GITTLEIN #4-9(SI) - HSR TIM GITTLEIN #4-9	12,360.93	6,689.00	2,403.27	2,217.75	12.954	CC
HSR TIM GITTLEIN #4-9(SI) - HSR TIM GITTLEIN #4-9	12,400.00	6,689.00	2,403.59	2,217.55	12.920	ES
HSR TIM GITTLEIN #4-9(SI) - HSR TIM GITTLEIN #4-9	12,700.00	6,689.00	2,427.07	2,237.45	12.799	SF
HSR TIM GITTLEIN #5-9(SI) - HSR TIM GITTLEIN #5-9	13,358.31	6,691.00	2,685.01	2,491.68	13.888	CC
HSR TIM GITTLEIN #5-9(SI) - HSR TIM GITTLEIN #5-9	13,400.00	6,691.00	2,685.34	2,491.45	13.850	ES
HSR TIM GITTLEIN #5-9(SI) - HSR TIM GITTLEIN #5-9	13,700.00	6,691.00	2,706.67	2,509.23	13.709	SF
HSR TIM GITTLEIN #6-9(SI) - HSR TIM GITTLEIN #6-9	13,592.43	6,690.00	1,525.72	1,330.52	7.816	CC
HSR TIM GITTLEIN #6-9(SI) - HSR TIM GITTLEIN #6-9	13,600.00	6,690.00	1,525.74	1,330.41	7.811	ES
HSR TIM GITTLEIN #6-9(SI) - HSR TIM GITTLEIN #6-9	13,800.00	6,690.00	1,539.78	1,341.49	7.765	SF
KARCH WHITE #D 9-1(SI) - KARCH WHITE #D 9-1 - No	13,200.00	6,682.00	1,272.23	1,080.00	6.618	SF
KARCH WHITE #D 9-1(SI) - KARCH WHITE #D 9-1 - No	13,231.11	6,682.00	1,271.85	1,079.69	6.619	CC, ES
KARCH WHITE #D 9-8(PR) - KARCH WHITE #D 9-8 - N	14,691.01	6,683.89	802.57	598.52	3.933	CC, ES, SF
ROADHOUSE D #9-17(SI) - ROADHOUSE D #9-17 - No	13,700.00	6,686.00	526.06	329.93	2.682	ES, SF
ROADHOUSE D #9-17(SI) - ROADHOUSE D #9-17 - No	13,705.03	6,686.00	526.03	330.00	2.683	CC

Noble Energy

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersten D09-745
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 D09-745	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersten D09-745	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	14,730.88	6,716.55	3,249.25	2,912.08	9.637	CC, ES
Duncan D 10-6 (SI) - Wellbore #1 - No Surveys	14,800.00	6,715.96	3,249.99	2,912.58	9.632	SF
Guttersten State D 10-24 (SI) - Wellbore #1 - No Surveys	17,285.72	6,728.75	3,541.72	3,182.56	9.861	CC
Guttersten State D 10-24 (SI) - Wellbore #1 - No Surveys	17,300.00	6,728.63	3,541.75	3,182.53	9.860	ES
Guttersten State D 10-24 (SI) - Wellbore #1 - No Surveys	17,400.00	6,727.78	3,543.56	3,183.97	9.854	SF
Guttersten State D15-27 - Wellbore #1 - Wellbore #1- As	17,490.94	6,732.87	4,777.90	4,659.69	40.421	CC, ES, SF
Karch Blue D 10-02 (SI) - Wellbore #1 - Gyro Surveys	14,530.85	6,686.86	4,859.95	4,767.74	52.706	CC
Karch Blue D 10-02 (SI) - Wellbore #1 - Gyro Surveys	14,548.34	6,686.89	4,859.98	4,767.68	52.653	ES
Karch Blue D 10-02 (SI) - Wellbore #1 - Gyro Surveys	15,400.00	6,681.45	4,937.02	4,841.12	51.481	SF
Karch Blue D 10-07 (SI) - Wellbore #1 - Gyro Surveys	15,619.33	6,715.02	4,610.12	4,508.71	45.458	CC, ES
Karch Blue D 10-22 (SI) - Wellbore #1 - No Surveys	16,300.00	6,706.65	4,660.09	4,555.83	44.695	SF
Karch Blue D 10-08 (SI) - Wellbore #1 - Gyro Surveys	16,167.87	6,787.36	5,805.83	5,513.41	19.855	CC
Karch Blue D 10-08 (SI) - Wellbore #1 - Gyro Surveys	16,200.00	6,787.92	5,805.91	5,513.29	19.841	ES
Karch Blue D 10-08 (SI) - Wellbore #1 - Gyro Surveys	16,800.00	6,798.06	5,840.13	5,544.01	19.722	SF
Karch State D 10-22 (SI) - Wellbore #1 - No Surveys	16,348.86	6,723.74	5,121.73	4,770.74	14.592	CC
Karch State D 10-22 (SI) - Wellbore #1 - No Surveys	16,400.00	6,723.31	5,121.98	4,770.72	14.582	ES
Karch State D 10-22 (SI) - Wellbore #1 - No Surveys	16,700.00	6,720.75	5,133.75	4,781.05	14.555	SF
Spike D 10-10 (SI) - Wellbore #1 - No Surveys	16,974.82	6,722.40	4,435.89	4,079.53	12.448	CC
Spike D 10-10 (SI) - Wellbore #1 - No Surveys	17,000.00	6,722.19	4,435.96	4,079.48	12.444	ES
Spike D 10-10 (SI) - Wellbore #1 - No Surveys	17,200.00	6,720.48	4,441.60	4,084.22	12.428	SF
Spike ST GWS D 10-09 (SI) - Wellbore #1 - No Surveys	17,266.31	6,720.92	5,568.94	5,210.15	15.521	CC
Spike ST GWS D 10-09 (SI) - Wellbore #1 - No Surveys	17,300.00	6,720.63	5,569.04	5,210.06	15.513	ES
Spike ST GWS D 10-09 (SI) - Wellbore #1 - No Surveys	17,490.94	6,719.00	5,573.47	5,213.47	15.482	SF
Spike ST GWS D 10-12 (SI) - Wellbore #1 - As-Drilled	16,117.65	6,729.83	1,800.41	1,694.72	17.035	CC, ES, SF
Spike ST GWS D 10-14 (PR) - Wellbore #1 - Gyro Surveys	17,490.94	6,724.31	2,741.83	2,623.27	23.127	CC, ES, SF
Spike ST GWS D 10-16 (PA) - Wellbore #1 - No Surveys	17,490.94	6,718.00	5,336.94	5,107.33	23.243	CC, ES, SF
Spike State D 10-21D (SI) - Wellbore #1 - Wellbore #1	16,258.79	6,871.64	3,949.28	3,842.03	36.824	CC, ES
Spike State D 10-21D (SI) - Wellbore #1 - Wellbore #1	16,700.00	6,867.08	3,973.84	3,864.77	36.431	SF
Spike State D 10-23 (SI) - Wellbore #1 - No Surveys	17,490.94	6,723.00	4,915.21	4,553.92	13.605	CC, ES, SF
Spike State GWS D 10-11 (PR) - Wellbore #1 - No Surveys	16,465.95	6,712.74	3,099.39	2,747.76	8.814	CC, ES
Spike State GWS D 10-11 (PR) - Wellbore #1 - No Surveys	16,500.00	6,712.45	3,099.57	2,747.83	8.812	SF
Spike State GWS D 10-13J (PR) - Wellbore #1 - No Surveys	16,811.05	6,717.80	2,256.55	1,901.86	6.362	CC, ES, SF
Spike State GWS D 10-15 (PA) - Wellbore #1 - No Surveys	17,490.94	7,106.00	4,596.58	4,375.36	20.778	CC, ES, SF
Two E Ranch 1-10 (PR) - Wellbore #1 - No Surveys	15,029.10	6,731.00	5,953.08	5,612.87	17.499	CC, ES
Two E Ranch 1-10 (PR) - Wellbore #1 - No Surveys	15,500.00	6,726.99	5,971.67	5,629.02	17.428	SF
Two E Ranch 2-10 (PR) - Wellbore #1 - No Surveys	13,552.55	6,706.00	2,706.39	2,379.27	8.273	CC, ES
Two E Ranch 2-10 (PR) - Wellbore #1 - No Surveys	13,600.00	6,706.00	2,706.81	2,379.55	8.271	SF
Two E Ranch 3-10 (PR) - Wellbore #1 - No Surveys	13,802.13	6,704.00	3,908.83	3,579.79	11.880	CC, ES
Two E Ranch 3-10 (PR) - Wellbore #1 - No Surveys	14,000.00	6,704.00	3,913.83	3,583.97	11.865	SF
Two E Ranch 4-10 (SI) - Wellbore #1 - No Surveys	14,956.77	6,707.62	2,296.65	1,957.98	6.781	CC, ES
Two E Ranch 4-10 (SI) - Wellbore #1 - No Surveys	15,000.00	6,707.25	2,297.06	1,958.32	6.781	SF
Volley State D 10-13 (PR) - Wellbore #1 - Gyro Surveys	17,490.19	6,670.94	1,349.28	1,232.18	11.523	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 D09-745
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 D09-745	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersten D09-745	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	17,490.94	6,689.71	3,598.02	3,537.70	59.648	CC, ES, SF
Cally Blue D 15-14 (PR) - Wellbore #1 - Gyro Surveys	17,490.94	6,744.62	5,696.56	5,626.75	81.596	CC, ES, SF
Cally Blue D15-04J - Wellbore #1 - Wellbore #1- As Drilled	17,490.94	6,681.51	6,740.18	6,649.33	74.189	CC, ES, SF
Cally Blue D15-09 - Wellbore #1 - Wellbore #1- As Drilled	17,490.94	6,660.11	6,365.52	6,267.55	64.974	CC, ES, SF
Cally Blue D15-10 - Wellbore #1 - Wellbore #1- As Drilled	17,490.94	6,739.36	5,302.53	5,210.70	57.742	CC, ES, SF
Cally Blue D15-11 (PA) - Wellbore #1 - Gyro Surveys	17,490.94	6,697.01	4,345.34	4,263.64	53.188	CC, ES, SF
Cally Blue D15-15 - Wellbore #1 - Wellbore #1- As Drilled	17,490.94	6,810.07	6,256.65	6,174.30	75.974	CC, ES, SF
Cally D15-02 - Wellbore #1 - Wellbore #1-As Drilled	17,490.94	6,724.58	4,179.09	4,064.55	36.485	CC, ES, SF
Cally White D15-01 - Wellbore #1 - Wellbore #1- As Drilled	17,490.94	6,678.08	5,471.60	5,356.35	47.476	CC, ES, SF
Cally White D15-07 - Wellbore #1 - Wellbore #1- As Drilled	17,490.94	6,683.06	4,490.09	4,386.80	43.471	CC, ES, SF
Cally White D15-08 - Wellbore #1 - Wellbore #1- As Drilled	17,490.94	6,654.78	5,840.19	5,731.88	53.922	CC, ES, SF
Chandler State D15-72-1HN - Original Drilling - Original D	17,490.94	6,677.00	5,701.72	5,587.21	49.794	CC, ES, SF
Chandler State D15-73-1HN - Original Drilling - Original D	17,490.94	6,517.69	5,063.91	4,949.70	44.342	CC, ES, SF
Chandler State D15-74-1HN - Original Drilling - Original D	17,490.94	6,986.00	4,419.33	4,302.92	37.964	CC, ES, SF
Chandler State D23-79HN - Original Drilling - Original Dr	17,490.94	6,286.50	7,711.76	7,617.87	82.128	CC, ES, SF
Duff D15-5 (PR) - Wellbore #1 - Gyro Surveys	17,490.94	6,657.61	2,541.33	2,469.19	35.227	CC, ES, SF
Guttersten D 15-21 (PR) - Wellbore #1 - Gyro Surveys	17,490.94	6,720.79	4,530.71	4,438.16	48.954	CC, ES, SF
Guttersten D 15-24 (PR) - Wellbore #1 - Gyro Surveys	17,490.94	6,749.20	5,327.73	5,246.99	65.985	CC, ES, SF
Guttersten D 15-29 (SI) - Wellbore #1 - Gyro Surveys	17,490.94	6,721.00	2,109.38	1,993.77	18.246	CC, ES, SF
Guttersten D 22-28 (PR) - Wellbore #1 - Gyro Surveys	17,490.94	6,738.99	6,264.57	6,192.76	87.233	CC, ES, SF
Guttersten D14-32 - Wellbore #1 - Wellbore #1- As Drilled	17,490.94	6,691.69	6,477.50	6,371.32	61.008	CC, ES, SF
Guttersten D15-17 - Wellbore #1 - Wellbore #1- As Drilled	17,490.94	6,649.64	4,930.84	4,819.49	44.282	CC, ES, SF
Guttersten D15-18 (SI) - Wellbore #1 - Gyro Surveys	17,490.94	6,722.42	3,791.97	3,682.22	34.551	CC, ES, SF
Guttersten D15-20 (PR) - Wellbore #1 - Gyro Surveys	17,490.94	6,707.37	3,392.79	3,315.73	44.027	CC, ES, SF
Guttersten D15-22 - Wellbore #1 - Wellbore #1- As Drilled	17,490.94	6,710.75	5,593.55	5,494.02	56.199	CC, ES, SF
Guttersten D15-28 (SI) - Wellbore #1 - Gyro Surveys	17,490.94	6,707.45	3,393.24	3,276.25	29.004	CC, ES, SF
Guttersten D15-30 (SI) - Wellbore #1 - Gyro Surveys	17,490.94	6,700.40	1,178.01	1,073.95	11.321	CC, ES, SF
Guttersten D22-27 - Wellbore #1 - Wellbore #1- As Drilled	17,490.94	6,763.31	7,025.96	6,942.42	84.107	CC, ES, SF
Guttersten D23-69HN - Guttersten D23-69HN OH - As-Dri	17,490.94	6,207.01	8,112.50	8,026.13	93.923	CC, ES, SF
HSR Guttersten 03-15 (SI) - Wellbore #1 - Gyro Surveys	17,490.94	6,744.82	2,853.42	2,741.82	25.568	CC, ES, SF
HSR Guttersten 6-15 (SI) - Wellbore #1 - Gyro Surveys	17,490.94	6,727.58	3,693.87	3,599.76	39.250	CC, ES, SF
Mills UPRC D 15-04 (SI) - Wellbore #1 - Gyro Surveys	17,490.94	6,716.88	2,092.55	1,993.20	21.062	CC, ES, SF
Two E Ranch 1-15B (SI) - Wellbore #1 - Gyro Surveys	17,490.94	6,734.48	4,818.10	4,757.78	79.872	CC, ES, SF

Noble Energy

Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersten D09-745
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 D09-745	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersten D09-745	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	17,490.94	6,718.56	4,194.72	4,135.21	70.482	CC, ES, SF
Diggin State D 16-07 (SI) - Wellbore #1 - No Surveys	17,490.94	6,718.00	2,632.95	2,437.53	13.474	CC, ES, SF
Diggin State D 16-19J (PR) - Wellbore #1 - As-Drilled	17,490.94	6,581.38	3,631.25	3,518.47	32.197	CC, ES, SF
Diggin State D16-13 (PR) - Wellbore #1 - Gyro Surveys	17,490.94	6,711.35	6,183.13	6,089.03	65.711	CC, ES, SF
Guttersten ST D 15-32 (SI) - Wellbore #1 - Gyro Surveys	17,490.94	6,697.60	3,004.53	2,950.63	55.741	CC, ES, SF
Guttersten ST D 16-21 (SI) - Wellbore #1 - Gyro Surveys	17,490.94	6,700.25	3,469.23	3,383.20	40.324	CC, ES, SF
Guttersten ST D 16-22D (SI) - Wellbore #1 - MWD Surve	17,490.94	6,848.91	2,855.28	2,789.19	43.201	CC, ES, SF
Guttersten ST D 16-33 (SI) - Wellbore #1 - Gyros	17,490.94	6,689.73	5,967.76	5,865.50	58.359	CC, ES, SF
Guttersten State D 15-31 (PR) - Wellbore #1 - Gyro Surve	17,490.94	6,710.69	1,362.17	1,297.25	20.981	CC, ES, SF
Guttersten State D 15-33 (SI) - Wellbore #1 - Gyro Survey	17,490.94	6,673.11	4,224.20	4,171.49	80.141	CC, ES, SF
Guttersten State D 16-15X (PR) - Wellbore #1 - Gyro Sur	17,490.94	6,710.01	4,873.47	4,806.23	72.483	CC, ES, SF
Guttersten State D 16-18 (SI) - Wellbore #1 - As-Drilled	17,490.94	6,728.92	2,318.26	2,212.35	21.889	CC, ES, SF
Guttersten State D 16-20 (SI) - Wellbore #1 - Gyro Survey	17,490.94	6,672.52	4,310.72	4,208.55	42.191	CC, ES, SF
Guttersten State D 16-24 (SI) - Wellbore #1 - Gyro Survey	17,490.94	6,725.03	4,471.21	4,393.10	57.244	CC, ES, SF
Guttersten State D 16-27 (PR) - Wellbore #1 - As-Drilled	17,490.94	6,694.79	675.37	570.29	6.427	CC, ES, SF
Guttersten State D 16-31 (PR) - Wellbore #1 - As-Drilled	17,490.94	6,663.99	4,663.97	4,548.12	40.260	CC, ES, SF
Guttersten State D 16-32D (SI) - Guttersten State D 16-32	17,490.94	6,870.71	5,129.78	4,998.76	39.153	CC, ES, SF
Guttersten State D 16-32D (SI) - Guttersten State D 16-32	17,490.94	6,883.71	5,129.79	4,998.77	39.154	CC, ES, SF
Guttersten State D16-63-1HN - Original Drilling - As-Drille	14,300.00	14,300.00	7,606.62	7,387.73	34.750	SF
Guttersten State D16-63-1HN - Original Drilling - As-Drille	17,490.94	7,151.00	4,540.05	4,483.72	80.597	CC, ES
Guttersten State D16-65-1HN - Original Drilling - As-Drille	12,700.00	12,700.00	7,818.84	7,634.56	42.429	SF
Guttersten State D16-65-1HN - Original Drilling - As-Drille	17,490.94	7,190.13	3,212.21	3,155.38	56.524	CC, ES
Spike ST GWS D 16-01 (SI) - Wellbore #1 - Gyro Survey	17,490.94	6,710.85	745.40	692.56	14.105	CC, ES, SF
Spike ST GWS D 16-02 (P&A) - Wellbore #1 - Gyro Surv	17,490.94	6,699.05	1,576.21	1,447.96	12.290	CC, ES, SF
Spike ST GWS D 16-03 (PR) - Wellbore #1 - As-Drilled	17,490.94	6,677.72	2,730.26	2,613.67	23.418	CC, ES, SF
Spike ST GWS D 16-04 (SI) - Wellbore #1 - As-Drilled	17,261.41	6,800.00	3,902.32	3,786.75	33.768	CC
Spike ST GWS D 16-04 (SI) - Wellbore #1 - As-Drilled	17,300.00	6,800.00	3,902.51	3,786.48	33.633	ES
Spike ST GWS D 16-04 (SI) - Wellbore #1 - As-Drilled	17,490.94	6,800.00	3,909.06	3,790.83	33.064	SF
Spike ST GWS D 16-05 (PR) - Wellbore #1 - Gyro Surve	17,490.94	6,697.99	4,487.04	4,375.68	40.290	CC, ES, SF
Spike ST GWS D 16-06 (SI) - Wellbore #1 - As-Drilled	17,490.94	6,746.93	3,297.74	3,194.94	32.079	CC, ES, SF
Spike ST GWS D 16-08 (PR) - Wellbore #1 - Gyro Surve	17,490.94	6,711.50	2,236.93	2,184.67	42.800	CC, ES, SF
Spike ST GWS D 16-12 (PA) - Wellbore #1 - Gyro Surve	17,490.94	6,706.22	5,207.63	5,103.41	49.970	CC, ES, SF
Spike ST GWS D 16-14 (SI) - Wellbore #1 - No Surveys	17,490.94	6,727.00	5,620.23	5,429.18	29.418	CC, ES, SF
Spike ST GWS D 16-16 (SI) - Wellbore #1 - As-Drilled	17,490.94	6,702.01	4,856.43	4,803.15	91.148	CC, ES, SF
Spike State D 16-10 (SI) - Wellbore #1 - Gyro Surveys	17,490.94	6,703.64	3,700.35	3,627.69	50.927	CC, ES, SF
Spike State D 16-11 (SI) - Wellbore #1 - Gyro Surveys	17,490.94	6,722.15	4,213.62	4,122.79	46.386	CC, ES, SF
Spike State D 16-9 (SI) - Wellbore #1 - Gyro Surveys	17,490.94	6,717.36	3,541.05	3,488.04	66.800	CC, ES, SF
Spike State D16-15 (P&A) - Wellbore #1 - Wellbore #1	17,490.94	6,841.77	4,953.39	4,875.36	63.480	CC, ES, SF
Spike State D16-99HZ - Original Drilling - As-Drilled	17,490.94	7,119.00	3,696.05	3,639.28	65.096	CC, ES, SF
Spike State GWS D 16-7J (PR) - Wellbore #1 - As-Drilled	17,490.94	6,703.29	1,476.27	1,402.25	19.945	CC, ES, SF
Spike State GWS D16-13J (PR) - Wellbore #1 - Gyro Su	17,490.94	6,700.00	5,335.37	5,242.71	57.581	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 Guttersen D09-745
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 D09-745	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen D09-745	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
Guttersen State D16-33 (SI) - Wellbore #1 - No Surveys	17,490.94	6,692.00	6,040.93	5,903.44	43.937	CC, ES, SF
HSR LDS 6-17 (PA) - Wellbore #1 - Gyro Surveys	17,356.97	6,784.23	8,198.41	8,081.96	70.406	CC
HSR LDS 6-17 (PA) - Wellbore #1 - Gyro Surveys	17,400.00	6,784.19	8,198.52	8,081.63	70.140	ES
HSR LDS 6-17 (PA) - Wellbore #1 - Gyro Surveys	17,490.94	6,784.10	8,199.50	8,081.69	69.595	SF
HSR LDS B5-17 (SI) - Wellbore #1 - Gyro Surveys	17,057.97	6,771.42	9,372.54	9,258.62	82.271	CC
HSR LDS B5-17 (SI) - Wellbore #1 - Gyro Surveys	17,200.00	6,769.84	9,373.61	9,258.28	81.270	ES
HSR LDS B5-17 (SI) - Wellbore #1 - Gyro Surveys	17,490.94	6,766.60	9,382.53	9,264.35	79.389	SF
HSR Mike Guttersen 16-17X (SI) - Wellbore #1 - As-Dri	17,490.94	6,732.62	7,184.89	7,084.09	71.278	CC, ES, SF
HSR Mike Guttersen 16-17 (DA) - Wellbore #1 - As-Drille	17,490.94	1,666.00	8,763.04	8,640.79	71.681	CC, ES, SF
HSR Weeks 10-17 (TA) - Wellbore #1 - Gyro Surveys	17,490.94	6,721.70	7,419.59	7,307.64	66.277	CC, ES, SF
HSR Weeks 15-17 (PA) - Wellbore #1 - As-Drilled	17,490.94	6,798.75	8,109.04	8,002.16	75.868	CC, ES, SF
HSR Weeks 9-17 (TA) - Wellbore #1 - Gyro Surveys	17,490.94	6,665.78	6,424.16	6,315.10	58.902	CC, ES, SF
HSR-LDS 3-17 (PA) - Wellbore #1 - Gyro Surveys	16,297.94	6,781.09	7,998.49	7,891.14	74.514	CC
HSR-LDS 3-17 (PA) - Wellbore #1 - Gyro Surveys	16,400.00	6,779.64	7,999.14	7,890.76	73.806	ES
HSR-LDS 3-17 (PA) - Wellbore #1 - Gyro Surveys	17,490.94	6,765.77	8,086.95	7,968.27	68.140	SF
HSR-LDS 4-17 (SI) - Wellbore #1 - Gyro Surveys	15,993.21	6,697.20	9,097.97	8,993.42	87.022	CC
HSR-LDS 4-17 (SI) - Wellbore #1 - Gyro Surveys	16,100.00	6,697.49	9,098.60	8,992.98	86.149	ES
HSR-LDS 4-17 (SI) - Wellbore #1 - Gyro Surveys	17,490.94	6,701.88	9,220.43	9,101.90	77.790	SF
LDS 18-17 (PA) - Wellbore #1 - Gyro Surveys	16,807.71	6,734.18	8,415.75	8,304.20	75.447	CC
LDS 18-17 (PA) - Wellbore #1 - Gyro Surveys	16,900.00	6,733.29	8,416.25	8,303.77	74.822	ES
LDS 18-17 (PA) - Wellbore #1 - Gyro Surveys	17,490.94	6,727.12	8,443.43	8,325.17	71.397	SF
LDS D17-13 (PA) - Wellbore #1 - Gyro Surveys						Out of range
LDS D17-18 (SI) - Wellbore #1 - Gyro Surveys	17,061.30	6,748.01	7,206.29	7,092.53	63.345	CC
LDS D17-18 (SI) - Wellbore #1 - Gyro Surveys	17,100.00	6,748.07	7,206.39	7,092.22	63.120	ES
LDS D17-18 (SI) - Wellbore #1 - Gyro Surveys	17,490.94	6,748.69	7,219.09	7,100.93	61.100	SF
LDS D17-20 (PA) - Wellbore #1 - As-Drilled	17,490.94	6,695.59	8,992.05	8,873.95	76.140	CC, ES, SF
LDS D17-21 (PA) - Wellbore #1 - As-Drilled	17,490.94	6,689.02	7,942.59	7,825.74	67.974	CC, ES, SF
LDS D17-22 (TA) - Wellbore #1 - As-Drilled	17,490.94	6,720.67	6,534.10	6,420.34	57.436	CC, ES, SF
LDS D17-24D (PA) - LDS D17-24D Gyros - As-Drilled	17,490.94	6,759.94	8,294.88	8,167.81	65.276	CC, ES, SF
LDS D17-24D (PA) - LDS D17-24D OH - As-Drilled	17,490.94	6,803.18	8,300.20	8,188.55	74.345	CC, ES, SF
LDS D17-25D (PA) - LDS D17-25D Gyros - As-Drilled	17,490.94	6,849.88	9,304.00	9,188.11	80.282	CC, ES, SF
LDS D17-25D (PA) - LDS D17-25D OH - LDS D17-25D -	17,490.94	6,934.96	9,303.60	9,191.49	82.986	CC, ES, SF
LDS D17-31D (PR) - Gyros - As-Drilled	16,369.70	7,003.29	9,896.15	9,754.50	69.864	CC
LDS D17-31D (PR) - Gyros - As-Drilled	16,500.00	7,002.94	9,897.01	9,754.07	69.238	ES
LDS D17-31D (PR) - Gyros - As-Drilled	17,490.94	7,000.38	9,959.47	9,807.40	65.493	SF
LDS D17-31D (PR) - LDS D17-31D OH - As-Drilled	16,381.75	7,005.52	9,908.27	9,794.27	86.913	CC
LDS D17-31D (PR) - LDS D17-31D OH - As-Drilled	16,500.00	7,005.21	9,908.97	9,793.80	86.038	ES
LDS D17-31D (PR) - LDS D17-31D OH - As-Drilled	17,490.94	7,002.59	9,970.16	9,845.71	80.116	SF
LDS D17-32D (PA) - Gyros - As-Drilled						Out of range
LDS D17-32D (PA) - LDS D17-32D OH - As-Drilled						Out of range
LDS D17-33 (PA) - LDS D17-33 - As-Drilled						Out of range
LDS D17-7 (PA) - Wellbore #1 - As-Drilled	17,490.94	17,490.94	7,042.43	6,888.11	45.635	CC, ES, SF
LDS D20-29D (PA) - Gyros - As-Drilled						Out of range
LDS D20-29D (PA) - LDS D20-29D OH - As-Drilled						Out of range
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	17,490.94	6,770.80	8,472.58	8,358.15	74.044	CC, ES, SF
LDS Red D17-12 (PA) - Wellbore #1 - Gyro Surveys	17,490.94	6,659.68	9,812.97	9,697.04	84.639	CC, ES, SF
LDS Red D17-14 (DA) - LDS Red D17-14 - No Surveys	17,490.94	6,708.00	9,103.72	8,751.44	25.843	CC, ES, SF
LDS Red D17-14X (PA) - Wellbore #1 - As-Drilled	17,490.94	6,933.54	8,949.32	8,838.63	80.849	CC, ES, SF
LDS Red D17-3J (PA) - Wellbore #1 - Gyro Surveys	17,490.94	6,638.74	9,942.79	9,830.13	88.259	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 Gutteresen D09-745
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 D09-745	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Gutteresen D09-745	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						
LDS White D17-1 (PA) - Wellbore #1 - Gyro Surveys	16,929.22	6,741.12	5,244.42	5,131.84	46.583	CC
LDS White D17-1 (PA) - Wellbore #1 - Gyro Surveys	17,000.00	6,740.83	5,244.90	5,131.53	46.262	ES
LDS White D17-1 (PA) - Wellbore #1 - Gyro Surveys	17,490.94	6,738.85	5,274.42	5,155.98	44.534	SF
LDS White D17-2 (SI) - Wellbore #1 - As-Drilled	16,535.17	6,571.77	6,571.31	6,462.51	60.398	CC
LDS White D17-2 (SI) - Wellbore #1 - As-Drilled	16,600.00	6,572.03	6,571.63	6,462.14	60.021	ES
LDS White D17-2 (SI) - Wellbore #1 - As-Drilled	17,490.94	6,575.58	6,640.45	6,522.29	56.200	SF
LDS White D17-8 (SI) - Wellbore #1 - As-Drilled	17,490.94	6,694.89	5,759.17	5,644.08	50.037	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	17,490.94	6,666.67	7,352.53	7,245.31	68.573	CC, ES, SF