Project: Mustang
Site: D Section 22
Well: Guttersen D34-749
Wellbore: Wellbore #1
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

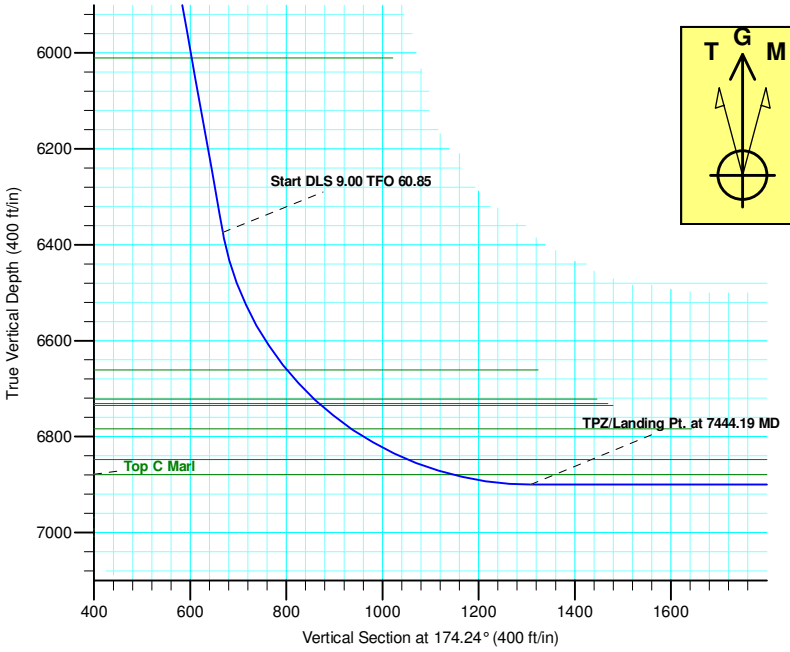
SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	2200.00	0.00	0.00	2200.00	0.00	0.00	0.00	0.00	0.00
3	3045.76	16.92	120.13	3033.53	-62.21	107.20	2.00	120.13	72.65
4	6537.81	16.92	120.13	6374.50	-572.18	985.98	0.00	0.00	668.18
5	7444.19	90.00	179.89	6900.00	-1201.65	1125.28	9.00	60.85	1308.45
6	10150.42	90.00	179.89	6900.00	-3907.88	1130.61	0.00	0.00	4001.57
7	10195.13	90.89	179.89	6899.65	-3952.59	1130.70	2.00	0.00	4046.06
8	12159.20	90.89	179.89	6869.00	-5916.41	1134.57	0.00	0.00	6000.37
9	12196.14	90.16	179.89	6868.66	-5953.36	1134.64	2.00	-180.00	6037.13
10	17605.21	90.16	179.89	6854.00	-11362.39	1145.30	0.00	0.00	11419.97

WELL DETAILS: Guttersen D34-749

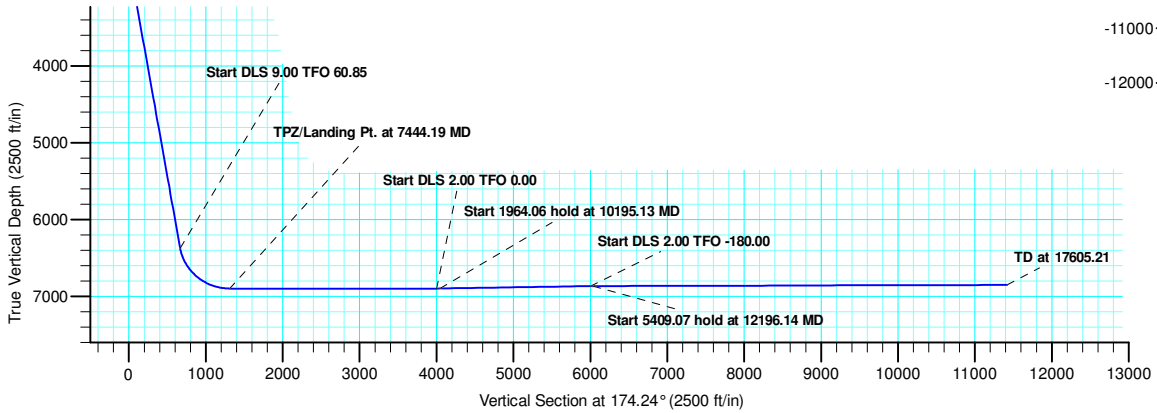
Ground Level: 4825.00

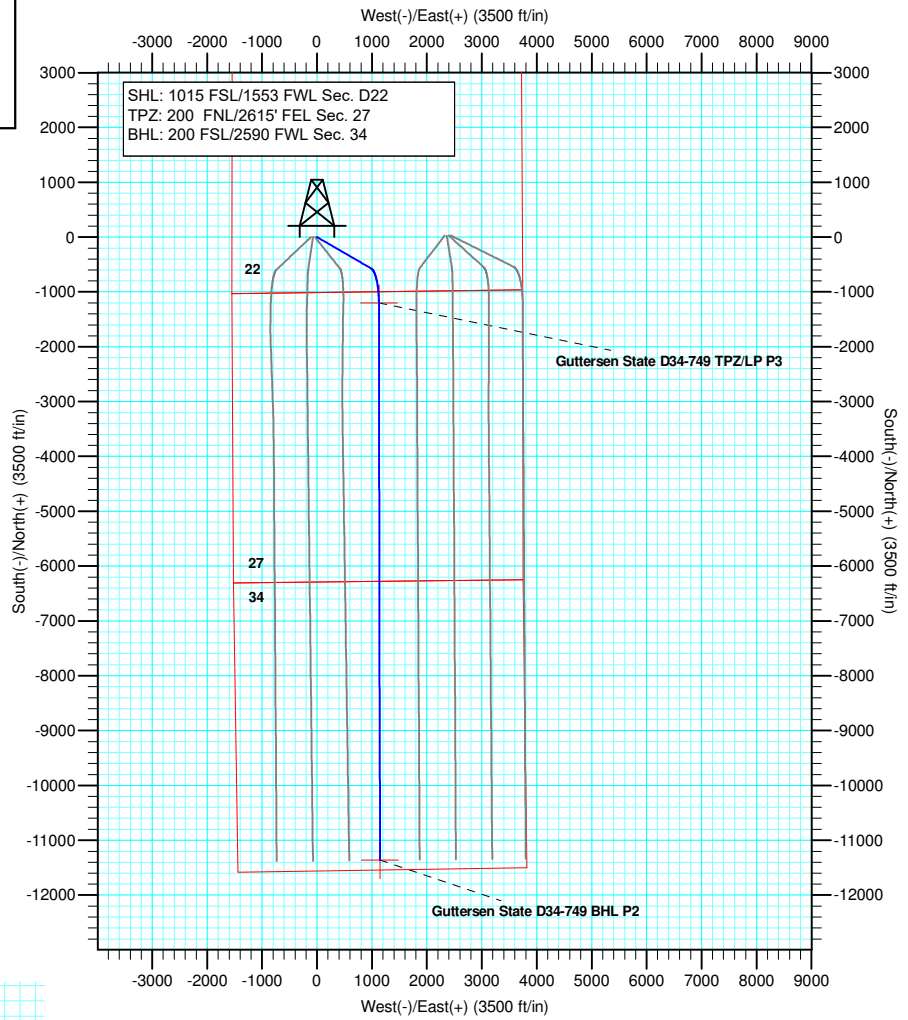
+N/-S	+E/-W	Northing	Easting	Latittude	Longitude	Slot
0.00	0.00	1319483.03	3267753.12	40.2064050	-104.5413430	



Azimuths to Grid North
True North: -0.62°
Magnetic North: 7.38°

Magnetic Field
Strength: 52230.3snT
Dip Angle: 66.72°
Date: 3/15/2018
Model: IGRF2015





Plan: Plan #3 (Guttersen D34-749/Wellbore #1)

Created By: Shelly C. Peterkin Date: 8:33, November 22 2019

Northern Region - DJ Basin

Mustang
D Section 22
Guttersen D34-749

Wellbore #1

Plan: Plan #3

Standard Planning Report

22 November, 2019

Database:	EDMP	**Local Co-ordinate Reference:**	Well Guttersen D34-749
Company:	Northern Region - DJ Basin	**TVD Reference:**	KB @ 4855.00ft
Project:	Mustang	**MD Reference:**	KB @ 4855.00ft
Site:	D Section 22	**North Reference:**	Grid
Well:	Guttersen D34-749	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
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 D Section 22

Site Position:		**Northing:**	1,323,172.04 usft	**Latitude:**	40.2165600
From:	Lat/Long	**Easting:**	3,266,778.49 usft	**Longitude:**	-104.5446900
Position Uncertainty:	0.00 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	0.62 °

Well Guttersen D34-749

Well Position	**+N/-S**	-3,689.02 ft	**Northing:**	1,319,483.03 usft	**Latitude:**	40.2064050
	+E/-W	974.64 ft	**Easting:**	3,267,753.13 usft	**Longitude:**	-104.5413430
Position Uncertainty		0.00 ft	**Wellhead Elevation:**		**Ground Level:**	4,825.00 ft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	3/15/2018	8.00	66.72	52,230.25572585

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	174.24

Plan Sections

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,045.76	16.92	120.13	3,033.53	-62.21	107.20	2.00	2.00	0.00	120.13	
6,537.81	16.92	120.13	6,374.50	-572.18	985.98	0.00	0.00	0.00	0.00	
7,444.19	90.00	179.89	6,900.00	-1,201.65	1,125.28	9.00	8.06	6.59	60.85	Guttersen State D34-
10,150.42	90.00	179.89	6,900.00	-3,907.88	1,130.61	0.00	0.00	0.00	0.00	Guttersen State D34-
10,195.13	90.89	179.89	6,899.65	-3,952.59	1,130.70	2.00	2.00	0.00	0.00	
12,159.20	90.89	179.89	6,869.00	-5,916.41	1,134.57	0.00	0.00	0.00	0.00	Guttersen State D34-
12,196.14	90.16	179.89	6,868.66	-5,953.36	1,134.64	2.00	-2.00	0.00	-180.00	
17,605.21	90.16	179.89	6,854.00	-11,362.39	1,145.30	0.00	0.00	0.00	0.00	Guttersen State D34-

Database:	EDMP	**Local Co-ordinate Reference:**	Well Guttersen D34-749
Company:	Northern Region - DJ Basin	**TVD Reference:**	KB @ 4855.00ft
Project:	Mustang	**MD Reference:**	KB @ 4855.00ft
Site:	D Section 22	**North Reference:**	Grid
Well:	Guttersen D34-749	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
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
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
633.00	0.00	0.00	633.00	0.00	0.00	0.00	0.00	0.00	0.00
Pierre									
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
752.00	0.00	0.00	752.00	0.00	0.00	0.00	0.00	0.00	0.00
Upper Pierre Aquifer Top									
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
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,634.00	0.00	0.00	1,634.00	0.00	0.00	0.00	0.00	0.00	0.00
Upper Pierre Aquifer Base									
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
2,300.00	2.00	120.13	2,299.98	-0.88	1.51	1.02	2.00	2.00	0.00
2,400.00	4.00	120.13	2,399.84	-3.50	6.04	4.09	2.00	2.00	0.00
2,500.00	6.00	120.13	2,499.45	-7.88	13.57	9.20	2.00	2.00	0.00
2,600.00	8.00	120.13	2,598.70	-13.99	24.11	16.34	2.00	2.00	0.00
2,700.00	10.00	120.13	2,697.47	-21.84	37.64	25.51	2.00	2.00	0.00
2,800.00	12.00	120.13	2,795.62	-31.42	54.15	36.69	2.00	2.00	0.00
2,900.00	14.00	120.13	2,893.06	-42.71	73.60	49.88	2.00	2.00	0.00
3,000.00	16.00	120.13	2,989.64	-55.70	95.99	65.05	2.00	2.00	0.00
3,045.76	16.92	120.13	3,033.53	-62.21	107.20	72.65	2.00	2.00	0.00
Start 3492.05 hold at 3045.76 MD									
3,100.00	16.92	120.13	3,085.42	-70.13	120.85	81.90	0.00	0.00	0.00
3,200.00	16.92	120.13	3,181.09	-84.73	146.01	98.95	0.00	0.00	0.00
3,300.00	16.92	120.13	3,276.77	-99.34	171.18	116.00	0.00	0.00	0.00
3,400.00	16.92	120.13	3,372.44	-113.94	196.34	133.06	0.00	0.00	0.00
3,500.00	16.92	120.13	3,468.12	-128.54	221.51	150.11	0.00	0.00	0.00
3,600.00	16.92	120.13	3,563.79	-143.15	246.67	167.17	0.00	0.00	0.00
3,700.00	16.92	120.13	3,659.46	-157.75	271.84	184.22	0.00	0.00	0.00
3,777.91	16.92	120.13	3,734.00	-169.13	291.44	197.51	0.00	0.00	0.00
Parkman									
3,800.00	16.92	120.13	3,755.14	-172.36	297.00	201.27	0.00	0.00	0.00
3,900.00	16.92	120.13	3,850.81	-186.96	322.17	218.33	0.00	0.00	0.00
4,000.00	16.92	120.13	3,946.48	-201.56	347.33	235.38	0.00	0.00	0.00
4,100.00	16.92	120.13	4,042.16	-216.17	372.50	252.43	0.00	0.00	0.00

Database:	EDMP	**Local Co-ordinate Reference:**	Well Guttersen D34-749
Company:	Northern Region - DJ Basin	**TVD Reference:**	KB @ 4855.00ft
Project:	Mustang	**MD Reference:**	KB @ 4855.00ft
Site:	D Section 22	**North Reference:**	Grid
Well:	Guttersen D34-749	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
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)
4,200.00	16.92	120.13	4,137.83	-230.77	397.66	269.49	0.00	0.00	0.00
4,300.00	16.92	120.13	4,233.50	-245.37	422.83	286.54	0.00	0.00	0.00
4,386.23	16.92	120.13	4,316.00	-257.97	444.53	301.25	0.00	0.00	0.00
Sussex									
4,400.00	16.92	120.13	4,329.18	-259.98	447.99	303.60	0.00	0.00	0.00
4,500.00	16.92	120.13	4,424.85	-274.58	473.16	320.65	0.00	0.00	0.00
4,600.00	16.92	120.13	4,520.53	-289.19	498.33	337.70	0.00	0.00	0.00
4,700.00	16.92	120.13	4,616.20	-303.79	523.49	354.76	0.00	0.00	0.00
4,800.00	16.92	120.13	4,711.87	-318.39	548.66	371.81	0.00	0.00	0.00
4,900.00	16.92	120.13	4,807.55	-333.00	573.82	388.87	0.00	0.00	0.00
5,000.00	16.92	120.13	4,903.22	-347.60	598.99	405.92	0.00	0.00	0.00
5,050.99	16.92	120.13	4,952.00	-355.05	611.82	414.61	0.00	0.00	0.00
Shannon									
5,100.00	16.92	120.13	4,998.89	-362.20	624.15	422.97	0.00	0.00	0.00
5,200.00	16.92	120.13	5,094.57	-376.81	649.32	440.03	0.00	0.00	0.00
5,300.00	16.92	120.13	5,190.24	-391.41	674.48	457.08	0.00	0.00	0.00
5,400.00	16.92	120.13	5,285.91	-406.02	699.65	474.14	0.00	0.00	0.00
5,500.00	16.92	120.13	5,381.59	-420.62	724.81	491.19	0.00	0.00	0.00
5,600.00	16.92	120.13	5,477.26	-435.22	749.98	508.24	0.00	0.00	0.00
5,700.00	16.92	120.13	5,572.94	-449.83	775.14	525.30	0.00	0.00	0.00
5,800.00	16.92	120.13	5,668.61	-464.43	800.31	542.35	0.00	0.00	0.00
5,900.00	16.92	120.13	5,764.28	-479.03	825.47	559.40	0.00	0.00	0.00
6,000.00	16.92	120.13	5,859.96	-493.64	850.64	576.46	0.00	0.00	0.00
6,100.00	16.92	120.13	5,955.63	-508.24	875.80	593.51	0.00	0.00	0.00
6,157.87	16.92	120.13	6,011.00	-516.69	890.37	603.38	0.00	0.00	0.00
Teepee Buttes									
6,200.00	16.92	120.13	6,051.30	-522.85	900.97	610.57	0.00	0.00	0.00
6,300.00	16.92	120.13	6,146.98	-537.45	926.13	627.62	0.00	0.00	0.00
6,400.00	16.92	120.13	6,242.65	-552.05	951.30	644.67	0.00	0.00	0.00
6,500.00	16.92	120.13	6,338.32	-566.66	976.46	661.73	0.00	0.00	0.00
6,537.81	16.92	120.13	6,374.50	-572.18	985.98	668.18	0.00	0.00	0.00
Start DLS 9.00 TFO 60.85									
6,550.00	17.48	123.32	6,386.14	-574.07	989.04	670.37	9.00	4.59	26.19
6,600.00	20.22	134.39	6,433.47	-584.25	1,001.50	681.74	9.00	5.50	22.15
6,650.00	23.50	142.71	6,479.88	-598.23	1,013.72	696.88	9.00	6.55	16.63
6,700.00	27.11	149.01	6,525.09	-615.94	1,025.63	715.69	9.00	7.22	12.60
6,750.00	30.94	153.89	6,568.81	-637.26	1,037.16	738.06	9.00	7.66	9.76
6,800.00	34.91	157.78	6,610.77	-662.06	1,048.23	763.84	9.00	7.95	7.77
6,850.00	38.99	160.95	6,650.72	-690.18	1,058.78	792.89	9.00	8.15	6.35
6,863.33	40.09	161.70	6,661.00	-698.22	1,061.50	801.16	9.00	8.25	5.64
Sharon Springs									
6,900.00	43.14	163.61	6,688.41	-721.47	1,068.75	825.02	9.00	8.31	5.19
6,947.62	47.14	165.78	6,722.00	-754.02	1,077.64	858.30	9.00	8.40	4.56
Top A Chalk									
6,950.00	47.34	165.88	6,723.62	-755.72	1,078.06	860.02	9.00	8.44	4.24
6,961.00	48.27	166.34	6,731.00	-763.62	1,080.02	868.09	9.00	8.45	4.17
Top A Marl									
6,967.04	48.78	166.58	6,735.00	-768.02	1,081.08	872.57	9.00	8.47	4.07
Top B Chalk									
7,000.00	51.58	167.86	6,756.11	-792.71	1,086.67	897.70	9.00	8.49	3.88
7,047.00	55.60	169.52	6,784.00	-829.80	1,094.07	935.34	9.00	8.54	3.54
Top B Marl									
7,050.00	55.85	169.62	6,785.69	-832.23	1,094.52	937.81	9.00	8.56	3.35

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Site:	D Section 22	**North Reference:**	Grid
Well:	Guttersen D34-749	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #3		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
7,100.00	60.15	171.21	6,812.18	-874.04	1,101.57	980.10	9.00	8.59	3.18
7,150.00	64.46	172.67	6,835.42	-917.86	1,107.76	1,024.33	9.00	8.62	2.92
7,180.67	67.11	173.52	6,848.00	-945.62	1,111.12	1,052.29	9.00	8.64	2.75
Top C Chalk									
7,200.00	68.78	174.03	6,855.26	-963.43	1,113.06	1,070.20	9.00	8.66	2.66
7,250.00	73.11	175.31	6,871.58	-1,010.48	1,117.44	1,117.45	9.00	8.67	2.56
7,277.44	75.50	175.99	6,879.00	-1,036.82	1,119.44	1,143.86	9.00	8.68	2.47
Top C Marl									
7,300.00	77.46	176.54	6,884.27	-1,058.70	1,120.87	1,165.78	9.00	8.69	2.42
7,350.00	81.80	177.72	6,893.27	-1,107.81	1,123.33	1,214.88	9.00	8.69	2.36
7,400.00	86.15	178.88	6,898.52	-1,157.50	1,124.81	1,264.47	9.00	8.70	2.31
7,444.19	90.00	179.89	6,900.00	-1,201.65	1,125.28	1,308.45	9.00	8.70	2.29
TPZ/Landing Pt. at 7444.19 MD									
7,500.00	90.00	179.89	6,900.00	-1,257.47	1,125.39	1,363.99	0.00	0.00	0.00
7,600.00	90.00	179.89	6,900.00	-1,357.46	1,125.59	1,463.51	0.00	0.00	0.00
7,700.00	90.00	179.89	6,900.00	-1,457.46	1,125.79	1,563.02	0.00	0.00	0.00
7,800.00	90.00	179.89	6,900.00	-1,557.46	1,125.98	1,662.54	0.00	0.00	0.00
7,900.00	90.00	179.89	6,900.00	-1,657.46	1,126.18	1,762.05	0.00	0.00	0.00
8,000.00	90.00	179.89	6,900.00	-1,757.46	1,126.38	1,861.57	0.00	0.00	0.00
8,100.00	90.00	179.89	6,900.00	-1,857.46	1,126.57	1,961.08	0.00	0.00	0.00
8,200.00	90.00	179.89	6,900.00	-1,957.46	1,126.77	2,060.60	0.00	0.00	0.00
8,300.00	90.00	179.89	6,900.00	-2,057.46	1,126.97	2,160.11	0.00	0.00	0.00
8,400.00	90.00	179.89	6,900.00	-2,157.46	1,127.17	2,259.63	0.00	0.00	0.00
8,500.00	90.00	179.89	6,900.00	-2,257.46	1,127.36	2,359.14	0.00	0.00	0.00
8,600.00	90.00	179.89	6,900.00	-2,357.46	1,127.56	2,458.66	0.00	0.00	0.00
8,700.00	90.00	179.89	6,900.00	-2,457.46	1,127.76	2,558.17	0.00	0.00	0.00
8,800.00	90.00	179.89	6,900.00	-2,557.46	1,127.95	2,657.69	0.00	0.00	0.00
8,900.00	90.00	179.89	6,900.00	-2,657.46	1,128.15	2,757.21	0.00	0.00	0.00
9,000.00	90.00	179.89	6,900.00	-2,757.46	1,128.35	2,856.72	0.00	0.00	0.00
9,100.00	90.00	179.89	6,900.00	-2,857.46	1,128.54	2,956.24	0.00	0.00	0.00
9,200.00	90.00	179.89	6,900.00	-2,957.46	1,128.74	3,055.75	0.00	0.00	0.00
9,300.00	90.00	179.89	6,900.00	-3,057.46	1,128.94	3,155.27	0.00	0.00	0.00
9,400.00	90.00	179.89	6,900.00	-3,157.46	1,129.14	3,254.78	0.00	0.00	0.00
9,500.00	90.00	179.89	6,900.00	-3,257.46	1,129.33	3,354.30	0.00	0.00	0.00
9,600.00	90.00	179.89	6,900.00	-3,357.46	1,129.53	3,453.81	0.00	0.00	0.00
9,700.00	90.00	179.89	6,900.00	-3,457.46	1,129.73	3,553.33	0.00	0.00	0.00
9,800.00	90.00	179.89	6,900.00	-3,557.46	1,129.92	3,652.84	0.00	0.00	0.00
9,900.00	90.00	179.89	6,900.00	-3,657.46	1,130.12	3,752.36	0.00	0.00	0.00
10,000.00	90.00	179.89	6,900.00	-3,757.46	1,130.32	3,851.87	0.00	0.00	0.00
10,100.00	90.00	179.89	6,900.00	-3,857.46	1,130.51	3,951.39	0.00	0.00	0.00
10,150.42	90.00	179.89	6,900.00	-3,907.88	1,130.61	4,001.57	0.00	0.00	0.00
Start DLS 2.00 TFO 0.00									
10,195.13	90.89	179.89	6,899.65	-3,952.59	1,130.70	4,046.06	2.00	2.00	0.00
Start 1964.06 hold at 10195.13 MD									
10,200.00	90.89	179.89	6,899.58	-3,957.46	1,130.71	4,050.90	0.00	0.00	0.00
10,300.00	90.89	179.89	6,898.01	-4,057.45	1,130.91	4,150.41	0.00	0.00	0.00
10,400.00	90.89	179.89	6,896.45	-4,157.43	1,131.10	4,249.91	0.00	0.00	0.00
10,500.00	90.89	179.89	6,894.89	-4,257.42	1,131.30	4,349.41	0.00	0.00	0.00
10,600.00	90.89	179.89	6,893.33	-4,357.41	1,131.50	4,448.92	0.00	0.00	0.00
10,700.00	90.89	179.89	6,891.77	-4,457.40	1,131.70	4,548.42	0.00	0.00	0.00
10,800.00	90.89	179.89	6,890.21	-4,557.38	1,131.89	4,647.92	0.00	0.00	0.00
10,900.00	90.89	179.89	6,888.65	-4,657.37	1,132.09	4,747.43	0.00	0.00	0.00
11,000.00	90.89	179.89	6,887.09	-4,757.36	1,132.29	4,846.93	0.00	0.00	0.00
11,100.00	90.89	179.89	6,885.53	-4,857.35	1,132.48	4,946.43	0.00	0.00	0.00

Database:	EDMP	**Local Co-ordinate Reference:**	Well Guttersen D34-749
Company:	Northern Region - DJ Basin	**TVD Reference:**	KB @ 4855.00ft
Project:	Mustang	**MD Reference:**	KB @ 4855.00ft
Site:	D Section 22	**North Reference:**	Grid
Well:	Guttersen D34-749	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
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)
11,200.00	90.89	179.89	6,883.97	-4,957.33	1,132.68	5,045.94	0.00	0.00	0.00
11,300.00	90.89	179.89	6,882.41	-5,057.32	1,132.88	5,145.44	0.00	0.00	0.00
11,400.00	90.89	179.89	6,880.85	-5,157.31	1,133.07	5,244.94	0.00	0.00	0.00
11,500.00	90.89	179.89	6,879.29	-5,257.30	1,133.27	5,344.45	0.00	0.00	0.00
11,600.00	90.89	179.89	6,877.73	-5,357.28	1,133.47	5,443.95	0.00	0.00	0.00
11,700.00	90.89	179.89	6,876.17	-5,457.27	1,133.66	5,543.45	0.00	0.00	0.00
11,800.00	90.89	179.89	6,874.61	-5,557.26	1,133.86	5,642.96	0.00	0.00	0.00
11,900.00	90.89	179.89	6,873.05	-5,657.25	1,134.06	5,742.46	0.00	0.00	0.00
12,000.00	90.89	179.89	6,871.48	-5,757.23	1,134.26	5,841.96	0.00	0.00	0.00
12,100.00	90.89	179.89	6,869.92	-5,857.22	1,134.45	5,941.47	0.00	0.00	0.00
12,159.20	90.89	179.89	6,869.00	-5,916.41	1,134.57	6,000.37	0.00	0.00	0.00
Start DLS 2.00 TFO -180.00									
12,196.14	90.16	179.89	6,868.66	-5,953.36	1,134.64	6,037.13	2.00	-2.00	0.00
Start 5409.07 hold at 12196.14 MD									
12,200.00	90.16	179.89	6,868.65	-5,957.21	1,134.65	6,040.97	0.00	0.00	0.00
12,300.00	90.16	179.89	6,868.38	-6,057.21	1,134.85	6,140.49	0.00	0.00	0.00
12,400.00	90.16	179.89	6,868.11	-6,157.21	1,135.04	6,240.00	0.00	0.00	0.00
12,500.00	90.16	179.89	6,867.84	-6,257.21	1,135.24	6,339.52	0.00	0.00	0.00
12,600.00	90.16	179.89	6,867.57	-6,357.21	1,135.44	6,439.03	0.00	0.00	0.00
12,700.00	90.16	179.89	6,867.30	-6,457.21	1,135.63	6,538.55	0.00	0.00	0.00
12,800.00	90.16	179.89	6,867.03	-6,557.21	1,135.83	6,638.06	0.00	0.00	0.00
12,900.00	90.16	179.89	6,866.75	-6,657.21	1,136.03	6,737.58	0.00	0.00	0.00
13,000.00	90.16	179.89	6,866.48	-6,757.21	1,136.23	6,837.09	0.00	0.00	0.00
13,100.00	90.16	179.89	6,866.21	-6,857.21	1,136.42	6,936.61	0.00	0.00	0.00
13,200.00	90.16	179.89	6,865.94	-6,957.21	1,136.62	7,036.12	0.00	0.00	0.00
13,300.00	90.16	179.89	6,865.67	-7,057.21	1,136.82	7,135.64	0.00	0.00	0.00
13,400.00	90.16	179.89	6,865.40	-7,157.21	1,137.01	7,235.15	0.00	0.00	0.00
13,500.00	90.16	179.89	6,865.13	-7,257.21	1,137.21	7,334.67	0.00	0.00	0.00
13,600.00	90.16	179.89	6,864.86	-7,357.21	1,137.41	7,434.18	0.00	0.00	0.00
13,700.00	90.16	179.89	6,864.59	-7,457.20	1,137.60	7,533.70	0.00	0.00	0.00
13,800.00	90.16	179.89	6,864.31	-7,557.20	1,137.80	7,633.21	0.00	0.00	0.00
13,900.00	90.16	179.89	6,864.04	-7,657.20	1,138.00	7,732.73	0.00	0.00	0.00
14,000.00	90.16	179.89	6,863.77	-7,757.20	1,138.19	7,832.24	0.00	0.00	0.00
14,100.00	90.16	179.89	6,863.50	-7,857.20	1,138.39	7,931.76	0.00	0.00	0.00
14,200.00	90.16	179.89	6,863.23	-7,957.20	1,138.59	8,031.27	0.00	0.00	0.00
14,300.00	90.16	179.89	6,862.96	-8,057.20	1,138.79	8,130.79	0.00	0.00	0.00
14,400.00	90.16	179.89	6,862.69	-8,157.20	1,138.98	8,230.30	0.00	0.00	0.00
14,500.00	90.16	179.89	6,862.42	-8,257.20	1,139.18	8,329.82	0.00	0.00	0.00
14,600.00	90.16	179.89	6,862.15	-8,357.20	1,139.38	8,429.33	0.00	0.00	0.00
14,700.00	90.16	179.89	6,861.87	-8,457.20	1,139.57	8,528.85	0.00	0.00	0.00
14,800.00	90.16	179.89	6,861.60	-8,557.20	1,139.77	8,628.36	0.00	0.00	0.00
14,900.00	90.16	179.89	6,861.33	-8,657.20	1,139.97	8,727.88	0.00	0.00	0.00
15,000.00	90.16	179.89	6,861.06	-8,757.20	1,140.16	8,827.39	0.00	0.00	0.00
15,100.00	90.16	179.89	6,860.79	-8,857.20	1,140.36	8,926.91	0.00	0.00	0.00
15,200.00	90.16	179.89	6,860.52	-8,957.20	1,140.56	9,026.42	0.00	0.00	0.00
15,300.00	90.16	179.89	6,860.25	-9,057.20	1,140.76	9,125.94	0.00	0.00	0.00
15,400.00	90.16	179.89	6,859.98	-9,157.20	1,140.95	9,225.45	0.00	0.00	0.00
15,500.00	90.16	179.89	6,859.71	-9,257.19	1,141.15	9,324.97	0.00	0.00	0.00
15,600.00	90.16	179.89	6,859.44	-9,357.19	1,141.35	9,424.48	0.00	0.00	0.00
15,700.00	90.16	179.89	6,859.16	-9,457.19	1,141.54	9,524.00	0.00	0.00	0.00
15,800.00	90.16	179.89	6,858.89	-9,557.19	1,141.74	9,623.51	0.00	0.00	0.00
15,900.00	90.16	179.89	6,858.62	-9,657.19	1,141.94	9,723.03	0.00	0.00	0.00
16,000.00	90.16	179.89	6,858.35	-9,757.19	1,142.13	9,822.54	0.00	0.00	0.00

Database:	EDMP	**Local Co-ordinate Reference:**	Well Guttersen D34-749
Company:	Northern Region - DJ Basin	**TVD Reference:**	KB @ 4855.00ft
Project:	Mustang	**MD Reference:**	KB @ 4855.00ft
Site:	D Section 22	**North Reference:**	Grid
Well:	Guttersen D34-749	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
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)
16,100.00	90.16	179.89	6,858.08	-9,857.19	1,142.33	9,922.06	0.00	0.00	0.00
16,200.00	90.16	179.89	6,857.81	-9,957.19	1,142.53	10,021.57	0.00	0.00	0.00
16,300.00	90.16	179.89	6,857.54	-10,057.19	1,142.73	10,121.09	0.00	0.00	0.00
16,400.00	90.16	179.89	6,857.27	-10,157.19	1,142.92	10,220.60	0.00	0.00	0.00
16,500.00	90.16	179.89	6,857.00	-10,257.19	1,143.12	10,320.12	0.00	0.00	0.00
16,600.00	90.16	179.89	6,856.72	-10,357.19	1,143.32	10,419.63	0.00	0.00	0.00
16,700.00	90.16	179.89	6,856.45	-10,457.19	1,143.51	10,519.15	0.00	0.00	0.00
16,800.00	90.16	179.89	6,856.18	-10,557.19	1,143.71	10,618.66	0.00	0.00	0.00
16,900.00	90.16	179.89	6,855.91	-10,657.19	1,143.91	10,718.18	0.00	0.00	0.00
17,000.00	90.16	179.89	6,855.64	-10,757.19	1,144.10	10,817.69	0.00	0.00	0.00
17,100.00	90.16	179.89	6,855.37	-10,857.19	1,144.30	10,917.21	0.00	0.00	0.00
17,200.00	90.16	179.89	6,855.10	-10,957.19	1,144.50	11,016.72	0.00	0.00	0.00
17,300.00	90.16	179.89	6,854.83	-11,057.18	1,144.69	11,116.24	0.00	0.00	0.00
17,400.00	90.16	179.89	6,854.56	-11,157.18	1,144.89	11,215.75	0.00	0.00	0.00
17,500.00	90.16	179.89	6,854.29	-11,257.18	1,145.09	11,315.27	0.00	0.00	0.00
17,605.21	90.16	179.89	6,854.00	-11,362.39	1,145.30	11,419.97	0.00	0.00	0.00
TD at 17605.21									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Guttersen State D34-74 - plan hits target center - Point	0.00	0.00	6,854.00	-11,362.39	1,145.30	1,308,120.66	3,268,898.42	40.1751817	-104.5376842
Guttersen State D34-74 - plan hits target center - Point	0.00	0.00	6,900.00	-1,201.65	1,125.28	1,318,281.37	3,268,878.41	40.2030730	-104.5373611

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
633.00	633.00	Pierre			
752.00	752.00	Upper Pierre Aquifer Top			
1,634.00	1,634.00	Upper Pierre Aquifer Base			
3,777.91	3,734.00	Parkman			
4,386.23	4,316.00	Sussex			
5,050.99	4,952.00	Shannon			
6,157.87	6,011.00	Teepee Buttes			
6,863.33	6,661.00	Sharon Springs			
6,947.62	6,722.00	Top A Chalk			
6,961.00	6,731.00	Top A Marl			
6,967.04	6,735.00	Top B Chalk			
7,047.00	6,784.00	Top B Marl			
7,180.67	6,848.00	Top C Chalk			
7,277.44	6,879.00	Top C Marl			

Database:	EDMP	**Local Co-ordinate Reference:**	Well Guttersen D34-749
Company:	Northern Region - DJ Basin	**TVD Reference:**	KB @ 4855.00ft
Project:	Mustang	**MD Reference:**	KB @ 4855.00ft
Site:	D Section 22	**North Reference:**	Grid
Well:	Guttersen D34-749	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #3		

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
2,200.00	2,200.00	0.00	0.00	Start Build 2.00
3,045.76	3,033.53	-62.21	107.20	Start 3492.05 hold at 3045.76 MD
6,537.81	6,374.50	-572.18	985.98	Start DLS 9.00 TFO 60.85
7,444.19	6,900.00	-1,201.65	1,125.28	TPZ/Landing Pt. at 7444.19 MD
10,150.42	6,900.00	-3,907.88	1,130.61	Start DLS 2.00 TFO 0.00
10,195.13	6,899.65	-3,952.59	1,130.70	Start 1964.06 hold at 10195.13 MD
12,159.20	6,869.00	-5,916.41	1,134.57	Start DLS 2.00 TFO -180.00
12,196.14	6,868.66	-5,953.36	1,134.64	Start 5409.07 hold at 12196.14 MD
17,605.21	6,854.00	-11,362.39	1,145.30	TD at 17605.21

Northern Region - DJ Basin

Mustang
D Section 22
Guttersen D34-749

Wellbore #1
Plan #3

Anticollision Summary Report

22 November, 2019

Noble Energy

Anticollision Summary Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Guttersen D34-749
Project:	Mustang	**TVD Reference:**	KB @ 4855.00ft
Reference Site:	D Section 22	**MD Reference:**	KB @ 4855.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Guttersen D34-749	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDMP
Reference Design:	Plan #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** 11/22/2019

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	17,605.21	Plan #3 (Wellbore #1)	2_MWD+IFR1+MS	A008Mb: IFR dec & multi-station analysis

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
D Section 21						
Casey Blue D 21-11 (PR) - Wellbore #1 - As-Drilled	547.12	506.13	4,948.69	4,945.37	1,489.650	CC
Casey Blue D 21-11 (PR) - Wellbore #1 - As-Drilled	1,700.00	1,625.38	4,952.51	4,941.15	435.795	ES
Casey Blue D 21-11 (PR) - Wellbore #1 - As-Drilled	7,300.00	6,905.99	6,292.74	6,242.62	125.544	SF
Casey Blue D21-13 (PR) - Wellbore #1 - Gyro Surveys	100.00	26.07	6,159.69	6,159.52	10,000.000	CC
Casey Blue D21-13 (PR) - Wellbore #1 - Gyro Surveys	1,900.00	1,791.22	6,167.05	6,154.37	486.657	ES
Casey Blue D21-13 (PR) - Wellbore #1 - Gyro Surveys	10,600.00	7,012.54	8,291.00	8,229.30	134.382	SF
Casey Blue D21-14 (SI) - Wellbore #1 - Gyro Surveys	401.84	360.85	4,741.15	4,738.86	2,065.892	CC
Casey Blue D21-14 (SI) - Wellbore #1 - Gyro Surveys	1,900.00	1,825.17	4,747.35	4,734.57	371.330	ES
Casey Blue D21-14 (SI) - Wellbore #1 - Gyro Surveys	8,700.00	6,895.09	6,194.45	6,140.76	115.363	SF
Casey Blue D21-3J (PR) - Wellbore #1 - Gyro Surveys	1,556.24	1,505.26	5,924.71	5,914.27	567.502	CC
Casey Blue D21-3J (PR) - Wellbore #1 - Gyro Surveys	2,200.00	2,142.22	5,925.78	5,910.82	396.012	ES
Casey Blue D21-3J (PR) - Wellbore #1 - Gyro Surveys	8,900.00	6,933.30	7,701.65	7,647.60	142.472	SF
Guttersen 21-31 (SI) - Wellbore #1 - Gyro Surveys	2,205.87	2,153.76	5,005.97	4,990.95	333.226	CC, ES
Guttersen 21-31 (SI) - Wellbore #1 - Gyro Surveys	7,000.00	6,724.79	6,326.87	6,278.45	130.681	SF
Guttersen 21-42 (SI) - Wellbore #1 - Gyro Surveys	100.00	47.29	3,159.83	3,159.62	10,000.000	CC
Guttersen 21-42 (SI) - Wellbore #1 - Gyro Surveys	2,300.00	2,310.73	3,162.18	3,146.29	198.944	ES
Guttersen 21-42 (SI) - Wellbore #1 - Gyro Surveys	6,850.00	6,617.00	4,379.26	4,331.71	92.098	SF
Guttersen 32-21 (PR) - Wellbore #1 - As-Drilled	1,464.61	1,427.88	4,160.24	4,150.34	420.313	CC
Guttersen 32-21 (PR) - Wellbore #1 - As-Drilled	2,200.00	2,159.37	4,161.69	4,146.60	275.777	ES
Guttersen 32-21 (PR) - Wellbore #1 - As-Drilled	6,950.00	6,729.15	5,471.25	5,422.88	113.090	SF
Guttersen 33-21 (PR) - Wellbore #1 - Gyro Surveys	395.46	360.46	3,647.67	3,645.40	1,606.809	CC
Guttersen 33-21 (PR) - Wellbore #1 - Gyro Surveys	2,000.00	1,939.63	3,654.02	3,640.48	269.893	ES
Guttersen 33-21 (PR) - Wellbore #1 - Gyro Surveys	7,100.00	6,800.13	4,945.70	4,896.58	100.688	SF
Guttersen 34-21 (PR) - Wellbore #1 - Gyro Surveys	100.00	59.25	3,534.95	3,534.72	10,000.000	CC
Guttersen 34-21 (PR) - Wellbore #1 - Gyro Surveys	1,300.00	1,241.65	3,538.50	3,529.90	411.798	ES
Guttersen 34-21 (PR) - Wellbore #1 - Gyro Surveys	7,400.00	6,998.50	4,642.83	4,591.92	91.190	SF
Guttersen 41-21 (PR) - Wellbore #1 - Gyro Surveys	100.00	41.51	4,222.42	4,222.22	10,000.000	CC
Guttersen 41-21 (PR) - Wellbore #1 - Gyro Surveys	1,900.00	1,827.25	4,230.76	4,217.97	330.692	ES
Guttersen 41-21 (PR) - Wellbore #1 - Gyro Surveys	6,900.00	6,662.78	5,422.36	5,374.42	113.087	SF
Guttersen 43-21 (PR) - Wellbore #1 - Gyro Surveys	702.64	667.65	2,449.35	2,444.91	551.165	CC
Guttersen 43-21 (PR) - Wellbore #1 - Gyro Surveys	2,200.00	2,152.19	2,454.70	2,439.70	163.698	ES
Guttersen 43-21 (PR) - Wellbore #1 - Gyro Surveys	6,850.00	6,595.51	3,750.90	3,703.36	78.914	SF
Guttersen D21-32D (SI) - Guttersen D21-32D - As-Drilled	0.00	0.00	5,175.08			
Guttersen D21-32D (SI) - Guttersen D21-32D - As-Drilled	100.00	45.97	5,175.28	5,175.08	10,000.000	ES
Guttersen D21-32D (SI) - Guttersen D21-32D - As-Drilled	7,600.00	7,600.00	8,291.31	8,227.18	129.290	SF
Guttersen D21-32D (SI) - Gyros - As-Drilled	0.00	0.00	5,175.15			
Guttersen D21-32D (SI) - Gyros - As-Drilled	100.00	37.07	5,175.22	5,175.03	10,000.000	ES

CC - Min centre to center distance or covergent 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 D34-749
Project:	Mustang	**TVD Reference:**	KB @ 4855.00ft
Reference Site:	D Section 22	**MD Reference:**	KB @ 4855.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Guttersen D34-749	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDMP
Reference Design:	Plan #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)	Distance Between Ellipses (ft)	Separation Factor	Warning
D Section 21						
Guttersen D21-32D (SI) - Gyros - As-Drilled	7,600.00	7,600.00	8,291.23	8,227.03	129.142	SF
Guttersen State USX D22-30D (PR) - Gyros - Gyros	2,397.21	2,689.15	4,024.70	3,991.43	120.953	CC
Guttersen State USX D22-30D (PR) - Gyros - Gyros	2,400.00	2,691.61	4,024.70	3,991.38	120.757	ES
Guttersen State USX D22-30D (PR) - Gyros - Gyros	6,600.00	6,715.13	5,403.35	5,304.38	54.596	SF
Guttersen State USX D22-30D (PR) - Wellbore #1 - As-D	2,397.20	2,702.13	4,024.71	3,991.44	120.954	CC
Guttersen State USX D22-30D (PR) - Wellbore #1 - As-D	2,400.00	2,704.60	4,024.72	3,991.39	120.758	ES
Guttersen State USX D22-30D (PR) - Wellbore #1 - As-D	6,600.00	6,728.13	5,403.36	5,304.39	54.596	SF
Guttersen USX D21-17 (PR) - Wellbore #1 - As-Drilled	383.63	330.63	4,091.57	4,089.45	1,926.827	CC
Guttersen USX D21-17 (PR) - Wellbore #1 - As-Drilled	1,800.00	1,716.56	4,097.45	4,085.40	340.117	ES
Guttersen USX D21-17 (PR) - Wellbore #1 - As-Drilled	6,950.00	6,675.92	5,427.85	5,379.74	112.813	SF
Guttersen USX D21-20D (PR) - Wellbore #1 - MWD Surv	785.34	751.00	5,110.60	5,105.61	1,024.257	CC
Guttersen USX D21-20D (PR) - Wellbore #1 - MWD Surv	1,100.00	1,023.87	5,111.49	5,104.32	712.814	ES
Guttersen USX D21-20D (PR) - Wellbore #1 - MWD Surv	7,200.00	7,036.02	7,044.34	6,989.08	127.493	SF
Guttersen USX D21-21D (SI) - Wellbore #1 - MWD Surve	2,659.14	3,462.82	4,841.30	4,816.27	193.474	CC, ES
Guttersen USX D21-21D (SI) - Wellbore #1 - MWD Surve	6,950.00	6,971.41	5,820.15	5,761.67	99.531	SF
Guttersen USX D21-24D (PR) - Wellbore #1 - MWD Surv	2,966.58	4,111.55	4,668.36	4,643.38	186.930	CC, ES
Guttersen USX D21-24D (PR) - Wellbore #1 - MWD Surv	7,400.00	7,024.42	5,598.64	5,546.95	108.317	SF
Guttersen USX D21-25 (PR) - Wellbore #1 - MWD Surve	1,214.08	1,180.22	5,135.12	5,126.98	630.969	CC
Guttersen USX D21-25 (PR) - Wellbore #1 - MWD Surve	2,000.00	1,935.77	5,136.98	5,123.33	376.399	ES
Guttersen USX D21-25 (PR) - Wellbore #1 - MWD Surve	7,400.00	6,920.57	6,384.13	6,333.28	125.566	SF
Guttersen USX D21-27D (PR) - Gyros - Gyros	864.65	810.65	4,092.40	4,086.87	740.502	CC
Guttersen USX D21-27D (PR) - Gyros - Gyros	900.00	834.80	4,092.44	4,086.71	713.282	ES
Guttersen USX D21-27D (PR) - Gyros - Gyros	6,750.00	6,665.01	6,123.74	6,064.75	103.807	SF
Guttersen USX D21-27D (PR) - Wellbore #1 - As-Drilled	864.65	823.65	4,092.39	4,086.86	740.500	CC
Guttersen USX D21-27D (PR) - Wellbore #1 - As-Drilled	900.00	847.80	4,092.43	4,086.70	713.280	ES
Guttersen USX D21-27D (PR) - Wellbore #1 - As-Drilled	6,750.00	6,678.01	6,123.73	6,064.74	103.806	SF
Guttersen USX D21-28D (PR) - Wellbore #1 - MWD Surv	100.00	43.10	4,091.04	4,090.84	10,000.000	CC
Guttersen USX D21-28D (PR) - Wellbore #1 - MWD Surv	300.00	226.49	4,091.64	4,090.39	3,276.674	ES
Guttersen USX D21-28D (PR) - Wellbore #1 - MWD Surv	8,600.00	8,600.00	8,245.92	8,187.86	142.013	SF
Guttersen USX D21-33D (SI) - Guttersen USX D21-33D	0.00	0.00	5,156.93			
Guttersen USX D21-33D (SI) - Guttersen USX D21-33D	500.00	443.15	5,159.06	5,156.17	1,781.656	ES
Guttersen USX D21-33D (SI) - Guttersen USX D21-33D	12,200.00	3,952.90	9,997.48	9,929.10	146.219	SF
Guttersen USX D21-33D (SI) - Gyros - As-Drilled	100.00	53.76	5,156.96	5,156.74	10,000.000	CC
Guttersen USX D21-33D (SI) - Gyros - As-Drilled	500.00	431.15	5,159.04	5,156.14	1,781.634	ES
Guttersen USX D21-33D (SI) - Gyros - As-Drilled	12,200.00	3,940.91	9,997.45	9,929.08	146.219	SF
Gutterson 18-21 (SI) - Wellbore #1 - Gyro Surveys	2,209.15	2,183.77	6,096.26	6,081.11	402.505	CC, ES
Gutterson 18-21 (SI) - Wellbore #1 - Gyro Surveys	7,050.00	6,807.25	7,481.78	7,433.15	153.854	SF
HSR Guttersen B 5-21 (PR) - Wellbore #1 - Gyro Survey	453.98	400.00	6,530.20	6,527.58	2,489.994	CC
HSR Guttersen B 5-21 (PR) - Wellbore #1 - Gyro Survey	2,100.00	2,008.28	6,533.37	6,519.24	462.346	ES
HSR Guttersen B 5-21 (PR) - Wellbore #1 - Gyro Survey	6,950.00	6,707.93	7,808.27	7,759.97	161.647	SF
HSR Gutterson 4-21 (PR) - Wellbore #1 - Gyro Surveys	2,146.03	2,100.00	7,074.38	7,059.62	479.170	CC
HSR Gutterson 4-21 (PR) - Wellbore #1 - Gyro Surveys	2,201.50	2,159.30	7,074.38	7,059.21	466.304	ES
HSR Gutterson 4-21 (PR) - Wellbore #1 - Gyro Surveys	7,150.00	6,822.13	8,525.62	8,476.55	173.761	SF
HSR-Guttersen 3-21 (SI) - Wellbore #1 - Gyro Surveys	2,221.41	2,216.07	5,990.76	5,975.46	391.481	CC, ES
HSR-Guttersen 3-21 (SI) - Wellbore #1 - Gyro Surveys	6,900.00	7,184.12	7,148.11	7,096.90	139.575	SF
HSR-Guttersen 6-21 (SI) - Wellbore #1 - Gyro Surveys	785.29	733.31	5,324.06	5,319.08	1,070.564	CC
HSR-Guttersen 6-21 (SI) - Wellbore #1 - Gyro Surveys	2,100.00	2,011.93	5,326.31	5,312.16	376.550	ES
HSR-Guttersen 6-21 (SI) - Wellbore #1 - Gyro Surveys	7,000.00	6,715.14	6,618.36	6,569.97	136.764	SF
Two E Ranch 1-21C (SI) - Wellbore #1 - Gyro Surveys	410.83	374.84	2,576.83	2,574.45	1,083.955	CC
Two E Ranch 1-21C (SI) - Wellbore #1 - Gyro Surveys	1,600.00	1,547.07	2,582.84	2,572.10	240.596	ES
Two E Ranch 1-21C (SI) - Wellbore #1 - Gyro Surveys	7,250.00	6,945.49	3,947.65	3,897.39	78.537	SF
Vogler State D21-720 - Vogler State D21-720 OH - As-Dr	567.12	562.80	2,143.36	2,139.79	600.793	CC
Vogler State D21-720 - Vogler State D21-720 OH - As-Dr	2,000.00	1,982.00	2,147.46	2,133.87	158.010	ES

CC - Min centre to center distance or covergent 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 D34-749
Project:	Mustang	**TVD Reference:**	KB @ 4855.00ft
Reference Site:	D Section 22	**MD Reference:**	KB @ 4855.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Guttersen D34-749	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDMP
Reference Design:	Plan #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)	Distance Between Ellipses (ft)	Separation Factor	Warning
D Section 21						
Vogler State D21-720 - Vogler State D21-720 OH - As-Dr	8,100.00	6,717.00	3,358.41	3,309.87	69.193	SF
Vogler State D21-731 - Vogler State D21-731 OH - As-Dr	6,025.12	7,769.00	3,865.00	3,819.43	84.815	CC, ES
Vogler State D21-731 - Vogler State D21-731 OH - As-Dr	8,000.00	7,345.46	4,057.78	4,007.54	80.770	SF
Vogler State D21-740 - Vogler State D21-740 OH - As-Dr	2,612.50	3,119.27	4,034.47	4,017.58	238.964	CC, ES
Vogler State D21-740 - Vogler State D21-740 OH - As-Dr	8,700.00	6,716.00	4,745.68	4,694.96	93.568	SF
Vogler State D21-750 - Vogler State D21-750 OH - As-Dr	235.08	234.08	4,072.10	4,070.87	3,313.879	CC
Vogler State D21-750 - Vogler State D21-750 OH - As-Dr	1,900.00	1,872.05	4,078.44	4,065.51	315.652	ES
Vogler State D21-750 - Vogler State D21-750 OH - As-Dr	9,500.00	6,634.00	5,568.27	5,514.85	104.244	SF
Vogler State D21-760 - Vogler State D21-760 OH - As-Dr	2,906.19	4,109.28	5,710.73	5,690.03	275.965	CC, ES
Vogler State D21-760 - Vogler State D21-760 OH - As-Dr	9,800.00	7,010.00	6,406.00	6,349.81	114.012	SF
Vogler State D21-770 - Vogler State D21-770 OH - As-Dr	2,392.00	2,692.26	5,778.87	5,763.40	373.599	CC
Vogler State D21-770 - Vogler State D21-770 OH - As-Dr	2,400.00	2,696.26	5,778.88	5,763.38	372.810	ES
Vogler State D21-770 - Vogler State D21-770 OH - As-Dr	10,800.00	6,537.00	7,302.60	7,244.00	124.617	SF
Vogler State D21-780 - Vogler State D21-780 OH - As-Dr	146.00	111.00	5,833.20	5,832.74	10,000.000	CC
Vogler State D21-780 - Vogler State D21-780 OH - As-Dr	1,700.00	1,648.04	5,833.88	5,822.49	511.843	ES
Vogler State D21-780 - Vogler State D21-780 OH - As-Dr	11,500.00	6,526.00	8,214.44	8,151.92	131.401	SF
Vogler State D21-790 - Vogler State D21-790 OH - As-Dr	525.43	520.43	2,105.38	2,102.11	644.053	CC
Vogler State D21-790 - Vogler State D21-790 OH - As-Dr	2,201.53	2,197.49	2,107.98	2,093.58	146.350	ES
Vogler State D21-790 - Vogler State D21-790 OH - As-Dr	6,950.00	7,391.00	2,667.32	2,620.18	56.584	SF
Vogler State D33-711 - Wellbore #1 - Plan #2	2,506.13	2,693.06	2,081.28	2,063.40	116.411	CC, ES
Vogler State D33-711 - Wellbore #1 - Plan #2	17,605.21	17,486.15	2,620.07	2,426.72	13.551	SF
Vogler State D33-718 - Wellbore #1 - Plan #2	2,200.00	2,206.00	2,137.99	2,122.67	139.481	CC, ES
Vogler State D33-718 - Wellbore #1 - Plan #2	17,605.21	17,251.48	3,241.62	3,051.05	17.010	SF
Vogler State D33-728 - Wellbore #1 - Plan #2	5,709.03	6,717.85	3,773.02	3,727.30	82.530	CC
Vogler State D33-728 - Wellbore #1 - Plan #2	17,605.21	17,611.62	3,909.78	3,716.73	20.253	ES, SF
Vogler State D33-738 - Wellbore #1 - Plan #2	2,200.00	2,204.00	4,034.08	4,018.76	263.303	CC, ES
Vogler State D33-738 - Wellbore #1 - Plan #2	17,605.21	17,286.79	4,561.64	4,371.15	23.947	SF
Vogler State D33-752 - Wellbore #1 - Plan #2	2,200.00	2,204.00	4,071.06	4,055.74	265.716	CC, ES
Vogler State D33-752 - Wellbore #1 - Plan #2	17,605.21	17,468.59	5,220.10	5,026.75	26.999	SF
Vogler State D33-759 - Wellbore #1 - Plan #2	2,945.89	4,201.86	5,578.89	5,554.17	225.652	CC, ES
Vogler State D33-759 - Wellbore #1 - Plan #2	17,605.21	17,535.38	5,871.01	5,678.19	30.448	SF
Vogler State D33-769 - Wellbore #1 - Plan #2	2,200.00	2,171.00	5,796.02	5,780.82	381.247	CC, ES
Vogler State D33-769 - Wellbore #1 - Plan #2	17,605.21	17,452.82	6,530.93	6,337.97	33.847	SF
Vogler State D33-779 - Wellbore #1 - Plan #2	2,000.00	1,971.00	5,833.06	5,819.29	423.641	CC
Vogler State D33-779 - Wellbore #1 - Plan #2	2,100.00	2,045.76	5,833.22	5,818.83	405.457	ES
Vogler State D33-779 - Wellbore #1 - Plan #2	17,605.21	17,422.52	7,190.86	6,997.68	37.223	SF

Noble Energy

Anticollision Summary Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Guttersen D34-749
Project:	Mustang	**TVD Reference:**	KB @ 4855.00ft
Reference Site:	D Section 22	**MD Reference:**	KB @ 4855.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Guttersen D34-749	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDMP
Reference Design:	Plan #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)	Distance Between Ellipses (ft)	Separation Factor	Warning
D Section 22						
Dalbey D22-05 (SI) - Wellbore #1 - Gyro Surveys	100.00	41.48	2,425.73	2,425.53	10,000.000	CC
Dalbey D22-05 (SI) - Wellbore #1 - Gyro Surveys	800.00	733.73	2,429.40	2,424.37	482.812	ES
Dalbey D22-05 (SI) - Wellbore #1 - Gyro Surveys	6,800.00	6,594.69	3,552.57	3,505.14	74.908	SF
O'SH D 22-11 (SI) - Wellbore #1 - No Surveys	2,200.00	2,174.00	632.93	581.79	12.378	CC
O'SH D 22-11 (SI) - Wellbore #1 - No Surveys	2,400.00	2,373.84	635.52	579.71	11.387	ES
O'SH D 22-11 (SI) - Wellbore #1 - No Surveys	4,000.00	3,920.48	865.11	772.71	9.363	SF
Dalbey D 22-04 (PR) - Wellbore #1 - Gyro Surveys	674.92	615.94	3,815.11	3,810.94	915.202	CC
Dalbey D 22-04 (PR) - Wellbore #1 - Gyro Surveys	1,000.00	922.33	3,815.94	3,809.54	596.333	ES
Dalbey D 22-04 (PR) - Wellbore #1 - Gyro Surveys	6,800.00	6,577.17	4,878.07	4,830.56	102.673	SF
Dalbey D 22-3 (SI) - Wellbore #1 - Gyro Surveys	204.47	155.48	3,780.32	3,779.45	4,338.781	CC
Dalbey D 22-3 (SI) - Wellbore #1 - Gyro Surveys	2,300.00	2,253.14	3,787.66	3,771.96	241.236	ES
Dalbey D 22-3 (SI) - Wellbore #1 - Gyro Surveys	6,850.00	6,605.55	4,466.09	4,418.00	92.884	SF
Dalbey D22-6 (SI) - Wellbore #1 - Gyro Surveys	241.11	192.11	2,619.58	2,618.45	2,314.790	CC
Dalbey D22-6 (SI) - Wellbore #1 - Gyro Surveys	1,800.00	1,731.13	2,622.24	2,610.14	216.808	ES
Dalbey D22-6 (SI) - Wellbore #1 - Gyro Surveys	6,800.00	6,547.85	3,448.75	3,401.24	72.600	SF
Guttersen D 22-18 (SI) - Wellbore #1 - Gyro Surveys	1,995.64	1,954.80	3,176.47	3,162.88	233.782	CC
Guttersen D 22-18 (SI) - Wellbore #1 - Gyro Surveys	2,100.00	2,032.41	3,176.93	3,162.70	223.247	ES
Guttersen D 22-18 (SI) - Wellbore #1 - Gyro Surveys	6,800.00	6,565.86	3,658.21	3,610.29	76.341	SF
Guttersen D34-719 - Wellbore #1 - Plan #1	9,358.85	9,287.25	1,993.07	1,921.76	27.950	CC
Guttersen D34-719 - Wellbore #1 - Plan #1	17,605.21	17,517.73	2,042.97	1,850.35	10.606	ES, SF
Guttersen D34-729 - Wellbore #1 - Plan #2	7,434.21	7,297.24	1,345.13	1,291.96	25.299	CC
Guttersen D34-729 - Wellbore #1 - Plan #2	17,605.21	17,468.01	1,382.93	1,189.79	7.160	ES, SF
Guttersen D34-739 - Wellbore #1 - Plan #2	7,434.19	7,331.67	685.22	631.79	12.826	CC
Guttersen D34-739 - Wellbore #1 - Plan #2	17,605.21	17,490.90	722.95	530.12	3.749	ES, SF
Guttersen D34-759 - Wellbore #1 - Plan #2	2,200.00	2,200.00	37.43	22.12	2.445	CC, ES
Guttersen D34-759 - Wellbore #1 - Plan #2	2,300.00	2,300.02	38.94	22.93	2.432	SF
Guttersen D34-769 - Wellbore #1 - Plan #2	2,200.00	2,199.00	74.85	59.55	4.891	CC, ES
Guttersen D34-769 - Wellbore #1 - Plan #2	2,300.00	2,298.56	76.62	60.64	4.793	SF
Guttersen D34-779 - Wellbore #1 - Plan #2	2,200.00	2,201.00	112.56	97.25	7.352	CC, ES
Guttersen D34-779 - Wellbore #1 - Plan #2	2,400.00	2,398.84	118.61	101.91	7.104	SF
Guttersen State D 22-22 (SI) - Wellbore #1 - Gyro Survey	6,559.41	6,413.56	2,635.79	2,589.03	56.370	CC, ES
Guttersen State D 22-22 (SI) - Wellbore #1 - Gyro Survey	6,850.00	6,654.30	2,694.93	2,646.12	55.211	SF
Guttersen State D 22-24 (SI) - Wellbore #1 - Gyro Survey	4,810.29	4,643.63	1,022.51	989.02	30.538	CC
Guttersen State D 22-24 (SI) - Wellbore #1 - Gyro Survey	4,900.00	4,724.15	1,023.12	988.99	29.981	ES
Guttersen State D 22-24 (SI) - Wellbore #1 - Gyro Survey	6,600.00	6,411.08	1,123.92	1,077.08	23.993	SF
Guttersen State D22-750 - Guttersen State D22-750 OH	7,068.84	7,543.86	50.26	0.53	1.011	Level 2, CC, ES, SF
Guttersen State D22-760 - Guttersen State D22-760 OH	992.43	991.45	153.08	146.49	23.238	CC
Guttersen State D22-760 - Guttersen State D22-760 OH	2,451.25	2,446.69	154.29	138.91	10.032	ES
Guttersen State D22-760 - Guttersen State D22-760 OH	2,700.00	2,688.21	159.31	142.84	9.674	SF
Guttersen State D22-770 - Guttersen State D22-770 OH	100.00	98.90	167.69	167.42	616.697	CC
Guttersen State D22-770 - Guttersen State D22-770 OH	2,200.00	2,197.99	175.67	161.34	12.260	ES
Guttersen State D22-770 - Guttersen State D22-770 OH	2,400.00	2,387.71	180.87	165.76	11.974	SF
Guttersen State D22-780 - Guttersen State D22-780 OH	123.72	122.72	187.38	186.94	424.383	CC
Guttersen State D22-780 - Guttersen State D22-780 OH	1,800.00	1,798.22	189.38	177.08	15.397	ES
Guttersen State D22-780 - Guttersen State D22-780 OH	2,100.00	2,089.93	195.74	181.64	13.890	SF
Guttersen State D34-790 - Wellbore #1 - Plan #2	3,619.11	3,017.19	2,363.50	2,340.93	104.676	CC, ES
Guttersen State D34-790 - Wellbore #1 - Plan #2	17,605.21	17,630.84	2,652.36	2,459.41	13.746	SF
O'SH D 22-12 (SI) - Wellbore #1 - Gyros	1,363.24	1,323.25	1,486.04	1,476.93	163.242	CC
O'SH D 22-12 (SI) - Wellbore #1 - Gyros	2,000.00	1,950.38	1,488.41	1,474.84	109.677	ES
O'SH D 22-12 (SI) - Wellbore #1 - Gyros	6,650.00	6,453.07	2,658.27	2,611.98	57.430	SF
O'SH D 22-13 (SI) - Wellbore #1 - Gyros	1,575.53	1,549.59	1,142.88	1,132.21	107.185	CC
O'SH D 22-13 (SI) - Wellbore #1 - Gyros	2,200.00	2,168.57	1,144.89	1,129.83	76.040	ES
O'SH D 22-13 (SI) - Wellbore #1 - Gyros	6,800.00	6,613.65	2,142.39	2,094.66	44.892	SF

CC - Min centre to center distance or covergent 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 D34-749
Project:	Mustang	**TVD Reference:**	KB @ 4855.00ft
Reference Site:	D Section 22	**MD Reference:**	KB @ 4855.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Guttersen D34-749	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDMP
Reference Design:	Plan #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)	Distance Between Ellipses (ft)	Separation Factor	Warning
D Section 22						
O'SH D 22-14 (SI) - Wellbore #1 - Gyros	4,733.33	4,625.46	110.60	77.56	3.347	CC, ES, SF
Sevendust State D 22-1 (SI) - Wellbore #1 - Gyro Survey	4,830.33	4,677.80	4,787.97	4,754.33	142.335	CC
Sevendust State D 22-1 (SI) - Wellbore #1 - Gyro Survey	5,200.00	5,027.92	4,789.46	4,753.12	131.780	ES
Sevendust State D 22-1 (SI) - Wellbore #1 - Gyro Survey	6,950.00	6,688.51	4,951.06	4,901.82	100.541	SF
Spike ST GWS D 22-07 (SI) - Wellbore #1 - No Surveys	3,551.48	3,484.37	2,623.13	2,541.01	31.945	CC
Spike ST GWS D 22-07 (SI) - Wellbore #1 - No Surveys	4,300.00	4,200.50	2,632.15	2,532.82	26.499	ES
Spike ST GWS D 22-07 (SI) - Wellbore #1 - No Surveys	6,750.00	6,535.81	2,817.24	2,661.40	18.078	SF
Spike ST GWS D 22-08 (SI) - Wellbore #1 - Gyro Survey	6,580.89	6,428.13	3,551.51	3,504.64	75.766	CC, ES
Spike ST GWS D 22-08 (SI) - Wellbore #1 - Gyro Survey	6,950.00	6,744.56	3,637.51	3,587.99	73.457	SF
Spike ST GWS D 22-09 (PA) - Wellbore #1 - No Surveys	6,651.39	6,462.16	2,811.06	2,656.99	18.246	CC, ES
Spike ST GWS D 22-09 (PA) - Wellbore #1 - No Surveys	6,950.00	6,704.62	2,859.41	2,699.19	17.847	SF
Spike ST GWS D 22-15 (PR) - Wellbore #1 - Gyro Surve	6,706.32	6,505.68	745.02	697.45	15.663	CC, ES
Spike ST GWS D 22-15 (PR) - Wellbore #1 - Gyro Surve	6,800.00	6,587.35	750.17	701.88	15.533	SF
Spike ST GWS D 22-4J (PR) - Wellbore #1 - Gyro Surve	6,821.55	6,640.04	1,836.48	1,788.16	38.009	CC, ES
Spike ST GWS D 22-4J (PR) - Wellbore #1 - Gyro Surve	7,050.00	6,795.56	1,862.22	1,812.31	37.313	SF
Spike State D22-1J (PA) - Wellbore #1 - Gyro Surveys	3,979.97	3,898.09	3,638.85	3,611.34	132.279	CC
Spike State D22-1J (PA) - Wellbore #1 - Gyro Surveys	4,200.00	4,103.96	3,639.31	3,610.22	125.118	ES
Spike State D22-1J (PA) - Wellbore #1 - Gyro Surveys	6,800.00	6,637.69	3,778.62	3,730.20	78.042	SF
Spike State GWS D 22-10 (PA) - Wellbore #1 - Gyro Sur	5,892.12	5,741.10	1,671.11	1,629.47	40.130	CC
Spike State GWS D 22-10 (PA) - Wellbore #1 - Gyro Sur	6,000.00	5,838.94	1,671.73	1,629.30	39.405	ES
Spike State GWS D 22-10 (PA) - Wellbore #1 - Gyro Sur	6,700.00	6,501.25	1,708.83	1,661.25	35.914	SF
Spike State GWS D 22-2 (PR) - Wellbore #1 - Gyro Surv	1,685.63	1,644.66	4,105.31	4,093.93	360.813	CC
Spike State GWS D 22-2 (PR) - Wellbore #1 - Gyro Surv	2,400.00	2,356.37	4,107.03	4,090.64	250.642	ES
Spike State GWS D 22-2 (PR) - Wellbore #1 - Gyro Surv	6,850.00	6,614.74	4,555.84	4,507.47	94.187	SF

Noble Energy

Anticollision Summary Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Guttersen D34-749
Project:	Mustang	**TVD Reference:**	KB @ 4855.00ft
Reference Site:	D Section 22	**MD Reference:**	KB @ 4855.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Guttersen D34-749	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDMP
Reference Design:	Plan #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)	Distance Between Ellipses (ft)	Separation Factor	Warning
D Section 23						
Guttersen 23-32 (SI) - Wellbore #1 - Gyro Surveys	6,744.71	6,455.71	6,816.51	6,769.02	143.525	CC
Guttersen 23-32 (SI) - Wellbore #1 - Gyro Surveys	6,750.00	6,458.61	6,816.52	6,768.99	143.424	ES
Guttersen 23-32 (SI) - Wellbore #1 - Gyro Surveys	7,400.00	7,400.00	6,988.12	6,934.69	130.772	SF
Guttersen 23-41 (PR) - Wellbore #1 - Gyro Surveys	6,700.23	6,395.79	8,455.27	8,408.15	179.432	CC, ES
Guttersen 23-41 (PR) - Wellbore #1 - Gyro Surveys	7,400.00	6,700.00	8,661.60	8,610.61	169.885	SF
Guttersen 31-23 (PR) - Wellbore #1 - Gyro Surveys	6,653.10	6,386.35	7,317.95	7,270.97	155.787	CC, ES
Guttersen 31-23 (PR) - Wellbore #1 - Gyro Surveys	7,500.00	6,950.90	7,635.22	7,583.16	146.659	SF
Guttersen 42-23 (PR) - Wellbore #1 - Gyro Surveys	6,787.32	6,474.70	7,844.95	7,797.28	164.579	CC
Guttersen 42-23 (PR) - Wellbore #1 - Gyro Surveys	6,800.00	6,482.81	7,845.01	7,797.26	164.290	ES
Guttersen 42-23 (PR) - Wellbore #1 - Gyro Surveys	9,700.00	6,820.04	9,211.92	9,151.54	152.576	SF
Guttersen D 23-20 (SI) - Wellbore #1 - Gyro Surveys	6,695.75	6,509.64	4,679.05	4,631.55	98.497	CC
Guttersen D 23-20 (SI) - Wellbore #1 - Gyro Surveys	6,700.00	6,513.25	4,679.06	4,631.53	98.433	ES
Guttersen D 23-20 (SI) - Wellbore #1 - Gyro Surveys	7,200.00	6,852.97	4,797.56	4,746.75	94.412	SF
Guttersen D23-711 - Guttersen D23-711 OH - As-Drilled	5,589.52	3,626.64	7,191.90	7,163.00	248.809	CC, ES
Guttersen D23-711 - Guttersen D23-711 OH - As-Drilled	12,159.20	12,159.20	8,810.43	8,707.32	85.441	SF
Guttersen D35-720 - Wellbore #1 - Plan #1	7,059.67	5,624.61	7,132.94	7,086.65	154.096	CC
Guttersen D35-720 - Wellbore #1 - Plan #1	17,605.21	17,404.37	7,247.13	7,055.10	37.739	ES, SF
Guttersen D35-730 - Wellbore #1 - Plan #1	7,435.05	7,216.57	6,549.43	6,496.79	124.423	CC
Guttersen D35-730 - Wellbore #1 - Plan #1	17,605.21	17,346.12	6,586.21	6,394.00	34.266	ES, SF
Guttersen D35-740 - Wellbore #1 - Plan #1	8,009.06	7,839.68	5,864.49	5,807.58	103.050	CC
Guttersen D35-740 - Wellbore #1 - Plan #1	17,605.21	17,381.84	5,927.25	5,735.22	30.865	ES, SF
Guttersen D35-750 - Wellbore #1 - Plan #1	7,147.65	6,317.59	5,248.44	5,199.48	107.200	CC
Guttersen D35-750 - Wellbore #1 - Plan #1	17,605.21	17,414.10	5,290.84	5,099.59	27.664	ES, SF
Guttersen D35-760 - Wellbore #1 - Plan #1	8,009.69	7,844.03	4,546.98	4,490.49	80.496	CC
Guttersen D35-760 - Wellbore #1 - Plan #1	17,605.21	17,368.97	4,634.38	4,442.83	24.194	ES, SF
Guttersen D35-770 - Wellbore #1 - Plan #1	7,365.08	7,150.00	3,921.77	3,869.50	75.031	CC
Guttersen D35-770 - Wellbore #1 - Plan #1	17,605.21	17,475.15	3,972.94	3,781.99	20.806	ES, SF
Guttersen D35-780 - Wellbore #1 - Plan #1	17,579.22	17,590.57	3,264.98	3,074.45	17.136	CC
Guttersen D35-780 - Wellbore #1 - Plan #1	17,605.21	17,585.83	3,265.09	3,074.42	17.124	ES, SF
Guttersen State D23-721 - Guttersen State D23-721 OH	7,486.19	7,486.19	7,060.59	7,008.31	135.067	CC
Guttersen State D23-721 - Guttersen State D23-721 OH	7,500.00	7,500.00	7,060.60	7,008.22	134.797	ES
Guttersen State D23-721 - Guttersen State D23-721 OH	8,400.00	8,400.00	7,115.01	7,054.80	118.167	SF
Guttersen State D23-731 - Guttersen State D23-731 OH	7,339.61	7,284.00	6,506.95	6,459.26	136.450	CC
Guttersen State D23-731 - Guttersen State D23-731 OH	7,350.00	7,284.00	6,506.98	6,459.25	136.343	ES
Guttersen State D23-731 - Guttersen State D23-731 OH	11,500.00	6,526.00	7,605.71	7,537.97	112.282	SF
Guttersen State D23-741 - Guttersen State D23-741 OH	7,306.61	7,474.00	5,822.98	5,775.40	122.393	CC, ES
Guttersen State D23-741 - Guttersen State D23-741 OH	10,900.00	6,717.00	6,796.78	6,732.76	106.166	SF
Guttersen State D23-751 - Guttersen State D23-751 OH	7,297.73	7,379.00	5,192.31	5,144.48	108.555	CC
Guttersen State D23-751 - Guttersen State D23-751 OH	7,300.00	7,379.00	5,192.31	5,144.47	108.534	ES
Guttersen State D23-751 - Guttersen State D23-751 OH	11,100.00	11,100.00	6,363.30	6,285.27	81.548	SF
Guttersen State D23-761 - Guttersen State D23-761 OH	7,439.93	6,875.74	4,542.71	4,495.58	96.386	CC
Guttersen State D23-761 - Guttersen State D23-761 OH	7,444.19	6,874.64	4,542.71	4,495.57	96.360	ES
Guttersen State D23-761 - Guttersen State D23-761 OH	9,600.00	6,727.00	5,002.47	4,945.35	87.579	SF
Guttersen State D23-771 - Guttersen State D23-771 OH	7,354.82	7,249.39	3,849.60	3,801.61	80.205	CC, ES
Guttersen State D23-771 - Guttersen State D23-771 OH	9,000.00	6,810.00	4,129.59	4,074.94	75.564	SF
Guttersen State D23-781 - Guttersen State D23-781 OH	7,255.30	7,379.00	3,354.65	3,306.40	69.524	CC, ES
Guttersen State D23-781 - Guttersen State D23-781 OH	8,500.00	7,000.00	3,572.13	3,519.28	67.592	SF
Guttersen State D35-790 - Wellbore #1 - Plan #1	4,926.19	3,000.00	7,354.06	7,326.46	266.474	CC, ES
Guttersen State D35-790 - Wellbore #1 - Plan #1	17,605.21	17,573.53	7,906.25	7,714.34	41.198	SF
Guttersen USX D 23-17 (PR) - Wellbore #1 - Gyro Surve	6,694.72	6,300.00	7,474.55	7,427.76	159.722	CC
Guttersen USX D 23-17 (PR) - Wellbore #1 - Gyro Surve	6,700.00	6,300.00	7,474.57	7,427.75	159.642	ES
Guttersen USX D 23-17 (PR) - Wellbore #1 - Gyro Surve	10,800.00	10,800.00	9,930.00	9,852.97	128.909	SF
Parker Blue D 23-09 (SI) - Wellbore #1 - Gyro Surveys	7,027.28	6,718.26	7,634.02	7,584.72	154.842	CC

CC - Min centre to center distance or covergent 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 D34-749
Project:	Mustang	**TVD Reference:**	KB @ 4855.00ft
Reference Site:	D Section 22	**MD Reference:**	KB @ 4855.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Guttersen D34-749	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDMP
Reference Design:	Plan #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)	Distance Between Ellipses (ft)	Separation Factor	Warning
D Section 23						
Parker Blue D 23-09 (SI) - Wellbore #1 - Gyro Surveys	7,050.00	6,734.75	7,634.17	7,584.71	154.374	ES
Parker Blue D 23-09 (SI) - Wellbore #1 - Gyro Surveys	11,100.00	6,894.92	9,276.15	9,208.47	137.046	SF
Parker Blue D 23-10 (SI) - Wellbore #1 - Gyro Surveys	6,946.58	6,684.35	6,437.86	6,388.93	131.582	CC
Parker Blue D 23-10 (SI) - Wellbore #1 - Gyro Surveys	6,950.00	6,688.86	6,437.86	6,388.90	131.503	ES
Parker Blue D 23-10 (SI) - Wellbore #1 - Gyro Surveys	9,400.00	6,859.55	7,365.77	7,306.24	123.733	SF
Parker Blue D 23-11 (SI) - Wellbore #1 - Gyro Surveys	6,804.92	6,591.47	5,159.68	5,111.52	107.155	CC, ES
Parker Blue D 23-11 (SI) - Wellbore #1 - Gyro Surveys	7,250.00	6,855.98	5,236.88	5,185.95	102.811	SF
Parker Blue D 23-13 (SI) - Wellbore #1 - Gyro Surveys	6,960.16	6,748.22	3,332.22	3,283.06	67.788	CC, ES
Parker Blue D 23-13 (SI) - Wellbore #1 - Gyro Surveys	7,350.00	6,899.24	3,391.15	3,339.83	66.081	SF
Parker Blue D 23-14 (SI) - Wellbore #1 - Gyro Surveys	7,064.15	6,747.59	4,781.14	4,731.60	96.524	CC, ES
Parker Blue D 23-14 (SI) - Wellbore #1 - Gyro Surveys	8,400.00	6,849.65	5,141.11	5,085.79	92.933	SF
Parker Blue D 23-15 (SI) - Wellbore #1 - Gyro Surveys	7,235.27	6,843.20	6,003.76	5,953.60	119.686	CC, ES
Parker Blue D 23-15 (SI) - Wellbore #1 - Gyro Surveys	10,300.00	6,897.74	6,965.41	6,900.94	108.043	SF
Parker Blue D 23-3J (SI) - Wellbore #1 - Gyro Surveys	6,757.38	6,516.53	4,155.58	4,105.14	82.386	CC, ES
Parker Blue D 23-3J (SI) - Wellbore #1 - Gyro Surveys	7,250.00	6,812.25	4,256.11	4,201.99	78.641	SF
Parker Red D 23-05 (PR) - Wellbore #1 - Gyro Surveys	6,635.11	6,497.52	4,433.65	4,386.34	93.705	CC
Parker Red D 23-05 (PR) - Wellbore #1 - Gyro Surveys	6,650.00	6,516.15	4,433.77	4,386.33	93.457	ES
Parker Red D 23-05 (PR) - Wellbore #1 - Gyro Surveys	7,100.00	6,821.33	4,551.98	4,501.59	90.329	SF
Parker Red D 23-2J (SI) - Wellbore #1 - Gyro Surveys	6,656.48	6,532.95	5,307.58	5,260.11	111.794	CC, ES
Parker Red D 23-2J (SI) - Wellbore #1 - Gyro Surveys	7,200.00	6,982.56	5,458.05	5,406.62	106.127	SF
Parker Red D 23-3 (PR) - Wellbore #1 - Gyro Surveys	6,643.69	6,635.72	6,310.69	6,262.87	131.944	CC
Parker Red D 23-3 (PR) - Wellbore #1 - Gyro Surveys	6,650.00	6,641.15	6,310.72	6,262.84	131.818	ES
Parker Red D 23-3 (PR) - Wellbore #1 - Gyro Surveys	7,050.00	6,875.36	6,405.17	6,354.88	127.368	SF
Parker Red D 23-4 (SI) - Wellbore #1 - Gyro Surveys	6,572.19	6,374.72	5,312.60	5,265.87	113.695	CC, ES
Parker Red D 23-4 (SI) - Wellbore #1 - Gyro Surveys	7,050.00	6,751.27	5,452.40	5,402.41	109.077	SF
Two E Ranch 1-23 (SI) - Wellbore #1 - Gyro Surveys	7,102.97	6,745.14	7,061.18	7,011.53	142.240	CC, ES
Two E Ranch 1-23 (SI) - Wellbore #1 - Gyro Surveys	10,800.00	6,841.02	8,411.74	8,344.73	125.519	SF

Noble Energy

Anticollision Summary Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Guttersen D34-749
Project:	Mustang	**TVD Reference:**	KB @ 4855.00ft
Reference Site:	D Section 22	**MD Reference:**	KB @ 4855.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Guttersen D34-749	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDMP
Reference Design:	Plan #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)	Distance Between Ellipses (ft)	Separation Factor	Warning
D Section 26						
Adam Red D 26-11 (PR) - Wellbore #1 - Gyro Surveys	10,488.97	6,820.44	4,437.07	4,370.50	66.650	CC
Adam Red D 26-11 (PR) - Wellbore #1 - Gyro Surveys	10,500.00	6,820.17	4,437.09	4,370.43	66.563	ES
Adam Red D 26-11 (PR) - Wellbore #1 - Gyro Surveys	12,000.00	6,784.98	4,687.23	4,610.25	60.885	SF
Adam Red D 26-12 (PR) - Wellbore #1 - Gyro Surveys	10,483.17	6,929.00	3,233.63	3,159.48	43.607	CC
Adam Red D 26-12 (PR) - Wellbore #1 - Gyro Surveys	10,500.00	6,928.66	3,233.68	3,159.38	43.525	ES
Adam Red D 26-12 (PR) - Wellbore #1 - Gyro Surveys	11,300.00	6,912.25	3,335.16	3,254.97	41.588	SF
Adam Red D 26-13 (PR) - Wellbore #1 - Gyro Surveys	11,629.06	6,900.00	3,417.46	3,342.84	45.797	CC, ES
Adam Red D 26-13 (PR) - Wellbore #1 - Gyro Surveys	12,500.00	6,900.00	3,526.71	3,445.48	43.418	SF
Adam Red D 26-14 (PR) - Wellbore #1 - Gyro Surveys	11,639.51	6,848.39	4,782.10	4,702.83	60.322	CC
Adam Red D 26-14 (PR) - Wellbore #1 - Gyro Surveys	11,700.00	6,848.15	4,782.49	4,702.70	59.942	ES
Adam Red D 26-14 (PR) - Wellbore #1 - Gyro Surveys	13,200.00	6,855.31	5,030.37	4,939.94	55.631	SF
Heyde 1-26 (PR) - Wellbore #1 - Gyro Surveys	8,151.37	6,868.05	6,911.24	6,857.84	129.422	CC
Heyde 1-26 (PR) - Wellbore #1 - Gyro Surveys	8,200.00	6,868.22	6,911.41	6,857.78	128.873	ES
Heyde 1-26 (PR) - Wellbore #1 - Gyro Surveys	12,100.00	6,851.70	7,959.67	7,883.88	105.027	SF
Heyde 26ND (PR) - Wellbore #1 - MWD Surveys	8,521.76	6,943.00	5,349.55	5,292.08	93.097	CC, ES
Heyde 26ND (PR) - Wellbore #1 - MWD Surveys	11,200.00	6,929.88	5,982.23	5,906.23	78.721	SF
Heyde 26RD (PR) - Wellbore #1 - MWD Surveys	7,388.38	6,873.44	6,613.13	6,560.08	124.656	CC
Heyde 26RD (PR) - Wellbore #1 - MWD Surveys	7,400.00	6,874.33	6,613.17	6,560.07	124.552	ES
Heyde 26RD (PR) - Wellbore #1 - MWD Surveys	11,100.00	6,885.95	7,652.40	7,580.23	106.022	SF
Heyde 26VD (PR) - Wellbore #1 - MWD Surveys	8,526.93	7,080.10	7,825.38	7,767.55	135.334	CC
Heyde 26VD (PR) - Wellbore #1 - MWD Surveys	8,600.00	7,080.75	7,825.72	7,767.44	134.291	ES
Heyde 26VD (PR) - Wellbore #1 - MWD Surveys	13,200.00	7,102.09	9,114.64	9,026.14	102.981	SF
Heyde 31-26 (PR) - Wellbore #1 - No Surveys	7,873.94	6,848.23	5,653.15	5,600.93	108.240	CC
Heyde 31-26 (PR) - Wellbore #1 - No Surveys	7,900.00	6,848.24	5,653.21	5,600.88	108.014	ES
Heyde 31-26 (PR) - Wellbore #1 - No Surveys	10,800.00	6,839.66	6,365.47	6,297.39	93.492	SF
Heyde 32-26 (SI) - Wellbore #1 - Gyro Surveys	9,168.71	6,759.52	5,820.59	5,762.33	99.903	CC
Heyde 32-26 (SI) - Wellbore #1 - Gyro Surveys	9,200.00	6,759.72	5,820.67	5,762.21	99.562	ES
Heyde 32-26 (SI) - Wellbore #1 - Gyro Surveys	11,900.00	6,754.83	6,428.99	6,353.74	85.430	SF
Heyde 41-26 (PR) - Wellbore #1 - Gyro Surveys	7,663.19	6,879.30	7,286.55	7,234.93	141.163	CC
Heyde 41-26 (PR) - Wellbore #1 - Gyro Surveys	7,700.00	6,880.07	7,286.65	7,234.89	140.801	ES
Heyde 41-26 (PR) - Wellbore #1 - Gyro Surveys	12,159.20	6,942.31	8,561.78	8,486.11	113.143	SF
Heyde 42-26 (PR) - Wellbore #1 - Gyro Surveys	9,114.74	6,922.20	7,220.47	7,162.14	123.783	CC
Heyde 42-26 (PR) - Wellbore #1 - Gyro Surveys	9,200.00	6,921.28	7,220.97	7,162.11	122.678	ES
Heyde 42-26 (PR) - Wellbore #1 - Gyro Surveys	13,000.00	6,953.02	8,199.25	8,116.97	99.651	SF
HSR-Waste Services 10-26 (SI) - Wellbore #1 - No Surve	10,694.19	6,882.86	6,144.56	5,962.72	33.793	CC
HSR-Waste Services 10-26 (SI) - Wellbore #1 - No Surve	10,700.00	6,882.77	6,144.56	5,962.68	33.785	ES
HSR-Waste Services 10-26 (SI) - Wellbore #1 - No Surve	12,000.00	6,862.48	6,281.74	6,090.64	32.872	SF
HSR-Waste Services 15-26 (SI) - Wellbore #1 - No Surve	11,691.08	6,883.31	5,899.42	5,710.66	31.253	CC
HSR-Waste Services 15-26 (SI) - Wellbore #1 - No Surve	11,700.00	6,883.17	5,899.43	5,710.59	31.241	ES
HSR-Waste Services 15-26 (SI) - Wellbore #1 - No Surve	12,900.00	6,873.75	6,022.00	5,824.18	30.441	SF
HSR-Waste Services 16-26 (SI) - Wellbore #1 - Gyro Su	11,695.66	6,974.02	7,149.12	7,074.23	95.467	CC
HSR-Waste Services 16-26 (SI) - Wellbore #1 - Gyro Su	11,800.00	6,971.88	7,149.88	7,074.16	94.420	ES
HSR-Waste Services 16-26 (SI) - Wellbore #1 - Gyro Su	14,800.00	6,944.36	7,793.49	7,697.71	81.370	SF
HSR-Waste Services 9-26 (PA) - Wellbore #1 - Gyro Sur	10,442.79	6,816.33	7,322.65	7,256.51	110.725	CC
HSR-Waste Services 9-26 (PA) - Wellbore #1 - Gyro Sur	10,500.00	6,815.73	7,322.87	7,256.31	110.023	ES
HSR-Waste Services 9-26 (PA) - Wellbore #1 - Gyro Sur	14,000.00	6,802.56	8,141.05	8,051.76	91.176	SF
Waste Management 11-26 (PR) - Wellbore #1 - Gyro Sur	7,976.52	6,957.83	3,223.16	3,170.24	60.908	CC
Waste Management 11-26 (PR) - Wellbore #1 - Gyro Sur	8,000.00	6,958.14	3,223.24	3,170.21	60.780	ES
Waste Management 11-26 (PR) - Wellbore #1 - Gyro Sur	9,000.00	6,971.45	3,381.73	3,323.22	57.802	SF
Waste Management 12-26 (PR) - Wellbore #1 - Gyro Sur	9,278.57	6,964.01	3,176.94	3,117.55	53.488	CC
Waste Management 12-26 (PR) - Wellbore #1 - Gyro Sur	9,300.00	6,965.00	3,177.02	3,117.46	53.348	ES
Waste Management 12-26 (PR) - Wellbore #1 - Gyro Sur	10,300.00	7,009.36	3,336.83	3,270.47	50.282	SF
Waste Management 12-26A (PR) - Wellbore #1 - Gyro S	8,713.97	6,877.30	3,820.10	3,763.95	68.025	CC, ES

CC - Min centre to center distance or covergent 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 D34-749
Project:	Mustang	**TVD Reference:**	KB @ 4855.00ft
Reference Site:	D Section 22	**MD Reference:**	KB @ 4855.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Guttersen D34-749	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDMP
Reference Design:	Plan #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)	Distance Between Ellipses (ft)	Separation Factor	Warning
D Section 26						
Waste Management 12-26A (PR) - Wellbore #1 - Gyro S	10,150.42	6,969.24	4,079.74	4,014.54	62.579	SF
Waste Management 21-26 (PR) - Wellbore #1 - Gyro Sur	7,750.05	6,815.03	4,696.90	4,645.19	90.828	CC, ES
Waste Management 21-26 (PR) - Wellbore #1 - Gyro Sur	9,900.00	6,835.63	5,165.53	5,102.56	82.037	SF
Waste Management 22-26 (PR) - Wellbore #1 - Gyro Sur	9,206.98	6,825.76	4,585.20	4,526.64	78.292	CC, ES
Waste Management 22-26 (PR) - Wellbore #1 - Gyro Sur	11,000.00	6,818.24	4,923.10	4,853.07	70.299	SF
Waste Management 26FD (PR) - Wellbore #1 - MWD Su	8,555.19	7,056.75	2,680.47	2,623.89	47.370	CC, ES
Waste Management 26FD (PR) - Wellbore #1 - MWD Su	9,500.00	7,052.56	2,842.11	2,778.57	44.731	SF
Waste Management 26KD (PR) - Wellbore #1 - MWD Su	9,810.40	7,041.13	3,914.15	3,844.74	56.392	CC, ES
Waste Management 26KD (PR) - Wellbore #1 - MWD Su	11,000.00	7,045.15	4,090.91	4,013.35	52.742	SF
Waste Management D 26-25 (SI) - Wellbore #1 - Gyro S	11,154.21	6,802.24	4,113.09	4,042.01	57.860	CC
Waste Management D 26-25 (SI) - Wellbore #1 - Gyro S	11,200.00	6,801.82	4,113.35	4,041.88	57.553	ES
Waste Management D 26-25 (SI) - Wellbore #1 - Gyro S	13,700.00	13,700.00	4,837.36	4,727.85	44.173	SF
Waste Mangement 26JD (PR) - Wellbore #1 - MWD Surv	7,378.81	7,022.50	3,941.37	3,886.84	72.289	CC, ES
Waste Mangement 26JD (PR) - Wellbore #1 - MWD Surv	8,700.00	7,018.31	4,189.81	4,128.83	68.701	SF

Noble Energy

Anticollision Summary Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Guttersen D34-749
Project:	Mustang	**TVD Reference:**	KB @ 4855.00ft
Reference Site:	D Section 22	**MD Reference:**	KB @ 4855.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Guttersen D34-749	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDMP
Reference Design:	Plan #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)	Distance Between Ellipses (ft)	Separation Factor	Warning
D Section 27						
Camolo Red 27-3J (SI) - Wellbore #1 - Gyro Surveys	11,578.05	6,841.63	1,699.94	1,626.17	23.045	CC, ES
Camolo Red 27-3J (SI) - Wellbore #1 - Gyro Surveys	11,700.00	6,842.60	1,704.31	1,630.24	23.010	SF
Camolo Red D 27-02J (SI) - Wellbore #1 - Gyro Surveys	8,186.83	6,881.32	1,031.89	982.04	20.701	CC, ES
Camolo Red D 27-02J (SI) - Wellbore #1 - Gyro Surveys	8,200.00	6,881.15	1,031.98	982.12	20.700	SF
Camolo Red D 27-04 (SI) - Wellbore #1 - Gyro Surveys	1,109.70	1,090.80	1,884.10	1,876.71	254.920	CC
Camolo Red D 27-04 (SI) - Wellbore #1 - Gyro Surveys	2,100.00	2,071.88	1,885.14	1,870.78	131.269	ES
Camolo Red D 27-04 (SI) - Wellbore #1 - Gyro Surveys	8,000.00	6,877.07	2,192.12	2,139.47	41.634	SF
Camolo Red D 27-05 (SI) - Wellbore #1 - Gyro Surveys	9,263.97	6,984.68	1,962.02	1,902.27	32.837	CC, ES
Camolo Red D 27-05 (SI) - Wellbore #1 - Gyro Surveys	9,500.00	7,000.14	1,976.11	1,915.60	32.660	SF
Camolo Red D 27-06 (SI) - Wellbore #1 - Gyro Surveys	9,100.00	6,920.07	641.24	582.62	10.939	SF
Camolo Red D 27-06 (SI) - Wellbore #1 - Gyro Surveys	9,119.11	6,920.10	640.96	582.36	10.939	CC, ES
Camolo Red D 27-11 (PA) - Wellbore #1 - No Surveys	10,574.19	6,916.74	685.10	503.40	3.770	CC, ES, SF
Camolo Red D 27-12 (SI) - Wellbore #1 - Gyro Surveys	10,544.85	6,849.22	2,065.00	1,998.25	30.933	CC, ES
Camolo Red D 27-12 (SI) - Wellbore #1 - Gyro Surveys	10,700.00	6,847.19	2,070.82	2,003.59	30.800	SF
Camolo Red D 27-14 (PR) - Wellbore #1 - Gyro Surveys	11,824.43	6,912.90	682.71	606.65	8.976	CC, ES, SF
Estes D 27-10 (SI) - Wellbore #1 - Gyro Surveys	10,754.01	6,867.12	663.55	594.73	9.642	CC, ES
Estes D 27-10 (SI) - Wellbore #1 - Gyro Surveys	10,800.00	6,868.35	665.14	595.69	9.577	SF
Estes D27-07 (SI) - Wellbore #1 - Gyro Surveys	9,172.58	6,893.87	490.13	431.48	8.357	CC, ES
Estes D27-07 (SI) - Wellbore #1 - Gyro Surveys	9,200.00	6,893.40	490.89	431.84	8.312	SF
Hippo D 27-23 D (PR) - Wellbore #1 - MWD Surveys	11,122.33	7,152.88	1,226.06	1,150.31	16.185	CC, ES
Hippo D 27-23 D (PR) - Wellbore #1 - MWD Surveys	11,400.00	7,145.95	1,257.09	1,176.46	15.590	SF
Hippo D 27-24 D (PR) - Wellbore #1 - MWD Surveys	11,216.70	6,989.42	112.06	38.25	1.518	CC, ES, SF
Hippo D 27-25 D (PR) - Wellbore #1 - MWD Surveys	11,246.15	7,164.92	1,339.36	1,263.64	17.689	CC, ES
Hippo D 27-25 D (PR) - Wellbore #1 - MWD Surveys	11,400.00	7,170.38	1,348.15	1,271.38	17.562	SF
Hippo D 34-27 D (PR) - Wellbore #1 - MWD Surveys	12,435.27	7,483.46	1,303.92	1,202.79	12.893	CC
Hippo D 34-27 D (PR) - Wellbore #1 - MWD Surveys	12,500.00	7,483.21	1,305.53	1,202.61	12.685	ES
Hippo D 34-27 D (PR) - Wellbore #1 - MWD Surveys	12,700.00	7,482.41	1,330.52	1,223.20	12.397	SF
Hippo D 34-28 D (PR) - Wellbore #1 - MWD Surveys	12,453.37	7,309.94	110.77	12.97	1.133	Level 2, CC, ES, SF
Hippo D 34-29 D (PR) - Wellbore #1 - MWD Surveys	12,471.63	7,391.05	1,372.50	1,272.65	13.746	CC
Hippo D 34-29 D (PR) - Wellbore #1 - MWD Surveys	12,500.00	7,391.12	1,372.79	1,272.62	13.704	ES
Hippo D 34-29 D (PR) - Wellbore #1 - MWD Surveys	12,600.00	7,391.37	1,378.49	1,277.41	13.637	SF
Hippo D 34-30 D (PR) - Wellbore #1 - MWD Surveys	12,625.69	7,794.38	2,764.73	2,657.86	25.870	CC
Hippo D 34-30 D (PR) - Wellbore #1 - MWD Surveys	12,700.00	7,794.21	2,765.73	2,657.61	25.582	ES
Hippo D 34-30 D (PR) - Wellbore #1 - MWD Surveys	13,300.00	7,792.79	2,845.77	2,729.56	24.489	SF
Kyle D 27-16 (PR) - Wellbore #1 - Gyro Surveys	11,493.75	6,914.59	1,592.76	1,519.04	21.604	CC
Kyle D 27-16 (PR) - Wellbore #1 - Gyro Surveys	11,500.00	6,914.46	1,592.78	1,518.98	21.584	ES
Kyle D 27-16 (PR) - Wellbore #1 - Gyro Surveys	11,700.00	6,910.42	1,606.06	1,530.33	21.209	SF
Kyle White D 27-1 (PR) - Wellbore #1 - Gyro Surveys	7,744.48	6,889.32	2,107.16	2,055.17	40.526	CC, ES
Kyle White D 27-1 (PR) - Wellbore #1 - Gyro Surveys	8,200.00	6,891.55	2,155.84	2,101.48	39.660	SF
Kyle White D 27-15 (SI) - Wellbore #1 - Gyro Surveys	11,937.60	6,902.06	517.56	440.72	6.736	CC, ES
Kyle White D 27-15 (SI) - Wellbore #1 - Gyro Surveys	12,000.00	6,901.37	521.31	443.51	6.701	SF
Kyle White D 27-2 (SI) - Wellbore #1 - Gyro Surveys	7,791.67	6,897.16	621.00	569.13	11.971	CC
Kyle White D 27-2 (SI) - Wellbore #1 - Gyro Surveys	7,800.00	6,897.48	621.06	569.12	11.958	ES, SF
Kyle White D 27-8 (PR) - Wellbore #1 - Gyro Surveys	9,347.51	6,899.51	2,014.51	1,954.79	33.735	CC, ES
Kyle White D 27-8 (PR) - Wellbore #1 - Gyro Surveys	9,800.00	6,922.22	2,064.56	2,001.43	32.704	SF
Kyle White D 27-9 (PR) - Wellbore #1 - Gyro Surveys	10,454.00	6,873.92	2,055.97	1,989.39	30.881	CC, ES
Kyle White D 27-9 (PR) - Wellbore #1 - Gyro Surveys	10,900.00	6,911.17	2,103.56	2,033.35	29.963	SF
Rhino D 27 18 D (PR) - Wellbore #1 - MWD Surveys	8,567.64	7,132.26	119.39	55.27	1.862	CC, ES, SF
Rhino D 27-19 D (PR) - Wellbore #1 - MWD Surveys	8,400.00	7,284.29	1,355.48	1,288.26	20.164	SF
Rhino D 27-19 D (PR) - Wellbore #1 - MWD Surveys	8,577.21	7,287.90	1,343.85	1,277.91	20.380	CC, ES
Rhino D 27-20 D (PR) - Wellbore #1 - MWD Surveys	9,820.81	7,091.90	1,358.78	1,295.86	21.596	CC, ES
Rhino D 27-20 D (PR) - Wellbore #1 - MWD Surveys	9,900.00	7,095.14	1,361.08	1,298.05	21.595	SF
Rhino D 27-21 (PR) - Wellbore #1 - Gyro Surveys	9,994.62	6,933.27	169.85	105.93	2.657	CC, ES, SF

CC - Min centre to center distance or covergent 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 D34-749
Project:	Mustang	**TVD Reference:**	KB @ 4855.00ft
Reference Site:	D Section 22	**MD Reference:**	KB @ 4855.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Guttersen D34-749	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDMP
Reference Design:	Plan #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)	Distance Between Ellipses (ft)	Separation Factor	Warning
D Section 27						
Rhino D 27-22 D (PR) - Wellbore #1 - MWD Surveys	9,816.66	7,098.44	1,314.98	1,251.41	20.683	CC, ES
Rhino D 27-22 D (PR) - Wellbore #1 - MWD Surveys	10,100.00	7,111.39	1,345.10	1,278.99	20.348	SF
Rhino State D 27-27 D (PR) - Wellbore #1 - MWD Surve	7,150.00	7,732.54	1,314.96	1,234.48	16.339	SF
Rhino State D 27-27 D (PR) - Wellbore #1 - MWD Surve	7,250.00	7,771.77	1,307.98	1,228.40	16.436	ES
Rhino State D 27-27 D (PR) - Wellbore #1 - MWD Surve	7,264.51	7,776.10	1,307.86	1,228.43	16.466	CC
Rhino State D 27-28 D (PR) - Wellbore #1 - As-Drilled	7,351.74	7,542.16	119.05	44.93	1.606	CC, ES, SF
UPRR Amoco 1 63 (PA) - Wellbore #1 - No Surveys	10,887.41	6,913.85	966.23	782.47	5.258	CC
UPRR Amoco 1 63 (PA) - Wellbore #1 - No Surveys	10,900.00	6,913.65	966.31	782.39	5.254	ES, SF

Noble Energy

Anticollision Summary Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Guttersen D34-749
Project:	Mustang	**TVD Reference:**	KB @ 4855.00ft
Reference Site:	D Section 22	**MD Reference:**	KB @ 4855.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Guttersen D34-749	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDMP
Reference Design:	Plan #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)	Distance Between Ellipses (ft)	Separation Factor	Warning
D Section 28						
O'SH D 28-7 (P&A) - Wellbore #1 - No Surveys	2,200.00	2,155.00	4,616.38	4,565.63	90.957	CC
O'SH D 28-7 (P&A) - Wellbore #1 - No Surveys	9,235.41	6,855.00	4,635.80	4,463.64	26.927	ES
O'SH D 28-7 (P&A) - Wellbore #1 - No Surveys	9,800.00	6,855.00	4,670.06	4,495.37	26.734	SF
Spike ST GWS D 28-12 (SI) - Wellbore #1 - Gyro Surve	10,616.89	6,814.39	7,365.80	7,298.54	109.517	CC
Spike ST GWS D 28-12 (SI) - Wellbore #1 - Gyro Surve	10,700.00	6,813.97	7,366.27	7,298.52	108.739	ES
Spike ST GWS D 28-12 (SI) - Wellbore #1 - Gyro Surve	13,600.00	6,818.08	7,946.99	7,864.69	96.558	SF
Guttersen D State 28-29D (PR) - Wellbore #1 - MWD Su	2,927.30	4,061.17	5,880.13	5,855.65	240.191	CC, ES
Guttersen D State 28-29D (PR) - Wellbore #1 - MWD Su	10,400.00	6,966.75	7,315.29	7,251.61	114.875	SF
Guttersen D State 28-30D - Guttersen D State 28-30D O	335.13	279.13	6,276.81	6,275.09	3,639.633	CC
Guttersen D State 28-30D - Guttersen D State 28-30D O	900.00	798.82	6,277.85	6,272.28	1,127.276	ES
Guttersen D State 28-30D - Guttersen D State 28-30D O	12,300.00	6,992.62	9,446.61	9,376.45	134.638	SF
Guttersen D State 28-30D - Gyros - As-Drilled	335.13	266.13	6,276.83	6,275.10	3,639.597	CC
Guttersen D State 28-30D - Gyros - As-Drilled	900.00	785.82	6,277.87	6,272.30	1,127.280	ES
Guttersen D State 28-30D - Gyros - As-Drilled	12,300.00	6,979.62	9,446.65	9,376.48	134.639	SF
Guttersen State D28-18D (PR) - Wellbore #1 - MWD Sur	2,318.53	2,417.11	4,858.94	4,840.47	263.042	CC, ES
Guttersen State D28-18D (PR) - Wellbore #1 - MWD Sur	10,100.00	6,893.92	5,710.16	5,646.67	89.930	SF
Guttersen State D28-21D (SI) - Wellbore #1 - As-Drilled	9,736.05	7,124.00	5,348.23	5,282.76	81.695	CC, ES
Guttersen State D28-21D (SI) - Wellbore #1 - As-Drilled	12,100.00	12,100.00	5,848.31	5,756.43	63.655	SF
Guttersen State D28-24D (SI) - Wellbore #1 - MWD Surv	11,299.21	6,871.25	5,352.51	5,275.81	69.784	CC
Guttersen State D28-24D (SI) - Wellbore #1 - MWD Surv	11,300.00	6,871.26	5,352.51	5,275.81	69.780	ES
Guttersen State D28-24D (SI) - Wellbore #1 - MWD Surv	12,600.00	6,885.98	5,508.34	5,425.95	66.854	SF
Guttersen State D28-28D (PR) - Wellbore #1 - MWD Sur	2,783.70	3,453.98	4,623.28	4,600.20	200.353	CC
Guttersen State D28-28D (PR) - Wellbore #1 - MWD Sur	2,800.00	3,466.00	4,623.32	4,600.14	199.408	ES
Guttersen State D28-28D (PR) - Wellbore #1 - MWD Sur	9,000.00	6,941.32	5,722.50	5,663.78	97.464	SF
Guttersen State D28-79HN - Wellbore #1 - As-Drilled	5,300.00	11,086.00	7,667.36	7,566.59	76.094	ES
Guttersen State D28-79HN - Wellbore #1 - As-Drilled	7,500.00	11,086.00	7,843.87	7,732.62	70.508	SF
Guttersen State D28-79HN - Wellbore #1 - As-Drilled	11,318.35	7,593.00	7,666.23	7,588.71	98.897	CC
HSR Guttersen State 10-28 (SI) - Wellbore #1 - Gyro Su	10,530.84	6,432.93	4,893.28	4,828.65	75.713	CC, ES
HSR Guttersen State 10-28 (SI) - Wellbore #1 - Gyro Su	11,900.00	6,431.29	5,081.22	5,010.38	71.731	SF
HSR Guttersen State 15-28 (SI) - Wellbore #1 - Gyro Su	12,173.86	7,036.74	4,297.72	4,217.44	53.528	CC
HSR Guttersen State 15-28 (SI) - Wellbore #1 - Gyro Su	12,200.00	7,039.70	4,297.80	4,217.32	53.406	ES
HSR Guttersen State 15-28 (SI) - Wellbore #1 - Gyro Su	13,200.00	7,156.17	4,416.56	4,330.13	51.101	SF
HSR Guttersen State 7-28 (PR) - Wellbore #1 - Gyro Sur	773.45	713.46	4,753.84	4,748.98	977.773	CC
HSR Guttersen State 7-28 (PR) - Wellbore #1 - Gyro Sur	1,300.00	1,211.13	4,756.07	4,747.59	560.783	ES
HSR Guttersen State 7-28 (PR) - Wellbore #1 - Gyro Sur	10,400.00	7,140.62	4,984.68	4,918.09	74.860	SF
O'SH D 28-1 (SI) - Wellbore #1 - Gyro Surveys	2,223.09	2,204.67	3,241.99	3,226.74	212.476	CC
O'SH D 28-1 (SI) - Wellbore #1 - Gyro Surveys	2,300.00	2,283.57	3,242.35	3,226.55	205.224	ES
O'SH D 28-1 (SI) - Wellbore #1 - Gyro Surveys	9,000.00	6,869.47	3,717.47	3,661.09	65.938	SF
O'SH D 28-2 (SI) - Wellbore #1 - Gyro Surveys	2,250.75	2,251.15	3,883.16	3,867.63	250.133	CC
O'SH D 28-2 (SI) - Wellbore #1 - Gyro Surveys	2,300.00	2,297.06	3,883.42	3,867.57	244.937	ES
O'SH D 28-2 (SI) - Wellbore #1 - Gyro Surveys	9,200.00	6,855.20	4,806.35	4,749.90	85.156	SF
O'SH D 28-8 (SI) - Wellbore #1 - Gyro Surveys	9,300.04	6,943.84	3,281.30	3,221.82	55.164	CC, ES
O'SH D 28-8 (SI) - Wellbore #1 - Gyro Surveys	9,900.00	6,968.10	3,335.61	3,273.73	53.908	SF
Spike ST GWS D 28-03 (PR) - Wellbore #1 - Gyro Surve	100.00	29.27	4,955.27	4,955.09	10,000.000	CC
Spike ST GWS D 28-03 (PR) - Wellbore #1 - Gyro Surve	1,400.00	1,303.50	4,961.62	4,952.44	540.639	ES
Spike ST GWS D 28-03 (PR) - Wellbore #1 - Gyro Surve	9,600.00	6,795.27	6,149.95	6,076.07	83.245	SF
Spike ST GWS D 28-4 (SI) - Wellbore #1 - Gyro Surveys	1,006.44	937.45	6,320.87	6,314.40	976.367	CC
Spike ST GWS D 28-4 (SI) - Wellbore #1 - Gyro Surveys	2,200.00	2,085.78	6,324.61	6,309.85	428.452	ES
Spike ST GWS D 28-4 (SI) - Wellbore #1 - Gyro Surveys	11,400.00	6,826.92	8,123.56	8,057.33	122.653	SF
Spike State D 28-13 (SI) - Wellbore #1 - Gyro Surveys	12,060.14	6,800.85	7,279.94	7,202.65	94.180	CC
Spike State D 28-13 (SI) - Wellbore #1 - Gyro Surveys	12,100.00	6,800.00	7,280.05	7,202.51	93.881	ES
Spike State D 28-13 (SI) - Wellbore #1 - Gyro Surveys	14,600.00	6,791.55	7,710.39	7,619.90	85.208	SF
Spike State D28-05 (PR) - Wellbore #1 - Gyro Surveys	542.24	483.24	6,916.79	6,913.56	2,144.294	CC

CC - Min centre to center distance or covergent 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 D34-749
Project:	Mustang	**TVD Reference:**	KB @ 4855.00ft
Reference Site:	D Section 22	**MD Reference:**	KB @ 4855.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Guttersen D34-749	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDMP
Reference Design:	Plan #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)	Distance Between Ellipses (ft)	Separation Factor	Warning
D Section 28						
Spike State D28-05 (PR) - Wellbore #1 - Gyro Surveys	1,300.00	1,300.00	6,920.76	6,911.97	786.753	ES
Spike State D28-05 (PR) - Wellbore #1 - Gyro Surveys	12,500.00	6,865.92	8,139.57	8,065.68	110.165	SF
Spike State D28-06 (SI) - Wellbore #1 - Gyro Surveys	1,580.95	1,522.98	5,429.57	5,418.99	513.302	CC
Spike State D28-06 (SI) - Wellbore #1 - Gyro Surveys	2,300.00	2,263.29	5,432.90	5,417.17	345.489	ES
Spike State D28-06 (SI) - Wellbore #1 - Gyro Surveys	11,100.00	6,931.38	6,030.71	5,963.49	89.724	SF
Spike State D28-11 (SI) - Wellbore #1 - Gyro Surveys	10,405.44	6,676.22	5,769.65	5,704.46	88.508	CC, ES
Spike State D28-11 (SI) - Wellbore #1 - Gyro Surveys	13,900.00	13,900.00	6,743.97	6,639.28	64.420	SF
Spike State GWS D 28-14 (P&A) - Wellbore #1 - Gyro Su	12,115.02	6,841.77	5,745.66	5,667.74	73.742	CC
Spike State GWS D 28-14 (P&A) - Wellbore #1 - Gyro Su	12,159.20	6,842.97	5,745.83	5,667.64	73.486	ES
Spike State GWS D 28-14 (P&A) - Wellbore #1 - Gyro Su	13,800.00	6,909.20	5,987.02	5,900.42	69.139	SF
D Section 33						
Cydney White D33-01 (PR) - Wellbore #1 - Gyro Surveys	13,277.59	6,846.95	3,262.51	3,176.08	37.745	CC
Cydney White D33-01 (PR) - Wellbore #1 - Gyro Surveys	13,300.00	6,847.09	3,262.59	3,176.03	37.694	ES
Cydney White D33-01 (PR) - Wellbore #1 - Gyro Surveys	13,700.00	6,849.59	3,289.74	3,201.48	37.271	SF
Cydney White D33-02 (PR) - Wellbore #1 - Gyro Surveys	13,229.69	6,818.12	4,572.51	4,486.52	53.174	CC, ES
Cydney White D33-02 (PR) - Wellbore #1 - Gyro Surveys	14,100.00	6,820.28	4,654.60	4,564.37	51.588	SF
Cydney White D33-07 (PR) - Wellbore #1 - Gyro Surveys	14,520.31	6,859.29	4,639.83	4,543.84	48.339	CC, ES
Cydney White D33-07 (PR) - Wellbore #1 - Gyro Surveys	15,300.00	6,853.16	4,704.88	4,605.05	47.132	SF
Guttersen D 33-09 (PR) - Wellbore #1 - Gyro Surveys	16,046.75	6,851.21	3,130.82	3,023.07	29.058	CC, ES
Guttersen D 33-09 (PR) - Wellbore #1 - Gyro Surveys	16,300.00	6,851.49	3,141.04	3,032.16	28.849	SF
Guttersen D 33-16 (PR) - Wellbore #1 - Gyro Surveys	17,227.70	6,821.69	3,259.67	3,159.70	32.606	CC, ES
Guttersen D 33-16 (PR) - Wellbore #1 - Gyro Surveys	17,500.00	6,816.93	3,271.02	3,169.86	32.334	SF
Guttersen D 33-23 (PR) - Wellbore #1 - Gyro Surveys	16,511.20	6,814.12	3,935.68	3,824.45	35.383	CC, ES
Guttersen D 33-23 (PR) - Wellbore #1 - Gyro Surveys	17,000.00	6,810.98	3,965.92	3,852.41	34.940	SF
Guttersen D33-10 (SI) - Wellbore #1 - As-Drilled	15,784.94	6,737.69	4,569.90	4,464.71	43.445	CC
Guttersen D33-10 (SI) - Wellbore #1 - As-Drilled	15,800.00	6,737.64	4,569.92	4,464.64	43.407	ES
Guttersen D33-10 (SI) - Wellbore #1 - As-Drilled	16,500.00	6,735.06	4,625.50	4,516.83	42.563	SF
Guttersen D33-15 (PR) - Wellbore #1 - No Surveys	17,099.59	6,836.37	4,574.94	4,345.91	19.975	CC
Guttersen D33-15 (PR) - Wellbore #1 - No Surveys	17,100.00	6,836.37	4,574.94	4,345.91	19.975	ES
Guttersen D33-15 (PR) - Wellbore #1 - No Surveys	17,500.00	6,835.29	4,592.43	4,361.24	19.864	SF
HSR Guttersen 11-33 (SI) - Wellbore #1 - As-Drilled	15,834.23	6,815.84	5,898.64	5,792.55	55.602	CC
HSR Guttersen 11-33 (SI) - Wellbore #1 - As-Drilled	15,900.00	6,816.11	5,899.01	5,792.49	55.383	ES
HSR Guttersen 11-33 (SI) - Wellbore #1 - As-Drilled	17,100.00	6,820.21	6,032.92	5,920.29	53.563	SF
HSR Guttersen 13-33 (SI) - Wellbore #1 - Gyro Surveys	17,178.66	6,856.00	7,287.81	7,171.11	62.452	CC
HSR Guttersen 13-33 (SI) - Wellbore #1 - Gyro Surveys	17,200.00	6,855.96	7,287.84	7,171.00	62.375	ES
HSR Guttersen 13-33 (SI) - Wellbore #1 - Gyro Surveys	17,605.21	6,855.25	7,300.28	7,180.81	61.104	SF
HSR Guttersen 14-33 (SI) - Wellbore #1 - Gyro Surveys	17,262.06	6,897.22	5,798.90	5,681.60	49.435	CC
HSR Guttersen 14-33 (SI) - Wellbore #1 - Gyro Surveys	17,300.00	6,897.12	5,799.03	5,681.48	49.331	ES
HSR Guttersen 14-33 (SI) - Wellbore #1 - Gyro Surveys	17,605.21	6,896.33	5,809.05	5,689.63	48.643	SF
HSR Guttersen 3-33 (SI) - Wellbore #1 - Gyro Surveys	13,215.55	13,215.55	5,881.24	5,772.81	54.241	CC, ES, SF
HSR Guttersen 4-33 (P&A) - Wellbore #1 - No Surveys	13,288.38	6,850.70	7,363.77	7,163.94	36.850	CC
HSR Guttersen 4-33 (P&A) - Wellbore #1 - No Surveys	13,300.00	6,850.67	7,363.78	7,163.88	36.836	ES
HSR Guttersen 4-33 (P&A) - Wellbore #1 - No Surveys	14,700.00	6,846.87	7,497.86	7,289.85	36.046	SF
HSR-Guttersen 12-33 (SI) - Wellbore #1 - Gyro Surveys	16,010.90	6,920.26	7,228.41	7,120.56	67.018	CC
HSR-Guttersen 12-33 (SI) - Wellbore #1 - Gyro Surveys	16,100.00	6,919.99	7,228.96	7,120.50	66.653	ES
HSR-Guttersen 12-33 (SI) - Wellbore #1 - Gyro Surveys	17,605.21	6,915.45	7,402.14	7,285.40	63.404	SF
HSR-Guttersen 5-33 (SI) - Wellbore #1 - Gyro Surveys	14,739.74	6,834.53	6,924.70	6,827.13	70.972	CC
HSR-Guttersen 5-33 (SI) - Wellbore #1 - Gyro Surveys	14,800.00	6,833.86	6,924.96	6,827.00	70.688	ES
HSR-Guttersen 5-33 (SI) - Wellbore #1 - Gyro Surveys	16,600.00	6,814.45	7,170.20	7,062.85	66.794	SF
HSR-Guttersen 6-33 (SI) - Wellbore #1 - Gyro Surveys	14,647.84	6,853.70	5,780.84	5,684.05	59.724	CC
HSR-Guttersen 6-33 (SI) - Wellbore #1 - Gyro Surveys	14,700.00	6,854.10	5,781.07	5,683.95	59.522	ES
HSR-Guttersen 6-33 (SI) - Wellbore #1 - Gyro Surveys	15,900.00	6,863.29	5,914.89	5,811.58	57.257	SF

CC - Min centre to center distance or covergent 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 D34-749
Project:	Mustang	**TVD Reference:**	KB @ 4855.00ft
Reference Site:	D Section 22	**MD Reference:**	KB @ 4855.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Guttersen D34-749	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDMP
Reference Design:	Plan #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)	Distance Between Ellipses (ft)	Separation Factor	Warning
D Section 34						
HSR Waste Services 4-34 (SI) - Wellbore #1 - Gyro Surv	13,085.01	6,887.35	1,756.48	1,671.29	20.620	CC, ES
HSR Waste Services 4-34 (SI) - Wellbore #1 - Gyro Surv	13,200.00	6,883.97	1,760.23	1,674.78	20.599	SF
HSR Waste Services 5-34 (SI) - Wellbore #1 - Gyro Surv	14,313.40	6,895.55	2,161.86	2,067.26	22.853	CC, ES
HSR Waste Services 5-34 (SI) - Wellbore #1 - Gyro Surv	14,400.00	6,894.94	2,163.59	2,068.67	22.793	SF
Liam D 34-11 (PR) - Wellbore #1 - Gyro Surveys	15,900.00	6,895.78	621.59	514.68	5.814	ES, SF
Liam D 34-11 (PR) - Wellbore #1 - Gyro Surveys	15,902.03	6,895.75	621.58	514.68	5.815	CC
Liam D 34-12 (PR) - Wellbore #1 - Gyro Surveys	15,700.11	6,894.05	2,019.70	1,914.38	19.177	CC, ES
Liam D 34-12 (PR) - Wellbore #1 - Gyro Surveys	15,800.00	6,892.69	2,022.17	1,916.53	19.142	SF
Liam D 34-13 (PR) - Wellbore #1 - Gyro Surveys	17,082.39	6,870.73	1,965.95	1,849.97	16.951	CC, ES
Liam D 34-13 (PR) - Wellbore #1 - Gyro Surveys	17,200.00	6,870.11	1,969.46	1,853.16	16.933	SF
Liam D 34-14 (PR) - Wellbore #1 - Gyro Surveys	17,223.59	6,881.91	600.33	483.17	5.124	CC, ES, SF
Liam D 34-25 (SI) - Wellbore #1 - Gyro Surveys	16,475.20	6,884.62	1,302.41	1,191.09	11.699	CC, ES
Liam D 34-25 (SI) - Wellbore #1 - Gyro Surveys	16,500.00	6,884.48	1,302.65	1,191.29	11.697	SF
Liam D 34-33 (SI) - Wellbore #1 - Gyro Surveys	16,479.42	6,861.11	2,455.75	2,344.56	22.087	CC
Liam D 34-33 (SI) - Wellbore #1 - Gyro Surveys	16,500.00	6,860.96	2,455.84	2,344.56	22.069	ES
Liam D 34-33 (SI) - Wellbore #1 - Gyro Surveys	16,600.00	6,860.22	2,458.71	2,347.04	22.018	SF
D Section 35						
UPRR 1 (DA) - Wellbore #1 - No Surveys	13,161.82	6,916.04	3,288.75	3,088.56	16.428	CC
UPRR 1 (DA) - Wellbore #1 - No Surveys	13,200.00	6,915.94	3,288.97	3,088.42	16.400	ES
UPRR 1 (DA) - Wellbore #1 - No Surveys	13,600.00	6,914.86	3,317.81	3,113.88	16.269	SF
Waste Management 22-35 (SI) - Wellbore #1 - Gyro Surv	14,545.38	6,923.06	4,685.72	4,589.40	48.645	CC
Waste Management 22-35 (SI) - Wellbore #1 - Gyro Surv	14,600.00	6,923.00	4,686.04	4,589.22	48.397	ES
Waste Management 22-35 (SI) - Wellbore #1 - Gyro Surv	15,800.00	6,921.68	4,850.78	4,745.23	45.957	SF
Waste Management 31-35 (SI) - Wellbore #1 - Gyro Surv	13,019.78	6,949.38	5,695.34	5,610.89	67.440	CC
Waste Management 31-35 (SI) - Wellbore #1 - Gyro Surv	13,100.00	6,948.61	5,695.91	5,610.76	66.898	ES
Waste Management 31-35 (SI) - Wellbore #1 - Gyro Surv	14,900.00	6,931.16	5,997.65	5,899.85	61.326	SF
Waste Management 41-35 (SI) - Wellbore #1 - Gyro Surv	13,124.86	6,899.26	7,265.27	7,179.75	84.955	CC
Waste Management 41-35 (SI) - Wellbore #1 - Gyro Surv	13,200.00	6,898.76	7,265.66	7,179.51	84.337	ES
Waste Management 41-35 (SI) - Wellbore #1 - Gyro Surv	16,000.00	6,878.52	7,813.45	7,708.32	74.323	SF
Waste Management D 35-15 (PR) - Wellbore #1 - Gyro S	17,207.72	6,847.78	5,864.11	5,747.16	50.138	CC
Waste Management D 35-15 (PR) - Wellbore #1 - Gyro S	17,300.00	6,845.17	5,864.84	5,747.05	49.790	ES
Waste Management D 35-15 (PR) - Wellbore #1 - Gyro S	17,605.21	6,836.14	5,877.56	5,757.17	48.821	SF
Waste Management USX D 35-11 (SI) - Wellbore #1 - Gy	15,876.26	6,880.92	4,593.32	4,486.72	43.092	CC
Waste Management USX D 35-11 (SI) - Wellbore #1 - Gy	15,900.00	6,882.26	4,593.38	4,486.56	43.001	ES
Waste Management USX D 35-11 (SI) - Wellbore #1 - Gy	16,900.00	6,932.82	4,705.74	4,591.40	41.155	SF
Waste Management USX D 35-14 (SI) - Wellbore #1 - No	16,918.37	6,893.86	4,709.76	4,481.00	20.589	CC
Waste Management USX D 35-14 (SI) - Wellbore #1 - No	17,000.00	6,893.64	4,710.46	4,480.95	20.524	ES
Waste Management USX D 35-14 (SI) - Wellbore #1 - No	17,605.21	6,892.00	4,759.58	4,525.24	20.311	SF
Waste Management USX D 35-7 (PR) - Wellbore #1 - Gy	14,380.55	6,857.19	5,891.06	5,796.13	62.056	CC
Waste Management USX D 35-7 (PR) - Wellbore #1 - Gy	14,400.00	6,856.92	5,891.09	5,795.99	61.945	ES
Waste Management USX D 35-7 (PR) - Wellbore #1 - Gy	16,200.00	6,829.49	6,165.57	6,057.74	57.176	SF
Waste Management USX D 35-9 (SI) - Wellbore #1 - No	15,849.26	7,559.00	7,520.78	7,291.03	32.734	CC
Waste Management USX D 35-9 (SI) - Wellbore #1 - No	15,900.00	7,559.00	7,520.96	7,290.76	32.673	ES
Waste Management USX D 35-9 (SI) - Wellbore #1 - No	17,400.00	7,559.00	7,679.00	7,437.37	31.780	SF
Waste Services 21-35 (PR) - Wellbore #1 - Gyro Surveys	12,955.00	6,877.57	4,731.68	4,647.42	56.158	CC
Waste Services 21-35 (PR) - Wellbore #1 - Gyro Surveys	13,000.00	6,877.14	4,731.89	4,647.24	55.897	ES
Waste Services 21-35 (PR) - Wellbore #1 - Gyro Surveys	14,300.00	6,864.25	4,919.11	4,825.01	52.277	SF

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Guttersen D34-749
Project:	Mustang	**TVD Reference:**	KB @ 4855.00ft
Reference Site:	D Section 22	**MD Reference:**	KB @ 4855.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Guttersen D34-749	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDMP
Reference Design:	Plan #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)	Distance Between Ellipses (ft)	Separation Factor	Warning
Y Section 02						
Waste Management 2I-221 (PA) - Wellbore #1 - Wellbore	17,605.21	11,210.00	3,220.05	3,044.17	18.308	CC, ES, SF
Waste Management 2I-401 (PR) - Wellbore #1 - Wellbor	17,605.21	11,425.00	2,893.42	2,720.37	16.720	CC, ES, SF
Waste Management 2L-201 (PR) - Wellbore #1 - Wellbor	17,605.21	11,213.00	3,857.91	3,679.44	21.616	CC, ES, SF
Waste Management 2L-301 - Wellbore #1 - Wellbore #1	17,605.21	11,326.02	4,244.80	4,067.88	23.992	CC, ES, SF
Waste Management 2L-421 - Wellbore #1 - Wellbore #1	17,605.21	11,433.02	4,579.30	4,401.58	25.766	CC, ES, SF
Waste Management 2L-441 - Wellbore #1 - Wellbore #1	17,605.21	11,379.02	3,569.12	3,392.42	20.199	CC, ES, SF
Waste Management 2Q-201 - Wellbore #1 - Wellbore #1	17,605.21	11,274.02	5,513.94	5,336.29	31.037	CC, ES, SF
Waste Management 2Q-321 - Wellbore #1 - Wellbore #1	17,605.21	11,347.02	5,837.06	5,658.53	32.695	CC, ES, SF
Waste Management 2Q-341 - Wellbore #1 - Wellbore #1	17,605.21	11,345.02	4,922.93	4,743.98	27.510	CC, ES, SF
Waste Management 2Q-401 - Wellbore #1 - Wellbore #1	17,605.21	11,502.02	5,237.23	5,057.73	29.176	CC, ES, SF
Waste Management 2T-221 - Wellbore #1 - Wellbore #1	17,605.21	11,189.02	7,187.89	7,007.21	39.782	CC, ES, SF
Waste Management 2T-241 - Wellbore #1 - Wellbore #1	17,605.21	11,213.02	6,174.74	5,995.46	34.441	CC, ES, SF
Waste Management 2T-301 - Wellbore #1 - Wellbore #1	17,605.21	11,316.02	6,473.14	6,293.15	35.965	CC, ES, SF
Waste Management 2T-401 - Wellbore #1 - Wellbore #1	17,605.21	11,385.02	6,855.65	6,675.41	38.035	CC, ES, SF
Waste Management 2Y-201 (PR) - Wellbore #1 - Wellbo	17,605.21	11,229.00	7,794.91	7,613.37	42.938	CC, ES, SF
Waste Management 2Y-441 (PR) - Wellbore #1 - Wellbo	17,605.21	11,403.00	7,478.69	7,297.83	41.352	CC, ES, SF
Y Section 03						
Waste Management USX Y03-03 - Wellbore #1 - Wellbo	17,605.21	6,886.56	1,065.95	976.87	11.966	CC, ES, SF
Waste Management USX Y03-04 - Wellbore #1 - Wellbo	17,605.21	6,890.51	2,145.23	2,029.55	18.544	CC, ES, SF
Waste Management USX Y03-05 - Wellbore #1 - Wellbo	17,605.21	6,856.15	2,813.67	2,717.37	29.217	CC, ES, SF
Waste Management USX Y03-06 - Wellbore #1 - Wellbo	17,605.21	6,972.09	2,306.39	2,238.68	34.063	CC, ES, SF
Waste Management USX Y03-11 - Wellbore #1 - Wellbor	17,605.21	6,858.08	3,641.94	3,576.89	55.991	CC, ES, SF
Waste Management USX Y03-12 - Wellbore #1 - Wellbo	17,605.21	6,901.17	3,939.09	3,852.20	45.334	CC, ES, SF
Waste Management USX Y03-13 - Wellbore #1 - Wellbo	17,605.21	6,869.03	5,122.30	5,045.99	67.125	CC, ES, SF
Waste Management USX Y03-14 - Wellbore #1 - Wellbo	17,605.21	6,774.51	4,976.80	4,915.94	81.776	CC, ES, SF
Waste Management USX Y03-19 - Wellbore #1 - Wellbo	17,605.21	6,876.61	2,011.59	1,912.15	20.229	CC, ES, SF
Waste Management USX Y03-25 - Wellbore #1 - Wellbo	17,605.21	6,881.87	4,284.57	4,212.15	59.158	CC, ES, SF
Waste Management USX Y3-15 - Wellbore #1 - As Drille	17,605.21	17,605.21	4,846.29	4,752.67	51.762	CC, ES, SF
Y Section 04						
HSR-Guttersen 01-04 - Original Drilling - Original Drilling	17,605.21	6,756.68	3,601.18	3,482.40	30.318	CC, ES, SF
HSR-Guttersen 02-04 - Original Drilling - Original Drilling	17,605.21	6,874.33	4,683.26	4,563.08	38.968	CC, ES, SF
HSR-Guttersen 03-04 - Original Drilling - Original Drilling	17,605.21	6,936.00	6,116.96	5,996.42	50.750	CC, ES, SF
HSR-Guttersen 05-04 - Original Drilling - Original Drilling	17,605.21	7,226.00	7,505.75	7,386.03	62.698	CC, ES, SF
HSR-Guttersen 07-04 - Original Drilling - Original Drilling	17,605.21	6,891.85	5,190.95	5,075.07	44.795	CC, ES, SF
Melvin Y04-04 - Original Drilling - Original Drilling - As Dr	17,605.21	7,180.40	6,950.84	6,829.30	57.190	CC, ES, SF

Noble Energy

Anticollision Summary Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Guttersen D34-749
Project:	Mustang	**TVD Reference:**	KB @ 4855.00ft
Reference Site:	D Section 22	**MD Reference:**	KB @ 4855.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Guttersen D34-749	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDMP
Reference Design:	Plan #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)	Distance Between Ellipses (ft)	Separation Factor	Warning
Y Section 10						
Bison Ridge State Y22-786 - Original Drilling - As-Drilled	17,605.21	6,613.00	8,595.23	8,530.63	133.041	CC, ES, SF
Bison Ridge Y22-711 - Original Drilling - As-Drilled	17,605.21	6,329.00	8,720.37	8,663.10	152.269	CC, ES, SF
Bison Ridge Y22-719 - Original Drilling - Original Drilling	17,605.21	6,297.00	8,547.08	8,492.97	157.940	CC, ES, SF
Bison Ridge Y22-726 - Original Drilling - As-Drilled	17,605.21	6,328.00	8,452.95	8,401.49	164.259	CC, ES, SF
Bison Ridge Y22-734 - Original Drilling - As-Drilled	17,605.21	6,327.00	8,342.31	8,292.54	167.617	CC, ES, SF
Bison Ridge Y22-741 - Original Drilling - As-Drilled	17,605.21	6,329.00	8,621.77	8,572.98	176.717	CC, ES, SF
Bison Ridge Y22-749 - Original Drilling - As-Drilled	17,605.21	6,329.00	8,288.69	8,238.78	166.077	CC, ES, SF
Bison Ridge Y22-756 - Original Drilling - As-Drilled	17,605.21	6,469.57	8,159.49	8,108.33	159.482	CC, ES, SF
Bison Ridge Y22-764 - Original Drilling - As-Drilled	17,605.21	6,328.00	8,393.25	8,340.36	158.678	CC, ES, SF
Bison Ridge Y22-771 - Original Drilling - As-Drilled	17,605.21	6,331.00	8,412.83	8,356.99	150.650	CC, ES, SF
Bison Ridge Y22-779 - Original Drilling - As-Drilled	17,605.21	6,470.36	8,509.93	8,450.21	142.481	CC, ES, SF
Oscar Y10-72-1HC - Original Drilling - Original Drilling - A	17,605.21	14,600.03	2,247.91	2,087.52	14.016	CC, ES, SF
Oscar Y10-72-1HN - Original Drilling - Original Drilling - A	17,605.21	14,333.03	2,390.42	2,221.76	14.173	CC, ES, SF
Oscar Y10-72HN - Original Drilling - Original Drilling - As	17,605.21	14,445.03	2,147.35	1,979.73	12.810	CC, ES, SF
Oscar Y10-73-1HC - Original Drilling - Original Drilling - A	17,605.21	14,438.03	1,577.15	1,412.11	9.556	CC, ES, SF
Oscar Y10-73-1HN - Original Drilling - Original Drilling - A	17,605.21	14,398.03	1,760.10	1,593.37	10.557	CC, ES, SF
Oscar Y10-73HN - Original Drilling - Original Drilling - As	17,605.21	14,549.00	1,454.00	1,289.76	8.853	CC, ES, SF
Oscar Y10-74-1HC - Original Drilling - Original Drilling- A	17,605.21	14,684.00	942.10	788.72	6.142	CC, ES, SF
Oscar Y10-74-1HN - Original Drilling - Original Drilling - A	17,605.21	14,377.03	1,117.47	960.07	7.099	CC, ES, SF
Oscar Y10-74HN - Original Drilling - Original Drilling - As	17,605.21	12,678.03	2,149.99	2,078.76	30.181	CC, ES, SF
Oscar Y10-75-1HC - Original Drilling - Original Drilling - A	17,605.21	14,440.00	393.62	272.31	3.245	CC, ES, SF
Oscar Y10-75-1HN - Original Drilling - Original Drilling - A	17,605.21	14,437.03	486.84	351.77	3.604	CC, ES, SF
Oscar Y10-75HN - Original Drilling - Original Drilling - As	17,605.21	14,544.00	278.74	211.58	4.150	CC, ES, SF
Oscar Y10-76-1HN - Original Drilling - Original Drilling - A	17,605.21	14,399.00	348.34	237.42	3.141	CC, ES, SF
Oscar Y10-76HN - Original Drilling - Original Drilling - As	17,605.21	14,574.99	603.90	453.44	4.014	CC, ES, SF
Oscar Y10-77-1HC - Original Drilling - Original Drilling - A	17,605.21	14,740.00	905.88	740.20	5.468	CC, ES, SF
Oscar Y10-77HN - Original Drilling - Original Drilling - As	17,605.21	14,600.00	1,249.65	1,087.83	7.723	CC, ES, SF
Oscar Y10-78-1HC - Original Drilling - Original Drilling - A	17,605.21	14,759.00	1,557.06	1,322.85	6.648	CC, ES, SF
Oscar Y10-78-1HN - Orignal Drilling - Orignal Drilling - As	17,605.21	14,469.00	1,554.15	1,321.32	6.675	CC, ES, SF
Oscar Y10-78HN - Original Drilling - Original Drilling - As	17,605.21	13,936.00	2,096.04	1,945.09	13.885	CC, ES, SF
Oscar Y10-79-1HC - Original Drilling - Original Drilling - A	17,605.21	14,740.00	2,199.23	1,962.64	9.296	CC, ES, SF
Oscar Y10-79-1HN - Original Drilling - Original Drilling - A	17,605.21	14,437.00	2,194.00	1,958.04	9.298	CC, ES, SF
Oscar Y10-79HN - Original Drilling - Original Drilling - As	17,605.21	7,926.00	7,400.73	7,323.86	96.286	CC, ES, SF
Oscar Y10-79HN - Original Drilling - ST01 - ST01 - As Dr	17,605.21	14,611.00	2,446.47	2,210.10	10.350	CC, ES, SF
Oscar Y11-79HN - Original Drilling - Original Drilling - As	17,605.21	8,396.02	6,866.41	6,795.26	96.502	CC, ES, SF
Oscar Y11-79HN - ST01 Original Drilling - ST01 Original	17,605.21	14,458.03	2,681.71	2,513.15	15.910	CC, ES, SF