

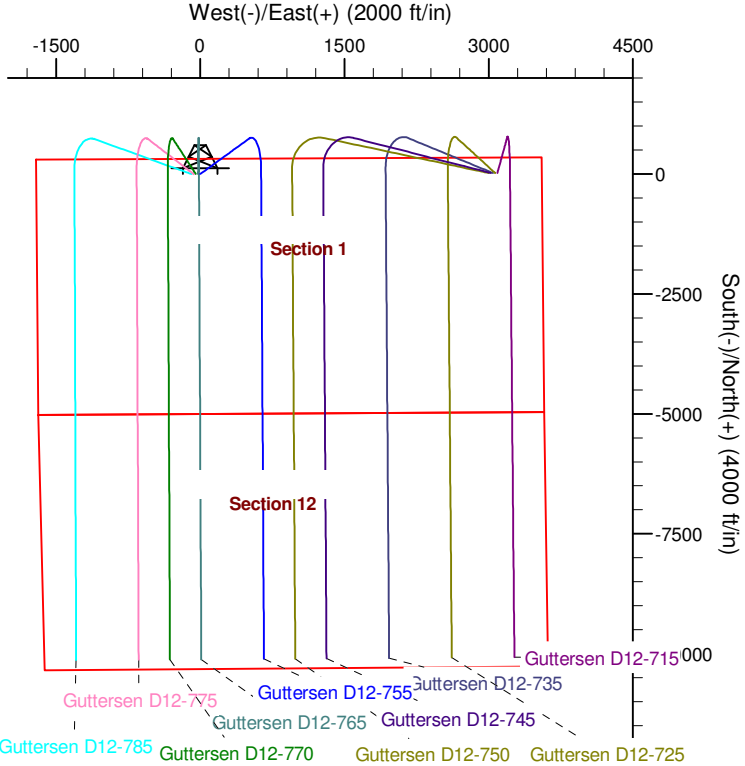
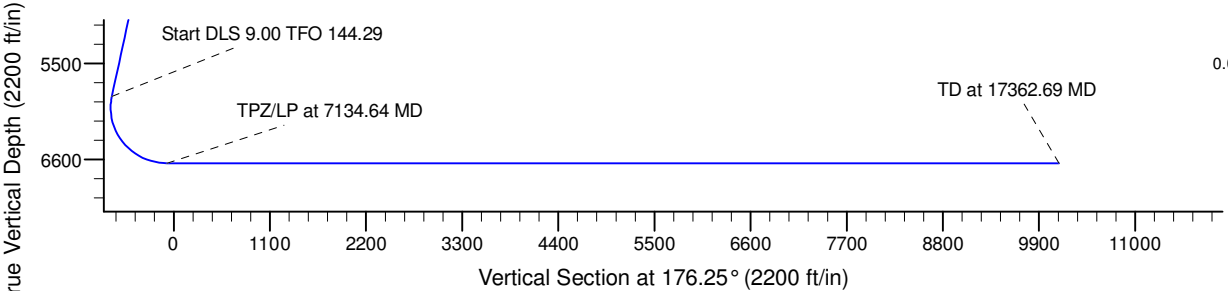
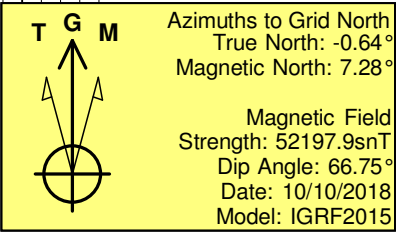
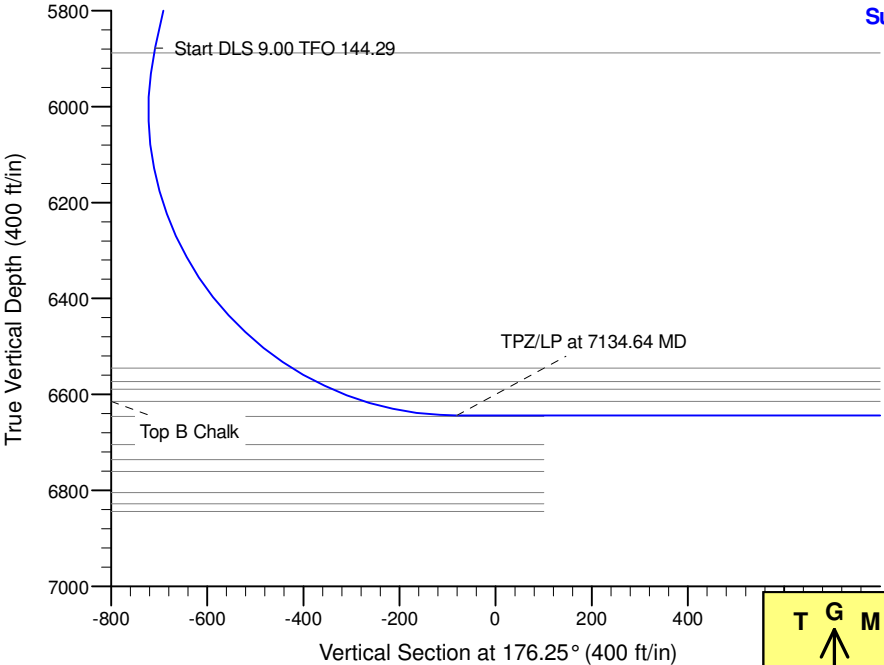
Project: Mustang
Site: D Section 01
Well: Gutteresen D12-755
Wellbore: Wellbore #1
Design: Plan #1

Northern Region - DJ Basin

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

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	2200.00	0.00	0.00	2200.00	0.00	0.00	0.00	0.00	0.00	
3	2966.45	15.33	34.57	2957.34	83.93	57.83	2.00	34.57	-79.96	
4	5995.22	15.33	34.57	5878.35	743.25	512.13	0.00	0.00	-708.14	
5	7134.64	90.00	179.84	6644.00	122.19	633.49	9.00	144.29	-80.46	TPZ Gutteresen D12-755
6	17362.69	90.00	179.84	6644.00	-10105.82	662.88	0.00	0.00	10127.54	BHL Gutteresen D12-755



WELL DETAILS: Gutteresen D12-755				
0.00	0.00	1339437.56	3278319.79	4745.00
				Latitude
				Longitude
				40.2608590
				-104.5027100
Plan: Plan #1 (Gutteresen D12-755/Wellbore #1)				
Created By: Colby Baxter	Date: 11:32, October 11 2018			
Checked: _____	Date: _____			
Reviewed: _____	Date: _____			
Approved: _____	Date: _____			

Northern Region - DJ Basin

Mustang

D Section 01

Guttersen D12-755

Wellbore #1

Plan: Plan #1

Standard Survey Report

11 October, 2018

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D12-755
Project:	Mustang	TVD Reference:	KB @ 4775.00ft
Site:	D Section 01	MD Reference:	KB @ 4775.00ft
Well:	Guttersen D12-755	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	EDMP

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 01						
Site Position:		Northing:	1,336,284.99	usft	Latitude:	40.2522405		
From:	Map	Easting:	3,277,182.91	usft	Longitude:	-104.5069099		
Position Uncertainty:	0.00	ft	Slot Radius:	13.200	in	Grid Convergence:	0.64	°

Well	Guttersen D12-755					
Well Position	+N/-S	0.00 ft	Northing:	1,339,437.56 usft	Latitude:	40.2608590
	+E/-W	0.00 ft	Easting:	3,278,319.80 usft	Longitude:	-104.5027100
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,745.00 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	10/10/2018	7.92	66.75	52,197.90538687

Design	Plan #1				
Audit Notes:					
Version:	Phase:	PLAN	Tie On Depth:	0.00	
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	176.25	

Survey Tool Program	Date	10/11/2018			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.00	17,362.69	Plan #1 (Wellbore #1)	2_MWD+IFR1	A005Mb: IFR declination correction only	

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	
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00	
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00	

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D12-755
Project:	Mustang	TVD Reference:	KB @ 4775.00ft
Site:	D Section 01	MD Reference:	KB @ 4775.00ft
Well:	Guttersen D12-755	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	EDMP

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)
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
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	2.00	34.57	2,299.98	1.44	0.99	-1.37	2.00	2.00	0.00
2,400.00	4.00	34.57	2,399.84	5.75	3.96	-5.47	2.00	2.00	0.00
2,500.00	6.00	34.57	2,499.45	12.92	8.90	-12.31	2.00	2.00	0.00
2,600.00	8.00	34.57	2,598.70	22.96	15.82	-21.87	2.00	2.00	0.00
2,700.00	10.00	34.57	2,697.47	35.84	24.69	-34.15	2.00	2.00	0.00
2,800.00	12.00	34.57	2,795.62	51.55	35.52	-49.11	2.00	2.00	0.00
2,900.00	14.00	34.57	2,893.06	70.07	48.28	-66.76	2.00	2.00	0.00
2,966.45	15.33	34.57	2,957.34	83.93	57.83	-79.96	2.00	2.00	0.00
3,000.00	15.33	34.57	2,989.70	91.23	62.86	-86.92	0.00	0.00	0.00
3,100.00	15.33	34.57	3,086.14	113.00	77.86	-107.66	0.00	0.00	0.00
3,200.00	15.33	34.57	3,182.58	134.77	92.86	-128.40	0.00	0.00	0.00
3,300.00	15.33	34.57	3,279.02	156.54	107.86	-149.14	0.00	0.00	0.00
3,400.00	15.33	34.57	3,375.46	178.30	122.86	-169.88	0.00	0.00	0.00
3,500.00	15.33	34.57	3,471.91	200.07	137.86	-190.62	0.00	0.00	0.00
3,600.00	15.33	34.57	3,568.35	221.84	152.86	-211.36	0.00	0.00	0.00
3,700.00	15.33	34.57	3,664.79	243.61	167.86	-232.10	0.00	0.00	0.00
3,800.00	15.33	34.57	3,761.23	265.38	182.86	-252.84	0.00	0.00	0.00
3,900.00	15.33	34.57	3,857.68	287.15	197.86	-273.58	0.00	0.00	0.00
4,000.00	15.33	34.57	3,954.12	308.92	212.86	-294.32	0.00	0.00	0.00
4,100.00	15.33	34.57	4,050.56	330.69	227.86	-315.06	0.00	0.00	0.00
4,200.00	15.33	34.57	4,147.00	352.46	242.86	-335.80	0.00	0.00	0.00
4,300.00	15.33	34.57	4,243.45	374.22	257.85	-356.54	0.00	0.00	0.00
4,400.00	15.33	34.57	4,339.89	395.99	272.85	-377.29	0.00	0.00	0.00
4,500.00	15.33	34.57	4,436.33	417.76	287.85	-398.03	0.00	0.00	0.00
4,600.00	15.33	34.57	4,532.77	439.53	302.85	-418.77	0.00	0.00	0.00
4,700.00	15.33	34.57	4,629.22	461.30	317.85	-439.51	0.00	0.00	0.00
4,800.00	15.33	34.57	4,725.66	483.07	332.85	-460.25	0.00	0.00	0.00
4,900.00	15.33	34.57	4,822.10	504.84	347.85	-480.99	0.00	0.00	0.00
5,000.00	15.33	34.57	4,918.54	526.61	362.85	-501.73	0.00	0.00	0.00
5,100.00	15.33	34.57	5,014.98	548.38	377.85	-522.47	0.00	0.00	0.00
5,200.00	15.33	34.57	5,111.43	570.14	392.85	-543.21	0.00	0.00	0.00

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D12-755
Project:	Mustang	TVD Reference:	KB @ 4775.00ft
Site:	D Section 01	MD Reference:	KB @ 4775.00ft
Well:	Guttersen D12-755	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	EDMP

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)	
5,300.00	15.33	34.57	5,207.87	591.91	407.85	-563.95	0.00	0.00	0.00	
5,400.00	15.33	34.57	5,304.31	613.68	422.85	-584.69	0.00	0.00	0.00	
5,500.00	15.33	34.57	5,400.75	635.45	437.85	-605.43	0.00	0.00	0.00	
5,600.00	15.33	34.57	5,497.20	657.22	452.85	-626.17	0.00	0.00	0.00	
5,700.00	15.33	34.57	5,593.64	678.99	467.85	-646.91	0.00	0.00	0.00	
5,800.00	15.33	34.57	5,690.08	700.76	482.85	-667.65	0.00	0.00	0.00	
5,900.00	15.33	34.57	5,786.52	722.53	497.85	-688.39	0.00	0.00	0.00	
5,995.22	15.33	34.57	5,878.35	743.25	512.13	-708.14	0.00	0.00	0.00	
6,000.00	14.98	35.54	5,882.97	744.28	512.85	-709.12	9.00	-7.26	20.32	
6,100.00	9.40	70.40	5,980.80	757.56	528.09	-721.38	9.00	-5.58	34.85	
6,200.00	10.64	123.57	6,079.47	755.20	543.51	-718.01	9.00	1.23	53.17	
6,300.00	17.28	149.69	6,176.56	737.24	558.72	-699.09	9.00	6.64	26.13	
6,400.00	25.39	160.62	6,269.66	704.13	573.36	-665.09	9.00	8.11	10.93	
6,500.00	33.93	166.41	6,356.50	656.68	587.06	-616.85	9.00	8.54	5.79	
6,600.00	42.64	170.07	6,434.93	596.06	599.48	-555.55	9.00	8.71	3.66	
6,700.00	51.44	172.68	6,503.01	523.77	610.32	-482.70	9.00	8.80	2.61	
6,800.00	60.28	174.72	6,559.09	441.59	619.31	-400.10	9.00	8.84	2.04	
6,900.00	69.15	176.42	6,601.76	351.53	626.24	-309.79	9.00	8.87	1.70	
7,000.00	78.03	177.94	6,629.99	255.82	630.92	-213.97	9.00	8.88	1.51	
7,100.00	86.92	179.35	6,643.07	156.81	633.25	-115.02	9.00	8.89	1.42	
7,134.64	90.00	179.84	6,644.00	122.19	633.49	-80.46	9.00	8.89	1.39	
7,200.00	90.00	179.84	6,644.00	56.82	633.68	-15.23	0.00	0.00	0.00	
7,300.00	90.00	179.84	6,644.00	-43.17	633.97	84.58	0.00	0.00	0.00	
7,400.00	90.00	179.84	6,644.00	-143.17	634.25	184.38	0.00	0.00	0.00	
7,500.00	90.00	179.84	6,644.00	-243.17	634.54	284.19	0.00	0.00	0.00	
7,600.00	90.00	179.84	6,644.00	-343.17	634.83	383.99	0.00	0.00	0.00	
7,700.00	90.00	179.84	6,644.00	-443.17	635.12	483.79	0.00	0.00	0.00	
7,800.00	90.00	179.84	6,644.00	-543.17	635.40	583.60	0.00	0.00	0.00	
7,900.00	90.00	179.84	6,644.00	-643.17	635.69	683.40	0.00	0.00	0.00	
8,000.00	90.00	179.84	6,644.00	-743.17	635.98	783.20	0.00	0.00	0.00	
8,100.00	90.00	179.84	6,644.00	-843.17	636.27	883.01	0.00	0.00	0.00	
8,200.00	90.00	179.84	6,644.00	-943.17	636.55	982.81	0.00	0.00	0.00	
8,300.00	90.00	179.84	6,644.00	-1,043.17	636.84	1,082.62	0.00	0.00	0.00	
8,400.00	90.00	179.84	6,644.00	-1,143.17	637.13	1,182.42	0.00	0.00	0.00	
8,500.00	90.00	179.84	6,644.00	-1,243.17	637.41	1,282.22	0.00	0.00	0.00	
8,600.00	90.00	179.84	6,644.00	-1,343.17	637.70	1,382.03	0.00	0.00	0.00	
8,700.00	90.00	179.84	6,644.00	-1,443.17	637.99	1,481.83	0.00	0.00	0.00	
8,800.00	90.00	179.84	6,644.00	-1,543.17	638.28	1,581.64	0.00	0.00	0.00	
8,900.00	90.00	179.84	6,644.00	-1,643.17	638.56	1,681.44	0.00	0.00	0.00	
9,000.00	90.00	179.84	6,644.00	-1,743.17	638.85	1,781.24	0.00	0.00	0.00	
9,100.00	90.00	179.84	6,644.00	-1,843.17	639.14	1,881.05	0.00	0.00	0.00	
9,200.00	90.00	179.84	6,644.00	-1,943.17	639.43	1,980.85	0.00	0.00	0.00	
9,300.00	90.00	179.84	6,644.00	-2,043.17	639.71	2,080.66	0.00	0.00	0.00	

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D12-755
Project:	Mustang	TVD Reference:	KB @ 4775.00ft
Site:	D Section 01	MD Reference:	KB @ 4775.00ft
Well:	Guttersen D12-755	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	EDMP

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)
9,400.00	90.00	179.84	6,644.00	-2,143.17	640.00	2,180.46	0.00	0.00	0.00
9,500.00	90.00	179.84	6,644.00	-2,243.17	640.29	2,280.26	0.00	0.00	0.00
9,600.00	90.00	179.84	6,644.00	-2,343.17	640.57	2,380.07	0.00	0.00	0.00
9,700.00	90.00	179.84	6,644.00	-2,443.17	640.86	2,479.87	0.00	0.00	0.00
9,800.00	90.00	179.84	6,644.00	-2,543.16	641.15	2,579.68	0.00	0.00	0.00
9,900.00	90.00	179.84	6,644.00	-2,643.16	641.44	2,679.48	0.00	0.00	0.00
10,000.00	90.00	179.84	6,644.00	-2,743.16	641.72	2,779.28	0.00	0.00	0.00
10,100.00	90.00	179.84	6,644.00	-2,843.16	642.01	2,879.09	0.00	0.00	0.00
10,200.00	90.00	179.84	6,644.00	-2,943.16	642.30	2,978.89	0.00	0.00	0.00
10,300.00	90.00	179.84	6,644.00	-3,043.16	642.59	3,078.70	0.00	0.00	0.00
10,400.00	90.00	179.84	6,644.00	-3,143.16	642.87	3,178.50	0.00	0.00	0.00
10,500.00	90.00	179.84	6,644.00	-3,243.16	643.16	3,278.30	0.00	0.00	0.00
10,600.00	90.00	179.84	6,644.00	-3,343.16	643.45	3,378.11	0.00	0.00	0.00
10,700.00	90.00	179.84	6,644.00	-3,443.16	643.73	3,477.91	0.00	0.00	0.00
10,800.00	90.00	179.84	6,644.00	-3,543.16	644.02	3,577.72	0.00	0.00	0.00
10,900.00	90.00	179.84	6,644.00	-3,643.16	644.31	3,677.52	0.00	0.00	0.00
11,000.00	90.00	179.84	6,644.00	-3,743.16	644.60	3,777.32	0.00	0.00	0.00
11,100.00	90.00	179.84	6,644.00	-3,843.16	644.88	3,877.13	0.00	0.00	0.00
11,200.00	90.00	179.84	6,644.00	-3,943.16	645.17	3,976.93	0.00	0.00	0.00
11,300.00	90.00	179.84	6,644.00	-4,043.16	645.46	4,076.74	0.00	0.00	0.00
11,400.00	90.00	179.84	6,644.00	-4,143.16	645.75	4,176.54	0.00	0.00	0.00
11,500.00	90.00	179.84	6,644.00	-4,243.16	646.03	4,276.34	0.00	0.00	0.00
11,600.00	90.00	179.84	6,644.00	-4,343.16	646.32	4,376.15	0.00	0.00	0.00
11,700.00	90.00	179.84	6,644.00	-4,443.16	646.61	4,475.95	0.00	0.00	0.00
11,800.00	90.00	179.84	6,644.00	-4,543.16	646.89	4,575.76	0.00	0.00	0.00
11,900.00	90.00	179.84	6,644.00	-4,643.16	647.18	4,675.56	0.00	0.00	0.00
12,000.00	90.00	179.84	6,644.00	-4,743.16	647.47	4,775.36	0.00	0.00	0.00
12,100.00	90.00	179.84	6,644.00	-4,843.16	647.76	4,875.17	0.00	0.00	0.00
12,200.00	90.00	179.84	6,644.00	-4,943.15	648.04	4,974.97	0.00	0.00	0.00
12,300.00	90.00	179.84	6,644.00	-5,043.15	648.33	5,074.78	0.00	0.00	0.00
12,400.00	90.00	179.84	6,644.00	-5,143.15	648.62	5,174.58	0.00	0.00	0.00
12,500.00	90.00	179.84	6,644.00	-5,243.15	648.91	5,274.38	0.00	0.00	0.00
12,600.00	90.00	179.84	6,644.00	-5,343.15	649.19	5,374.19	0.00	0.00	0.00
12,700.00	90.00	179.84	6,644.00	-5,443.15	649.48	5,473.99	0.00	0.00	0.00
12,800.00	90.00	179.84	6,644.00	-5,543.15	649.77	5,573.80	0.00	0.00	0.00
12,900.00	90.00	179.84	6,644.00	-5,643.15	650.05	5,673.60	0.00	0.00	0.00
13,000.00	90.00	179.84	6,644.00	-5,743.15	650.34	5,773.40	0.00	0.00	0.00
13,100.00	90.00	179.84	6,644.00	-5,843.15	650.63	5,873.21	0.00	0.00	0.00
13,200.00	90.00	179.84	6,644.00	-5,943.15	650.92	5,973.01	0.00	0.00	0.00
13,300.00	90.00	179.84	6,644.00	-6,043.15	651.20	6,072.81	0.00	0.00	0.00
13,400.00	90.00	179.84	6,644.00	-6,143.15	651.49	6,172.62	0.00	0.00	0.00
13,500.00	90.00	179.84	6,644.00	-6,243.15	651.78	6,272.42	0.00	0.00	0.00
13,600.00	90.00	179.84	6,644.00	-6,343.15	652.07	6,372.23	0.00	0.00	0.00

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D12-755
Project:	Mustang	TVD Reference:	KB @ 4775.00ft
Site:	D Section 01	MD Reference:	KB @ 4775.00ft
Well:	Guttersen D12-755	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	EDMP

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)
13,700.00	90.00	179.84	6,644.00	-6,443.15	652.35	6,472.03	0.00	0.00	0.00
13,800.00	90.00	179.84	6,644.00	-6,543.15	652.64	6,571.83	0.00	0.00	0.00
13,900.00	90.00	179.84	6,644.00	-6,643.15	652.93	6,671.64	0.00	0.00	0.00
14,000.00	90.00	179.84	6,644.00	-6,743.15	653.21	6,771.44	0.00	0.00	0.00
14,100.00	90.00	179.84	6,644.00	-6,843.15	653.50	6,871.25	0.00	0.00	0.00
14,200.00	90.00	179.84	6,644.00	-6,943.15	653.79	6,971.05	0.00	0.00	0.00
14,300.00	90.00	179.84	6,644.00	-7,043.15	654.08	7,070.85	0.00	0.00	0.00
14,400.00	90.00	179.84	6,644.00	-7,143.15	654.36	7,170.66	0.00	0.00	0.00
14,500.00	90.00	179.84	6,644.00	-7,243.15	654.65	7,270.46	0.00	0.00	0.00
14,600.00	90.00	179.84	6,644.00	-7,343.14	654.94	7,370.27	0.00	0.00	0.00
14,700.00	90.00	179.84	6,644.00	-7,443.14	655.23	7,470.07	0.00	0.00	0.00
14,800.00	90.00	179.84	6,644.00	-7,543.14	655.51	7,569.87	0.00	0.00	0.00
14,900.00	90.00	179.84	6,644.00	-7,643.14	655.80	7,669.68	0.00	0.00	0.00
15,000.00	90.00	179.84	6,644.00	-7,743.14	656.09	7,769.48	0.00	0.00	0.00
15,100.00	90.00	179.84	6,644.00	-7,843.14	656.38	7,869.29	0.00	0.00	0.00
15,200.00	90.00	179.84	6,644.00	-7,943.14	656.66	7,969.09	0.00	0.00	0.00
15,300.00	90.00	179.84	6,644.00	-8,043.14	656.95	8,068.89	0.00	0.00	0.00
15,400.00	90.00	179.84	6,644.00	-8,143.14	657.24	8,168.70	0.00	0.00	0.00
15,500.00	90.00	179.84	6,644.00	-8,243.14	657.52	8,268.50	0.00	0.00	0.00
15,600.00	90.00	179.84	6,644.00	-8,343.14	657.81	8,368.31	0.00	0.00	0.00
15,700.00	90.00	179.84	6,644.00	-8,443.14	658.10	8,468.11	0.00	0.00	0.00
15,800.00	90.00	179.84	6,644.00	-8,543.14	658.39	8,567.91	0.00	0.00	0.00
15,900.00	90.00	179.84	6,644.00	-8,643.14	658.67	8,667.72	0.00	0.00	0.00
16,000.00	90.00	179.84	6,644.00	-8,743.14	658.96	8,767.52	0.00	0.00	0.00
16,100.00	90.00	179.84	6,644.00	-8,843.14	659.25	8,867.33	0.00	0.00	0.00
16,200.00	90.00	179.84	6,644.00	-8,943.14	659.54	8,967.13	0.00	0.00	0.00
16,300.00	90.00	179.84	6,644.00	-9,043.14	659.82	9,066.93	0.00	0.00	0.00
16,400.00	90.00	179.84	6,644.00	-9,143.14	660.11	9,166.74	0.00	0.00	0.00
16,500.00	90.00	179.84	6,644.00	-9,243.14	660.40	9,266.54	0.00	0.00	0.00
16,600.00	90.00	179.84	6,644.00	-9,343.14	660.68	9,366.35	0.00	0.00	0.00
16,700.00	90.00	179.84	6,644.00	-9,443.14	660.97	9,466.15	0.00	0.00	0.00
16,800.00	90.00	179.84	6,644.00	-9,543.14	661.26	9,565.95	0.00	0.00	0.00
16,900.00	90.00	179.84	6,644.00	-9,643.14	661.55	9,665.76	0.00	0.00	0.00
17,000.00	90.00	179.84	6,644.00	-9,743.14	661.83	9,765.56	0.00	0.00	0.00
17,100.00	90.00	179.84	6,644.00	-9,843.13	662.12	9,865.37	0.00	0.00	0.00
17,200.00	90.00	179.84	6,644.00	-9,943.13	662.41	9,965.17	0.00	0.00	0.00
17,300.00	90.00	179.84	6,644.00	-10,043.13	662.70	10,064.97	0.00	0.00	0.00
17,362.69	90.00	179.84	6,644.00	-10,105.82	662.88	10,127.54	0.00	0.00	0.00

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D12-755
Project:	Mustang	TVD Reference:	KB @ 4775.00ft
Site:	D Section 01	MD Reference:	KB @ 4775.00ft
Well:	Guttersen D12-755	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	EDMP

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
SHL Guttersen D12-755 - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	1,339,437.56	3,278,319.80	40.2608590	-104.5027100
KOP Guttersen D12-755 - plan hits target center - Point	0.00	0.00	5,878.36	743.26	512.13	1,340,180.82	3,278,831.93	40.2628833	-104.5008450
TPZ Guttersen D12-755 - plan hits target center - Point	0.00	0.00	6,644.00	122.19	633.49	1,339,559.75	3,278,953.29	40.2611748	-104.5004353
BHL Guttersen D12-755 - plan hits target center - Point	0.00	0.00	6,644.00	-10,105.82	662.88	1,329,331.76	3,278,982.67	40.2330989	-104.5007430

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
331.00	331.00	Pierre				
605.00	605.00	Upper Pierre Aquifer Top				
1,539.00	1,539.00	Upper Pierre Aquifer Base				
2,662.00	2,660.00	Parkman				
4,006.10	3,960.00	Sussex				
4,875.01	4,798.00	Shannon				
6,005.20	5,888.00	Teepee Buttes				
6,772.60	6,545.00	Sharon Springs				
6,829.23	6,573.00	Top A Chalk				
6,866.43	6,589.00	Top A Marl				
6,940.57	6,615.00	Top B Chalk				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
2200	2200	0	0	Start Build 2.00	
5995	5878	743	512	Start DLS 9.00 TFO 144.29	
7135	6644	122	633	TPZ/LP at 7134.64 MD	
17,363	6644	-10,106	663	TD at 17362.69 MD	

Checked By: _____ Approved By: _____ Date: _____

Northern Region - DJ Basin

Mustang

D Section 01

Guttersen D12-755

Wellbore #1

Plan #1

Anticollision Summary Report

11 October, 2018

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersten D12-755
Project:	Mustang	TVD Reference:	KB @ 4775.00ft
Reference Site:	D Section 01	MD Reference:	KB @ 4775.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersten D12-755	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 #1	Offset TVD Reference:	Offset Datum

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

Survey Tool Program	Date	10/11/2018		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	17,362.69	Plan #1 (Wellbore #1)	2_MWD+IFR1	A005Mb: IFR declination correction only

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
C Section 36						
Ava State C36-18 (SI) - Wellbore #1 - No Surveys	6,146.64	5,987.86	3,579.36	3,319.39	13.768	CC
Ava State C36-18 (SI) - Wellbore #1 - No Surveys	6,150.00	6,008.82	3,579.37	3,318.55	13.723	ES
Ava State C36-18 (SI) - Wellbore #1 - No Surveys	6,450.00	6,275.00	3,650.17	3,377.89	13.406	SF
Ava State C36-20 (PR) - Wellbore #1 - No Surveys	6,088.71	5,920.66	2,209.03	1,951.46	8.576	CC
Ava State C36-20 (PR) - Wellbore #1 - No Surveys	6,100.00	5,931.80	2,209.12	1,951.06	8.560	ES
Ava State C36-20 (PR) - Wellbore #1 - No Surveys	6,350.00	6,174.75	2,257.14	1,988.61	8.406	SF
Ava State C36-21 (SI) - Wellbore #1 - No Surveys	6,146.57	5,982.80	2,323.07	2,063.29	8.943	CC
Ava State C36-21 (SI) - Wellbore #1 - No Surveys	6,150.00	5,986.18	2,323.08	2,063.15	8.938	ES
Ava State C36-21 (SI) - Wellbore #1 - No Surveys	6,350.00	6,179.75	2,355.32	2,087.06	8.780	SF
Ava State C36-22 (SI) - Wellbore #1 - No Surveys	6,207.38	6,063.72	2,685.11	2,422.21	10.214	CC
Ava State C36-22 (SI) - Wellbore #1 - No Surveys	6,250.00	6,105.36	2,686.28	2,421.58	10.149	ES
Ava State C36-22 (SI) - Wellbore #1 - No Surveys	6,450.00	6,309.00	2,722.94	2,449.58	9.961	SF
Ava State C36-24 (PR) - Wellbore #1 - No Surveys	6,184.29	6,030.01	945.25	683.72	3.614	CC
Ava State C36-24 (PR) - Wellbore #1 - No Surveys	6,200.00	6,045.47	945.43	683.23	3.606	ES
Ava State C36-24 (PR) - Wellbore #1 - No Surveys	6,250.00	6,105.64	948.37	683.60	3.582	SF
Ava State C36-31 (PR) - Wellbore #1 - No Surveys	6,075.16	5,902.68	4,014.47	3,757.61	15.629	CC
Ava State C36-31 (PR) - Wellbore #1 - No Surveys	6,100.00	5,921.80	4,014.89	3,757.17	15.578	ES
Ava State C36-31 (PR) - Wellbore #1 - No Surveys	6,500.00	6,302.50	4,131.72	3,857.72	15.079	SF
Booth CC31-68-1HN (PR) - Original Drilling - Original Dri	6,190.56	6,033.00	4,818.96	4,776.10	112.438	CC, ES
Booth CC31-68-1HN (PR) - Original Drilling - Original Dri	6,400.00	6,070.92	4,849.95	4,806.36	111.275	SF
Booth State C36-69HN (PR) - Original Drilling - Original D	6,216.48	9,225.40	4,797.10	4,706.88	53.170	CC, ES
Booth State C36-69HN (PR) - Original Drilling - Original D	6,250.00	9,219.80	4,798.10	4,707.82	53.150	SF
Booth State CC30-79HN (PR) - Original Drilling - Original	6,174.39	5,936.00	5,798.37	5,757.42	141.602	CC, ES
Booth State CC30-79HN (PR) - Original Drilling - Original	6,450.00	6,031.00	5,852.77	5,810.63	138.902	SF
Booth State CC31-69HN (PR) - Original Drilling - Original	6,178.32	5,938.00	5,725.24	5,683.97	138.752	CC, ES
Booth State CC31-69HN (PR) - Original Drilling - Original	9,000.00	9,000.00	7,920.19	7,860.85	133.479	SF
State 36-0414 (PR) - Wellbore #1 - No Surveys	6,102.69	5,932.45	3,789.17	3,531.17	14.686	CC
State 36-0414 (PR) - Wellbore #1 - No Surveys	6,150.00	5,979.18	3,790.85	3,530.81	14.578	ES
State 36-0414 (PR) - Wellbore #1 - No Surveys	6,450.00	6,263.00	3,877.24	3,605.06	14.245	SF
State 36-0714 (SI) - Wellbore #1 - No Surveys	6,165.61	6,014.59	2,963.69	2,702.73	11.357	CC
State 36-0714 (SI) - Wellbore #1 - No Surveys	6,200.00	6,048.47	2,964.58	2,702.16	11.297	ES
State 36-0714 (SI) - Wellbore #1 - No Surveys	6,450.00	6,283.00	3,023.99	2,751.53	11.099	SF
State 36-1014 (SI) - Wellbore #1 - No Surveys	6,187.56	6,032.24	1,751.69	1,490.07	6.696	CC
State 36-1014 (SI) - Wellbore #1 - No Surveys	6,250.00	6,106.64	1,754.43	1,489.64	6.626	ES
State 36-1014 (SI) - Wellbore #1 - No Surveys	6,350.00	6,188.75	1,770.29	1,501.92	6.597	SF
State 36-1114 (PR) - Wellbore #1 - No Surveys	6,114.91	5,949.51	1,373.34	1,114.71	5.310	CC
State 36-1114 (PR) - Wellbore #1 - No Surveys	6,150.00	5,984.18	1,374.30	1,114.16	5.283	ES

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersten D12-755
Project:	Mustang	TVD Reference:	KB @ 4775.00ft
Reference Site:	D Section 01	MD Reference:	KB @ 4775.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersten D12-755	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 #1	Offset TVD Reference:	Offset Datum

Summary

Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
C Section 36						
State 36-1114 (PR) - Wellbore #1 - No Surveys	6,250.00	6,082.36	1,387.47	1,123.08	5.248	SF
State 36-1214 (PR) - Wellbore #1 - No Surveys	6,021.61	5,872.91	2,298.35	2,043.03	9.002	CC
State 36-1214 (PR) - Wellbore #1 - No Surveys	6,050.00	5,900.63	2,298.77	2,042.23	8.961	ES
State 36-1214 (PR) - Wellbore #1 - No Surveys	6,350.00	6,207.25	2,353.26	2,083.51	8.724	SF
State 36-1414 (PR) - Wellbore #1 - No Surveys	5,626.20	5,478.46	228.99	-9.11	0.962	Level 1, CC
State 36-1414 (PR) - Wellbore #1 - No Surveys	5,800.00	5,646.08	233.55	-11.90	0.952	Level 1, ES, SF
State 36-1514 (PR) - Wellbore #1 - No Surveys	6,339.95	6,170.36	1,465.98	1,198.29	5.476	CC
State 36-1514 (PR) - Wellbore #1 - No Surveys	6,400.00	6,225.66	1,467.42	1,197.36	5.434	ES
State 36-1514 (PR) - Wellbore #1 - No Surveys	6,600.00	6,409.07	1,495.00	1,217.17	5.381	SF
State 36-1614 (PR) - Wellbore #1 - No Surveys	6,681.87	6,509.48	2,077.73	1,795.36	7.358	CC, ES
State 36-1614 (PR) - Wellbore #1 - No Surveys	6,850.00	6,581.17	2,086.95	1,801.37	7.308	SF
State 36-214 (SI) - Wellbore #1 - No Surveys	6,159.81	6,003.13	4,171.09	3,910.57	16.011	CC
State 36-214 (SI) - Wellbore #1 - No Surveys	6,200.00	6,036.47	4,172.33	3,910.34	15.925	ES
State 36-214 (SI) - Wellbore #1 - No Surveys	6,600.00	6,408.07	4,314.00	4,036.25	15.532	SF
State 36-314 (SI) - Wellbore #1 - No Surveys	6,128.43	5,955.87	4,072.81	3,814.01	15.737	CC
State 36-314 (SI) - Wellbore #1 - No Surveys	6,150.00	5,977.18	4,073.18	3,813.44	15.682	ES
State 36-314 (SI) - Wellbore #1 - No Surveys	6,500.00	6,303.50	4,178.28	3,904.61	15.268	SF
State 36-614 (PR) - Wellbore #1 - No Surveys	6,126.21	5,949.68	3,067.52	2,808.94	11.863	CC
State 36-614 (PR) - Wellbore #1 - No Surveys	6,150.00	5,973.18	3,067.96	2,808.36	11.818	ES
State 36-614 (PR) - Wellbore #1 - No Surveys	6,400.00	6,212.66	3,125.49	2,855.62	11.581	SF
State 36-814 (SI) - Wellbore #1 - No Surveys	6,209.55	6,076.85	3,870.37	3,606.95	14.692	CC
State 36-814 (SI) - Wellbore #1 - No Surveys	6,250.00	6,116.36	3,871.41	3,606.27	14.602	ES
State 36-814 (SI) - Wellbore #1 - No Surveys	6,600.00	6,422.93	3,965.56	3,687.34	14.254	SF
State 36-914 (PR) - Wellbore #1 - No Surveys	6,284.21	6,157.43	2,537.80	2,270.87	9.507	CC
State 36-914 (PR) - Wellbore #1 - No Surveys	6,350.00	6,219.75	2,539.78	2,270.17	9.420	ES
State 36-914 (PR) - Wellbore #1 - No Surveys	6,550.00	6,407.11	2,570.84	2,293.26	9.262	SF
State B14-36 (PA) - Wellbore #1 - No Surveys	5,110.92	4,988.52	1,428.42	1,212.05	6.602	CC
State B14-36 (PA) - Wellbore #1 - No Surveys	5,995.22	5,841.35	1,447.43	1,193.33	5.696	ES
State B14-36 (PA) - Wellbore #1 - No Surveys	6,250.00	6,108.64	1,480.78	1,215.12	5.574	SF
State B41-36 (SI) - Wellbore #1 - No Surveys	6,187.02	6,045.70	4,313.42	4,051.26	16.453	CC
State B41-36 (SI) - Wellbore #1 - No Surveys	6,200.00	6,058.47	4,313.53	4,050.82	16.419	ES
State B41-36 (SI) - Wellbore #1 - No Surveys	6,550.00	6,375.89	4,403.82	4,127.55	15.940	SF
State C36-01 (SI) - Wellbore #1 - No Surveys	6,191.49	6,050.11	5,050.78	4,788.44	19.253	CC
State C36-01 (SI) - Wellbore #1 - No Surveys	6,200.00	6,058.47	5,050.83	4,788.13	19.227	ES
State C36-01 (SI) - Wellbore #1 - No Surveys	6,600.00	6,413.93	5,162.37	4,884.50	18.579	SF
State C36-04 (PR) - Wellbore #1 - No Surveys	6,093.09	5,923.98	4,560.95	4,303.25	17.699	CC
State C36-04 (PR) - Wellbore #1 - No Surveys	6,100.00	5,930.80	4,560.98	4,302.99	17.679	ES
State C36-04 (PR) - Wellbore #1 - No Surveys	6,500.00	6,306.50	4,676.94	4,402.87	17.065	SF
State C36-13 (SI) - Wellbore #1 - No Surveys	2,200.00	2,178.00	1,480.22	1,387.44	15.955	CC
State C36-13 (SI) - Wellbore #1 - No Surveys	3,300.00	3,257.02	1,499.74	1,359.86	10.721	ES
State C36-13 (SI) - Wellbore #1 - No Surveys	6,650.00	6,448.37	1,870.19	1,590.13	6.678	SF
State C36-15 (PR) - Wellbore #1 - No Surveys	6,541.92	6,367.52	808.56	532.27	2.927	CC
State C36-15 (PR) - Wellbore #1 - No Surveys	6,600.00	6,411.93	810.09	531.93	2.912	ES
State C36-15 (PR) - Wellbore #1 - No Surveys	6,650.00	6,447.37	814.12	534.46	2.911	SF
State C36-32D (SI) - Wellbore #1 - As Drilled	100.00	83.78	2,224.02	2,223.74	8,202.709	CC
State C36-32D (SI) - Wellbore #1 - As Drilled	500.00	473.38	2,225.35	2,222.97	934.117	ES
State C36-32D (SI) - Wellbore #1 - As Drilled	6,350.00	6,406.13	3,099.14	3,053.03	67.219	SF
State C36-33D (SI) - Wellbore #1 - Original Drilling	3,818.13	3,717.33	2,192.80	2,165.83	81.297	CC, ES
State C36-33D (SI) - Wellbore #1 - Original Drilling	6,450.00	6,383.68	2,410.63	2,363.92	51.609	SF
State C36-99HZ (PR) - Wellbore #1 - As Drilled	6,354.61	8,086.26	1,230.69	1,161.56	17.805	CC, ES
State C36-99HZ (PR) - Wellbore #1 - As Drilled	6,500.00	8,110.55	1,255.28	1,182.97	17.359	SF
State D01-30D (SI) - Wellbore #1 - Original Drilling	3,257.38	3,510.26	1,776.69	1,744.53	55.251	CC
State D01-30D (SI) - Wellbore #1 - Original Drilling	3,300.00	3,536.75	1,776.96	1,744.40	54.575	ES

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D12-755
Project:	Mustang	TVD Reference:	KB @ 4775.00ft
Reference Site:	D Section 01	MD Reference:	KB @ 4775.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D12-755	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 #1	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
C Section 36						
State D01-30D (SI) - Wellbore #1 - Original Drilling	7,500.00	7,029.32	2,452.34	2,387.54	37.845	SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersten D12-755
Project:	Mustang	TVD Reference:	KB @ 4775.00ft
Reference Site:	D Section 01	MD Reference:	KB @ 4775.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersten D12-755	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 #1	Offset TVD Reference:	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Separation Factor	Warning
D Section 01						
Abbey D 1-3 (PR) - Wellbore #1 - No Surveys	7,594.20	6,614.00	375.91	86.55	1.299	Level 3, CC, ES, SF
Abbey D 1-4 (PR) - Wellbore #1 - No Surveys	2,200.00	2,158.00	1,125.82	1,033.85	12.241	CC
Abbey D 1-4 (PR) - Wellbore #1 - No Surveys	2,400.00	2,357.84	1,131.39	1,030.71	11.238	ES
Abbey D 1-4 (PR) - Wellbore #1 - No Surveys	7,602.75	6,602.00	1,704.61	1,415.69	5.900	SF
Abbey D 1-5 (PR) - Wellbore #1 - No Surveys	8,946.98	6,600.00	1,744.49	1,447.08	5.866	CC, ES
Abbey D 1-5 (PR) - Wellbore #1 - No Surveys	9,000.00	6,600.00	1,745.30	1,447.49	5.861	SF
Abbey D 1-6 (PR) - Wellbore #1 - No Surveys	9,022.47	6,630.00	314.81	15.60	1.052	Level 2, CC, ES, SF
Abbey D 1-7JI (SI) - Wellbore #1 - No Surveys	8,913.59	6,626.00	934.70	636.51	3.135	CC, ES, SF
Abbey D01-08J1 - Abbey D01-08J1 OH - As-Drilled	8,628.89	6,598.44	2,262.95	2,206.98	40.432	CC, ES
Abbey D01-08J1 - Abbey D01-08J1 OH - As-Drilled	9,200.00	6,605.52	2,333.89	2,273.96	38.947	SF
Abbey D01-08J1 (PR) - Wellbore #1 - No Surveys	8,709.31	6,636.00	2,258.74	1,961.71	7.604	CC, ES
Abbey D01-08J1 (PR) - Wellbore #1 - No Surveys	8,800.00	6,636.00	2,260.56	1,962.84	7.593	SF
Abbey D01-18 (SI) - Wellbore #1 - No Surveys	8,272.55	6,619.00	184.92	-108.38	0.630	Level 1, CC, ES, SF
Abbey D01-19 (TA) - Wellbore #1 - No Surveys	8,536.23	6,617.00	980.37	685.35	3.323	CC, ES, SF
Abbey D01-23 (PR) - Wellbore #1 - No Surveys	10,831.00	6,669.00	1,657.08	1,340.13	5.228	CC, ES
Abbey D01-23 (PR) - Wellbore #1 - No Surveys	10,900.00	6,669.00	1,658.52	1,340.89	5.222	SF
Abbey D01-27 (SI) - Wellbore #1 - No Surveys	7,156.88	6,631.00	1,545.88	1,257.38	5.358	CC, ES, SF
Abbey D01-28 (SI) - Wellbore #1 - No Surveys	7,218.30	6,613.00	440.91	152.97	1.531	CC, ES, SF
Abbey D01-29 (SI) - Wellbore #1 - No Surveys	2,200.00	2,172.00	426.25	333.71	4.606	CC
Abbey D01-29 (SI) - Wellbore #1 - No Surveys	2,600.00	2,570.70	434.14	324.24	3.950	ES
Abbey D01-29 (SI) - Wellbore #1 - No Surveys	7,134.64	6,616.00	1,034.49	746.64	3.594	SF
Abbey D01-32D - Wellbore #1 - Wellbore #1 - As Drilled	363.07	357.10	2,009.94	2,007.86	967.019	CC
Abbey D01-32D - Wellbore #1 - Wellbore #1 - As Drilled	800.00	781.88	2,011.52	2,006.42	393.744	ES
Abbey D01-32D - Wellbore #1 - Wellbore #1 - As Drilled	10,000.00	6,828.13	2,273.59	2,203.72	32.540	SF
Guttersten D01-31D (PR) - Guttersten D01-31D OH - As-D	2,230.42	2,253.32	1,964.32	1,947.32	115.522	CC, ES
Guttersten D01-31D (PR) - Guttersten D01-31D OH - As-D	8,700.00	6,703.57	2,458.85	2,400.71	42.292	SF
Guttersten D12-715 - Wellbore #1 - Plan #1	7,127.03	7,183.27	2,589.54	2,539.09	51.324	CC
Guttersten D12-715 - Wellbore #1 - Plan #1	17,362.69	17,394.65	2,606.44	2,366.57	10.866	ES, SF
Guttersten D12-725 - Wellbore #1 - Plan #1	7,129.59	7,138.93	1,941.46	1,890.92	38.414	CC
Guttersten D12-725 - Wellbore #1 - Plan #1	17,362.69	17,354.05	1,954.16	1,714.17	8.143	ES, SF
Guttersten D12-735 - Wellbore #1 - Plan #1	7,132.14	7,348.35	1,296.25	1,244.79	25.188	CC
Guttersten D12-735 - Wellbore #1 - Plan #1	17,362.69	17,566.38	1,304.70	1,064.86	5.440	ES, SF
Guttersten D12-745 - Wellbore #1 - Plan #1	7,133.64	7,526.63	651.03	598.20	12.322	CC
Guttersten D12-745 - Wellbore #1 - Plan #1	17,362.69	17,749.15	655.25	415.47	2.733	ES, SF
Guttersten D12-750 - Wellbore #1 - Plan #1	7,136.28	7,734.37	374.21	322.87	7.289	CC
Guttersten D12-750 - Wellbore #1 - Plan #1	17,362.69	17,960.63	376.04	146.46	1.638	ES, SF
Guttersten D12-765 - Wellbore #1 - Plan #1	2,200.00	2,200.00	22.33	7.02	1.459	Level 3, CC, ES
Guttersten D12-765 - Wellbore #1 - Plan #1	2,300.00	2,300.02	23.36	7.34	1.458	Level 3, SF
Guttersten D12-770 - Wellbore #1 - Plan #1	2,200.00	2,200.00	44.94	29.63	2.936	CC, ES
Guttersten D12-770 - Wellbore #1 - Plan #1	2,300.00	2,300.02	45.94	29.92	2.868	SF
Guttersten D12-775 - Wellbore #1 - Plan #1	2,200.00	2,200.00	67.54	52.24	4.413	CC, ES
Guttersten D12-775 - Wellbore #1 - Plan #1	2,300.00	2,300.02	68.55	52.53	4.278	SF
Guttersten D12-785 - Wellbore #1 - Plan #1	2,000.00	2,000.00	89.87	76.00	6.478	CC, ES
Guttersten D12-785 - Wellbore #1 - Plan #1	2,200.00	2,194.74	95.47	80.21	6.258	SF
Guttersten State C36-725 - Wellbore #1 - Plan #1	7,003.01	6,910.61	1,925.61	1,876.89	39.519	CC, ES
Guttersten State C36-725 - Wellbore #1 - Plan #1	7,100.00	6,850.00	1,927.99	1,879.14	39.473	SF
Guttersten State C36-735 - Wellbore #1 - Plan #1	6,967.86	7,071.55	1,279.15	1,229.43	25.724	CC, ES
Guttersten State C36-735 - Wellbore #1 - Plan #1	7,000.00	7,050.00	1,279.52	1,229.76	25.716	SF
Guttersten State C36-745 - Wellbore #1 - Plan #1	6,950.73	7,269.61	634.04	582.85	12.385	CC, ES, SF
Guttersten State C36-750 - Wellbore #1 - Plan #1	7,059.71	7,356.53	347.11	295.80	6.765	CC, ES
Guttersten State C36-750 - Wellbore #1 - Plan #1	7,100.00	7,325.78	348.58	296.89	6.745	SF
Guttersten State C36-755 - Wellbore #1 - Plan #1	7,070.09	6,791.72	49.47	0.43	1.009	Level 2, CC, ES, SF
Guttersten State C36-765 - Wellbore #1 - Plan #1	2,219.28	2,221.20	150.42	134.98	9.741	CC, ES

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Gutttersen D12-755
Project:	Mustang	TVD Reference:	KB @ 4775.00ft
Reference Site:	D Section 01	MD Reference:	KB @ 4775.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Gutttersen D12-755	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 #1	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
D Section 01						
Gutttersen State C36-765 - Wellbore #1 - Plan #1	2,400.00	2,401.77	155.63	138.90	9.304	SF
Gutttersen State C36-775 - Wellbore #1 - Plan #1	2,000.00	2,001.00	156.45	142.58	11.275	CC
Gutttersen State C36-775 - Wellbore #1 - Plan #1	2,100.00	2,099.61	156.90	142.32	10.761	ES
Gutttersen State C36-775 - Wellbore #1 - Plan #1	2,300.00	2,295.82	162.71	146.75	10.192	SF
Gutttersen State C36-785 - Wellbore #1 - Plan #1	2,000.00	2,001.00	164.28	150.40	11.839	CC, ES
Gutttersen State C36-785 - Wellbore #1 - Plan #1	2,300.00	2,293.08	172.79	156.84	10.836	SF
HSR-Gutttersen 11-1 (PR) - Wellbore #1 - No Surveys	10,203.33	6,643.00	377.48	67.49	1.218	Level 3, CC, ES, SF
HSR-Gutttersen 12-1 (PR) - Wellbore #1 - No Surveys	10,225.31	6,607.00	1,700.35	1,391.60	5.507	CC, ES
HSR-Gutttersen 12-1 (PR) - Wellbore #1 - No Surveys	10,300.00	6,607.00	1,701.99	1,392.62	5.501	SF
HSR-Gutttersen 14-1 (SI) - Wellbore #1 - No Surveys	11,547.68	6,623.00	388.54	66.42	1.206	Level 3, CC, ES, SF
HSR-Gutttersen 15-1 (SI) - Wellbore #1 - Wellbore #1	11,731.78	6,661.00	1,112.00	786.53	3.417	CC, ES
HSR-Gutttersen 15-1 (SI) - Wellbore #1 - Wellbore #1	11,800.00	6,661.00	1,114.09	787.97	3.416	SF
HSR-Gutttersen 16-1 (SI) - Wellbore #1 - No Surveys	11,727.86	6,675.00	2,435.11	2,109.12	7.470	CC, ES
HSR-Gutttersen 16-1 (SI) - Wellbore #1 - No Surveys	11,900.00	6,675.00	2,441.19	2,113.52	7.450	SF
Keisha White D01-01 - Wellbore #1 - Wellbore #1 - As D	7,534.97	6,644.89	2,208.63	2,159.06	44.560	CC, ES
Keisha White D01-01 - Wellbore #1 - Wellbore #1 - As D	8,000.00	6,647.60	2,257.05	2,205.35	43.658	SF
Keisha White D01-07 (PR) - Wellbore #1 - No Surveys	9,598.42	6,628.00	943.27	639.32	3.103	CC
Keisha White D01-07 (PR) - Wellbore #1 - No Surveys	9,600.00	6,628.00	943.27	639.30	3.103	ES, SF
Keisha White D01-08 (PR) - Wellbore #1 - No Surveys	9,679.12	6,645.00	2,169.28	1,863.95	7.105	CC
Keisha White D01-08 (PR) - Wellbore #1 - No Surveys	9,700.00	6,645.00	2,169.39	1,863.86	7.101	ES
Keisha White D01-08 (PR) - Wellbore #1 - No Surveys	9,800.00	6,645.00	2,172.65	1,866.25	7.091	SF
UPV 1-2J4 (PR) - Wellbore #1 - No Surveys	7,923.40	6,628.00	1,283.59	992.03	4.403	CC, ES, SF
Woody D01-09 - Wellbore #1 - Wellbore #1 - As Drilled	10,361.63	6,620.63	2,418.47	2,347.72	34.187	CC
Woody D01-09 - Wellbore #1 - Wellbore #1 - As Drilled	10,400.00	6,619.69	2,418.77	2,347.66	34.015	ES
Woody D01-09 - Wellbore #1 - Wellbore #1 - As Drilled	10,900.00	6,607.28	2,477.62	2,402.55	33.002	SF
Woody D01-10 (PR) - Wellbore #1 - No Surveys	10,187.25	6,661.00	755.36	444.80	2.432	CC
Woody D01-10 (PR) - Wellbore #1 - No Surveys	10,200.00	6,661.00	755.47	444.78	2.432	ES, SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D12-755
Project:	Mustang	TVD Reference:	KB @ 4775.00ft
Reference Site:	D Section 01	MD Reference:	KB @ 4775.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D12-755	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 #1	Offset TVD Reference:	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
D Section 12						
GUTTERERSEN STATE D #12-7JI(SI) - Wellbore #1 - N	14,098.62	6,625.00	810.94	667.85	5.667	CC
GUTTERERSEN STATE D #12-7JI(SI) - Wellbore #1 - N	14,100.00	6,625.00	810.94	667.83	5.666	ES, SF
GUTTERSEN #12D(PR) - Wellbore #1 - No Surveys	16,222.76	6,619.00	1,641.30	1,475.88	9.922	CC, ES
GUTTERSEN #12D(PR) - Wellbore #1 - No Surveys	16,300.00	6,619.00	1,643.12	1,476.93	9.887	SF
Guttersen #33-12(PR) - Wellbore #1 - No Surveys	15,569.14	6,609.00	960.14	801.73	6.061	CC, ES
Guttersen #33-12(PR) - Wellbore #1 - No Surveys	15,600.00	6,609.00	960.63	801.90	6.052	SF
GUTTERSEN #34-12(PR) - Wellbore #1 - No Surveys	16,883.90	6,609.00	1,001.94	829.58	5.813	CC
GUTTERSEN #34-12(PR) - Wellbore #1 - No Surveys	16,900.00	6,609.00	1,002.07	829.53	5.808	ES, SF
Guttersen #43-12(PR) - Wellbore #1 - Gyro	15,456.83	6,631.44	2,279.98	2,157.44	18.607	CC
Guttersen #43-12(PR) - Wellbore #1 - Gyro	15,500.00	6,630.21	2,280.39	2,157.39	18.540	ES
Guttersen #43-12(PR) - Wellbore #1 - Gyro	15,700.00	6,624.48	2,292.90	2,168.19	18.386	SF
GUTTERSEN #44-12(PR) - Wellbore #1 - Gyro	16,834.30	6,507.28	2,282.09	2,145.28	16.681	CC, ES
GUTTERSEN #44-12(PR) - Wellbore #1 - Gyro	17,100.00	6,504.61	2,297.50	2,158.43	16.520	SF
GUTTERSEN D #12-20(PR) - Wellbore #1 - No Surveys	14,890.69	6,609.00	1,108.71	957.46	7.330	CC
GUTTERSEN D #12-20(PR) - Wellbore #1 - No Surveys	14,900.00	6,609.00	1,108.75	957.41	7.326	ES, SF
GUTTERSEN D #12-25(PR) - Wellbore #1 - No Surveys	16,139.13	6,616.00	932.73	768.22	5.670	CC, ES, SF
GUTTERSEN STATE D #12-19(PR) - Wellbore #1 - No S	13,530.76	6,616.00	977.70	840.59	7.131	CC, ES
GUTTERSEN STATE D #12-19(PR) - Wellbore #1 - No S	13,600.00	6,616.00	980.15	842.59	7.125	SF
GUTTERSEN STATE D #12-2JI(SI) - Wellbore #1 - No S	12,898.73	6,649.00	971.11	840.23	7.420	CC
GUTTERSEN STATE D #12-2JI(SI) - Wellbore #1 - No S	12,900.00	6,649.00	971.11	840.22	7.419	ES
GUTTERSEN STATE D #12-2JI(SI) - Wellbore #1 - No S	13,000.00	6,649.00	976.38	844.68	7.414	SF
Guttersen State D12-01JI - Wellbore #1 - Wellbore #1 - A	12,933.93	6,635.38	2,225.57	2,129.27	23.111	CC, ES
Guttersen State D12-01JI - Wellbore #1 - Wellbore #1 - A	13,300.00	6,657.86	2,255.35	2,155.91	22.680	SF
Guttersen State D12-08JI - Wellbore #1 - Wellbore #1 - A	14,425.56	6,677.31	2,377.18	2,265.34	21.255	CC, ES
Guttersen State D12-08JI - Wellbore #1 - Wellbore #1 - A	14,700.00	6,679.63	2,392.97	2,278.65	20.932	SF
KARCH BLUE D #12-11(PR) - Wellbore #1 - No Surveys	15,517.33	6,600.00	243.87	86.09	1.546	CC, ES, SF
KARCH BLUE D #12-12(PR) - Wellbore #1 - No Surveys	15,542.99	6,597.00	1,569.51	1,411.48	9.932	CC, ES
KARCH BLUE D #12-12(PR) - Wellbore #1 - No Surveys	15,600.00	6,597.00	1,570.54	1,412.02	9.908	SF
KARCH BLUE D #12-14(PR) - Wellbore #1 - No Surveys	16,900.59	6,603.00	332.50	160.02	1.928	CC, ES, SF
L F RANCH #2-12(SI) - Wellbore #1 - No Surveys	16,568.17	6,594.00	1,312.48	1,143.61	7.772	CC, ES
L F RANCH #2-12(SI) - Wellbore #1 - No Surveys	16,600.00	6,594.00	1,312.86	1,143.72	7.762	SF
SPIKE STATE #D 12-3(PR) - Wellbore #1 - No Surveys	12,917.12	6,608.00	349.14	218.43	2.671	CC, ES, SF
SPIKE STATE #D 12-4(PR) - Wellbore #1 - No Surveys	13,031.03	6,599.00	1,774.68	1,642.88	13.465	CC, ES
SPIKE STATE #D 12-4(PR) - Wellbore #1 - No Surveys	13,200.00	6,599.00	1,782.71	1,649.59	13.392	SF
SPIKE STATE #D 12-5(PR) - Wellbore #1 - No Surveys	14,246.80	6,596.00	1,655.68	1,511.29	11.467	CC, ES
SPIKE STATE #D 12-5(PR) - Wellbore #1 - No Surveys	14,400.00	6,596.00	1,662.76	1,517.23	11.426	SF
SPIKE STATE #D 12-6(PA) - Wellbore #1 - Gyro	14,277.91	6,609.71	353.74	243.62	3.212	CC, ES, SF
STATE #10(TA) - Wellbore #1 - No Surveys	13,455.71	6,663.00	1,664.78	1,528.04	12.175	CC, ES
STATE #10(TA) - Wellbore #1 - No Surveys	13,600.00	6,663.00	1,671.02	1,532.94	12.102	SF

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

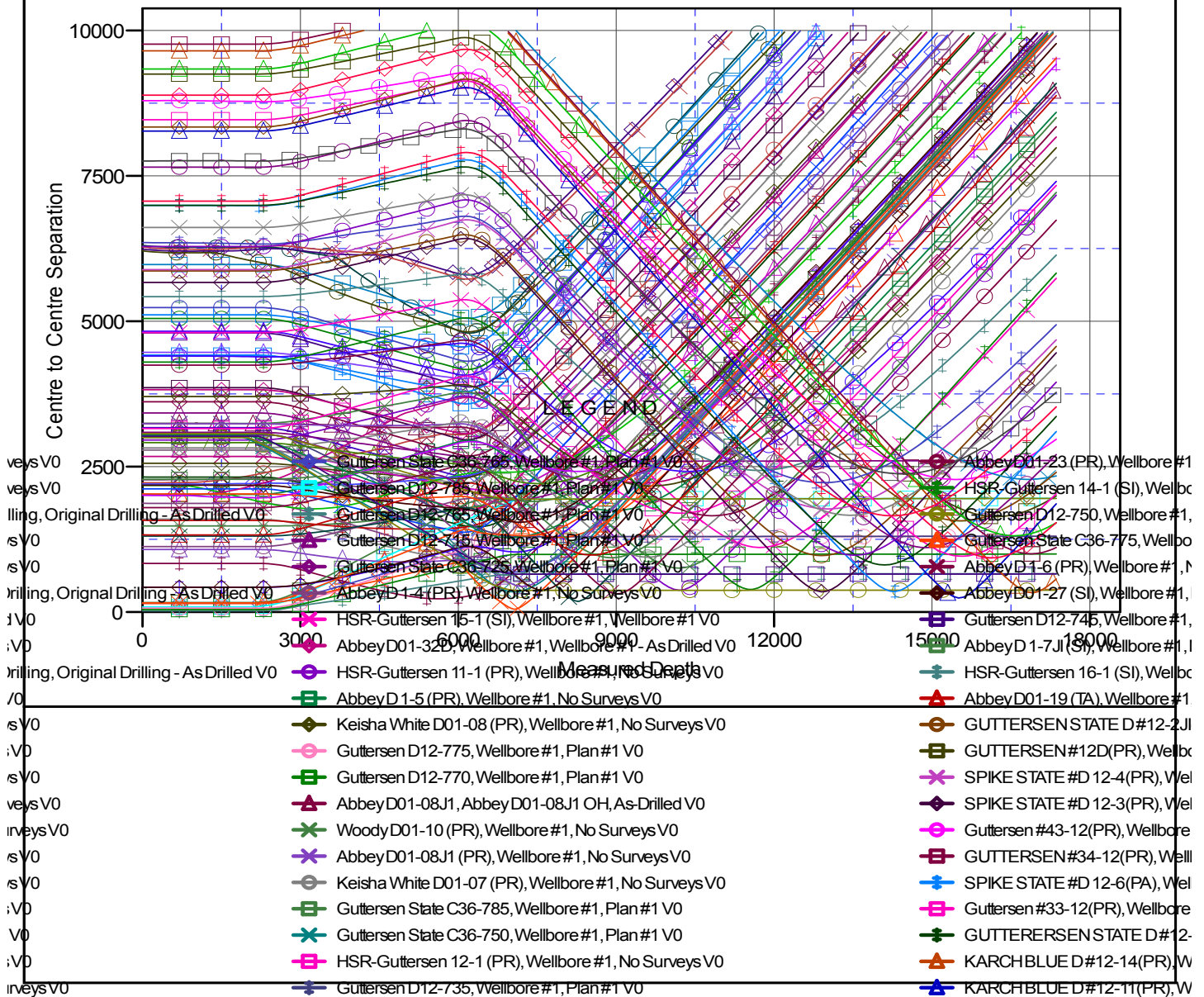
Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D12-755
Project:	Mustang	TVD Reference:	KB @ 4775.00ft
Reference Site:	D Section 01	MD Reference:	KB @ 4775.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D12-755	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 #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to KB @ 4775.00ft
Offset Depths are relative to Offset Datum
Central Meridian is -105.5000000

Coordinates are relative to: Guttersen D12-755
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.64°

Ladder Plot



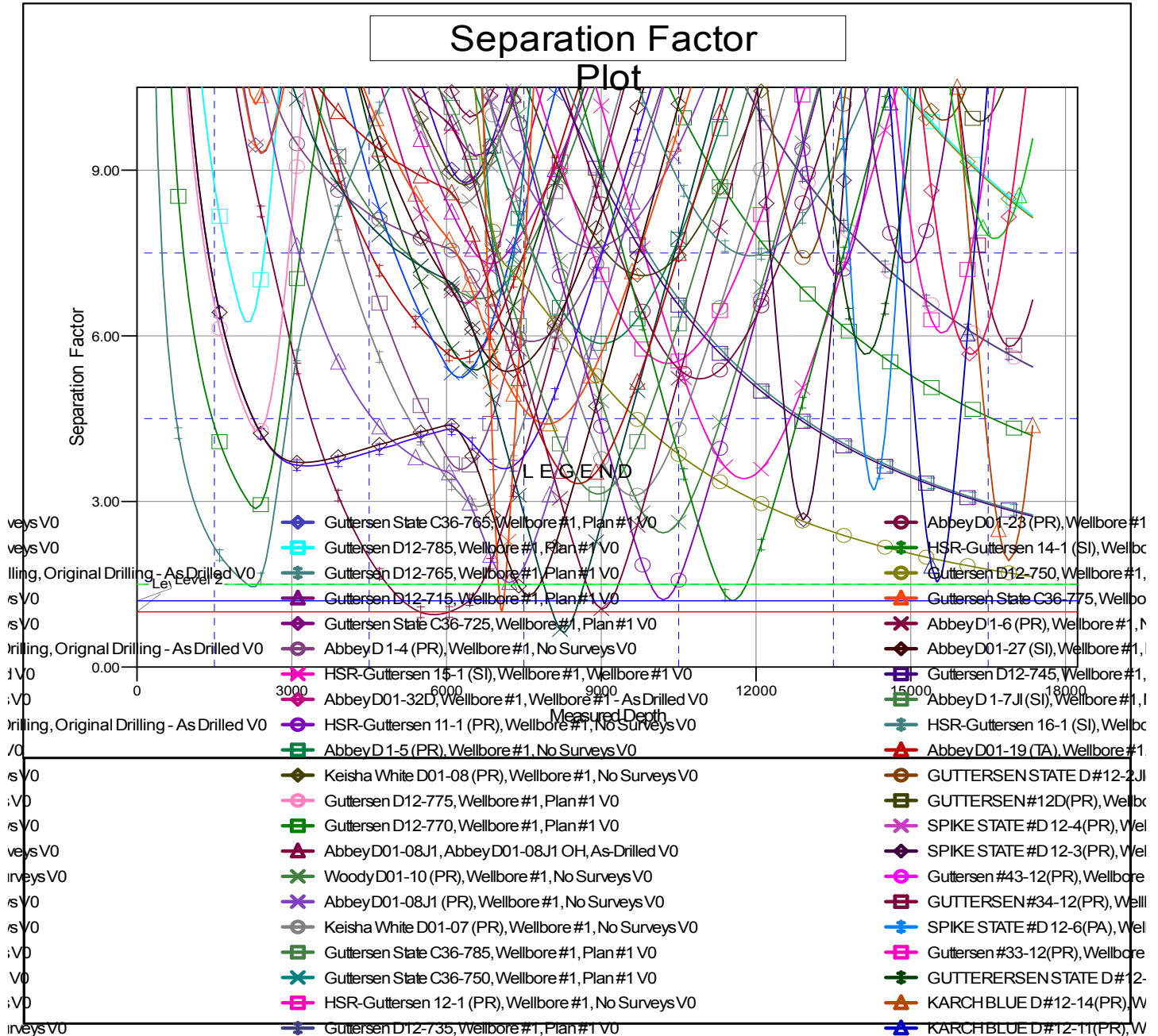
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Noble Energy, Inc.
Anticollision Summary Report

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Offset Depths are relative to Offset Datum
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Coordinates are relative to: Gutteresen D12-755
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.64°



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