

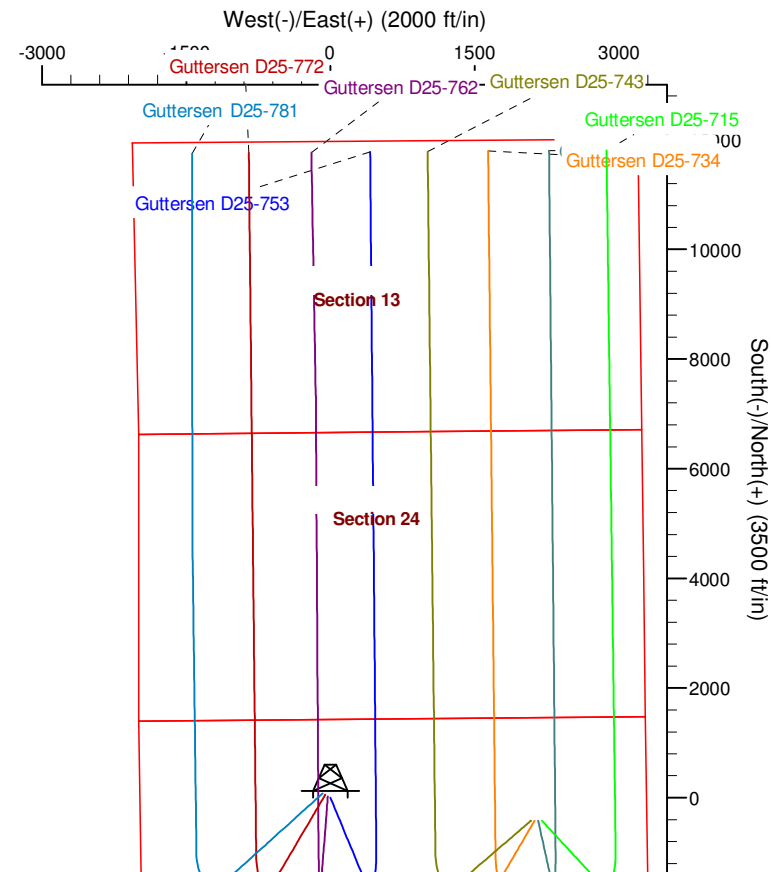
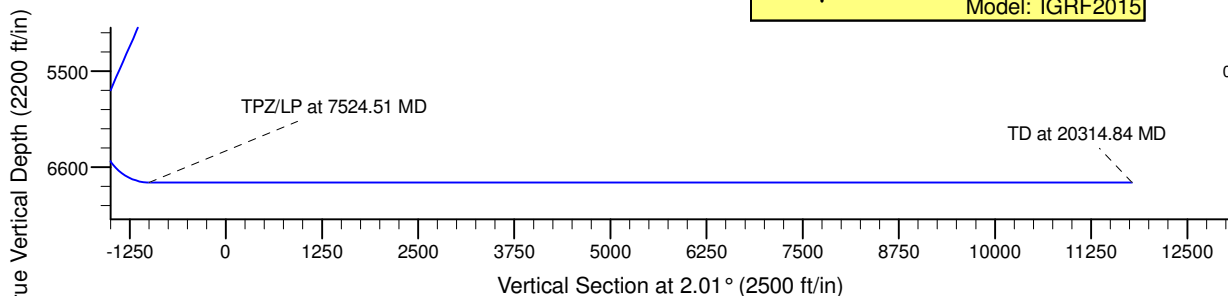
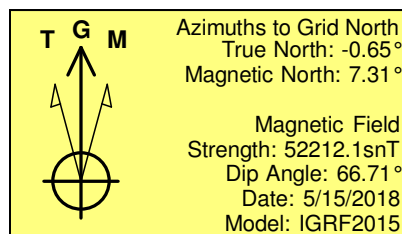
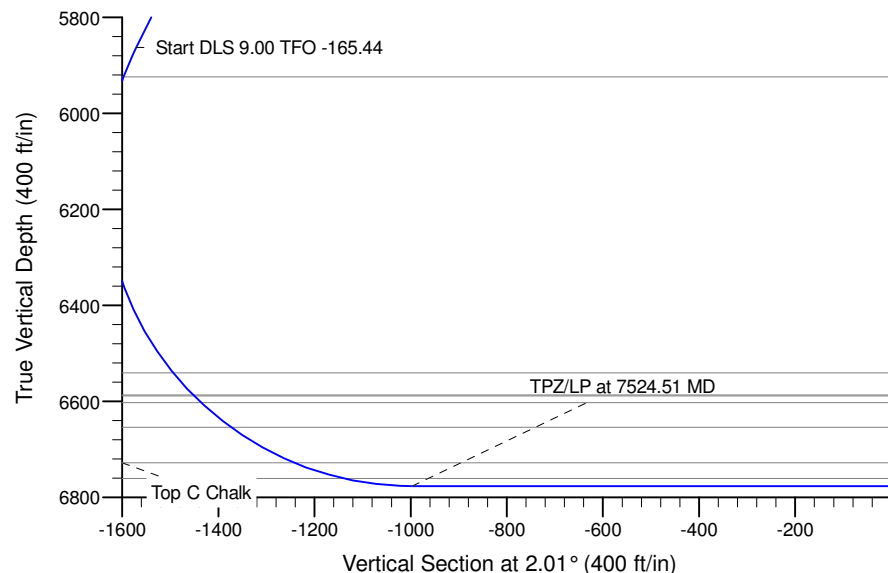
Project: Mustang
Site: D Section 25
Well: Gutteresen D25-753
Wellbore: Wellbore #1
Design: Plan #1

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	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	2000.00	0.00	0.00	2000.00	0.00	0.00	0.00	0.00	0.00	
3	3359.47	27.19	166.70	3309.02	-308.07	72.80	2.00	166.70	-305.33	
4	6230.77	27.19	166.70	5863.04	-1584.90	374.51	0.00	0.00	-1570.78	
5	7524.51	90.00	359.71	6777.00	-1014.34	477.36	9.00	-165.44	-996.96	Gutteresen D25-753 TPZ/LP
6	20314.84	90.00	359.71	6777.00	11775.83	413.56	0.00	0.00	11783.09	Gutteresen D25-753 BHL



WELL DETAILS: Gutteresen D25-753

	Northing	Easting	Latitude	Longitude
0.00	0.00	1317158.61	40.1996918	-104.5021006

Plan: Plan #1 (Gutteresen D25-753/Wellbore #1)

Created By: Colby Baxter Date: 10:36, August 15 2018

Checked: _____ Date: _____

Reviewed: _____ Date: _____

Approved: _____ Date: _____

Northern Region - DJ Basin

Mustang

D Section 25

Guttersen D25-753

Wellbore #1

Plan: Plan #1

Standard Survey Report

15 August, 2018

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D25-753
Project:	Mustang	TVD Reference:	KB @ 4817.00ft
Site:	D Section 25	MD Reference:	KB @ 4817.00ft
Well:	Guttersen D25-753	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 25			
Site Position:		Northing:	1,316,029.45 usft	Latitude:	40.1965730
From:	Lat/Long	Easting:	3,279,365.57 usft	Longitude:	-104.4999090
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.65 °

Well	Guttersen D25-753					
Well Position	+N/-S	0.00 ft	Northing:	1,317,158.61 usft	Latitude:	40.1996918
	+E/-W	0.00 ft	Easting:	3,278,740.60 usft	Longitude:	-104.5021006
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,787.00 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	5/15/2018	7.96	66.71	52,212.08512006

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	2.01	

Survey Tool Program	Date	8/15/2018			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.00	20,314.84	Plan #1 (Wellbore #1)	2_MWD+IFR1+MS	A008Mb: IFR dec & multi-station analysis	

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 D25-753
Project:	Mustang	TVD Reference:	KB @ 4817.00ft
Site:	D Section 25	MD Reference:	KB @ 4817.00ft
Well:	Guttersen D25-753	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	2.00	166.70	2,099.98	-1.70	0.40	-1.68	2.00	2.00	0.00
2,200.00	4.00	166.70	2,199.84	-6.79	1.60	-6.73	2.00	2.00	0.00
2,300.00	6.00	166.70	2,299.45	-15.27	3.61	-15.14	2.00	2.00	0.00
2,400.00	8.00	166.70	2,398.70	-27.13	6.41	-26.89	2.00	2.00	0.00
2,500.00	10.00	166.70	2,497.47	-42.36	10.01	-41.98	2.00	2.00	0.00
2,600.00	12.00	166.70	2,595.62	-60.92	14.40	-60.38	2.00	2.00	0.00
2,700.00	14.00	166.70	2,693.06	-82.82	19.57	-82.08	2.00	2.00	0.00
2,800.00	16.00	166.70	2,789.64	-108.00	25.52	-107.04	2.00	2.00	0.00
2,900.00	18.00	166.70	2,885.27	-136.45	32.24	-135.24	2.00	2.00	0.00
3,000.00	20.00	166.70	2,979.82	-168.14	39.73	-166.64	2.00	2.00	0.00
3,100.00	22.00	166.70	3,073.17	-203.01	47.97	-201.20	2.00	2.00	0.00
3,200.00	24.00	166.70	3,165.21	-241.04	56.96	-238.89	2.00	2.00	0.00
3,300.00	26.00	166.70	3,255.84	-282.16	66.68	-279.65	2.00	2.00	0.00
3,359.47	27.19	166.70	3,309.02	-308.07	72.80	-305.33	2.00	2.00	0.00
3,400.00	27.19	166.70	3,345.07	-326.10	77.06	-323.19	0.00	0.00	0.00
3,500.00	27.19	166.70	3,434.02	-370.56	87.56	-367.26	0.00	0.00	0.00
3,600.00	27.19	166.70	3,522.97	-415.03	98.07	-411.33	0.00	0.00	0.00
3,700.00	27.19	166.70	3,611.92	-459.50	108.58	-455.41	0.00	0.00	0.00
3,800.00	27.19	166.70	3,700.87	-503.97	119.09	-499.48	0.00	0.00	0.00
3,900.00	27.19	166.70	3,789.82	-548.44	129.60	-543.55	0.00	0.00	0.00
4,000.00	27.19	166.70	3,878.77	-592.91	140.10	-587.62	0.00	0.00	0.00
4,100.00	27.19	166.70	3,967.72	-637.38	150.61	-631.70	0.00	0.00	0.00
4,200.00	27.19	166.70	4,056.67	-681.84	161.12	-675.77	0.00	0.00	0.00
4,300.00	27.19	166.70	4,145.62	-726.31	171.63	-719.84	0.00	0.00	0.00
4,400.00	27.19	166.70	4,234.57	-770.78	182.14	-763.91	0.00	0.00	0.00
4,500.00	27.19	166.70	4,323.52	-815.25	192.64	-807.99	0.00	0.00	0.00
4,600.00	27.19	166.70	4,412.47	-859.72	203.15	-852.06	0.00	0.00	0.00
4,700.00	27.19	166.70	4,501.42	-904.19	213.66	-896.13	0.00	0.00	0.00
4,800.00	27.19	166.70	4,590.37	-948.66	224.17	-940.20	0.00	0.00	0.00
4,900.00	27.19	166.70	4,679.32	-993.13	234.68	-984.28	0.00	0.00	0.00
5,000.00	27.19	166.70	4,768.27	-1,037.59	245.18	-1,028.35	0.00	0.00	0.00
5,100.00	27.19	166.70	4,857.22	-1,082.06	255.69	-1,072.42	0.00	0.00	0.00
5,200.00	27.19	166.70	4,946.17	-1,126.53	266.20	-1,116.49	0.00	0.00	0.00

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D25-753
Project:	Mustang	TVD Reference:	KB @ 4817.00ft
Site:	D Section 25	MD Reference:	KB @ 4817.00ft
Well:	Guttersen D25-753	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	27.19	166.70	5,035.12	-1,171.00	276.71	-1,160.57	0.00	0.00	0.00
5,400.00	27.19	166.70	5,124.07	-1,215.47	287.22	-1,204.64	0.00	0.00	0.00
5,500.00	27.19	166.70	5,213.02	-1,259.94	297.72	-1,248.71	0.00	0.00	0.00
5,600.00	27.19	166.70	5,301.97	-1,304.41	308.23	-1,292.78	0.00	0.00	0.00
5,700.00	27.19	166.70	5,390.92	-1,348.87	318.74	-1,336.86	0.00	0.00	0.00
5,800.00	27.19	166.70	5,479.87	-1,393.34	329.25	-1,380.93	0.00	0.00	0.00
5,900.00	27.19	166.70	5,568.82	-1,437.81	339.76	-1,425.00	0.00	0.00	0.00
6,000.00	27.19	166.70	5,657.77	-1,482.28	350.26	-1,469.07	0.00	0.00	0.00
6,100.00	27.19	166.70	5,746.72	-1,526.75	360.77	-1,513.15	0.00	0.00	0.00
6,200.00	27.19	166.70	5,835.67	-1,571.22	371.28	-1,557.22	0.00	0.00	0.00
6,230.77	27.19	166.70	5,863.04	-1,584.90	374.51	-1,570.78	0.00	0.00	0.00
6,300.00	21.21	162.38	5,926.16	-1,612.26	381.95	-1,597.86	9.00	-8.63	-6.25
6,400.00	12.98	149.61	6,021.69	-1,639.25	393.13	-1,624.44	9.00	-8.23	-12.77
6,500.00	6.95	108.25	6,120.25	-1,650.85	404.59	-1,635.64	9.00	-6.03	-41.36
6,600.00	9.46	43.67	6,219.41	-1,646.80	416.03	-1,631.18	9.00	2.50	-64.58
6,700.00	17.08	21.82	6,316.72	-1,627.18	427.19	-1,611.18	9.00	7.63	-21.85
6,800.00	25.60	13.68	6,409.80	-1,592.48	437.78	-1,576.13	9.00	8.52	-8.14
6,900.00	34.36	9.45	6,496.34	-1,543.55	447.54	-1,526.89	9.00	8.75	-4.23
7,000.00	43.20	6.79	6,574.23	-1,481.60	456.24	-1,464.67	9.00	8.85	-2.67
7,100.00	52.09	4.88	6,641.53	-1,408.15	463.66	-1,391.01	9.00	8.89	-1.91
7,200.00	61.01	3.39	6,696.60	-1,325.02	469.61	-1,307.72	9.00	8.91	-1.49
7,300.00	69.93	2.14	6,738.08	-1,234.24	473.95	-1,216.85	9.00	8.93	-1.25
7,400.00	78.87	1.02	6,764.94	-1,138.06	476.58	-1,120.63	9.00	8.94	-1.12
7,500.00	87.81	359.97	6,776.53	-1,038.84	477.43	-1,021.44	9.00	8.94	-1.05
7,524.51	90.00	359.71	6,777.00	-1,014.34	477.36	-996.96	9.00	8.94	-1.03
7,600.00	90.00	359.71	6,777.00	-938.85	476.98	-921.53	0.00	0.00	0.00
7,700.00	90.00	359.71	6,777.00	-838.85	476.48	-821.61	0.00	0.00	0.00
7,800.00	90.00	359.71	6,777.00	-738.85	475.98	-721.69	0.00	0.00	0.00
7,900.00	90.00	359.71	6,777.00	-638.85	475.48	-621.77	0.00	0.00	0.00
8,000.00	90.00	359.71	6,777.00	-538.85	474.99	-521.85	0.00	0.00	0.00
8,100.00	90.00	359.71	6,777.00	-438.85	474.49	-421.93	0.00	0.00	0.00
8,200.00	90.00	359.71	6,777.00	-338.86	473.99	-322.01	0.00	0.00	0.00
8,300.00	90.00	359.71	6,777.00	-238.86	473.49	-222.09	0.00	0.00	0.00
8,400.00	90.00	359.71	6,777.00	-138.86	472.99	-122.17	0.00	0.00	0.00
8,500.00	90.00	359.71	6,777.00	-38.86	472.49	-22.25	0.00	0.00	0.00
8,600.00	90.00	359.71	6,777.00	61.14	471.99	77.67	0.00	0.00	0.00
8,700.00	90.00	359.71	6,777.00	161.14	471.49	177.59	0.00	0.00	0.00
8,800.00	90.00	359.71	6,777.00	261.14	471.00	277.51	0.00	0.00	0.00
8,900.00	90.00	359.71	6,777.00	361.14	470.50	377.43	0.00	0.00	0.00
9,000.00	90.00	359.71	6,777.00	461.14	470.00	477.35	0.00	0.00	0.00
9,100.00	90.00	359.71	6,777.00	561.13	469.50	577.27	0.00	0.00	0.00
9,200.00	90.00	359.71	6,777.00	661.13	469.00	677.19	0.00	0.00	0.00
9,300.00	90.00	359.71	6,777.00	761.13	468.50	777.11	0.00	0.00	0.00

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D25-753
Project:	Mustang	TVD Reference:	KB @ 4817.00ft
Site:	D Section 25	MD Reference:	KB @ 4817.00ft
Well:	Guttersen D25-753	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	359.71	6,777.00	861.13	468.00	877.03	0.00	0.00	0.00
9,500.00	90.00	359.71	6,777.00	961.13	467.50	976.94	0.00	0.00	0.00
9,600.00	90.00	359.71	6,777.00	1,061.13	467.00	1,076.86	0.00	0.00	0.00
9,700.00	90.00	359.71	6,777.00	1,161.13	466.51	1,176.78	0.00	0.00	0.00
9,800.00	90.00	359.71	6,777.00	1,261.13	466.01	1,276.70	0.00	0.00	0.00
9,900.00	90.00	359.71	6,777.00	1,361.12	465.51	1,376.62	0.00	0.00	0.00
10,000.00	90.00	359.71	6,777.00	1,461.12	465.01	1,476.54	0.00	0.00	0.00
10,100.00	90.00	359.71	6,777.00	1,561.12	464.51	1,576.46	0.00	0.00	0.00
10,200.00	90.00	359.71	6,777.00	1,661.12	464.01	1,676.38	0.00	0.00	0.00
10,300.00	90.00	359.71	6,777.00	1,761.12	463.51	1,776.30	0.00	0.00	0.00
10,400.00	90.00	359.71	6,777.00	1,861.12	463.01	1,876.22	0.00	0.00	0.00
10,500.00	90.00	359.71	6,777.00	1,961.12	462.52	1,976.14	0.00	0.00	0.00
10,600.00	90.00	359.71	6,777.00	2,061.12	462.02	2,076.06	0.00	0.00	0.00
10,700.00	90.00	359.71	6,777.00	2,161.11	461.52	2,175.98	0.00	0.00	0.00
10,800.00	90.00	359.71	6,777.00	2,261.11	461.02	2,275.90	0.00	0.00	0.00
10,900.00	90.00	359.71	6,777.00	2,361.11	460.52	2,375.82	0.00	0.00	0.00
11,000.00	90.00	359.71	6,777.00	2,461.11	460.02	2,475.74	0.00	0.00	0.00
11,100.00	90.00	359.71	6,777.00	2,561.11	459.52	2,575.66	0.00	0.00	0.00
11,200.00	90.00	359.71	6,777.00	2,661.11	459.02	2,675.58	0.00	0.00	0.00
11,300.00	90.00	359.71	6,777.00	2,761.11	458.52	2,775.50	0.00	0.00	0.00
11,400.00	90.00	359.71	6,777.00	2,861.11	458.03	2,875.42	0.00	0.00	0.00
11,500.00	90.00	359.71	6,777.00	2,961.10	457.53	2,975.34	0.00	0.00	0.00
11,600.00	90.00	359.71	6,777.00	3,061.10	457.03	3,075.26	0.00	0.00	0.00
11,700.00	90.00	359.71	6,777.00	3,161.10	456.53	3,175.18	0.00	0.00	0.00
11,800.00	90.00	359.71	6,777.00	3,261.10	456.03	3,275.10	0.00	0.00	0.00
11,900.00	90.00	359.71	6,777.00	3,361.10	455.53	3,375.02	0.00	0.00	0.00
12,000.00	90.00	359.71	6,777.00	3,461.10	455.03	3,474.94	0.00	0.00	0.00
12,100.00	90.00	359.71	6,777.00	3,561.10	454.53	3,574.86	0.00	0.00	0.00
12,200.00	90.00	359.71	6,777.00	3,661.10	454.04	3,674.78	0.00	0.00	0.00
12,300.00	90.00	359.71	6,777.00	3,761.09	453.54	3,774.69	0.00	0.00	0.00
12,400.00	90.00	359.71	6,777.00	3,861.09	453.04	3,874.61	0.00	0.00	0.00
12,500.00	90.00	359.71	6,777.00	3,961.09	452.54	3,974.53	0.00	0.00	0.00
12,600.00	90.00	359.71	6,777.00	4,061.09	452.04	4,074.45	0.00	0.00	0.00
12,700.00	90.00	359.71	6,777.00	4,161.09	451.54	4,174.37	0.00	0.00	0.00
12,800.00	90.00	359.71	6,777.00	4,261.09	451.04	4,274.29	0.00	0.00	0.00
12,900.00	90.00	359.71	6,777.00	4,361.09	450.54	4,374.21	0.00	0.00	0.00
13,000.00	90.00	359.71	6,777.00	4,461.09	450.04	4,474.13	0.00	0.00	0.00
13,100.00	90.00	359.71	6,777.00	4,561.08	449.55	4,574.05	0.00	0.00	0.00
13,200.00	90.00	359.71	6,777.00	4,661.08	449.05	4,673.97	0.00	0.00	0.00
13,300.00	90.00	359.71	6,777.00	4,761.08	448.55	4,773.89	0.00	0.00	0.00
13,400.00	90.00	359.71	6,777.00	4,861.08	448.05	4,873.81	0.00	0.00	0.00
13,500.00	90.00	359.71	6,777.00	4,961.08	447.55	4,973.73	0.00	0.00	0.00
13,600.00	90.00	359.71	6,777.00	5,061.08	447.05	5,073.65	0.00	0.00	0.00

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D25-753
Project:	Mustang	TVD Reference:	KB @ 4817.00ft
Site:	D Section 25	MD Reference:	KB @ 4817.00ft
Well:	Guttersen D25-753	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	359.71	6,777.00	5,161.08	446.55	5,173.57	0.00	0.00	0.00
13,800.00	90.00	359.71	6,777.00	5,261.08	446.05	5,273.49	0.00	0.00	0.00
13,900.00	90.00	359.71	6,777.00	5,361.07	445.56	5,373.41	0.00	0.00	0.00
14,000.00	90.00	359.71	6,777.00	5,461.07	445.06	5,473.33	0.00	0.00	0.00
14,100.00	90.00	359.71	6,777.00	5,561.07	444.56	5,573.25	0.00	0.00	0.00
14,200.00	90.00	359.71	6,777.00	5,661.07	444.06	5,673.17	0.00	0.00	0.00
14,300.00	90.00	359.71	6,777.00	5,761.07	443.56	5,773.09	0.00	0.00	0.00
14,400.00	90.00	359.71	6,777.00	5,861.07	443.06	5,873.01	0.00	0.00	0.00
14,500.00	90.00	359.71	6,777.00	5,961.07	442.56	5,972.93	0.00	0.00	0.00
14,600.00	90.00	359.71	6,777.00	6,061.07	442.06	6,072.85	0.00	0.00	0.00
14,700.00	90.00	359.71	6,777.00	6,161.06	441.56	6,172.77	0.00	0.00	0.00
14,800.00	90.00	359.71	6,777.00	6,261.06	441.07	6,272.69	0.00	0.00	0.00
14,900.00	90.00	359.71	6,777.00	6,361.06	440.57	6,372.61	0.00	0.00	0.00
15,000.00	90.00	359.71	6,777.00	6,461.06	440.07	6,472.53	0.00	0.00	0.00
15,100.00	90.00	359.71	6,777.00	6,561.06	439.57	6,572.44	0.00	0.00	0.00
15,200.00	90.00	359.71	6,777.00	6,661.06	439.07	6,672.36	0.00	0.00	0.00
15,300.00	90.00	359.71	6,777.00	6,761.06	438.57	6,772.28	0.00	0.00	0.00
15,400.00	90.00	359.71	6,777.00	6,861.06	438.07	6,872.20	0.00	0.00	0.00
15,500.00	90.00	359.71	6,777.00	6,961.05	437.57	6,972.12	0.00	0.00	0.00
15,600.00	90.00	359.71	6,777.00	7,061.05	437.08	7,072.04	0.00	0.00	0.00
15,700.00	90.00	359.71	6,777.00	7,161.05	436.58	7,171.96	0.00	0.00	0.00
15,800.00	90.00	359.71	6,777.00	7,261.05	436.08	7,271.88	0.00	0.00	0.00
15,900.00	90.00	359.71	6,777.00	7,361.05	435.58	7,371.80	0.00	0.00	0.00
16,000.00	90.00	359.71	6,777.00	7,461.05	435.08	7,471.72	0.00	0.00	0.00
16,100.00	90.00	359.71	6,777.00	7,561.05	434.58	7,571.64	0.00	0.00	0.00
16,200.00	90.00	359.71	6,777.00	7,661.05	434.08	7,671.56	0.00	0.00	0.00
16,300.00	90.00	359.71	6,777.00	7,761.04	433.58	7,771.48	0.00	0.00	0.00
16,400.00	90.00	359.71	6,777.00	7,861.04	433.08	7,871.40	0.00	0.00	0.00
16,500.00	90.00	359.71	6,777.00	7,961.04	432.59	7,971.32	0.00	0.00	0.00
16,600.00	90.00	359.71	6,777.00	8,061.04	432.09	8,071.24	0.00	0.00	0.00
16,700.00	90.00	359.71	6,777.00	8,161.04	431.59	8,171.16	0.00	0.00	0.00
16,800.00	90.00	359.71	6,777.00	8,261.04	431.09	8,271.08	0.00	0.00	0.00
16,900.00	90.00	359.71	6,777.00	8,361.04	430.59	8,371.00	0.00	0.00	0.00
17,000.00	90.00	359.71	6,777.00	8,461.04	430.09	8,470.92	0.00	0.00	0.00
17,100.00	90.00	359.71	6,777.00	8,561.03	429.59	8,570.84	0.00	0.00	0.00
17,200.00	90.00	359.71	6,777.00	8,661.03	429.09	8,670.76	0.00	0.00	0.00
17,300.00	90.00	359.71	6,777.00	8,761.03	428.60	8,770.68	0.00	0.00	0.00
17,400.00	90.00	359.71	6,777.00	8,861.03	428.10	8,870.60	0.00	0.00	0.00
17,500.00	90.00	359.71	6,777.00	8,961.03	427.60	8,970.52	0.00	0.00	0.00
17,600.00	90.00	359.71	6,777.00	9,061.03	427.10	9,070.44	0.00	0.00	0.00
17,700.00	90.00	359.71	6,777.00	9,161.03	426.60	9,170.36	0.00	0.00	0.00
17,800.00	90.00	359.71	6,777.00	9,261.03	426.10	9,270.28	0.00	0.00	0.00
17,900.00	90.00	359.71	6,777.00	9,361.02	425.60	9,370.19	0.00	0.00	0.00
18,000.00	90.00	359.71	6,777.00	9,461.02	425.10	9,470.11	0.00	0.00	0.00

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D25-753
Project:	Mustang	TVD Reference:	KB @ 4817.00ft
Site:	D Section 25	MD Reference:	KB @ 4817.00ft
Well:	Guttersen D25-753	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)
18,100.00	90.00	359.71	6,777.00	9,561.02	424.60	9,570.03	0.00	0.00	0.00
18,200.00	90.00	359.71	6,777.00	9,661.02	424.11	9,669.95	0.00	0.00	0.00
18,300.00	90.00	359.71	6,777.00	9,761.02	423.61	9,769.87	0.00	0.00	0.00
18,400.00	90.00	359.71	6,777.00	9,861.02	423.11	9,869.79	0.00	0.00	0.00
18,500.00	90.00	359.71	6,777.00	9,961.02	422.61	9,969.71	0.00	0.00	0.00
18,600.00	90.00	359.71	6,777.00	10,061.02	422.11	10,069.63	0.00	0.00	0.00
18,700.00	90.00	359.71	6,777.00	10,161.01	421.61	10,169.55	0.00	0.00	0.00
18,800.00	90.00	359.71	6,777.00	10,261.01	421.11	10,269.47	0.00	0.00	0.00
18,900.00	90.00	359.71	6,777.00	10,361.01	420.61	10,369.39	0.00	0.00	0.00
19,000.00	90.00	359.71	6,777.00	10,461.01	420.12	10,469.31	0.00	0.00	0.00
19,100.00	90.00	359.71	6,777.00	10,561.01	419.62	10,569.23	0.00	0.00	0.00
19,200.00	90.00	359.71	6,777.00	10,661.01	419.12	10,669.15	0.00	0.00	0.00
19,300.00	90.00	359.71	6,777.00	10,761.01	418.62	10,769.07	0.00	0.00	0.00
19,400.00	90.00	359.71	6,777.00	10,861.01	418.12	10,868.99	0.00	0.00	0.00
19,500.00	90.00	359.71	6,777.00	10,961.00	417.62	10,968.91	0.00	0.00	0.00
19,600.00	90.00	359.71	6,777.00	11,061.00	417.12	11,068.83	0.00	0.00	0.00
19,700.00	90.00	359.71	6,777.00	11,161.00	416.62	11,168.75	0.00	0.00	0.00
19,800.00	90.00	359.71	6,777.00	11,261.00	416.12	11,268.67	0.00	0.00	0.00
19,900.00	90.00	359.71	6,777.00	11,361.00	415.63	11,368.59	0.00	0.00	0.00
20,000.00	90.00	359.71	6,777.00	11,461.00	415.13	11,468.51	0.00	0.00	0.00
20,100.00	90.00	359.71	6,777.00	11,561.00	414.63	11,568.43	0.00	0.00	0.00
20,200.00	90.00	359.71	6,777.00	11,661.00	414.13	11,668.35	0.00	0.00	0.00
20,300.00	90.00	359.71	6,777.00	11,760.99	413.63	11,768.27	0.00	0.00	0.00
20,314.84	90.00	359.71	6,777.00	11,775.83	413.56	11,783.09	0.00	0.00	0.00

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
Guttersen D25-753 SHL - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	1,317,158.61	3,278,740.60	40.1996918	-104.5021006
Guttersen D25-753 KOP - plan hits target center - Point	0.00	0.00	5,863.04	-1,584.90	374.51	1,315,573.71	3,279,115.12	40.1953298	-104.5008239
Guttersen D25-753 BHL - plan misses target center by 8.50ft at 20314.49ft MD (6777.00 TVD, 11775.49 N, 413.56 E) - Point	0.00	0.00	6,777.00	11,775.53	422.06	1,328,934.12	3,279,162.67	40.2320018	-104.5001144
Guttersen D25-753 TPZ - plan hits target center - Point	0.00	0.00	6,777.00	-1,014.34	477.36	1,316,144.28	3,279,217.96	40.1968928	-104.5004327

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D25-753
Project:	Mustang	TVD Reference:	KB @ 4817.00ft
Site:	D Section 25	MD Reference:	KB @ 4817.00ft
Well:	Guttersen D25-753	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	EDMP

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
680.00	680.00	Upper Pierre Aquifer Top				
698.00	698.00	Pierre				
1,617.00	1,617.00	Upper Pierre Aquifer Base				
3,741.69	3,649.00	Parkman				
4,216.11	4,071.00	Sussex				
4,424.09	4,256.00	Shannon				
6,297.68	5,924.00	Teepee Buttes				
6,955.80	6,541.00	Sharon Springs				
7,017.75	6,587.00	Top A Chalk				
7,020.58	6,589.00	Top A Marl				
7,040.70	6,603.00	Top B Chalk				
7,120.72	6,654.00	Top B Marl				
7,272.26	6,728.00	Top C Chalk				
7,381.00	6,761.00	Top C Marl				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
2000	2000	0	0	Start Build 2.00	
6231	5863	-308	73	Start DLS 9.00 TFO -165.44	
7525	6777	-1585	375	TPZ/LP at 7524.51 MD	
20,315	6777	-1014	477	TD at 20314.84 MD	

Checked By: _____ Approved By: _____ Date: _____

Northern Region - DJ Basin

Mustang

D Section 25

Guttersen D25-753

Wellbore #1

Plan #1

Anticollision Summary Report

15 August, 2018

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D25-753
Project:	Mustang	TVD Reference:	KB @ 4817.00ft
Reference Site:	D Section 25	MD Reference:	KB @ 4817.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D25-753	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	8/15/2018		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	20,314.84	Plan #1 (Wellbore #1)	2_MWD+IFR1+MS	A008Mb: IFR dec & multi-station analysis

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
D Section 13						
Dalbey D 13-11 (SI) - Wellbore #1 - Gyro Surveys	17,231.31	6,703.89	378.57	271.00	3.519	CC, ES, SF
Dalbey D 13-12 (PR) - Wellbore #1 - Gyro Surveys	16,751.85	6,721.64	1,527.29	1,423.31	14.689	CC, ES
Dalbey D 13-12 (PR) - Wellbore #1 - Gyro Surveys	16,800.00	6,722.22	1,528.04	1,423.77	14.654	SF
Dalbey D 13-13 (PR) - Wellbore #1 - No Surveys	15,829.09	6,706.00	1,788.40	1,580.79	8.614	CC, ES
Dalbey D 13-13 (PR) - Wellbore #1 - No Surveys	15,900.00	6,706.00	1,789.81	1,581.75	8.602	SF
Dalbey D 13-14 (PA) - Wellbore #1 - Gyro Surveys	15,835.59	6,705.22	607.39	510.57	6.273	CC, ES, SF
Guttersen 12-13 (SI) - Wellbore #1 - Gyro Surveys	18,426.64	6,786.47	1,896.66	1,779.26	16.155	CC, ES
Guttersen 12-13 (SI) - Wellbore #1 - Gyro Surveys	18,500.00	6,785.19	1,898.08	1,780.24	16.107	SF
Guttersen 13C (PR) - Wellbore #1 - Gyro Surveys	19,200.76	6,724.02	1,505.54	1,382.36	12.223	CC, ES
Guttersen 13C (PR) - Wellbore #1 - Gyro Surveys	19,300.00	6,725.14	1,508.81	1,384.94	12.180	SF
Guttersen 13D (PR) - Wellbore #1 - Gyro Surveys	16,598.92	6,720.01	1,489.30	1,386.59	14.500	CC
Guttersen 13D (PR) - Wellbore #1 - Gyro Surveys	16,600.00	6,720.01	1,489.30	1,386.58	14.499	ES
Guttersen 13D (PR) - Wellbore #1 - Gyro Surveys	16,700.00	6,720.32	1,492.72	1,389.32	14.436	SF
Guttersen 13N (PR) - Wellbore #1 - Gyro Surveys	19,181.75	6,703.81	55.12	-67.86	0.448	Level 1, CC, ES, SF
Guttersen 13S (PR) - Wellbore #1 - Gyro Surveys	17,942.53	6,680.15	1,489.61	1,376.48	13.168	CC, ES
Guttersen 13S (PR) - Wellbore #1 - Gyro Surveys	18,000.00	6,680.52	1,490.72	1,377.15	13.126	SF
Guttersen 13T (PR) - Wellbore #1 - Gyro Surveys	15,375.87	6,695.01	1,384.26	1,290.90	14.828	CC, ES
Guttersen 13T (PR) - Wellbore #1 - Gyro Surveys	15,500.00	6,694.46	1,389.82	1,295.65	14.759	SF
Guttersen 21-13 (SI) - Wellbore #1 - Gyro Surveys	19,792.29	6,715.60	620.02	492.20	4.851	CC, ES
Guttersen 21-13 (SI) - Wellbore #1 - Gyro Surveys	19,800.00	6,715.49	620.07	492.21	4.850	SF
Guttersen 22-13 (SI) - Wellbore #1 - Gyro Surveys	18,535.19	6,709.45	469.89	352.04	3.987	CC, ES, SF
Guttersen 31-13 (PR) - Wellbore #1 - Gyro Surveys	19,831.42	6,715.46	764.26	636.21	5.968	CC, ES, SF
Guttersen 32-13 (PR) - Wellbore #1 - Gyro Surveys	18,644.81	6,706.87	861.99	743.28	7.261	CC, ES
Guttersen 32-13 (PR) - Wellbore #1 - Gyro Surveys	18,700.00	6,706.60	863.76	744.70	7.255	SF
Guttersen 34-13 (PR) - Wellbore #1 - Gyro Surveys	15,884.41	6,708.77	747.28	650.10	7.689	CC, ES
Guttersen 34-13 (PR) - Wellbore #1 - Gyro Surveys	15,900.00	6,708.89	747.44	650.13	7.681	SF
Guttersen 41-13 (PR) - Wellbore #1 - Gyro Surveys	19,767.73	6,572.05	2,159.96	2,032.63	16.965	CC
Guttersen 41-13 (PR) - Wellbore #1 - Gyro Surveys	19,800.00	6,572.23	2,160.20	2,032.60	16.930	ES
Guttersen 41-13 (PR) - Wellbore #1 - Gyro Surveys	20,000.00	6,573.38	2,172.41	2,043.58	16.863	SF
Guttersen 42-13 (PR) - Wellbore #1 - Gyro Surveys	18,501.44	6,608.59	2,252.24	2,134.83	19.183	CC, ES
Guttersen 42-13 (PR) - Wellbore #1 - Gyro Surveys	18,700.00	6,614.75	2,260.96	2,142.16	19.031	SF
Guttersen 43-13 - Wellbore #1 - Wellbore #1 - As Drilled	17,229.86	6,708.19	2,149.24	2,041.66	19.977	CC, ES
Guttersen 43-13 - Wellbore #1 - Wellbore #1 - As Drilled	17,400.00	6,712.18	2,155.96	2,047.18	19.819	SF
Guttersen 44-13 - Wellbore #1 - Wellbore #1 - As Drilled	15,878.58	6,743.30	2,088.03	1,985.24	20.313	CC
Guttersen 44-13 - Wellbore #1 - Wellbore #1 - As Drilled	15,900.00	6,743.27	2,088.14	1,985.18	20.280	ES
Guttersen 44-13 - Wellbore #1 - Wellbore #1 - As Drilled	16,100.00	6,743.07	2,099.74	1,995.50	20.144	SF
L F Ranch 1-13 (PR) - Wellbore #1 - Gyro Surveys	16,923.66	6,712.32	721.98	616.61	6.852	CC, ES, SF

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D25-753
Project:	Mustang	TVD Reference:	KB @ 4817.00ft
Reference Site:	D Section 25	MD Reference:	KB @ 4817.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D25-753	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						
D Section 13						
L. F. Ranch 13-4 (SI) - Wellbore #1 - Gyro Surveys	19,449.22	6,820.51	1,501.67	1,375.96	11.945	CC, ES
L. F. Ranch 13-4 (SI) - Wellbore #1 - Gyro Surveys	19,500.00	6,817.49	1,502.53	1,376.55	11.927	SF
D Section 24						
Dalbey D 24-10 (PR) - Wellbore #1 - Gyro Surveys	11,588.27	6,711.88	1,186.90	1,120.64	17.914	CC
Dalbey D 24-10 (PR) - Wellbore #1 - Gyro Surveys	11,600.00	6,711.88	1,186.96	1,120.62	17.892	ES
Dalbey D 24-10 (PR) - Wellbore #1 - Gyro Surveys	11,700.00	6,711.95	1,192.15	1,125.22	17.812	SF
Dalbey D 24-15 (SI) - Wellbore #1 - Gyro Surveys	10,628.33	6,716.63	716.97	656.56	11.868	CC, ES
Dalbey D 24-15 (SI) - Wellbore #1 - Gyro Surveys	10,700.00	6,717.10	720.54	659.78	11.858	SF
Glazier 2-24 (SI) - Wellbore #1 - Gyro Surveys	13,801.11	6,705.14	1,831.99	1,750.40	22.452	CC, ES
Glazier 2-24 (SI) - Wellbore #1 - Gyro Surveys	14,000.00	6,704.13	1,842.76	1,759.87	22.233	SF
Guttersen 11-24 (PR) - Wellbore #1 - Gyro Surveys	14,579.29	6,756.26	1,847.56	1,760.17	21.141	CC
Guttersen 11-24 (PR) - Wellbore #1 - Gyro Surveys	14,600.00	6,756.26	1,847.68	1,760.15	21.110	ES
Guttersen 11-24 (PR) - Wellbore #1 - Gyro Surveys	14,700.00	6,756.28	1,851.50	1,763.41	21.017	SF
Guttersen 12-24 (PR) - Wellbore #1 - Gyro Surveys	13,282.33	6,739.40	1,862.83	1,785.01	23.939	CC
Guttersen 12-24 (PR) - Wellbore #1 - Gyro Surveys	13,300.00	6,739.37	1,862.91	1,784.98	23.904	ES
Guttersen 12-24 (PR) - Wellbore #1 - Gyro Surveys	13,500.00	6,738.99	1,875.50	1,796.54	23.753	SF
Guttersen 21-24 (PR) - Wellbore #1 - Gyro Surveys	14,593.17	6,709.76	529.61	442.20	6.059	CC, ES
Guttersen 21-24 (PR) - Wellbore #1 - Gyro Surveys	14,600.00	6,709.78	529.65	442.21	6.057	SF
Guttersen 22-24 (PR) - Wellbore #1 - Gyro Surveys	13,364.41	6,711.47	478.33	399.94	6.102	CC, ES, SF
Guttersen 24A (PR) - Wellbore #1 - Gyro Surveys	13,919.08	6,722.33	1,156.45	1,074.00	14.026	CC, ES
Guttersen 24A (PR) - Wellbore #1 - Gyro Surveys	14,000.00	6,723.07	1,159.28	1,076.43	13.993	SF
Guttersen 24J (PR) - Wellbore #1 - Gyro Surveys	15,218.08	6,716.97	1,067.92	975.78	11.589	CC, ES
Guttersen 24J (PR) - Wellbore #1 - Gyro Surveys	15,300.00	6,716.13	1,071.06	978.56	11.579	SF
Guttersen 24N (PR) - Wellbore #1 - MWD Surveys	13,957.06	6,711.87	71.24	-10.36	0.873	Level 1, CC, ES, SF
Guttersen 24S (PR) - Wellbore #1 - MWD Surveys	12,470.04	6,698.46	1,535.05	1,463.83	21.556	CC, ES
Guttersen 24S (PR) - Wellbore #1 - MWD Surveys	12,600.00	6,697.45	1,540.54	1,468.48	21.379	SF
Guttersen 43-24 (PR) - Wellbore #1 - Gyro Surveys	11,846.34	6,732.99	2,077.18	2,009.29	30.599	CC, ES
Guttersen 43-24 (PR) - Wellbore #1 - Gyro Surveys	12,100.00	6,731.85	2,092.61	2,023.19	30.146	SF
Guttersen 44-24 (PR) - Wellbore #1 - Gyro Surveys	10,608.70	6,707.07	2,151.30	2,091.00	35.675	CC, ES
Guttersen 44-24 (PR) - Wellbore #1 - Gyro Surveys	11,000.00	6,707.91	2,186.60	2,124.27	35.082	SF
Karch Blue D 24-12 (PA) - Wellbore #1 - Gyro Surveys	12,104.03	6,734.91	1,807.60	1,738.11	26.012	CC, ES
Karch Blue D 24-12 (PA) - Wellbore #1 - Gyro Surveys	12,300.00	6,734.98	1,818.19	1,747.67	25.783	SF
Karch Blue D 24-14 (PR) - Wellbore #1 - No Surveys	10,578.37	6,725.00	241.88	70.52	1.412	Level 3, CC, ES, SF
Karch Blue D24-11 (PA) - Wellbore #1 - Gyro Surveys	12,103.32	6,705.89	391.50	315.24	5.133	CC, ES, SF
Koerner 31-24 (SI) - Wellbore #1 - Gyro Surveys	14,644.08	6,715.95	793.23	705.47	9.039	CC, ES
Koerner 31-24 (SI) - Wellbore #1 - Gyro Surveys	14,700.00	6,716.07	795.20	707.08	9.025	SF
Koerner 32-24 (SI) - Wellbore #1 - Gyro Surveys	13,209.69	6,685.00	806.62	729.29	10.431	CC, ES
Koerner 32-24 (SI) - Wellbore #1 - Gyro Surveys	13,300.00	6,684.65	811.66	733.79	10.424	SF
Koerner 42-24 (SI) - Wellbore #1 - Gyro Surveys	13,197.84	6,718.62	2,112.19	2,035.04	27.378	CC
Koerner 42-24 (SI) - Wellbore #1 - Gyro Surveys	13,200.00	6,718.60	2,112.19	2,035.03	27.372	ES
Koerner 42-24 (SI) - Wellbore #1 - Gyro Surveys	13,500.00	6,715.21	2,133.69	2,054.67	27.003	SF
LF Ranch 1-24 (SI) - Wellbore #1 - Gyro Surveys	10,997.36	6,780.22	1,464.89	1,401.99	23.290	CC
LF Ranch 1-24 (SI) - Wellbore #1 - Gyro Surveys	11,000.00	6,780.24	1,464.89	1,401.98	23.285	ES
LF Ranch 1-24 (SI) - Wellbore #1 - Gyro Surveys	11,100.00	6,781.22	1,468.48	1,405.08	23.163	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 D25-753
Project:	Mustang	TVD Reference:	KB @ 4817.00ft
Reference Site:	D Section 25	MD Reference:	KB @ 4817.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D25-753	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						
D Section 25						
Coors Energy 13-25D (PR) - Wellbore #1 - MWD Survey	5,765.08	5,564.97	1,667.40	1,615.62	32.206	CC
Coors Energy 13-25D (PR) - Wellbore #1 - MWD Survey	5,800.00	5,598.64	1,667.48	1,615.48	32.069	ES
Coors Energy 13-25D (PR) - Wellbore #1 - MWD Survey	6,800.00	6,575.69	1,754.51	1,696.92	30.465	SF
Coors Energy 14-25D (PR) - Wellbore #1 - MWD Survey	6,455.53	6,229.94	2,289.62	2,241.96	48.044	CC, ES
Coors Energy 14-25D (PR) - Wellbore #1 - MWD Survey	6,700.00	6,454.18	2,320.65	2,271.60	47.308	SF
Coors Energy 23-25D (PR) - Wellbore #1 - MWD Survey	6,403.78	6,182.09	428.11	378.86	8.692	CC, ES
Coors Energy 23-25D (PR) - Wellbore #1 - MWD Survey	6,500.00	6,277.49	432.19	382.07	8.622	SF
Coors Energy 24-25 (PR) - Wellbore #1 - Gyro Surveys	6,514.66	6,135.54	1,799.16	1,754.04	39.867	CC, ES
Coors Energy 24-25 (PR) - Wellbore #1 - Gyro Surveys	6,650.00	6,268.55	1,813.38	1,767.41	39.451	SF
Coors Energy 25HD (PR) - Wellbore #1 - MWD Surveys	6,326.19	6,129.84	2,344.00	2,290.67	43.958	CC, ES
Coors Energy 25HD (PR) - Wellbore #1 - MWD Surveys	6,750.00	6,606.48	2,390.92	2,335.30	42.992	SF
Coors Energy 25LD (PR) - Wellbore #1 - MWD Surveys	6,499.60	6,228.69	2,264.10	2,219.03	50.235	CC
Coors Energy 25LD (PR) - Wellbore #1 - MWD Surveys	6,500.00	6,228.99	2,264.10	2,219.03	50.232	ES
Coors Energy 25LD (PR) - Wellbore #1 - MWD Surveys	6,700.00	6,382.38	2,294.87	2,248.62	49.627	SF
Coors Energy 25TD (PR) - Wellbore #1 - MWD Surveys	6,585.44	6,243.10	2,688.26	2,643.07	59.482	CC, ES
Coors Energy 25YD (PR) - Wellbore #1 - MWD Surveys	6,800.00	6,449.30	2,717.17	2,670.93	58.766	SF
Coors Energy 25XD (PR) - Wellbore #1 - MWD Surveys	6,748.14	6,584.06	2,905.76	2,851.64	53.698	CC
Coors Energy 25XD (PR) - Wellbore #1 - MWD Surveys	6,750.00	6,585.56	2,905.76	2,851.63	53.688	ES
Coors Energy 25XD (PR) - Wellbore #1 - MWD Surveys	7,100.00	6,813.72	2,945.94	2,890.12	52.783	SF
Coors Energy 25YD (PR) - Wellbore #1 - MWD Surveys	6,308.53	6,308.53	3,506.04	3,457.48	72.202	CC, ES
Coors Energy 25YD (PR) - Wellbore #1 - MWD Surveys	6,950.00	6,837.83	3,557.32	3,507.65	71.622	SF
Coors Energy 33-25D (PR) - Wellbore #1 - MWD Survey	6,780.51	6,567.29	944.00	889.48	17.314	CC, ES, SF
Coors Energy 34-25 (PR) - Wellbore #1 - Gyro Surveys	6,550.56	6,141.95	1,946.47	1,901.28	43.067	CC, ES
Coors Energy 34-25 (PR) - Wellbore #1 - Gyro Surveys	6,700.00	6,297.55	1,962.42	1,916.36	42.609	SF
Coors Energy 43-25D (PR) - Wellbore #1 - MWD Survey	6,945.01	6,755.92	2,206.43	2,148.41	38.030	CC
Coors Energy 43-25D (PR) - Wellbore #1 - MWD Survey	6,950.00	6,759.68	2,206.44	2,148.40	38.015	ES
Coors Energy 43-25D (PR) - Wellbore #1 - MWD Survey	7,150.00	6,889.70	2,217.96	2,159.16	37.719	SF
Coors Energy 44-25D (PR) - Wellbore #1 - MWD Survey	6,632.61	6,305.56	2,705.58	2,658.44	57.389	CC, ES
Coors Energy 44-25D (PR) - Wellbore #1 - MWD Survey	6,900.00	6,536.75	2,739.47	2,691.01	56.539	SF
Dalbey D 25-03 (SI) - Wellbore #1 - Gyro Surveys	1,456.34	1,429.35	496.42	486.62	50.606	CC
Dalbey D 25-03 (SI) - Wellbore #1 - Gyro Surveys	2,000.00	1,970.42	498.08	484.43	36.509	ES
Dalbey D 25-03 (SI) - Wellbore #1 - Gyro Surveys	8,932.40	6,789.83	787.16	734.20	14.864	SF
Dalbey D 25-05 (SI) - Wellbore #1 - Gyro Surveys	3,113.87	3,099.76	1,600.72	1,579.37	74.966	CC
Dalbey D 25-05 (SI) - Wellbore #1 - Gyro Surveys	3,200.00	3,181.28	1,601.07	1,579.12	72.934	ES
Dalbey D 25-05 (SI) - Wellbore #1 - Gyro Surveys	8,000.49	6,865.29	1,979.26	1,927.96	38.582	SF
Guttersen 11-25 (PR) - Wellbore #1 - MWD Surveys	100.00	82.46	1,476.78	1,476.51	5,385.695	CC
Guttersen 11-25 (PR) - Wellbore #1 - MWD Surveys	1,000.00	971.28	1,479.18	1,473.77	273.377	ES
Guttersen 11-25 (PR) - Wellbore #1 - MWD Surveys	9,500.00	6,787.39	1,791.40	1,737.56	33.268	SF
Guttersen 22-25 (PR) - Wellbore #1 - MWD Surveys	3,685.03	3,572.01	31.87	7.88	1.328	Level 3, CC, ES, SF
Guttersen 25E (PR) - Wellbore #1 - MWD Surveys	100.00	82.50	2,141.87	2,141.60	7,830.991	CC
Guttersen 25E (PR) - Wellbore #1 - MWD Surveys	9,949.47	6,764.19	2,190.64	2,134.51	39.031	ES
Guttersen 25E (PR) - Wellbore #1 - MWD Surveys	10,300.00	6,759.73	2,218.50	2,160.90	38.513	SF
Guttersen 25KD (PR) - Wellbore #1 - MWD Surveys	4,083.26	3,895.65	552.00	521.28	17.971	CC, ES
Guttersen 25KD (PR) - Wellbore #1 - MWD Surveys	4,100.00	3,907.53	552.10	521.38	17.969	SF
Guttersen 25O (PR) - Wellbore #1 - MWD Surveys	7,609.08	6,747.10	81.47	32.16	1.652	CC, ES, SF
Guttersen D 25-17 (SI) - Wellbore #1 - Gyro Surveys	8,693.46	6,772.29	1,310.82	1,259.21	25.397	CC, ES
Guttersen D 25-17 (SI) - Wellbore #1 - Gyro Surveys	8,800.00	6,770.80	1,315.14	1,263.27	25.356	SF
Guttersen D25-715 - Wellbore #1 - Plan #1	2,426.47	2,277.37	2,237.90	2,221.72	138.383	CC
Guttersen D25-715 - Wellbore #1 - Plan #1	3,000.00	2,663.68	2,239.16	2,219.87	116.029	ES
Guttersen D25-715 - Wellbore #1 - Plan #1	20,314.84	20,133.82	2,458.91	2,240.78	11.273	SF
Guttersen D25-724 - Wellbore #1 - Plan #1	20,314.84	19,980.08	1,864.67	1,646.22	8.536	CC, ES, SF
Guttersen D25-734 - Wellbore #1 - Plan #1	20,314.84	19,999.37	1,230.66	1,013.56	5.669	CC, ES, SF
Guttersen D25-743 - Wellbore #1 - Plan #1	20,314.84	20,134.15	604.57	387.48	2.785	CC, ES, SF

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Gutttersen D25-753
Project:	Mustang	TVD Reference:	KB @ 4817.00ft
Reference Site:	D Section 25	MD Reference:	KB @ 4817.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Gutttersen D25-753	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 25						
Gutttersen D25-762 - Wellbore #1 - Plan #1	2,000.00	2,000.00	37.50	23.63	2.703	CC
Gutttersen D25-762 - Wellbore #1 - Plan #1	2,100.00	2,100.88	37.80	23.25	2.598	ES
Gutttersen D25-762 - Wellbore #1 - Plan #1	2,300.00	2,302.58	40.34	24.50	2.547	SF
Gutttersen D25-772 - Wellbore #1 - Plan #1	2,000.00	1,999.00	75.00	61.13	5.408	CC, ES
Gutttersen D25-772 - Wellbore #1 - Plan #1	2,200.00	2,201.23	77.89	62.69	5.124	SF
Gutttersen D25-781 - Wellbore #1 - Plan #1	2,000.00	2,000.00	112.50	98.63	8.109	CC, ES
Gutttersen D25-781 - Wellbore #1 - Plan #1	2,200.00	2,202.10	116.37	101.16	7.651	SF
Gutttersen State D36-714 - Wellbore #1 - Plan #1	2,583.70	2,417.70	2,205.72	2,188.50	128.107	CC
Gutttersen State D36-714 - Wellbore #1 - Plan #1	2,600.00	2,427.30	2,205.73	2,188.43	127.489	ES
Gutttersen State D36-714 - Wellbore #1 - Plan #1	7,200.00	7,200.00	2,550.33	2,497.43	48.210	SF
Gutttersen State D36-724 - Wellbore #1 - Plan #1	7,200.00	7,067.07	1,927.46	1,875.73	37.267	SF
Gutttersen State D36-724 - Wellbore #1 - Plan #1	7,441.69	6,836.58	1,919.58	1,868.38	37.494	CC, ES
Gutttersen State D36-733 - Wellbore #1 - Plan #1	7,250.00	7,047.47	1,300.93	1,249.17	25.131	SF
Gutttersen State D36-733 - Wellbore #1 - Plan #1	7,321.81	6,995.00	1,299.69	1,248.04	25.163	CC, ES
Gutttersen State D36-743 - Wellbore #1 - Plan #1	7,250.00	7,119.60	676.58	624.13	12.899	SF
Gutttersen State D36-743 - Wellbore #1 - Plan #1	7,274.58	7,102.86	676.33	623.93	12.907	CC, ES
Gutttersen State D36-752 - Wellbore #1 - Plan #1	7,288.55	7,067.51	55.56	16.68	1.429	Level 3, CC, ES, SF
Gutttersen State D36-762 - Wellbore #1 - Plan #1	2,000.00	2,000.00	154.62	140.74	11.145	CC, ES
Gutttersen State D36-762 - Wellbore #1 - Plan #1	3,000.00	3,037.74	190.94	170.62	9.397	SF
Gutttersen State D36-771 - Wellbore #1 - Plan #1	2,000.00	2,000.00	167.70	153.83	12.089	CC, ES
Gutttersen State D36-771 - Wellbore #1 - Plan #1	2,600.00	2,622.72	197.45	179.57	11.045	SF
Gutttersen State D36-781 - Wellbore #1 - Plan #1	2,000.00	2,000.00	187.49	173.62	13.515	CC
Gutttersen State D36-781 - Wellbore #1 - Plan #1	2,100.00	2,105.00	187.79	173.22	12.889	ES
Gutttersen State D36-781 - Wellbore #1 - Plan #1	2,500.00	2,520.42	200.41	183.19	11.637	SF
Karch Blue D 25-02 (DA) - Wellbore #1 - No Surveys	9,298.50	6,721.00	838.50	673.46	5.081	CC
Karch Blue D 25-02 (DA) - Wellbore #1 - No Surveys	9,300.00	6,721.00	838.50	673.46	5.080	ES, SF
Karch Blue D 25-08 (SI) - Wellbore #1 - Gyro Surveys	8,027.25	6,806.89	2,129.03	2,078.34	42.005	CC, ES
Karch Blue D 25-08 (SI) - Wellbore #1 - Gyro Surveys	8,100.00	6,804.70	2,130.27	2,079.52	41.976	SF
Karch Blue D25-07 (SI) - Wellbore #1 - Gyro Surveys	8,025.11	6,730.10	807.06	756.67	16.018	CC, ES, SF
L F Ranch 2-25 (PR) - Wellbore #1 - Gyro Surveys	9,264.25	6,760.02	2,115.44	2,061.60	39.288	CC, ES
L F Ranch 2-25 (PR) - Wellbore #1 - Gyro Surveys	9,600.00	6,766.66	2,141.91	2,086.80	38.865	SF
LF Ranches 1 (PA) - Wellbore #1 - No Surveys	8,973.28	6,725.00	1,829.40	1,665.47	11.160	CC, ES
LF Ranches 1 (PA) - Wellbore #1 - No Surveys	9,000.00	6,725.00	1,829.60	1,665.58	11.155	SF

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

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersten D25-753
Project:	Mustang	TVD Reference:	KB @ 4817.00ft
Reference Site:	D Section 25	MD Reference:	KB @ 4817.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersten D25-753	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 @ 4817.00ft

Offset Depths are relative to Offset Datum

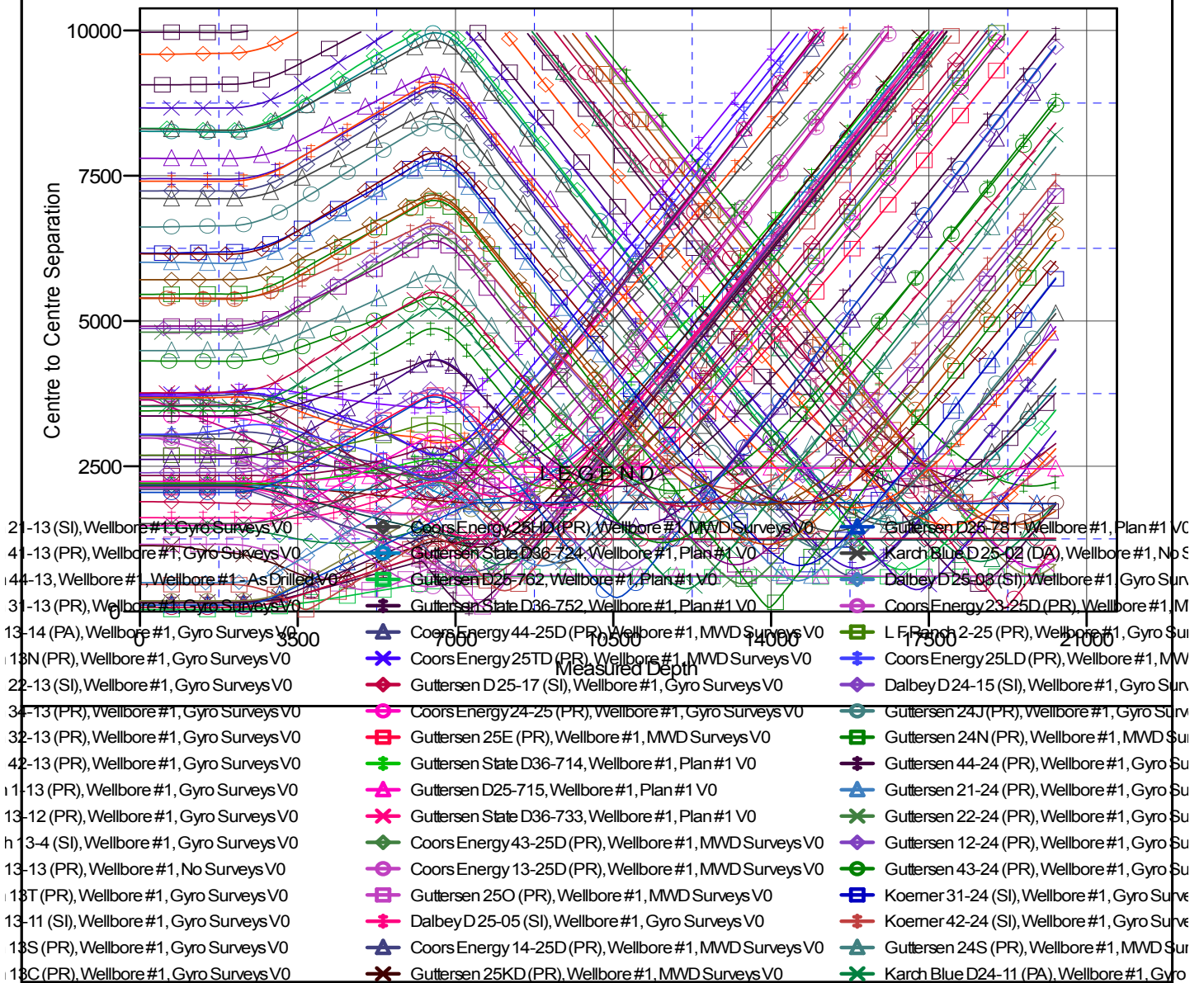
Central Meridian is -105.5000000

Coordinates are relative to: Guttersten D25-753

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.64°

Ladder Plot



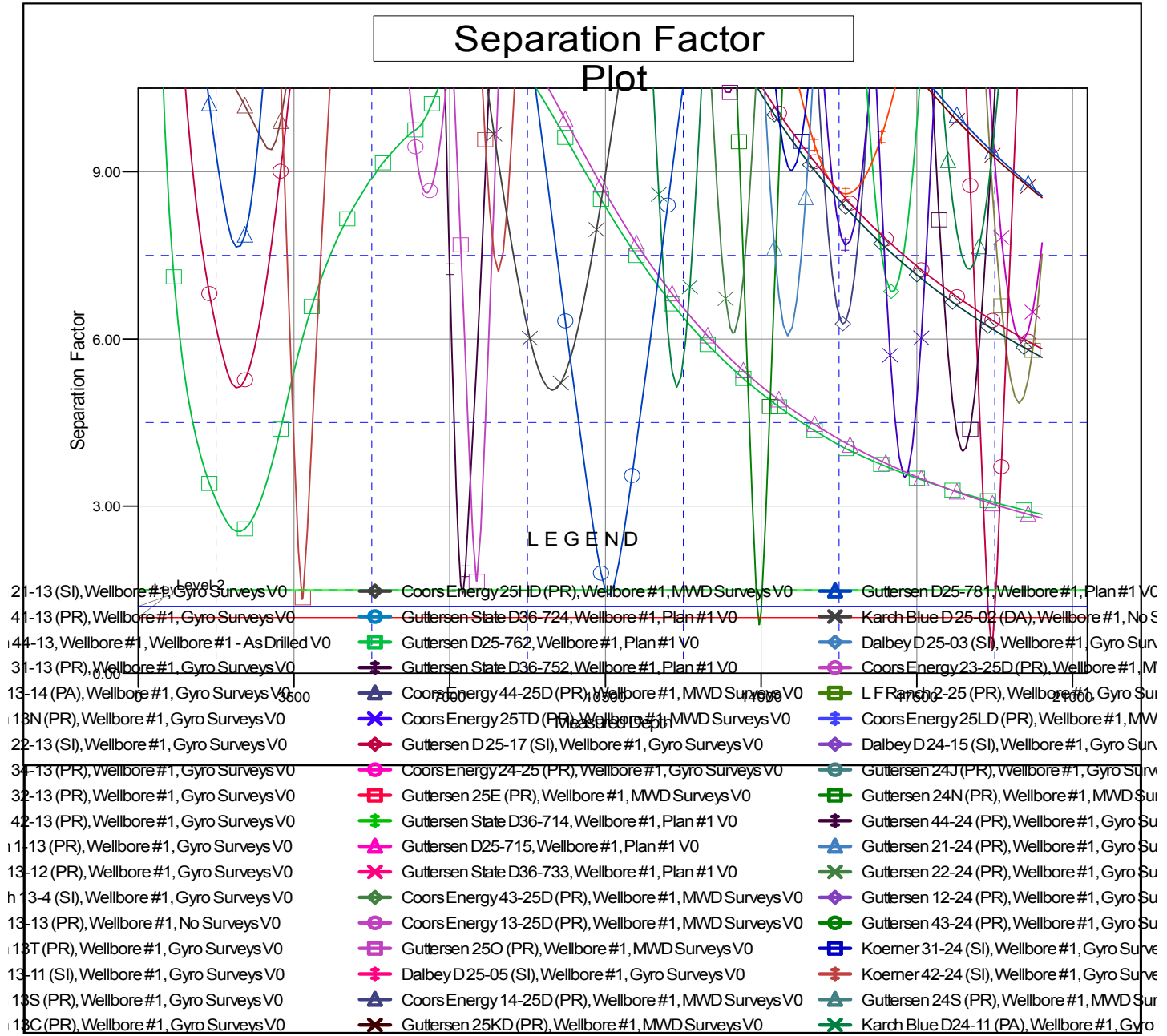
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen D25-753
Project:	Mustang	TVD Reference:	KB @ 4817.00ft
Reference Site:	D Section 25	MD Reference:	KB @ 4817.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen D25-753	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 @ 4817.00ft
Offset Depths are relative to Offset Datum
Central Meridian is -105.5000000

Coordinates are relative to: Guttersen D25-753
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