

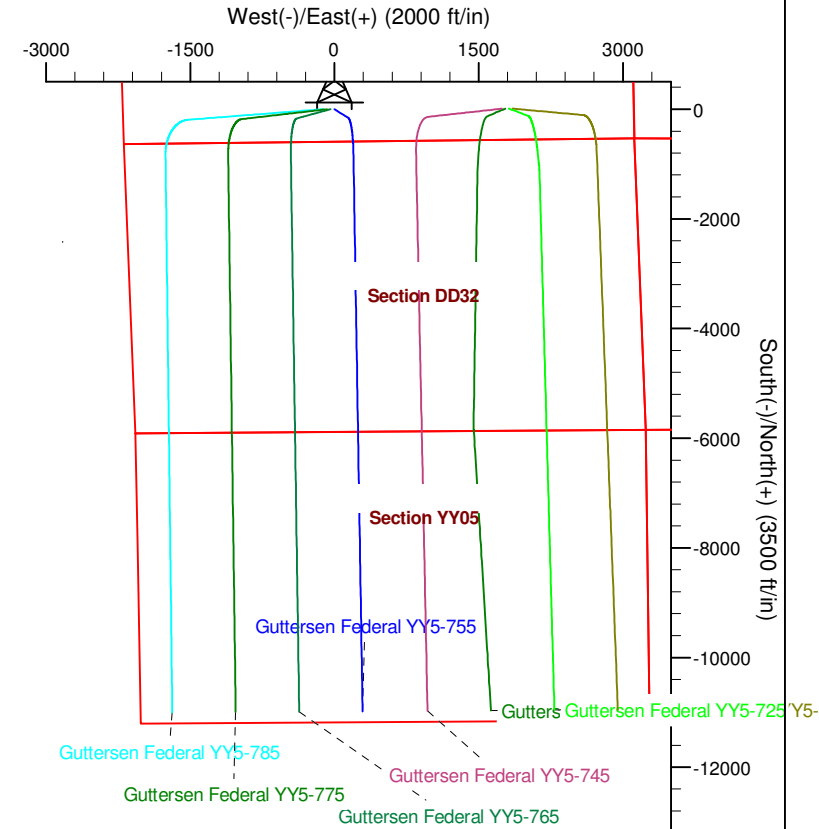
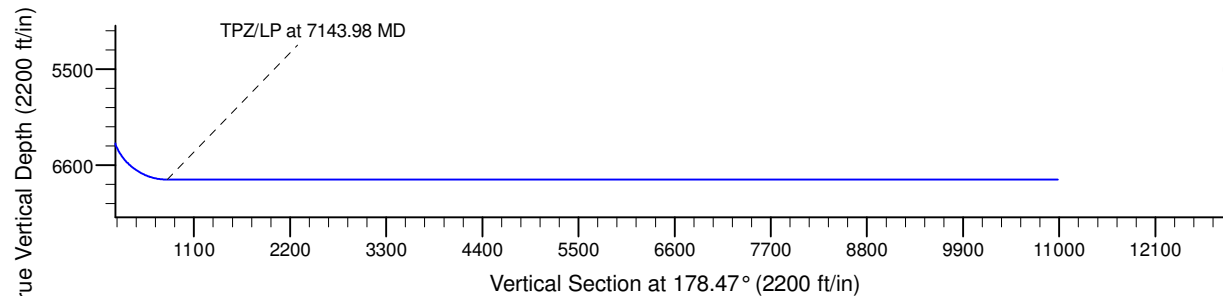
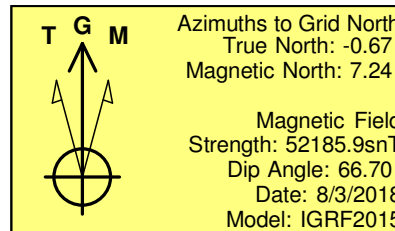
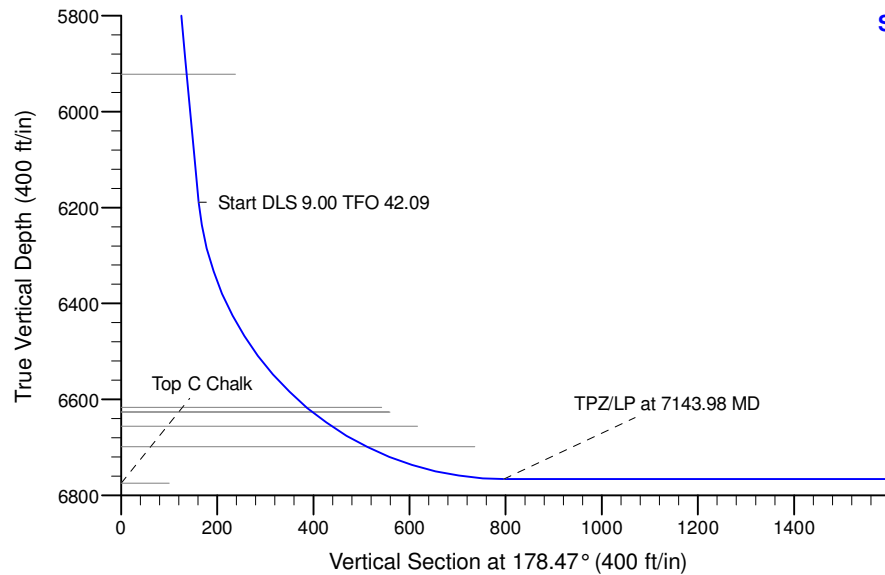
Project: Mustang
Site: DD Section 29
Well: Gutteresen Federal YY5-755
Wellbore: Gutteresen Federal YY5-755
Design: Plan #1

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	4280.00	0.00	0.00	4280.00	0.00	0.00	0.00	0.00	0.00	
3	4632.00	7.04	137.58	4631.12	-15.95	14.57	2.00	137.58	16.33	
4	6202.15	7.04	137.58	6189.43	-158.02	144.37	0.00	0.00	161.82	
5	7143.98	90.00	179.46	6766.00	-791.51	197.86	9.00	42.09	796.51	Gutteresen Federal YY5-755-TPZ
6	17333.34	90.00	179.46	6766.00	-10980.42	293.53	0.00	0.00	10984.35	Gutteresen Federal YY5-755-BHL



WELL DETAILS: Gutteresen Federal YY5-755

	Northing	Easting	Latitude	Longitude
0.00	0.00	1314051.57	4862.00 40.1908200	-104.4632200
Plan: Plan #1 (Gutteresen Federal YY5-755/Gutteresen Federal YY5-755)				
Created By:	Colby Baxter	Date:	12:22, September 25 2018	
Checked:		Date:		
Reviewed:		Date:		
Approved:		Date:		

Northern Region - DJ Basin

Mustang

DD Section 29

Guttersen Federal YY5-755

Guttersen Federal YY5-755

Plan: Plan #1

Standard Survey Report

25 September, 2018

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen Federal YY5-755
Project:	Mustang	TVD Reference:	Well @ 4892.00ft
Site:	DD Section 29	MD Reference:	Well @ 4892.00ft
Well:	Guttersen Federal YY5-755	North Reference:	Grid
Wellbore:	Guttersen Federal YY5-755	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	DD Section 29				
Site Position:		Northing:	1,317,717.97 usft	Latitude:	40.2008380
From:	Lat/Long	Easting:	3,291,067.61 usft	Longitude:	-104.4579500
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.67 °

Well		Guttersen Federal YY5-755				
Well Position	+N/-S	0.00 ft	Northing:	1,314,051.57 usft	Latitude:	40.1908200
	+E/-W	0.00 ft	Easting:	3,289,638.32 usft	Longitude:	-104.4632200
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,862.00 ft

Wellbore	Guttersen Federal YY5-755				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	8/3/2018	7.91	66.70	52,185.90250602

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	178.47	

Survey Tool Program	Date	9/24/2018			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.00	17,333.19	Plan #1 (Guttersen Federal YY5-755)	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 Federal YY5-755
Project:	Mustang	TVD Reference:	Well @ 4892.00ft
Site:	DD Section 29	MD Reference:	Well @ 4892.00ft
Well:	Guttersen Federal YY5-755	North Reference:	Grid
Wellbore:	Guttersen Federal YY5-755	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	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,280.00	0.00	0.00	4,280.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,300.00	0.40	137.58	4,300.00	-0.05	0.05	0.05	2.00	2.00	0.00	
4,400.00	2.40	137.58	4,399.97	-1.86	1.69	1.90	2.00	2.00	0.00	
4,500.00	4.40	137.58	4,499.78	-6.23	5.70	6.38	2.00	2.00	0.00	
4,600.00	6.40	137.58	4,599.34	-13.18	12.04	13.50	2.00	2.00	0.00	
4,632.00	7.04	137.58	4,631.12	-15.95	14.57	16.33	2.00	2.00	0.00	
4,700.00	7.04	137.58	4,698.60	-22.10	20.19	22.63	0.00	0.00	0.00	
4,800.00	7.04	137.58	4,797.85	-31.15	28.46	31.90	0.00	0.00	0.00	
4,900.00	7.04	137.58	4,897.09	-40.19	36.72	41.16	0.00	0.00	0.00	
5,000.00	7.04	137.58	4,996.34	-49.24	44.99	50.43	0.00	0.00	0.00	
5,100.00	7.04	137.58	5,095.59	-58.29	53.26	59.69	0.00	0.00	0.00	

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen Federal YY5-755
Project:	Mustang	TVD Reference:	Well @ 4892.00ft
Site:	DD Section 29	MD Reference:	Well @ 4892.00ft
Well:	Guttersen Federal YY5-755	North Reference:	Grid
Wellbore:	Guttersen Federal YY5-755	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)
5,200.00	7.04	137.58	5,194.83	-67.34	61.53	68.96	0.00	0.00	0.00
5,300.00	7.04	137.58	5,294.08	-76.39	69.79	78.23	0.00	0.00	0.00
5,400.00	7.04	137.58	5,393.32	-85.44	78.06	87.49	0.00	0.00	0.00
5,500.00	7.04	137.58	5,492.57	-94.48	86.33	96.76	0.00	0.00	0.00
5,600.00	7.04	137.58	5,591.82	-103.53	94.59	106.02	0.00	0.00	0.00
5,700.00	7.04	137.58	5,691.06	-112.58	102.86	115.29	0.00	0.00	0.00
5,800.00	7.04	137.58	5,790.31	-121.63	111.13	124.56	0.00	0.00	0.00
5,900.00	7.04	137.58	5,889.56	-130.68	119.39	133.82	0.00	0.00	0.00
6,000.00	7.04	137.58	5,988.80	-139.73	127.66	143.09	0.00	0.00	0.00
6,100.00	7.04	137.58	6,088.05	-148.77	135.93	152.35	0.00	0.00	0.00
6,200.00	7.04	137.58	6,187.29	-157.82	144.20	161.62	0.00	0.00	0.00
6,202.15	7.04	137.58	6,189.43	-158.02	144.37	161.82	0.00	0.00	0.00
6,300.00	14.80	161.28	6,285.48	-174.31	152.44	178.32	9.00	7.93	24.21
6,400.00	23.49	168.53	6,379.87	-206.00	160.52	210.22	9.00	8.70	7.25
6,500.00	32.35	171.98	6,468.14	-252.12	168.24	256.53	9.00	8.86	3.45
6,600.00	41.26	174.07	6,548.13	-311.54	175.39	316.12	9.00	8.91	2.09
6,700.00	50.20	175.52	6,617.86	-382.79	181.81	387.51	9.00	8.94	1.45
6,800.00	59.16	176.64	6,675.62	-464.11	187.33	468.95	9.00	8.95	1.12
6,900.00	68.12	177.56	6,719.97	-553.50	191.83	558.43	9.00	8.96	0.92
7,000.00	77.09	178.38	6,749.84	-648.77	195.18	653.76	9.00	8.97	0.81
7,100.00	86.06	179.14	6,764.49	-747.57	197.32	752.57	9.00	8.97	0.76
7,143.98	90.00	179.46	6,766.00	-791.51	197.86	796.51	9.00	8.97	0.74
7,200.00	90.00	179.46	6,766.00	-847.53	198.38	852.52	0.00	0.00	0.00
7,300.00	90.00	179.46	6,766.00	-947.52	199.32	952.51	0.00	0.00	0.00
7,400.00	90.00	179.46	6,766.00	-1,047.52	200.26	1,052.49	0.00	0.00	0.00
7,500.00	90.00	179.46	6,766.00	-1,147.51	201.20	1,152.48	0.00	0.00	0.00
7,600.00	90.00	179.46	6,766.00	-1,247.51	202.14	1,252.46	0.00	0.00	0.00
7,700.00	90.00	179.46	6,766.00	-1,347.50	203.08	1,352.45	0.00	0.00	0.00
7,800.00	90.00	179.46	6,766.00	-1,447.50	204.02	1,452.43	0.00	0.00	0.00
7,900.00	90.00	179.46	6,766.00	-1,547.50	204.95	1,552.42	0.00	0.00	0.00
8,000.00	90.00	179.46	6,766.00	-1,647.49	205.89	1,652.40	0.00	0.00	0.00
8,100.00	90.00	179.46	6,766.00	-1,747.49	206.83	1,752.39	0.00	0.00	0.00
8,200.00	90.00	179.46	6,766.00	-1,847.48	207.77	1,852.37	0.00	0.00	0.00
8,300.00	90.00	179.46	6,766.00	-1,947.48	208.71	1,952.36	0.00	0.00	0.00
8,400.00	90.00	179.46	6,766.00	-2,047.47	209.65	2,052.34	0.00	0.00	0.00
8,500.00	90.00	179.46	6,766.00	-2,147.47	210.59	2,152.33	0.00	0.00	0.00
8,600.00	90.00	179.46	6,766.00	-2,247.46	211.53	2,252.31	0.00	0.00	0.00
8,700.00	90.00	179.46	6,766.00	-2,347.46	212.47	2,352.30	0.00	0.00	0.00
8,800.00	90.00	179.46	6,766.00	-2,447.46	213.41	2,452.28	0.00	0.00	0.00
8,900.00	90.00	179.46	6,766.00	-2,547.45	214.34	2,552.27	0.00	0.00	0.00
9,000.00	90.00	179.46	6,766.00	-2,647.45	215.28	2,652.25	0.00	0.00	0.00
9,100.00	90.00	179.46	6,766.00	-2,747.44	216.22	2,752.24	0.00	0.00	0.00
9,200.00	90.00	179.46	6,766.00	-2,847.44	217.16	2,852.22	0.00	0.00	0.00

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen Federal YY5-755
Project:	Mustang	TVD Reference:	Well @ 4892.00ft
Site:	DD Section 29	MD Reference:	Well @ 4892.00ft
Well:	Guttersen Federal YY5-755	North Reference:	Grid
Wellbore:	Guttersen Federal YY5-755	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)
9,300.00	90.00	179.46	6,766.00	-2,947.43	218.10	2,952.21	0.00	0.00	0.00
9,400.00	90.00	179.46	6,766.00	-3,047.43	219.04	3,052.19	0.00	0.00	0.00
9,500.00	90.00	179.46	6,766.00	-3,147.42	219.98	3,152.18	0.00	0.00	0.00
9,600.00	90.00	179.46	6,766.00	-3,247.42	220.92	3,252.16	0.00	0.00	0.00
9,700.00	90.00	179.46	6,766.00	-3,347.42	221.86	3,352.15	0.00	0.00	0.00
9,800.00	90.00	179.46	6,766.00	-3,447.41	222.79	3,452.13	0.00	0.00	0.00
9,900.00	90.00	179.46	6,766.00	-3,547.41	223.73	3,552.12	0.00	0.00	0.00
10,000.00	90.00	179.46	6,766.00	-3,647.40	224.67	3,652.10	0.00	0.00	0.00
10,100.00	90.00	179.46	6,766.00	-3,747.40	225.61	3,752.09	0.00	0.00	0.00
10,200.00	90.00	179.46	6,766.00	-3,847.39	226.55	3,852.07	0.00	0.00	0.00
10,300.00	90.00	179.46	6,766.00	-3,947.39	227.49	3,952.06	0.00	0.00	0.00
10,400.00	90.00	179.46	6,766.00	-4,047.39	228.43	4,052.04	0.00	0.00	0.00
10,500.00	90.00	179.46	6,766.00	-4,147.38	229.37	4,152.03	0.00	0.00	0.00
10,600.00	90.00	179.46	6,766.00	-4,247.38	230.31	4,252.01	0.00	0.00	0.00
10,700.00	90.00	179.46	6,766.00	-4,347.37	231.24	4,352.00	0.00	0.00	0.00
10,800.00	90.00	179.46	6,766.00	-4,447.37	232.18	4,451.98	0.00	0.00	0.00
10,900.00	90.00	179.46	6,766.00	-4,547.36	233.12	4,551.97	0.00	0.00	0.00
11,000.00	90.00	179.46	6,766.00	-4,647.36	234.06	4,651.95	0.00	0.00	0.00
11,100.00	90.00	179.46	6,766.00	-4,747.35	235.00	4,751.94	0.00	0.00	0.00
11,200.00	90.00	179.46	6,766.00	-4,847.35	235.94	4,851.92	0.00	0.00	0.00
11,300.00	90.00	179.46	6,766.00	-4,947.35	236.88	4,951.91	0.00	0.00	0.00
11,400.00	90.00	179.46	6,766.00	-5,047.34	237.82	5,051.89	0.00	0.00	0.00
11,500.00	90.00	179.46	6,766.00	-5,147.34	238.76	5,151.88	0.00	0.00	0.00
11,600.00	90.00	179.46	6,766.00	-5,247.33	239.70	5,251.86	0.00	0.00	0.00
11,700.00	90.00	179.46	6,766.00	-5,347.33	240.63	5,351.85	0.00	0.00	0.00
11,800.00	90.00	179.46	6,766.00	-5,447.32	241.57	5,451.83	0.00	0.00	0.00
11,900.00	90.00	179.46	6,766.00	-5,547.32	242.51	5,551.82	0.00	0.00	0.00
12,000.00	90.00	179.46	6,766.00	-5,647.31	243.45	5,651.80	0.00	0.00	0.00
12,100.00	90.00	179.46	6,766.00	-5,747.31	244.39	5,751.79	0.00	0.00	0.00
12,200.00	90.00	179.46	6,766.00	-5,847.31	245.33	5,851.77	0.00	0.00	0.00
12,300.00	90.00	179.46	6,766.00	-5,947.30	246.27	5,951.76	0.00	0.00	0.00
12,400.00	90.00	179.46	6,766.00	-6,047.30	247.21	6,051.74	0.00	0.00	0.00
12,500.00	90.00	179.46	6,766.00	-6,147.29	248.15	6,151.73	0.00	0.00	0.00
12,600.00	90.00	179.46	6,766.00	-6,247.29	249.08	6,251.71	0.00	0.00	0.00
12,700.00	90.00	179.46	6,766.00	-6,347.28	250.02	6,351.70	0.00	0.00	0.00
12,800.00	90.00	179.46	6,766.00	-6,447.28	250.96	6,451.68	0.00	0.00	0.00
12,900.00	90.00	179.46	6,766.00	-6,547.28	251.90	6,551.67	0.00	0.00	0.00
13,000.00	90.00	179.46	6,766.00	-6,647.27	252.84	6,651.65	0.00	0.00	0.00
13,100.00	90.00	179.46	6,766.00	-6,747.27	253.78	6,751.64	0.00	0.00	0.00
13,200.00	90.00	179.46	6,766.00	-6,847.26	254.72	6,851.62	0.00	0.00	0.00
13,300.00	90.00	179.46	6,766.00	-6,947.26	255.66	6,951.61	0.00	0.00	0.00
13,400.00	90.00	179.46	6,766.00	-7,047.25	256.60	7,051.59	0.00	0.00	0.00
13,500.00	90.00	179.46	6,766.00	-7,147.25	257.54	7,151.58	0.00	0.00	0.00

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen Federal YY5-755
Project:	Mustang	TVD Reference:	Well @ 4892.00ft
Site:	DD Section 29	MD Reference:	Well @ 4892.00ft
Well:	Guttersen Federal YY5-755	North Reference:	Grid
Wellbore:	Guttersen Federal YY5-755	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)
13,600.00	90.00	179.46	6,766.00	-7,247.24	258.47	7,251.56	0.00	0.00	0.00
13,700.00	90.00	179.46	6,766.00	-7,347.24	259.41	7,351.55	0.00	0.00	0.00
13,800.00	90.00	179.46	6,766.00	-7,447.24	260.35	7,451.53	0.00	0.00	0.00
13,900.00	90.00	179.46	6,766.00	-7,547.23	261.29	7,551.52	0.00	0.00	0.00
14,000.00	90.00	179.46	6,766.00	-7,647.23	262.23	7,651.50	0.00	0.00	0.00
14,100.00	90.00	179.46	6,766.00	-7,747.22	263.17	7,751.49	0.00	0.00	0.00
14,200.00	90.00	179.46	6,766.00	-7,847.22	264.11	7,851.47	0.00	0.00	0.00
14,300.00	90.00	179.46	6,766.00	-7,947.21	265.05	7,951.46	0.00	0.00	0.00
14,400.00	90.00	179.46	6,766.00	-8,047.21	265.99	8,051.44	0.00	0.00	0.00
14,500.00	90.00	179.46	6,766.00	-8,147.20	266.92	8,151.43	0.00	0.00	0.00
14,600.00	90.00	179.46	6,766.00	-8,247.20	267.86	8,251.41	0.00	0.00	0.00
14,700.00	90.00	179.46	6,766.00	-8,347.20	268.80	8,351.40	0.00	0.00	0.00
14,800.00	90.00	179.46	6,766.00	-8,447.19	269.74	8,451.38	0.00	0.00	0.00
14,900.00	90.00	179.46	6,766.00	-8,547.19	270.68	8,551.37	0.00	0.00	0.00
15,000.00	90.00	179.46	6,766.00	-8,647.18	271.62	8,651.35	0.00	0.00	0.00
15,100.00	90.00	179.46	6,766.00	-8,747.18	272.56	8,751.34	0.00	0.00	0.00
15,200.00	90.00	179.46	6,766.00	-8,847.17	273.50	8,851.32	0.00	0.00	0.00
15,300.00	90.00	179.46	6,766.00	-8,947.17	274.44	8,951.31	0.00	0.00	0.00
15,400.00	90.00	179.46	6,766.00	-9,047.17	275.38	9,051.29	0.00	0.00	0.00
15,500.00	90.00	179.46	6,766.00	-9,147.16	276.31	9,151.28	0.00	0.00	0.00
15,600.00	90.00	179.46	6,766.00	-9,247.16	277.25	9,251.26	0.00	0.00	0.00
15,700.00	90.00	179.46	6,766.00	-9,347.15	278.19	9,351.25	0.00	0.00	0.00
15,800.00	90.00	179.46	6,766.00	-9,447.15	279.13	9,451.23	0.00	0.00	0.00
15,900.00	90.00	179.46	6,766.00	-9,547.14	280.07	9,551.22	0.00	0.00	0.00
16,000.00	90.00	179.46	6,766.00	-9,647.14	281.01	9,651.20	0.00	0.00	0.00
16,100.00	90.00	179.46	6,766.00	-9,747.13	281.95	9,751.19	0.00	0.00	0.00
16,200.00	90.00	179.46	6,766.00	-9,847.13	282.89	9,851.17	0.00	0.00	0.00
16,300.00	90.00	179.46	6,766.00	-9,947.13	283.83	9,951.16	0.00	0.00	0.00
16,400.00	90.00	179.46	6,766.00	-10,047.12	284.76	10,051.14	0.00	0.00	0.00
16,500.00	90.00	179.46	6,766.00	-10,147.12	285.70	10,151.13	0.00	0.00	0.00
16,600.00	90.00	179.46	6,766.00	-10,247.11	286.64	10,251.11	0.00	0.00	0.00
16,700.00	90.00	179.46	6,766.00	-10,347.11	287.58	10,351.10	0.00	0.00	0.00
16,800.00	90.00	179.46	6,766.00	-10,447.10	288.52	10,451.08	0.00	0.00	0.00
16,900.00	90.00	179.46	6,766.00	-10,547.10	289.46	10,551.07	0.00	0.00	0.00
17,000.00	90.00	179.46	6,766.00	-10,647.09	290.40	10,651.05	0.00	0.00	0.00
17,100.00	90.00	179.46	6,766.00	-10,747.09	291.34	10,751.04	0.00	0.00	0.00
17,200.00	90.00	179.46	6,766.00	-10,847.09	292.28	10,851.02	0.00	0.00	0.00
17,300.00	90.00	179.46	6,766.00	-10,947.08	293.22	10,951.01	0.00	0.00	0.00
17,333.34	90.00	179.46	6,766.00	-10,980.42	293.53	10,984.35	0.00	0.00	0.00

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen Federal YY5-755
Project:	Mustang	TVD Reference:	Well @ 4892.00ft
Site:	DD Section 29	MD Reference:	Well @ 4892.00ft
Well:	Guttersen Federal YY5-755	North Reference:	Grid
Wellbore:	Guttersen Federal YY5-755	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
Guttersen Federal YY5- - plan misses target center by 0.89ft at 0.00ft MD (0.00 TVD, 0.00 N, 0.00 E) - Point	0.00	0.01	0.00	0.65	-0.61	1,314,052.22	3,289,637.71	40.1908218	-104.4632221
Guttersen Federal YY5- - plan hits target center - Point	0.00	0.00	6,189.43	-158.02	144.37	1,313,893.55	3,289,782.69	40.1903816	-104.4627098
Guttersen Federal YY5- - plan hits target center - Point	0.00	0.00	6,766.00	-10,980.42	293.53	1,303,071.17	3,289,931.85	40.1606700	-104.4626292
Guttersen Federal YY5- - plan hits target center - Point	0.00	0.00	6,766.00	-791.51	197.86	1,313,260.06	3,289,836.18	40.1886410	-104.4625450

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
832.00	832.00	Fox Hills				
832.00	832.00	Pierre				
979.00	979.00	Upper Pierre Aquifer Top				
1,741.00	1,741.00	Upper Pierre Aquifer Base				
3,812.00	3,812.00	Parkman				
4,385.02	4,385.00	Sussex				
5,055.07	5,051.00	Shannon				
5,932.69	5,922.00	Teepee Buttes				
6,698.66	6,617.00	Sharon Springs				
6,712.87	6,626.00	Top A Marl				
6,714.48	6,627.00	Top A Chalk				
6,763.46	6,656.00	Top B Chalk				
6,848.77	6,699.00	Top B Marl				

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
4280	4280	0	0	Start Build 2.00
6202	6189	-158	144	Start DLS 9.00 TFO 42.09
7144	6766	-792	198	TPZ/LP at 7143.98 MD
17,333	6766	-10,980	294	TD at 17333.34 MD

Checked By: _____ Approved By: _____ Date: _____

Northern Region - DJ Basin

Mustang

DD Section 29

Guttersen Federal YY5-755

Guttersen Federal YY5-755

Plan #1

Anticollision Summary Report

25 September, 2018

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersen Federal YY5-755
Project:	Mustang	TVD Reference:	Well @ 4892.00ft
Reference Site:	DD Section 29	MD Reference:	Well @ 4892.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen Federal YY5-755	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen Federal YY5-755	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	9/24/2018		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.00	17,333.19	Plan #1 (Guttersen Federal YY5-755)	2_MWD+IFR1+MS	A008Mb: IFR dec & multi-station analysis	

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
DD Section 28						
Guttersen 11-28 (PA) - Wellbore #1 - Gyro Surveys	100.00	40.49	5,577.73	5,577.54	10,000.000	CC
Guttersen 11-28 (PA) - Wellbore #1 - Gyro Surveys	700.00	620.20	5,579.99	5,575.72	1,306.069	ES
Guttersen 11-28 (PA) - Wellbore #1 - Gyro Surveys	6,750.00	6,594.27	5,812.79	5,766.61	125.858	SF
Guttersen 12-28 (SI) - Wellbore #1 - Gyro Surveys	6,206.92	6,131.78	4,699.61	4,656.72	109.576	CC, ES
Guttersen 12-28 (SI) - Wellbore #1 - Gyro Surveys	6,750.00	6,600.19	4,840.66	4,794.42	104.690	SF
Guttersen 21-28 (PA) - Wellbore #1 - Gyro Surveys	5,847.16	5,766.38	6,493.76	6,453.40	160.896	CC
Guttersen 21-28 (PA) - Wellbore #1 - Gyro Surveys	6,207.58	6,166.71	6,494.07	6,451.06	150.995	ES
Guttersen 21-28 (PA) - Wellbore #1 - Gyro Surveys	6,800.00	6,628.43	6,668.00	6,621.54	143.542	SF
Guttersen 22-28 (PA) - Wellbore #1 - Gyro Surveys	6,214.55	6,062.05	5,601.03	5,558.35	131.224	CC, ES
Guttersen 22-28 (PA) - Wellbore #1 - Gyro Surveys	6,850.00	6,595.51	5,760.74	5,714.23	123.873	SF
Guttersen 28A (PA) - Wellbore #1 - Gyro Surveys	6,210.97	6,167.50	5,574.39	5,531.39	129.610	CC, ES
Guttersen 28A (PA) - Wellbore #1 - Gyro Surveys	6,750.00	6,563.65	5,720.01	5,673.93	124.108	SF
Guttersen Federal YY4-755 - Guttersen Federal YY4-755	7,054.91	6,854.20	5,142.52	5,094.99	108.191	CC
Guttersen Federal YY4-755 - Guttersen Federal YY4-755	7,100.00	6,890.93	5,142.66	5,094.94	107.776	ES
Guttersen Federal YY4-755 - Guttersen Federal YY4-755	17,333.86	17,102.08	5,294.85	5,109.68	28.593	SF
Guttersen Federal YY4-765 - Guttersen Federal YY4-765	7,113.02	7,076.91	4,500.97	4,452.30	92.488	CC
Guttersen Federal YY4-765 - Guttersen Federal YY4-765	17,333.86	17,255.97	4,634.36	4,448.84	24.980	ES, SF
Guttersen Federal YY4-775 - Guttersen Federal YY4-775	7,125.22	7,154.59	3,850.57	3,801.32	78.189	CC
Guttersen Federal YY4-775 - Guttersen Federal YY4-775	15,700.00	15,681.92	3,920.28	3,760.93	24.602	ES
Guttersen Federal YY4-775 - Guttersen Federal YY4-775	17,333.86	17,240.97	3,973.50	3,789.04	21.541	SF
Guttersen Federal YY4-785 - Guttersen Federal YY4-785	7,028.77	7,350.00	3,210.42	3,160.10	63.801	CC
Guttersen Federal YY4-785 - Guttersen Federal YY4-785	17,333.86	17,685.67	3,314.76	3,128.69	17.814	ES, SF
Guttersen State DD28-755 - Wellbore #1 - Plan #1	7,118.83	6,782.82	5,233.70	5,185.67	108.974	CC, ES
Guttersen State DD28-755 - Wellbore #1 - Plan #1	9,600.00	6,300.00	5,703.72	5,647.04	100.625	SF
Guttersen State DD28-765 - Wellbore #1 - Plan #1	6,939.18	7,000.00	4,579.68	4,531.86	95.764	CC
Guttersen State DD28-765 - Wellbore #1 - Plan #1	6,950.00	7,000.00	4,579.70	4,531.85	95.714	ES
Guttersen State DD28-765 - Wellbore #1 - Plan #1	9,000.00	6,450.00	4,938.89	4,884.95	91.568	SF
Guttersen State DD28-775 - Wellbore #1 - Plan #1	6,922.77	7,250.00	3,920.76	3,871.76	80.023	CC, ES
Guttersen State DD28-775 - Wellbore #1 - Plan #1	8,300.00	6,850.00	4,123.62	4,071.22	78.698	SF
Guttersen State DD28-785 - Wellbore #1 - Plan #1	6,895.83	7,450.00	3,261.90	3,211.83	65.150	CC
Guttersen State DD28-785 - Wellbore #1 - Plan #1	6,900.00	7,450.00	3,261.90	3,211.83	65.142	ES
Guttersen State DD28-785 - Wellbore #1 - Plan #1	7,300.00	7,325.17	3,289.73	3,239.06	64.923	SF
State 27 (SI) - Wellbore #1 - Gyro Surveys	6,395.25	6,361.75	4,342.87	4,298.57	98.037	CC
State 27 (SI) - Wellbore #1 - Gyro Surveys	6,400.00	6,366.65	4,342.88	4,298.54	97.964	ES
State 27 (SI) - Wellbore #1 - Gyro Surveys	7,000.00	6,787.66	4,429.29	4,381.74	93.144	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 Federal YY5-755
Project:	Mustang	TVD Reference:	Well @ 4892.00ft
Reference Site:	DD Section 29	MD Reference:	Well @ 4892.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen Federal YY5-755	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen Federal YY5-755	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						
DD Section 29						
Champlin 366 Amoco C UT 1 (PR) - Wellbore #1 - Gyro	4,380.54	4,409.10	3,921.54	3,890.83	127.663	CC
Champlin 366 Amoco C UT 1 (PR) - Wellbore #1 - Gyro	4,400.00	4,426.54	3,921.58	3,890.74	127.147	ES
Champlin 366 Amoco C UT 1 (PR) - Wellbore #1 - Gyro	6,500.00	6,455.99	4,081.85	4,036.80	90.616	SF
Champlin Amoco 1 (PA) - Wellbore #1 - No Surveys	4,280.00	4,250.01	1,119.13	1,019.02	11.179	CC
Champlin Amoco 1 (PA) - Wellbore #1 - No Surveys	4,300.00	4,270.01	1,119.20	1,018.62	11.128	ES
Champlin Amoco 1 (PA) - Wellbore #1 - No Surveys	6,300.00	6,255.49	1,346.95	1,199.95	9.163	SF
Guttersen 42-29 (PR) - Wellbore #1 - Gyro Surveys	6,221.42	6,350.53	3,645.56	3,579.03	54.791	CC
Guttersen 42-29 (PR) - Wellbore #1 - Gyro Surveys	6,250.00	6,378.71	3,646.08	3,579.02	54.375	ES
Guttersen 42-29 (PR) - Wellbore #1 - Gyro Surveys	6,750.00	6,796.48	3,816.76	3,741.93	51.008	SF
Guttersen Federal YY5-715 - Guttersen Federal YY5-715	2,200.00	2,199.00	1,852.26	1,836.95	121.038	CC, ES
Guttersen Federal YY5-715 - Guttersen Federal YY5-715	17,333.86	17,291.23	2,656.97	2,470.48	14.247	SF
Guttersen Federal YY5-725 - Guttersen Federal YY5-725	4,000.00	4,000.00	1,815.94	1,787.73	64.368	CC, ES
Guttersen Federal YY5-725 - Guttersen Federal YY5-725	17,333.86	17,310.85	1,995.06	1,809.10	10.729	SF
Guttersen Federal YY5-735 - Guttersen Federal YY5-735	12,132.55	12,125.97	1,204.34	1,099.25	11.460	CC
Guttersen Federal YY5-735 - Guttersen Federal YY5-735	12,200.00	12,181.71	1,204.66	1,098.69	11.367	ES
Guttersen Federal YY5-735 - Guttersen Federal YY5-735	17,333.86	17,294.91	1,334.67	1,149.25	7.198	SF
Guttersen Federal YY5-745 - Guttersen Federal YY5-745	7,130.29	7,226.08	651.67	602.32	13.206	CC
Guttersen Federal YY5-745 - Guttersen Federal YY5-745	17,333.86	17,413.35	674.84	488.89	3.629	ES, SF
Guttersen Federal YY5-765 - Guttersen Federal YY5-765	2,700.00	2,701.00	39.11	20.22	2.070	CC, ES, SF
Guttersen Federal YY5-775 - Guttersen Federal YY5-775	2,200.00	2,201.00	75.43	60.12	4.927	CC, ES
Guttersen Federal YY5-775 - Guttersen Federal YY5-775	2,300.00	2,298.62	76.88	60.87	4.804	SF
Guttersen Federal YY5-785 - Guttersen Federal YY5-785	2,200.00	2,202.00	113.63	98.31	7.420	CC, ES
Guttersen Federal YY5-785 - Guttersen Federal YY5-785	2,300.00	2,298.11	115.36	99.36	7.210	SF
Guttersen State DD29-715 - Wellbore #1 - Plan #1	2,000.00	1,978.00	1,857.87	1,844.07	134.687	CC
Guttersen State DD29-715 - Wellbore #1 - Plan #1	2,100.00	2,052.59	1,858.40	1,843.99	128.963	ES
Guttersen State DD29-715 - Wellbore #1 - Plan #1	7,800.00	6,342.57	2,594.21	2,544.76	52.462	SF
Guttersen State DD29-725 - Wellbore #1 - Plan #1	2,000.00	1,988.00	1,820.04	1,806.21	131.603	CC
Guttersen State DD29-725 - Wellbore #1 - Plan #1	2,100.00	2,069.91	1,820.48	1,806.01	125.823	ES
Guttersen State DD29-725 - Wellbore #1 - Plan #1	7,000.00	6,913.74	1,950.84	1,902.93	40.715	SF
Guttersen State DD29-735 - Wellbore #1 - Plan #1	6,995.63	6,944.89	1,269.45	1,221.42	26.431	CC, ES
Guttersen State DD29-735 - Wellbore #1 - Plan #1	7,000.00	6,942.12	1,269.45	1,221.42	26.430	SF
Guttersen State DD29-745 - Wellbore #1 - Plan #1	6,800.00	7,152.07	623.01	575.04	12.988	ES, SF
Guttersen State DD29-745 - Wellbore #1 - Plan #1	6,800.49	7,151.76	623.01	575.04	12.989	CC
Guttersen State DD29-755 - Wellbore #1 - Plan #1	6,933.89	7,031.42	76.76	28.64	1.595	CC, ES, SF
Guttersen State DD29-765 - Wellbore #1 - Plan #1	2,000.00	1,998.00	153.91	140.04	11.100	CC, ES
Guttersen State DD29-765 - Wellbore #1 - Plan #1	2,200.00	2,187.80	160.29	145.10	10.551	SF
Guttersen State DD29-775 - Wellbore #1 - Plan #1	2,000.00	1,993.00	167.20	153.35	12.074	CC, ES
Guttersen State DD29-775 - Wellbore #1 - Plan #1	2,200.00	2,182.66	173.03	157.84	11.396	SF
Guttersen State DD29-785 - Wellbore #1 - Plan #1	2,000.00	1,988.00	186.75	172.92	13.504	CC, ES
Guttersen State DD29-785 - Wellbore #1 - Plan #1	2,300.00	2,270.63	199.55	183.74	12.620	SF
DD Section 32						
Childrens Hospital 1 (PA) - Wellbore #1 - No Surveys	8,596.57	6,707.00	1,323.78	1,159.98	8.082	CC
Childrens Hospital 1 (PA) - Wellbore #1 - No Surveys	8,600.00	6,707.00	1,323.78	1,159.96	8.081	ES
Childrens Hospital 1 (PA) - Wellbore #1 - No Surveys	8,700.00	6,707.00	1,327.81	1,163.45	8.079	SF
Guttersen 43-32 (SI) - Wellbore #1 - No Surveys	10,264.35	6,684.00	2,355.69	2,182.46	13.599	CC, ES
Guttersen 43-32 (SI) - Wellbore #1 - No Surveys	10,500.00	6,684.00	2,367.44	2,192.65	13.545	SF
Gutterson 33-32 (PA) - Wellbore #1 - Gyro Surveys	10,264.70	6,701.65	1,166.03	1,103.26	18.576	CC, ES
Gutterson 33-32 (PA) - Wellbore #1 - Gyro Surveys	10,400.00	6,705.14	1,173.85	1,110.19	18.439	SF
L F Ranches A 1 (PA) - Wellbore #1 - No Surveys	11,230.58	6,654.00	819.07	639.81	4.569	CC, ES, SF

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Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Guttersten Federal YY5-755
Project:	Mustang	TVD Reference:	Well @ 4892.00ft
Reference Site:	DD Section 29	MD Reference:	Well @ 4892.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersten Federal YY5-755	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersten Federal YY5-755	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						
DD Section 33						
Guttersten 23-33 (SI) - Wellbore #1 - No Surveys	10,301.44	6,674.00	5,049.34	4,876.07	29.142	CC, ES
Guttersten 23-33 (SI) - Wellbore #1 - No Surveys	11,200.00	6,674.00	5,128.67	4,949.51	28.626	SF
Guttersten 24-33 (SI) - Wellbore #1 - Gyro Surveys	11,618.41	6,658.73	4,997.54	4,925.52	69.393	CC, ES
Guttersten 24-33 (SI) - Wellbore #1 - Gyro Surveys	13,200.00	6,654.85	5,241.84	5,159.98	64.040	SF
L F Ranch 1-33 (SI) - Wellbore #1 - No Surveys	11,163.83	6,667.00	3,972.93	3,793.89	22.190	CC
L F Ranch 1-33 (SI) - Wellbore #1 - No Surveys	11,200.00	6,667.00	3,973.09	3,793.78	22.158	ES
L F Ranch 1-33 (SI) - Wellbore #1 - No Surveys	11,700.00	6,667.00	4,008.94	3,826.22	21.940	SF
UPV 33-5J3 (SI) - Wellbore #1 - Gyro Surveys	8,437.11	6,611.85	3,928.10	3,876.27	75.777	CC, ES
UPV 33-5J3 (SI) - Wellbore #1 - Gyro Surveys	9,800.00	6,593.58	4,157.78	4,099.10	70.852	SF
YY Section 4						
L F Ranch 2-4 (PA) - Wellbore #1 - No Surveys	16,089.00	6,661.00	3,954.35	3,738.04	18.281	CC
L F Ranch 2-4 (PA) - Wellbore #1 - No Surveys	16,100.00	6,661.00	3,954.37	3,737.96	18.273	ES
L F Ranch 2-4 (PA) - Wellbore #1 - No Surveys	16,500.00	6,661.00	3,975.65	3,756.35	18.129	SF
YY Section 5						
Champlin 525 Amoco A1 (TA) - Wellbore #1 - No Survey	16,541.58	6,721.00	1,353.93	1,132.84	6.124	CC, ES
Champlin 525 Amoco A1 (TA) - Wellbore #1 - No Survey	16,600.00	6,721.00	1,355.19	1,133.77	6.121	SF
UPV 05-7K3 (PA) - Wellbore #1 - Gyro Surveys	13,850.44	6,758.88	1,322.06	1,233.09	14.860	CC, ES
UPV 05-7K3 (PA) - Wellbore #1 - Gyro Surveys	14,000.00	6,759.49	1,330.50	1,240.56	14.793	SF
YY Section 8						
Federal 14 (PA) - Wellbore #1 - Gyro Surveys	17,333.86	6,690.19	1,831.42	1,738.05	19.616	CC, ES, SF

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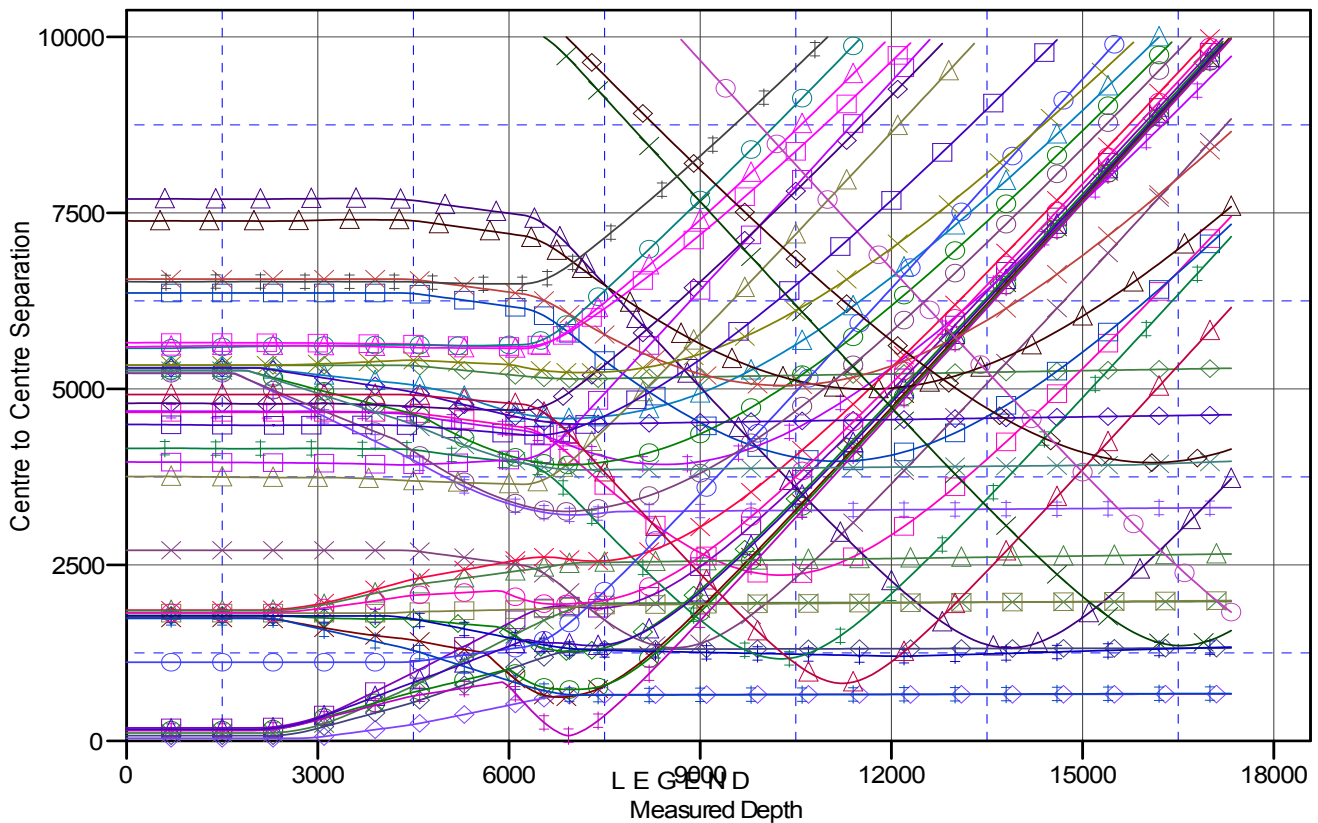
Noble Energy, Inc.
Anticollision Summary Report

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Project:	Mustang	TVD Reference:	Well @ 4892.00ft
Reference Site:	DD Section 29	MD Reference:	Well @ 4892.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Guttersen Federal YY5-755	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Guttersen Federal YY5-755	Database:	EDMP
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to Well @ 4892.00ft
Offset Depths are relative to Offset Datum
Central Meridian is -105.5000000

Coordinates are relative to: Guttersen Federal YY5-755
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.67°

Ladder Plot



I-755, Guttersen Federal YY4-755, Plan #1 V0	Guttersen 33-32 (PA), Wellbore #1, Gyro Surveys V0	Guttersen Federal YY4-765, Guttersen F
i-785, Guttersen Federal YY5-785, Plan #1 V0	Guttersen 42-29 (PR), Wellbore #1, Gyro Surveys V0	Guttersen State DD28-785, Wellbore #1
785, Wellbore #1, Plan #1 V0	Guttersen State DD28-775, Wellbore #1, Plan #1 V0	Guttersen State DD29-775, Wellbore #1
I-785, Guttersen Federal YY4-785, Plan #1 V0	Guttersen State DD29-715, Wellbore #1, Plan #1 V0	Guttersen Federal YY4-775, Guttersen F
Wellbore #1, No Surveys V0	L F Ranch 1-33 (SI), Wellbore #1, No Surveys V0	L F Ranches A 1 (PA), Wellbore #1, No
i-765, Guttersen Federal YY5-765, Plan #1 V0	Guttersen 22-28 (PA), Wellbore #1, Gyro Surveys V0	Guttersen 11-28 (PA), Wellbore #1, Gyro
745, Wellbore #1, Plan #1 V0	Champlin 366 Amoco CUT 1 (PR), Wellbore #1, Gyro Surveys V0	Guttersen 28A (PA), Wellbore #1, Gyro S
i-775, Guttersen Federal YY5-775, Plan #1 V0	Guttersen 24-33 (SI), Wellbore #1, Gyro Surveys V0	L F Ranch 2-4 (PA), Wellbore #1, No Su
PA), Wellbore #1, No Surveys V0	Guttersen Federal YY5-715, Guttersen Federal YY5-715, Plan #1 V0	Guttersen State DD29-725, Wellbore #1
765, Wellbore #1, Plan #1 V0	Guttersen Federal YY5-725, Guttersen Federal YY5-725, Plan #1 V0	Guttersen State DD28-755, Wellbore #1
735, Wellbore #1, Plan #1 V0	Champlin Amoco 1 (PA), Wellbore #1, No Surveys V0	Federal 14 (PA), Wellbore #1, Gyro Sur
i-735, Guttersen Federal YY5-735, Plan #1 V0	Guttersen Federal YY5-745, Guttersen Federal YY5-745, Plan #1 V0	Champlin 525 Amoco A1 (TA), Wellbore

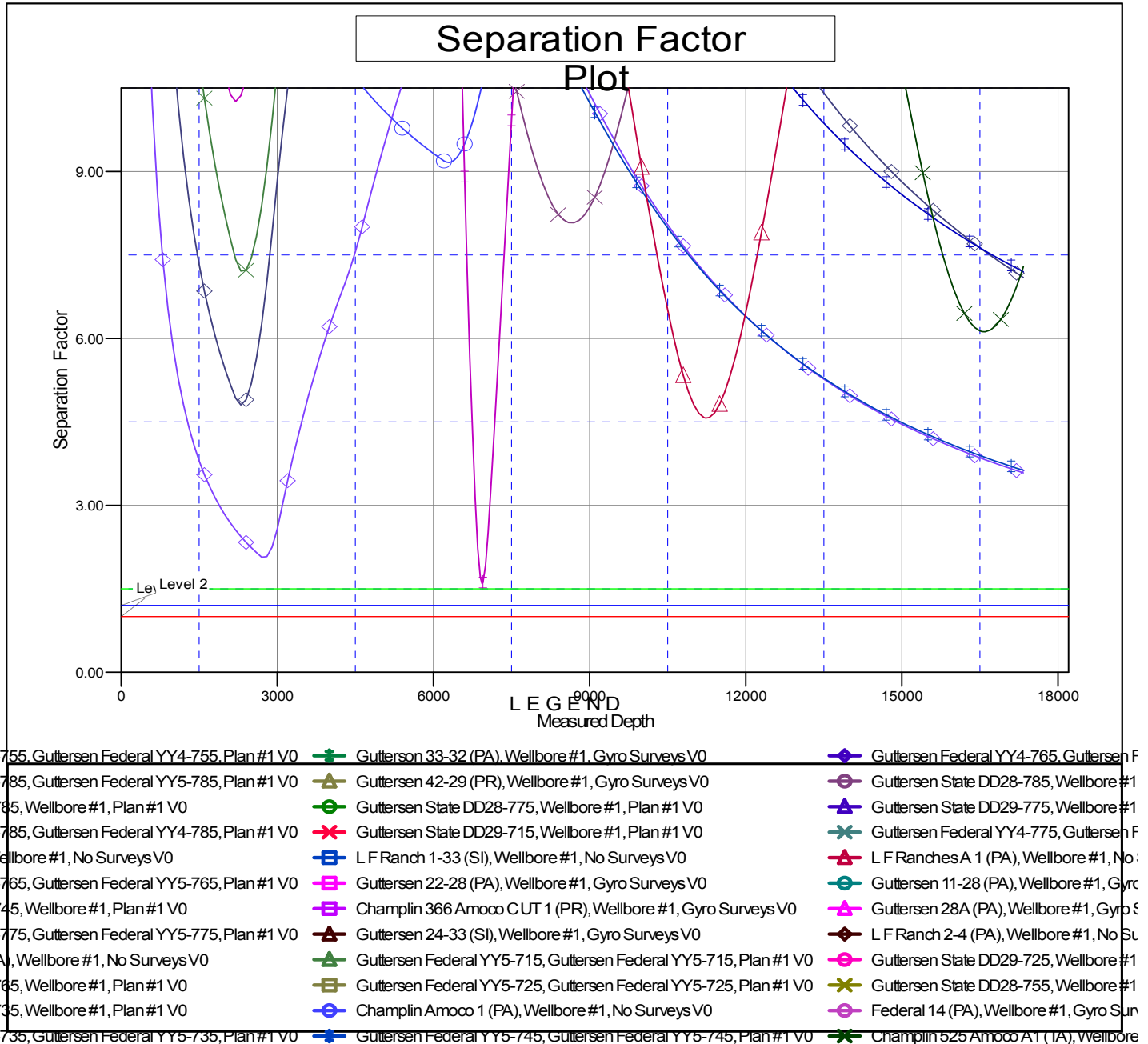
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Reference Depths are relative to Well @ 4892.00ft
Offset Depths are relative to Offset Datum
Central Meridian is -105.5000000

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