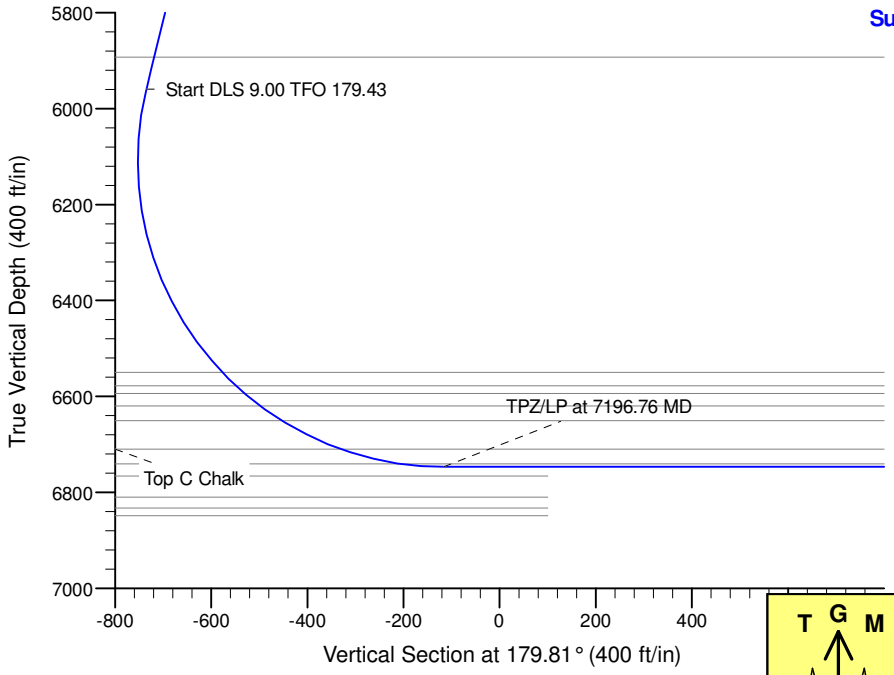
Project: Mustang
Site: D Section 01
Well: Guttersen D12-765
Wellbore: Wellbore #1
Design: Plan #1

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

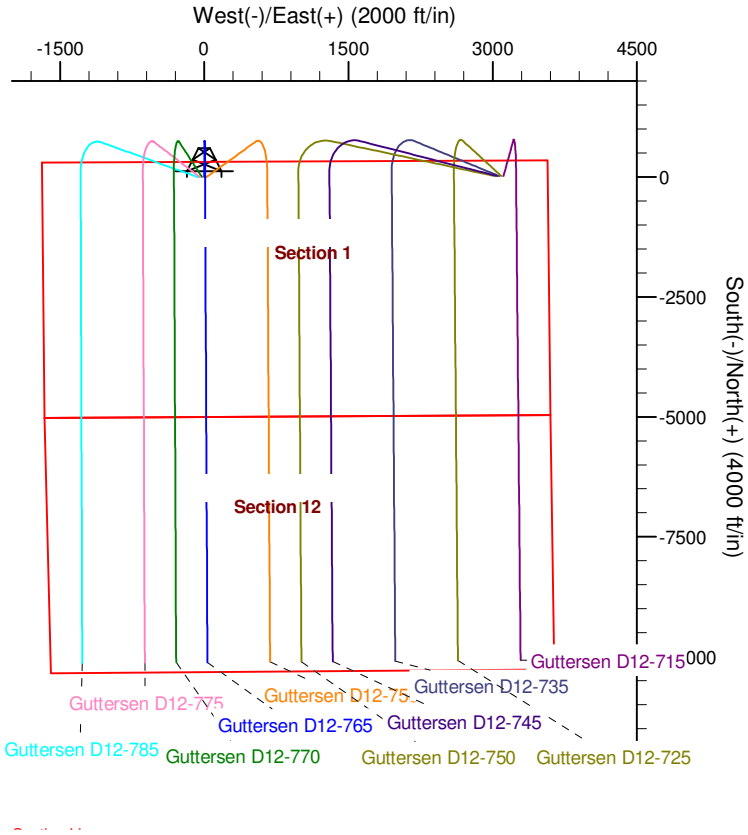
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	2600.00	0.00	0.00	2600.00	0.00	0.00	0.00	0.00	0.00	
3	3284.60	13.69	0.41	3278.10	81.41	0.59	2.00	0.41	-81.41	
4	6044.63	13.69	0.41	5959.70	734.70	5.28	0.00	0.00	-734.67	
5	7196.76	90.00	179.86	6747.00	116.17	8.66	9.00	179.43	-116.14	TPZ Guttersen D12-765
6	17427.56	90.00	179.86	6747.00	-10114.61	33.87	0.00	0.00	10114.66	BHL Guttersen D12-765

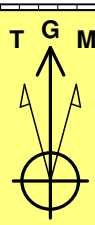


Surface:316' FNL,1685' FWL, Sec.1

TPZ: 200' FNL, 1694' FWL, Sec.1

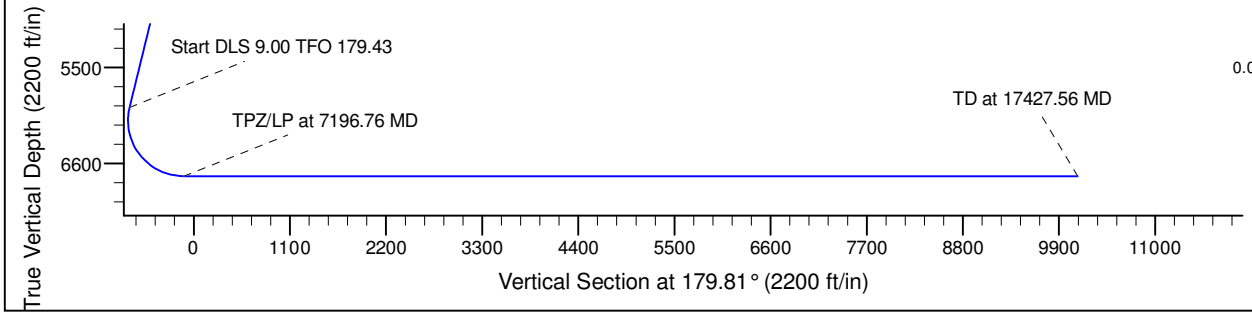
BHL: 200' FSL, 1653' FWL, Sec.12





Azimuths to Grid North
True North: -0.64°
Magnetic North: 7.28°

Magnetic Field
Strength: 52197.9snT
Dip Angle: 66.75°
Date: 10/10/2018
Model: IGRF2015



WELL DETAILS: Guttersen D12-765

	Northing	Easting	Latitude	Longitude
4745.00				
0.00	0.00	1339437.68	3278297.46	40.2608600	-104.5027900

Plan: Plan #1 (Guttersen D12-765/Wellbore #1)

Created By: Colby Baxter Date: 11:22, October 11 2018

Checked: _____ Date: _____

Reviewed: _____ Date: _____

Approved: _____ Date: _____

Northern Region - DJ Basin

Mustang
D Section 01
Guttersen D12-765

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 D12-765
Project:	Mustang	**TVD Reference:**	KB @ 4775.00ft
Site:	D Section 01	**MD Reference:**	KB @ 4775.00ft
Well:	Guttersen D12-765	**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 D12-765

Well Position	**+N/-S**	0.00 ft	**Northing:**	1,339,437.68 usft	**Latitude:**	40.2608600
	+E/-W	0.00 ft	**Easting:**	3,278,297.47 usft	**Longitude:**	-104.5027900
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	52,197.89765853

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	179.81

Survey Tool Program **Date** 10/11/2018

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	17,427.57	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 D12-765
Project:	Mustang	**TVD Reference:**	KB @ 4775.00ft
Site:	D Section 01	**MD Reference:**	KB @ 4775.00ft
Well:	Guttersen D12-765	**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	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	2.00	0.41	2,699.98	1.75	0.01	-1.75	2.00	2.00	0.00
2,800.00	4.00	0.41	2,799.84	6.98	0.05	-6.98	2.00	2.00	0.00
2,900.00	6.00	0.41	2,899.45	15.69	0.11	-15.69	2.00	2.00	0.00
3,000.00	8.00	0.41	2,998.70	27.88	0.20	-27.88	2.00	2.00	0.00
3,100.00	10.00	0.41	3,097.47	43.52	0.31	-43.52	2.00	2.00	0.00
3,200.00	12.00	0.41	3,195.62	62.60	0.45	-62.60	2.00	2.00	0.00
3,284.60	13.69	0.41	3,278.10	81.41	0.59	-81.41	2.00	2.00	0.00
3,300.00	13.69	0.41	3,293.07	85.05	0.61	-85.05	0.00	0.00	0.00
3,400.00	13.69	0.41	3,390.22	108.72	0.78	-108.72	0.00	0.00	0.00
3,500.00	13.69	0.41	3,487.38	132.39	0.95	-132.39	0.00	0.00	0.00
3,600.00	13.69	0.41	3,584.54	156.06	1.12	-156.06	0.00	0.00	0.00
3,700.00	13.69	0.41	3,681.70	179.73	1.29	-179.73	0.00	0.00	0.00
3,800.00	13.69	0.41	3,778.86	203.40	1.46	-203.40	0.00	0.00	0.00
3,900.00	13.69	0.41	3,876.01	227.07	1.63	-227.06	0.00	0.00	0.00
4,000.00	13.69	0.41	3,973.17	250.74	1.80	-250.73	0.00	0.00	0.00
4,100.00	13.69	0.41	4,070.33	274.41	1.97	-274.40	0.00	0.00	0.00
4,200.00	13.69	0.41	4,167.49	298.08	2.14	-298.07	0.00	0.00	0.00
4,300.00	13.69	0.41	4,264.65	321.75	2.31	-321.74	0.00	0.00	0.00
4,400.00	13.69	0.41	4,361.81	345.42	2.48	-345.41	0.00	0.00	0.00
4,500.00	13.69	0.41	4,458.96	369.09	2.65	-369.08	0.00	0.00	0.00
4,600.00	13.69	0.41	4,556.12	392.76	2.82	-392.75	0.00	0.00	0.00
4,700.00	13.69	0.41	4,653.28	416.43	2.99	-416.42	0.00	0.00	0.00
4,800.00	13.69	0.41	4,750.44	440.10	3.16	-440.08	0.00	0.00	0.00
4,900.00	13.69	0.41	4,847.60	463.77	3.33	-463.75	0.00	0.00	0.00
5,000.00	13.69	0.41	4,944.76	487.44	3.50	-487.42	0.00	0.00	0.00
5,100.00	13.69	0.41	5,041.91	511.11	3.67	-511.09	0.00	0.00	0.00
5,200.00	13.69	0.41	5,139.07	534.78	3.84	-534.76	0.00	0.00	0.00

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Guttersen D12-765
Project:	Mustang	**TVD Reference:**	KB @ 4775.00ft
Site:	D Section 01	**MD Reference:**	KB @ 4775.00ft
Well:	Guttersen D12-765	**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	13.69	0.41	5,236.23	558.44	4.01	-558.43	0.00	0.00	0.00
5,400.00	13.69	0.41	5,333.39	582.11	4.18	-582.10	0.00	0.00	0.00
5,500.00	13.69	0.41	5,430.55	605.78	4.35	-605.77	0.00	0.00	0.00
5,600.00	13.69	0.41	5,527.70	629.45	4.53	-629.43	0.00	0.00	0.00
5,700.00	13.69	0.41	5,624.86	653.12	4.70	-653.10	0.00	0.00	0.00
5,800.00	13.69	0.41	5,722.02	676.79	4.87	-676.77	0.00	0.00	0.00
5,900.00	13.69	0.41	5,819.18	700.46	5.04	-700.44	0.00	0.00	0.00
6,000.00	13.69	0.41	5,916.34	724.13	5.21	-724.11	0.00	0.00	0.00
6,044.63	13.69	0.41	5,959.70	734.70	5.28	-734.67	0.00	0.00	0.00
6,100.00	8.71	0.74	6,014.00	745.45	5.38	-745.42	9.00	-9.00	0.59
6,200.00	0.32	155.08	6,113.63	752.78	5.60	-752.75	9.00	-8.39	154.34
6,300.00	9.29	179.04	6,213.17	744.43	5.85	-744.41	9.00	8.97	23.95
6,400.00	18.29	179.45	6,310.19	720.62	6.14	-720.59	9.00	9.00	0.42
6,500.00	27.29	179.60	6,402.29	681.92	6.45	-681.89	9.00	9.00	0.15
6,600.00	36.29	179.68	6,487.20	629.29	6.78	-629.27	9.00	9.00	0.08
6,700.00	45.29	179.73	6,562.83	564.03	7.12	-564.00	9.00	9.00	0.05
6,800.00	54.29	179.76	6,627.32	487.74	7.46	-487.71	9.00	9.00	0.04
6,900.00	63.29	179.79	6,679.08	402.30	7.79	-402.27	9.00	9.00	0.03
7,000.00	72.29	179.82	6,716.84	309.81	8.11	-309.78	9.00	9.00	0.02
7,100.00	81.29	179.84	6,739.66	212.56	8.40	-212.53	9.00	9.00	0.02
7,196.76	90.00	179.86	6,747.00	116.17	8.66	-116.14	9.00	9.00	0.02
7,200.00	90.00	179.86	6,747.00	112.93	8.67	-112.90	0.00	0.00	0.00
7,300.00	90.00	179.86	6,747.00	12.93	8.91	-12.90	0.00	0.00	0.00
7,400.00	90.00	179.86	6,747.00	-87.07	9.16	87.10	0.00	0.00	0.00
7,500.00	90.00	179.86	6,747.00	-187.07	9.40	187.10	0.00	0.00	0.00
7,600.00	90.00	179.86	6,747.00	-287.07	9.65	287.10	0.00	0.00	0.00
7,700.00	90.00	179.86	6,747.00	-387.07	9.90	387.10	0.00	0.00	0.00
7,800.00	90.00	179.86	6,747.00	-487.07	10.14	487.10	0.00	0.00	0.00
7,900.00	90.00	179.86	6,747.00	-587.07	10.39	587.10	0.00	0.00	0.00
8,000.00	90.00	179.86	6,747.00	-687.07	10.64	687.10	0.00	0.00	0.00
8,100.00	90.00	179.86	6,747.00	-787.07	10.88	787.10	0.00	0.00	0.00
8,200.00	90.00	179.86	6,747.00	-887.07	11.13	887.10	0.00	0.00	0.00
8,300.00	90.00	179.86	6,747.00	-987.07	11.38	987.10	0.00	0.00	0.00
8,400.00	90.00	179.86	6,747.00	-1,087.07	11.62	1,087.10	0.00	0.00	0.00
8,500.00	90.00	179.86	6,747.00	-1,187.07	11.87	1,187.10	0.00	0.00	0.00
8,600.00	90.00	179.86	6,747.00	-1,287.07	12.12	1,287.10	0.00	0.00	0.00
8,700.00	90.00	179.86	6,747.00	-1,387.07	12.36	1,387.10	0.00	0.00	0.00
8,800.00	90.00	179.86	6,747.00	-1,487.07	12.61	1,487.10	0.00	0.00	0.00
8,900.00	90.00	179.86	6,747.00	-1,587.07	12.85	1,587.10	0.00	0.00	0.00
9,000.00	90.00	179.86	6,747.00	-1,687.07	13.10	1,687.10	0.00	0.00	0.00
9,100.00	90.00	179.86	6,747.00	-1,787.07	13.35	1,787.10	0.00	0.00	0.00
9,200.00	90.00	179.86	6,747.00	-1,887.07	13.59	1,887.10	0.00	0.00	0.00
9,300.00	90.00	179.86	6,747.00	-1,987.07	13.84	1,987.10	0.00	0.00	0.00

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Guttersen D12-765
Project:	Mustang	**TVD Reference:**	KB @ 4775.00ft
Site:	D Section 01	**MD Reference:**	KB @ 4775.00ft
Well:	Guttersen D12-765	**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	179.86	6,747.00	-2,087.07	14.09	2,087.10	0.00	0.00	0.00
9,500.00	90.00	179.86	6,747.00	-2,187.06	14.33	2,187.10	0.00	0.00	0.00
9,600.00	90.00	179.86	6,747.00	-2,287.06	14.58	2,287.10	0.00	0.00	0.00
9,700.00	90.00	179.86	6,747.00	-2,387.06	14.83	2,387.10	0.00	0.00	0.00
9,800.00	90.00	179.86	6,747.00	-2,487.06	15.07	2,487.10	0.00	0.00	0.00
9,900.00	90.00	179.86	6,747.00	-2,587.06	15.32	2,587.10	0.00	0.00	0.00
10,000.00	90.00	179.86	6,747.00	-2,687.06	15.56	2,687.10	0.00	0.00	0.00
10,100.00	90.00	179.86	6,747.00	-2,787.06	15.81	2,787.10	0.00	0.00	0.00
10,200.00	90.00	179.86	6,747.00	-2,887.06	16.06	2,887.10	0.00	0.00	0.00
10,300.00	90.00	179.86	6,747.00	-2,987.06	16.30	2,987.10	0.00	0.00	0.00
10,400.00	90.00	179.86	6,747.00	-3,087.06	16.55	3,087.10	0.00	0.00	0.00
10,500.00	90.00	179.86	6,747.00	-3,187.06	16.80	3,187.10	0.00	0.00	0.00
10,600.00	90.00	179.86	6,747.00	-3,287.06	17.04	3,287.10	0.00	0.00	0.00
10,700.00	90.00	179.86	6,747.00	-3,387.06	17.29	3,387.10	0.00	0.00	0.00
10,800.00	90.00	179.86	6,747.00	-3,487.06	17.54	3,487.10	0.00	0.00	0.00
10,900.00	90.00	179.86	6,747.00	-3,587.06	17.78	3,587.10	0.00	0.00	0.00
11,000.00	90.00	179.86	6,747.00	-3,687.06	18.03	3,687.10	0.00	0.00	0.00
11,100.00	90.00	179.86	6,747.00	-3,787.06	18.28	3,787.10	0.00	0.00	0.00
11,200.00	90.00	179.86	6,747.00	-3,887.06	18.52	3,887.10	0.00	0.00	0.00
11,300.00	90.00	179.86	6,747.00	-3,987.06	18.77	3,987.10	0.00	0.00	0.00
11,400.00	90.00	179.86	6,747.00	-4,087.06	19.01	4,087.10	0.00	0.00	0.00
11,500.00	90.00	179.86	6,747.00	-4,187.06	19.26	4,187.10	0.00	0.00	0.00
11,600.00	90.00	179.86	6,747.00	-4,287.06	19.51	4,287.10	0.00	0.00	0.00
11,700.00	90.00	179.86	6,747.00	-4,387.06	19.75	4,387.10	0.00	0.00	0.00
11,800.00	90.00	179.86	6,747.00	-4,487.06	20.00	4,487.10	0.00	0.00	0.00
11,900.00	90.00	179.86	6,747.00	-4,587.06	20.25	4,587.10	0.00	0.00	0.00
12,000.00	90.00	179.86	6,747.00	-4,687.06	20.49	4,687.10	0.00	0.00	0.00
12,100.00	90.00	179.86	6,747.00	-4,787.06	20.74	4,787.10	0.00	0.00	0.00
12,200.00	90.00	179.86	6,747.00	-4,887.06	20.99	4,887.10	0.00	0.00	0.00
12,300.00	90.00	179.86	6,747.00	-4,987.06	21.23	4,987.10	0.00	0.00	0.00
12,400.00	90.00	179.86	6,747.00	-5,087.06	21.48	5,087.10	0.00	0.00	0.00
12,500.00	90.00	179.86	6,747.00	-5,187.06	21.73	5,187.10	0.00	0.00	0.00
12,600.00	90.00	179.86	6,747.00	-5,287.06	21.97	5,287.10	0.00	0.00	0.00
12,700.00	90.00	179.86	6,747.00	-5,387.06	22.22	5,387.10	0.00	0.00	0.00
12,800.00	90.00	179.86	6,747.00	-5,487.06	22.46	5,487.10	0.00	0.00	0.00
12,900.00	90.00	179.86	6,747.00	-5,587.05	22.71	5,587.10	0.00	0.00	0.00
13,000.00	90.00	179.86	6,747.00	-5,687.05	22.96	5,687.10	0.00	0.00	0.00
13,100.00	90.00	179.86	6,747.00	-5,787.05	23.20	5,787.10	0.00	0.00	0.00
13,200.00	90.00	179.86	6,747.00	-5,887.05	23.45	5,887.10	0.00	0.00	0.00
13,300.00	90.00	179.86	6,747.00	-5,987.05	23.70	5,987.10	0.00	0.00	0.00
13,400.00	90.00	179.86	6,747.00	-6,087.05	23.94	6,087.10	0.00	0.00	0.00
13,500.00	90.00	179.86	6,747.00	-6,187.05	24.19	6,187.10	0.00	0.00	0.00
13,600.00	90.00	179.86	6,747.00	-6,287.05	24.44	6,287.10	0.00	0.00	0.00

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Guttersen D12-765
Project:	Mustang	**TVD Reference:**	KB @ 4775.00ft
Site:	D Section 01	**MD Reference:**	KB @ 4775.00ft
Well:	Guttersen D12-765	**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	179.86	6,747.00	-6,387.05	24.68	6,387.10	0.00	0.00	0.00
13,800.00	90.00	179.86	6,747.00	-6,487.05	24.93	6,487.10	0.00	0.00	0.00
13,900.00	90.00	179.86	6,747.00	-6,587.05	25.17	6,587.10	0.00	0.00	0.00
14,000.00	90.00	179.86	6,747.00	-6,687.05	25.42	6,687.10	0.00	0.00	0.00
14,100.00	90.00	179.86	6,747.00	-6,787.05	25.67	6,787.10	0.00	0.00	0.00
14,200.00	90.00	179.86	6,747.00	-6,887.05	25.91	6,887.10	0.00	0.00	0.00
14,300.00	90.00	179.86	6,747.00	-6,987.05	26.16	6,987.10	0.00	0.00	0.00
14,400.00	90.00	179.86	6,747.00	-7,087.05	26.41	7,087.10	0.00	0.00	0.00
14,500.00	90.00	179.86	6,747.00	-7,187.05	26.65	7,187.10	0.00	0.00	0.00
14,600.00	90.00	179.86	6,747.00	-7,287.05	26.90	7,287.10	0.00	0.00	0.00
14,700.00	90.00	179.86	6,747.00	-7,387.05	27.15	7,387.10	0.00	0.00	0.00
14,800.00	90.00	179.86	6,747.00	-7,487.05	27.39	7,487.10	0.00	0.00	0.00
14,900.00	90.00	179.86	6,747.00	-7,587.05	27.64	7,587.10	0.00	0.00	0.00
15,000.00	90.00	179.86	6,747.00	-7,687.05	27.89	7,687.10	0.00	0.00	0.00
15,100.00	90.00	179.86	6,747.00	-7,787.05	28.13	7,787.10	0.00	0.00	0.00
15,200.00	90.00	179.86	6,747.00	-7,887.05	28.38	7,887.10	0.00	0.00	0.00
15,300.00	90.00	179.86	6,747.00	-7,987.05	28.62	7,987.10	0.00	0.00	0.00
15,400.00	90.00	179.86	6,747.00	-8,087.05	28.87	8,087.10	0.00	0.00	0.00
15,500.00	90.00	179.86	6,747.00	-8,187.05	29.12	8,187.10	0.00	0.00	0.00
15,600.00	90.00	179.86	6,747.00	-8,287.05	29.36	8,287.10	0.00	0.00	0.00
15,700.00	90.00	179.86	6,747.00	-8,387.05	29.61	8,387.10	0.00	0.00	0.00
15,800.00	90.00	179.86	6,747.00	-8,487.05	29.86	8,487.10	0.00	0.00	0.00
15,900.00	90.00	179.86	6,747.00	-8,587.05	30.10	8,587.10	0.00	0.00	0.00
16,000.00	90.00	179.86	6,747.00	-8,687.05	30.35	8,687.10	0.00	0.00	0.00
16,100.00	90.00	179.86	6,747.00	-8,787.05	30.60	8,787.10	0.00	0.00	0.00
16,200.00	90.00	179.86	6,747.00	-8,887.04	30.84	8,887.10	0.00	0.00	0.00
16,300.00	90.00	179.86	6,747.00	-8,987.04	31.09	8,987.10	0.00	0.00	0.00
16,400.00	90.00	179.86	6,747.00	-9,087.04	31.34	9,087.10	0.00	0.00	0.00
16,500.00	90.00	179.86	6,747.00	-9,187.04	31.58	9,187.10	0.00	0.00	0.00
16,600.00	90.00	179.86	6,747.00	-9,287.04	31.83	9,287.10	0.00	0.00	0.00
16,700.00	90.00	179.86	6,747.00	-9,387.04	32.07	9,387.10	0.00	0.00	0.00
16,800.00	90.00	179.86	6,747.00	-9,487.04	32.32	9,487.10	0.00	0.00	0.00
16,900.00	90.00	179.86	6,747.00	-9,587.04	32.57	9,587.10	0.00	0.00	0.00
17,000.00	90.00	179.86	6,747.00	-9,687.04	32.81	9,687.10	0.00	0.00	0.00
17,100.00	90.00	179.86	6,747.00	-9,787.04	33.06	9,787.10	0.00	0.00	0.00
17,200.00	90.00	179.86	6,747.00	-9,887.04	33.31	9,887.10	0.00	0.00	0.00
17,300.00	90.00	179.86	6,747.00	-9,987.04	33.55	9,987.10	0.00	0.00	0.00
17,400.00	90.00	179.86	6,747.00	-10,087.04	33.80	10,087.10	0.00	0.00	0.00
17,427.57	90.00	179.86	6,747.00	-10,114.61	33.87	10,114.66	0.00	0.00	0.00

Noble Energy, Inc.

Survey Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Guttersen D12-765
Project:	Mustang	**TVD Reference:**	KB @ 4775.00ft
Site:	D Section 01	**MD Reference:**	KB @ 4775.00ft
Well:	Guttersen D12-765	**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 D12-765 - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	1,339,437.68	3,278,297.47	40.2608600	-104.5027900
KOP Guttersen D12-765 - plan hits target center - Point	0.00	0.00	5,959.70	734.69	5.28	1,340,172.37	3,278,302.75	40.2628765	-104.5027414
BHL Guttersen D12-765 - plan hits target center - Point	0.00	0.00	6,747.00	-10,114.61	33.87	1,329,323.09	3,278,331.33	40.2330952	-104.5030761
TPZ Guttersen D12-765 - plan hits target center - Point	0.00	0.00	6,747.00	116.17	8.66	1,339,553.85	3,278,306.12	40.2611786	-104.5027543

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
336.00	336.00	Pierre			
610.00	610.00	Upper Pierre Aquifer Top			
1,544.00	1,544.00	Upper Pierre Aquifer Base			
2,665.01	2,665.00	Parkman			
3,991.59	3,965.00	Sussex			
4,854.10	4,803.00	Shannon			
5,975.98	5,893.00	Teepee Buttes			
6,682.02	6,550.00	Sharon Springs			
6,721.96	6,578.00	Top A Chalk			
6,746.03	6,594.00	Top A Marl			
6,787.63	6,620.00	Top B Chalk			
6,842.59	6,651.00	Top B Marl			
6,978.64	6,710.00	Top C Chalk			
7,109.28	6,741.00	Top C Marl			

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
2600	2600	0	0	Start Build 2.00
6045	5960	735	5	Start DLS 9.00 TFO 179.43
7197	6747	116	9	TPZ/LP at 7196.76 MD
17,428	6747	-10,115	34	TD at 17427.56 MD

Checked By: _____ Approved By: _____ Date: _____

Northern Region - DJ Basin

Mustang
D Section 01
Guttersen D12-765

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 Guttersen D12-765
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 D12-765	**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	17,427.57	Plan #1 (Wellbore #1)	2_MWD+IFR1	A005Mb: IFR declination correction only

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
C Section 36						
Ava State C36-18 (SI) - Wellbore #1 - No Surveys	6,197.17	6,071.80	3,691.04	3,427.95	14.029	CC
Ava State C36-18 (SI) - Wellbore #1 - No Surveys	6,250.00	6,124.56	3,693.15	3,427.79	13.917	ES
Ava State C36-18 (SI) - Wellbore #1 - No Surveys	6,550.00	6,406.78	3,782.97	3,505.62	13.639	SF
Ava State C36-20 (PR) - Wellbore #1 - No Surveys	6,196.46	6,061.09	2,041.22	1,778.58	7.772	CC
Ava State C36-20 (PR) - Wellbore #1 - No Surveys	6,200.00	6,064.63	2,041.23	1,778.44	7.768	ES
Ava State C36-20 (PR) - Wellbore #1 - No Surveys	6,400.00	6,261.19	2,072.88	1,801.68	7.643	SF
Ava State C36-21 (SI) - Wellbore #1 - No Surveys	6,197.30	6,066.92	2,455.38	2,192.46	9.339	CC
Ava State C36-21 (SI) - Wellbore #1 - No Surveys	6,250.00	6,119.56	2,457.43	2,192.24	9.267	ES
Ava State C36-21 (SI) - Wellbore #1 - No Surveys	6,450.00	6,313.00	2,502.02	2,228.58	9.150	SF
Ava State C36-22 (SI) - Wellbore #1 - No Surveys	6,198.26	6,088.88	3,053.46	2,789.49	11.567	CC
Ava State C36-22 (SI) - Wellbore #1 - No Surveys	6,200.00	6,109.37	3,053.47	2,788.67	11.531	ES
Ava State C36-22 (SI) - Wellbore #1 - No Surveys	6,550.00	6,422.78	3,121.07	2,842.81	11.216	SF
Ava State C36-24 (PR) - Wellbore #1 - No Surveys	6,198.50	6,078.13	1,297.97	1,034.40	4.925	CC
Ava State C36-24 (PR) - Wellbore #1 - No Surveys	6,250.00	6,129.56	1,299.33	1,033.54	4.889	ES
Ava State C36-24 (PR) - Wellbore #1 - No Surveys	6,400.00	6,276.19	1,318.81	1,046.74	4.847	SF
Ava State C36-31 (PR) - Wellbore #1 - No Surveys	6,196.08	6,050.71	3,763.35	3,501.08	14.349	CC
Ava State C36-31 (PR) - Wellbore #1 - No Surveys	6,250.00	6,104.56	3,765.43	3,500.84	14.231	ES
Ava State C36-31 (PR) - Wellbore #1 - No Surveys	6,550.00	6,386.78	3,850.97	3,574.37	13.923	SF
Booth CC31-68-1HN (PR) - Original Drilling - Original Dri	6,176.94	6,033.00	5,175.40	5,132.31	120.120	CC, ES
Booth CC31-68-1HN (PR) - Original Drilling - Original Dri	6,450.00	6,072.88	5,224.25	5,180.29	118.851	SF
Booth State C36-69HN (PR) - Original Drilling - Original D	6,270.27	9,694.80	4,788.23	4,686.39	47.017	CC, ES
Booth State C36-69HN (PR) - Original Drilling - Original D	6,450.00	9,706.28	4,816.69	4,713.68	46.759	SF
Booth State CC30-79HN (PR) - Original Drilling - Orignal	6,171.63	5,936.00	6,116.26	6,075.36	149.545	CC, ES
Booth State CC30-79HN (PR) - Original Drilling - Orignal	6,450.00	6,031.00	6,168.35	6,126.28	146.606	SF
Booth State CC31-69HN (PR) - Original Drilling - Origina	6,172.44	5,938.00	6,054.36	6,013.22	147.136	CC, ES
Booth State CC31-69HN (PR) - Original Drilling - Origina	10,500.00	10,500.00	9,504.33	9,435.57	138.221	SF
State 36-04I4 (PR) - Wellbore #1 - No Surveys	6,196.50	6,059.12	3,660.55	3,398.00	13.942	CC
State 36-04I4 (PR) - Wellbore #1 - No Surveys	6,200.00	6,062.63	3,660.56	3,397.86	13.934	ES
State 36-04I4 (PR) - Wellbore #1 - No Surveys	6,550.00	6,405.23	3,754.81	3,477.56	13.543	SF
State 36-07I4 (SI) - Wellbore #1 - No Surveys	6,197.52	6,080.14	3,178.04	2,914.55	12.061	CC
State 36-07I4 (SI) - Wellbore #1 - No Surveys	6,250.00	6,132.56	3,179.96	2,914.22	11.966	ES
State 36-07I4 (SI) - Wellbore #1 - No Surveys	6,500.00	6,371.29	3,241.00	2,965.08	11.746	SF
State 36-10I4 (SI) - Wellbore #1 - No Surveys	6,198.11	6,076.73	2,077.33	1,813.87	7.885	CC
State 36-10I4 (SI) - Wellbore #1 - No Surveys	6,250.00	6,128.56	2,078.90	1,813.21	7.824	ES
State 36-10I4 (SI) - Wellbore #1 - No Surveys	6,450.00	6,322.00	2,114.15	1,840.18	7.717	SF
State 36-11I4 (PR) - Wellbore #1 - No Surveys	6,197.06	6,064.69	1,378.21	1,115.41	5.244	CC
State 36-11I4 (PR) - Wellbore #1 - No Surveys	6,250.00	6,117.56	1,380.36	1,115.29	5.208	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 Guttersen D12-765
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 D12-765	**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
C Section 36						
State 36-11I4 (PR) - Wellbore #1 - No Surveys	6,350.00	6,216.15	1,396.13	1,126.84	5.184	SF
State 36-12I4 (PR) - Wellbore #1 - No Surveys	6,195.54	6,078.17	1,921.30	1,658.07	7.299	CC
State 36-12I4 (PR) - Wellbore #1 - No Surveys	6,250.00	6,132.56	1,923.11	1,657.53	7.241	ES
State 36-12I4 (PR) - Wellbore #1 - No Surveys	6,450.00	6,326.00	1,960.52	1,686.66	7.159	SF
State 36-14I4 (PR) - Wellbore #1 - No Surveys	6,207.60	6,077.23	287.73	24.01	1.091	Level 2, CC
State 36-14I4 (PR) - Wellbore #1 - No Surveys	6,350.00	6,218.15	290.47	20.68	1.077	Level 2, ES, SF
State 36-15I4 (PR) - Wellbore #1 - No Surveys	6,201.64	6,071.26	1,999.96	1,736.52	7.592	CC
State 36-15I4 (PR) - Wellbore #1 - No Surveys	6,300.00	6,169.17	2,002.20	1,734.54	7.480	ES
State 36-15I4 (PR) - Wellbore #1 - No Surveys	6,650.00	6,482.29	2,049.75	1,768.61	7.291	SF
State 36-16I4 (PR) - Wellbore #1 - No Surveys	6,262.12	6,174.63	2,684.73	2,416.93	10.025	CC
State 36-16I4 (PR) - Wellbore #1 - No Surveys	6,600.00	6,486.20	2,689.42	2,408.18	9.563	ES
State 36-16I4 (PR) - Wellbore #1 - No Surveys	6,950.00	6,701.23	2,720.92	2,430.17	9.358	SF
State 36-2I4 (SI) - Wellbore #1 - No Surveys	6,197.34	6,067.97	4,345.30	4,082.33	16.524	CC
State 36-2I4 (SI) - Wellbore #1 - No Surveys	6,250.00	6,120.56	4,347.33	4,082.09	16.390	ES
State 36-2I4 (SI) - Wellbore #1 - No Surveys	6,600.00	6,444.20	4,460.16	4,181.19	15.988	SF
State 36-3I4 (SI) - Wellbore #1 - No Surveys	6,196.86	6,057.49	4,079.20	3,816.71	15.541	CC
State 36-3I4 (SI) - Wellbore #1 - No Surveys	6,200.00	6,060.63	4,079.21	3,816.59	15.533	ES
State 36-3I4 (SI) - Wellbore #1 - No Surveys	6,550.00	6,407.23	4,174.42	3,897.09	15.052	SF
State 36-6I4 (PR) - Wellbore #1 - No Surveys	6,196.90	6,053.52	3,073.70	2,811.37	11.717	CC
State 36-6I4 (PR) - Wellbore #1 - No Surveys	6,200.00	6,056.63	3,073.71	2,811.24	11.711	ES
State 36-6I4 (PR) - Wellbore #1 - No Surveys	6,500.00	6,345.29	3,144.20	2,869.44	11.443	SF
State 36-8I4 (SI) - Wellbore #1 - No Surveys	6,198.18	6,100.20	4,235.27	3,970.86	16.018	CC
State 36-8I4 (SI) - Wellbore #1 - No Surveys	6,250.00	6,151.56	4,236.80	3,970.18	15.891	ES
State 36-8I4 (SI) - Wellbore #1 - No Surveys	6,650.00	6,514.29	4,348.13	4,066.03	15.413	SF
State 36-9I4 (PR) - Wellbore #1 - No Surveys	6,199.73	6,109.35	3,029.30	2,764.38	11.435	CC
State 36-9I4 (PR) - Wellbore #1 - No Surveys	6,250.00	6,159.56	3,030.19	2,763.11	11.346	ES
State 36-9I4 (PR) - Wellbore #1 - No Surveys	6,750.00	6,607.43	3,136.29	2,850.02	10.956	SF
State B14-36 (PA) - Wellbore #1 - No Surveys	6,194.85	6,071.47	989.18	725.90	3.757	CC
State B14-36 (PA) - Wellbore #1 - No Surveys	6,250.00	6,126.56	990.65	725.00	3.729	ES
State B14-36 (PA) - Wellbore #1 - No Surveys	6,350.00	6,225.15	1,000.88	731.00	3.709	SF
State B41-36 (SI) - Wellbore #1 - No Surveys	6,197.78	6,109.60	4,604.51	4,339.79	17.394	CC, ES
State B41-36 (SI) - Wellbore #1 - No Surveys	6,650.00	6,505.29	4,732.64	4,451.01	16.805	SF
State C36-01 (SI) - Wellbore #1 - No Surveys	6,197.82	6,109.56	5,354.43	5,089.71	20.226	CC, ES
State C36-01 (SI) - Wellbore #1 - No Surveys	6,700.00	6,541.83	5,509.01	5,225.83	19.454	SF
State C36-04 (PR) - Wellbore #1 - No Surveys	6,196.32	6,059.94	4,380.16	4,117.56	16.680	CC
State C36-04 (PR) - Wellbore #1 - No Surveys	6,200.00	6,063.63	4,380.17	4,117.41	16.670	ES
State C36-04 (PR) - Wellbore #1 - No Surveys	6,550.00	6,404.23	4,472.09	4,194.85	16.131	SF
State C36-13 (SI) - Wellbore #1 - No Surveys	6,153.90	6,045.56	1,234.67	972.39	4.707	CC
State C36-13 (SI) - Wellbore #1 - No Surveys	6,500.00	6,380.29	1,239.82	963.10	4.480	ES
State C36-13 (SI) - Wellbore #1 - No Surveys	6,700.00	6,540.83	1,256.38	972.72	4.429	SF
State C36-15 (PR) - Wellbore #1 - No Surveys	6,243.67	6,134.25	1,401.12	1,135.00	5.265	CC
State C36-15 (PR) - Wellbore #1 - No Surveys	6,500.00	6,379.29	1,404.45	1,127.77	5.076	ES
State C36-15 (PR) - Wellbore #1 - No Surveys	6,750.00	6,573.57	1,424.91	1,139.80	4.998	SF
State C36-32D (SI) - Wellbore #1 - As Drilled	100.00	83.80	2,212.77	2,212.50	8,159.735	CC
State C36-32D (SI) - Wellbore #1 - As Drilled	500.00	473.53	2,214.10	2,211.72	929.283	ES
State C36-32D (SI) - Wellbore #1 - As Drilled	6,450.00	6,519.52	2,723.10	2,677.68	59.958	SF
State C36-33D (SI) - Wellbore #1 - Original Drilling	6,202.14	6,155.61	1,842.10	1,797.23	41.047	CC, ES
State C36-33D (SI) - Wellbore #1 - Original Drilling	6,500.00	6,459.21	1,873.46	1,826.77	40.125	SF
State C36-99HZ (PR) - Wellbore #1 - As Drilled	6,380.10	7,502.37	1,238.94	1,182.06	21.783	CC, ES
State C36-99HZ (PR) - Wellbore #1 - As Drilled	6,500.00	7,503.92	1,255.84	1,197.30	21.453	SF
State D01-30D (SI) - Wellbore #1 - Original Drilling	3,897.42	4,019.99	1,642.98	1,604.10	42.260	CC
State D01-30D (SI) - Wellbore #1 - Original Drilling	3,900.00	4,021.77	1,642.98	1,604.08	42.235	ES
State D01-30D (SI) - Wellbore #1 - Original Drilling	7,400.00	7,128.42	1,786.39	1,721.91	27.706	SF

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 Guttersen D12-765
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 D12-765	**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

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Guttersen D12-765
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 D12-765	**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 01						
Abbey D 1-3 (PR) - Wellbore #1 - No Surveys	7,652.17	6,717.00	271.46	-22.30	0.924	Level 1, CC, ES, SF
Abbey D 1-4 (PR) - Wellbore #1 - No Surveys	7,661.26	6,705.00	1,057.24	763.92	3.604	CC, ES, SF
Abbey D 1-5 (PR) - Wellbore #1 - No Surveys	9,005.51	6,703.00	1,096.57	794.62	3.632	CC, ES, SF
Abbey D 1-6 (PR) - Wellbore #1 - No Surveys	9,080.41	6,733.00	333.14	29.39	1.097	Level 2, CC, ES, SF
Abbey D 1-7JI (SI) - Wellbore #1 - No Surveys	8,971.02	6,729.00	1,582.60	1,279.88	5.228	CC, ES
Abbey D 1-7JI (SI) - Wellbore #1 - No Surveys	9,000.00	6,729.00	1,582.87	1,279.92	5.225	SF
Abbey D01-08J1 - Abbey D01-08J1 OH - As-Drilled	8,686.57	6,676.68	2,912.75	2,856.18	51.495	CC
Abbey D01-08J1 - Abbey D01-08J1 OH - As-Drilled	8,700.00	6,676.74	2,912.78	2,856.11	51.406	ES
Abbey D01-08J1 - Abbey D01-08J1 OH - As-Drilled	9,600.00	6,680.71	3,052.61	2,989.84	48.630	SF
Abbey D01-08J1 (PR) - Wellbore #1 - No Surveys	8,766.20	6,739.00	2,906.56	2,605.02	9.639	CC
Abbey D01-08J1 (PR) - Wellbore #1 - No Surveys	8,800.00	6,739.00	2,906.76	2,604.96	9.631	ES
Abbey D01-08J1 (PR) - Wellbore #1 - No Surveys	9,000.00	6,739.00	2,915.95	2,612.66	9.614	SF
Abbey D01-18 (SI) - Wellbore #1 - No Surveys	8,330.29	6,722.00	832.56	534.78	2.796	CC, ES, SF
Abbey D01-19 (TA) - Wellbore #1 - No Surveys	8,594.45	6,720.00	332.62	33.10	1.111	Level 2, CC, ES, SF
Abbey D01-23 (PR) - Wellbore #1 - No Surveys	10,888.13	6,772.00	2,305.77	1,984.22	7.171	CC
Abbey D01-23 (PR) - Wellbore #1 - No Surveys	10,900.00	6,772.00	2,305.80	1,984.14	7.168	ES
Abbey D01-23 (PR) - Wellbore #1 - No Surveys	11,000.00	6,772.00	2,308.48	1,985.90	7.156	SF
Abbey D01-27 (SI) - Wellbore #1 - No Surveys	7,214.06	6,734.00	2,193.06	1,900.25	7.490	CC, ES
Abbey D01-27 (SI) - Wellbore #1 - No Surveys	7,300.00	6,734.00	2,194.75	1,901.68	7.489	SF
Abbey D01-28 (SI) - Wellbore #1 - No Surveys	7,275.93	6,716.00	1,088.13	795.85	3.723	CC, ES, SF
Abbey D01-29 (SI) - Wellbore #1 - No Surveys	3,542.20	3,500.39	379.45	229.00	2.522	CC
Abbey D01-29 (SI) - Wellbore #1 - No Surveys	7,166.81	6,718.30	387.00	94.94	1.325	Level 3, ES, SF
Abbey D01-32D - Wellbore #1 - Wellbore #1 - As Drilled	9,556.78	6,920.35	1,564.97	1,498.65	23.595	CC, ES
Abbey D01-32D - Wellbore #1 - Wellbore #1 - As Drilled	9,800.00	6,914.28	1,583.75	1,515.25	23.123	SF
Guttersen D01-31D (PR) - Guttersen D01-31D OH - As-D	8,308.43	6,832.60	1,770.16	1,713.26	31.107	CC, ES
Guttersen D01-31D (PR) - Guttersen D01-31D OH - As-D	8,500.00	6,829.11	1,780.48	1,722.83	30.880	SF
Guttersen D12-715 - Wellbore #1 - Plan #1	2,309.84	2,326.84	3,113.75	3,097.60	192.740	CC
Guttersen D12-715 - Wellbore #1 - Plan #1	17,427.57	17,394.65	3,257.13	3,016.54	13.538	ES, SF
Guttersen D12-725 - Wellbore #1 - Plan #1	7,158.35	7,118.77	2,590.56	2,540.07	51.309	CC
Guttersen D12-725 - Wellbore #1 - Plan #1	17,427.57	17,354.05	2,607.51	2,367.14	10.848	ES, SF
Guttersen D12-735 - Wellbore #1 - Plan #1	7,180.76	7,349.29	1,941.73	1,890.23	37.706	CC
Guttersen D12-735 - Wellbore #1 - Plan #1	17,427.57	17,566.38	1,954.42	1,714.09	8.132	ES, SF
Guttersen D12-745 - Wellbore #1 - Plan #1	7,181.59	7,531.47	1,294.71	1,242.22	24.668	CC
Guttersen D12-745 - Wellbore #1 - Plan #1	17,427.57	17,749.15	1,303.18	1,063.07	5.427	ES, SF
Guttersen D12-750 - Wellbore #1 - Plan #1	7,192.20	7,731.94	974.45	920.04	17.909	CC
Guttersen D12-750 - Wellbore #1 - Plan #1	17,427.57	17,957.30	980.77	739.74	4.069	ES, SF
Guttersen D12-755 - Wellbore #1 - Plan #1	2,200.00	2,200.00	22.33	7.02	1.459	Level 3, CC, ES
Guttersen D12-755 - Wellbore #1 - Plan #1	2,300.00	2,299.52	23.36	7.34	1.458	Level 3, SF
Guttersen D12-770 - Wellbore #1 - Plan #1	2,400.00	2,400.00	22.61	5.87	1.351	Level 3, CC
Guttersen D12-770 - Wellbore #1 - Plan #1	2,500.00	2,499.71	23.21	5.76	1.330	Level 3, ES, SF
Guttersen D12-775 - Wellbore #1 - Plan #1	2,400.00	2,400.00	45.21	28.47	2.701	CC, ES
Guttersen D12-775 - Wellbore #1 - Plan #1	2,500.00	2,499.11	46.18	28.73	2.646	SF
Guttersen D12-785 - Wellbore #1 - Plan #1	2,000.00	2,000.00	67.54	53.67	4.869	CC, ES
Guttersen D12-785 - Wellbore #1 - Plan #1	2,100.00	2,098.09	68.94	54.36	4.730	SF
Guttersen State C36-725 - Wellbore #1 - Plan #1	6,857.55	7,063.54	2,565.16	2,516.44	52.653	CC, ES
Guttersen State C36-725 - Wellbore #1 - Plan #1	7,150.00	6,900.00	2,574.63	2,525.53	52.441	SF
Guttersen State C36-735 - Wellbore #1 - Plan #1	6,851.87	7,200.00	1,914.44	1,864.66	38.463	CC, ES
Guttersen State C36-735 - Wellbore #1 - Plan #1	6,950.00	7,150.00	1,916.04	1,866.18	38.432	SF
Guttersen State C36-745 - Wellbore #1 - Plan #1	6,851.64	7,400.00	1,263.58	1,212.37	24.673	CC, ES, SF
Guttersen State C36-750 - Wellbore #1 - Plan #1	6,944.33	7,569.80	949.43	896.47	17.927	CC, ES, SF
Guttersen State C36-755 - Wellbore #1 - Plan #1	2,000.00	2,001.00	151.49	137.62	10.917	CC
Guttersen State C36-755 - Wellbore #1 - Plan #1	2,200.00	2,199.82	152.22	136.94	9.960	ES
Guttersen State C36-755 - Wellbore #1 - Plan #1	2,600.00	2,604.66	164.81	146.70	9.101	SF

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 Guttersen D12-765
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 D12-765	**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 01						
Guttersen State C36-765 - Wellbore #1 - Plan #1	6,904.56	6,938.13	41.64	-6.82	0.859	Level 1, CC, ES, SF
Guttersen State C36-775 - Wellbore #1 - Plan #1	2,000.00	2,001.00	151.67	137.80	10.930	CC
Guttersen State C36-775 - Wellbore #1 - Plan #1	2,100.00	2,100.38	151.87	137.29	10.414	ES
Guttersen State C36-775 - Wellbore #1 - Plan #1	2,600.00	2,606.20	167.49	149.39	9.251	SF
Guttersen State C36-785 - Wellbore #1 - Plan #1	2,000.00	2,001.00	156.54	142.66	11.281	CC
Guttersen State C36-785 - Wellbore #1 - Plan #1	2,100.00	2,099.47	157.03	142.45	10.771	ES
Guttersen State C36-785 - Wellbore #1 - Plan #1	2,400.00	2,392.62	166.18	149.54	9.984	SF
HSR-Guttersen 11-1 (PR) - Wellbore #1 - No Surveys	10,261.30	6,746.00	270.95	-43.62	0.861	Level 1, CC, ES, SF
HSR-Guttersen 12-1 (PR) - Wellbore #1 - No Surveys	10,283.81	6,704.00	1,051.91	738.80	3.360	CC
HSR-Guttersen 12-1 (PR) - Wellbore #1 - No Surveys	10,300.00	6,704.00	1,052.03	738.78	3.358	ES, SF
HSR-Guttersen 14-1 (SI) - Wellbore #1 - No Surveys	11,605.65	6,726.00	260.44	-66.29	0.797	Level 1, CC, ES, SF
HSR-Guttersen 15-1 (SI) - Wellbore #1 - Wellbore #1	11,789.14	6,764.00	1,761.06	1,430.98	5.335	CC
HSR-Guttersen 15-1 (SI) - Wellbore #1 - Wellbore #1	11,800.00	6,764.00	1,761.09	1,430.91	5.334	ES
HSR-Guttersen 15-1 (SI) - Wellbore #1 - Wellbore #1	11,900.00	6,764.00	1,764.54	1,433.46	5.330	SF
HSR-Guttersen 16-1 (SI) - Wellbore #1 - No Surveys	11,784.68	6,778.00	3,084.16	2,753.57	9.329	CC
HSR-Guttersen 16-1 (SI) - Wellbore #1 - No Surveys	11,800.00	6,778.00	3,084.20	2,753.46	9.325	ES
HSR-Guttersen 16-1 (SI) - Wellbore #1 - No Surveys	12,000.00	6,778.00	3,091.67	2,759.05	9.295	SF
Keisha White D01-01 - Wellbore #1 - Wellbore #1 - As D	7,592.46	6,745.22	2,856.01	2,805.83	56.921	CC
Keisha White D01-01 - Wellbore #1 - Wellbore #1 - As D	7,600.00	6,745.26	2,856.02	2,805.81	56.886	ES
Keisha White D01-01 - Wellbore #1 - Wellbore #1 - As D	8,400.00	6,749.78	2,967.98	2,913.74	54.723	SF
Keisha White D01-07 (PR) - Wellbore #1 - No Surveys	9,655.85	6,731.00	1,591.45	1,282.94	5.158	CC, ES
Keisha White D01-07 (PR) - Wellbore #1 - No Surveys	9,700.00	6,731.00	1,592.06	1,283.17	5.154	SF
Keisha White D01-08 (PR) - Wellbore #1 - No Surveys	9,736.04	6,748.00	2,817.50	2,507.60	9.092	CC, ES
Keisha White D01-08 (PR) - Wellbore #1 - No Surveys	9,900.00	6,748.00	2,822.27	2,510.96	9.066	SF
UPV 1-2J4 (PR) - Wellbore #1 - No Surveys	7,980.69	6,731.00	1,931.09	1,635.09	6.524	CC
UPV 1-2J4 (PR) - Wellbore #1 - No Surveys	8,000.00	6,731.00	1,931.19	1,635.08	6.522	ES
UPV 1-2J4 (PR) - Wellbore #1 - No Surveys	8,100.00	6,731.00	1,934.77	1,638.10	6.522	SF
Woody D01-09 - Wellbore #1 - Wellbore #1 - As Drilled	10,416.41	6,695.61	3,069.37	2,998.02	43.017	CC, ES
Woody D01-09 - Wellbore #1 - Wellbore #1 - As Drilled	11,200.00	6,677.62	3,167.75	3,090.32	40.911	SF
Woody D01-10 (PR) - Wellbore #1 - No Surveys	10,244.75	6,764.00	1,403.78	1,088.64	4.454	CC, ES
Woody D01-10 (PR) - Wellbore #1 - No Surveys	10,300.00	6,764.00	1,404.87	1,089.24	4.451	SF

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Guttersen D12-765
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 D12-765	**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

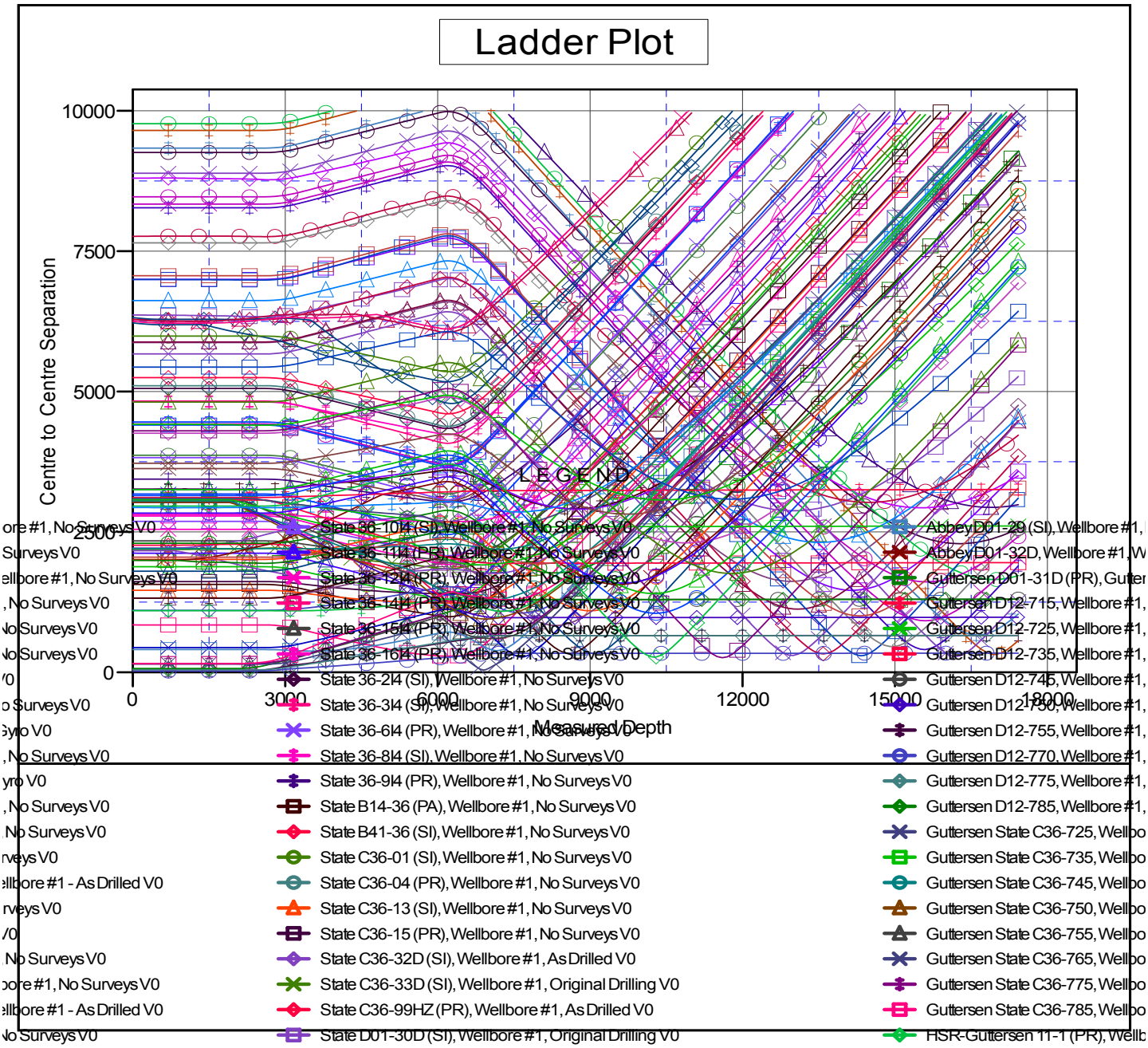
Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
D Section 12						
GUTTERERSEN STATE D #12-7JI(SI) - Wellbore #1 - N	14,156.10	6,728.00	1,460.96	1,316.48	10.111	CC, ES
GUTTERERSEN STATE D #12-7JI(SI) - Wellbore #1 - N	14,300.00	6,728.00	1,468.03	1,322.42	10.082	SF
GUTTERSEN #12D(PR) - Wellbore #1 - No Surveys	16,279.90	6,722.00	2,292.19	2,125.39	13.742	CC
GUTTERSEN #12D(PR) - Wellbore #1 - No Surveys	16,300.00	6,722.00	2,292.28	2,125.27	13.725	ES
GUTTERSEN #12D(PR) - Wellbore #1 - No Surveys	16,500.00	6,722.00	2,302.73	2,134.06	13.652	SF
Guttersen #33-12(PR) - Wellbore #1 - No Surveys	15,626.55	6,712.00	1,610.76	1,450.96	10.080	CC, ES
Guttersen #33-12(PR) - Wellbore #1 - No Surveys	15,700.00	6,712.00	1,612.44	1,451.96	10.048	SF
GUTTERSEN #34-12(PR) - Wellbore #1 - No Surveys	16,941.30	6,712.00	1,653.10	1,479.36	9.514	CC, ES
GUTTERSEN #34-12(PR) - Wellbore #1 - No Surveys	17,000.00	6,712.00	1,654.14	1,479.84	9.490	SF
Guttersen #43-12(PR) - Wellbore #1 - Gyro	15,511.09	6,725.95	2,930.58	2,807.26	23.763	CC, ES
Guttersen #43-12(PR) - Wellbore #1 - Gyro	15,900.00	6,718.47	2,956.26	2,829.69	23.355	SF
GUTTERSEN #44-12(PR) - Wellbore #1 - Gyro	16,890.55	6,559.38	2,937.78	2,800.52	21.403	CC
GUTTERSEN #44-12(PR) - Wellbore #1 - Gyro	16,900.00	6,559.30	2,937.80	2,800.43	21.387	ES
GUTTERSEN #44-12(PR) - Wellbore #1 - Gyro	17,300.00	6,555.85	2,966.17	2,825.61	21.102	SF
GUTTERSEN D #12-20(PR) - Wellbore #1 - No Surveys	14,948.95	6,712.00	458.37	305.71	3.003	CC, ES, SF
GUTTERSEN D #12-25(PR) - Wellbore #1 - No Surveys	16,197.32	6,719.00	281.87	115.97	1.699	CC
GUTTERSEN D #12-25(PR) - Wellbore #1 - No Surveys	16,200.00	6,719.00	281.88	115.95	1.699	ES, SF
GUTTERSEN STATE D #12-19(PR) - Wellbore #1 - No S	13,588.97	6,719.00	327.91	189.40	2.367	CC, ES, SF
GUTTERSEN STATE D #12-2JI(SI) - Wellbore #1 - No S	12,956.14	6,752.00	1,620.64	1,488.37	12.253	CC, ES
GUTTERSEN STATE D #12-2JI(SI) - Wellbore #1 - No S	13,100.00	6,752.00	1,627.02	1,493.53	12.188	SF
Guttersen State D12-01JI - Wellbore #1 - Wellbore #1 - A	12,995.97	6,703.51	2,877.99	2,781.02	29.681	CC
Guttersen State D12-01JI - Wellbore #1 - Wellbore #1 - A	13,000.00	6,703.81	2,877.99	2,780.98	29.668	ES
Guttersen State D12-01JI - Wellbore #1 - Wellbore #1 - A	13,500.00	6,744.90	2,921.50	2,820.20	28.838	SF
Guttersen State D12-08JI - Wellbore #1 - Wellbore #1 - A	14,483.19	6,772.26	3,027.05	2,914.37	26.864	CC
Guttersen State D12-08JI - Wellbore #1 - Wellbore #1 - A	14,500.00	6,772.36	3,027.10	2,914.24	26.822	ES
Guttersen State D12-08JI - Wellbore #1 - Wellbore #1 - A	15,000.00	6,775.13	3,070.85	2,953.97	26.274	SF
KARCH BLUE D #12-11(PR) - Wellbore #1 - No Surveys	15,575.24	6,703.00	406.73	247.56	2.555	CC, ES, SF
KARCH BLUE D #12-12(PR) - Wellbore #1 - No Surveys	15,601.44	6,700.00	918.89	759.46	5.764	CC, ES, SF
KARCH BLUE D #12-14(PR) - Wellbore #1 - No Surveys	16,958.54	6,706.00	318.67	144.79	1.833	CC, ES, SF
L F RANCH #2-12(SI) - Wellbore #1 - No Surveys	16,626.51	6,697.00	661.44	491.18	3.885	CC, ES, SF
SPIKE STATE #D 12-3(PR) - Wellbore #1 - No Surveys	12,975.07	6,711.00	300.40	168.29	2.274	CC, ES, SF
SPIKE STATE #D 12-4(PR) - Wellbore #1 - No Surveys	13,089.57	6,702.00	1,125.10	991.89	8.446	CC
SPIKE STATE #D 12-4(PR) - Wellbore #1 - No Surveys	13,100.00	6,702.00	1,125.14	991.84	8.440	ES
SPIKE STATE #D 12-4(PR) - Wellbore #1 - No Surveys	13,200.00	6,702.00	1,130.50	996.49	8.436	SF
SPIKE STATE #D 12-5(PR) - Wellbore #1 - No Surveys	14,305.29	6,699.00	1,005.60	859.81	6.897	CC, ES, SF
SPIKE STATE #D 12-6(PA) - Wellbore #1 - Gyro	14,337.04	6,705.60	297.45	186.53	2.682	CC, ES, SF
STATE #10(TA) - Wellbore #1 - No Surveys	13,512.84	6,766.00	2,314.54	2,176.41	16.756	CC, ES
STATE #10(TA) - Wellbore #1 - No Surveys	13,800.00	6,766.00	2,332.29	2,191.74	16.594	SF

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Guttersen D12-765
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 D12-765	**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	Coordinates are relative to: Guttersen D12-765
Offset Depths are relative to Offset Datum	Coordinate System is US State Plane 1983, Colorado Northern Zone
Central Meridian is -105.5000000	Grid Convergence at Surface is: 0.64°



Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Guttersen D12-765
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 D12-765	**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	Coordinates are relative to: Guttersen D12-765
Offset Depths are relative to Offset Datum	Coordinate System is US State Plane 1983, Colorado Northern Zone
Central Meridian is -105.5000000	Grid Convergence at Surface is: 0.64°