Project: Mustang
Site: D Section 01
Well: Guttersen State C36-775
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

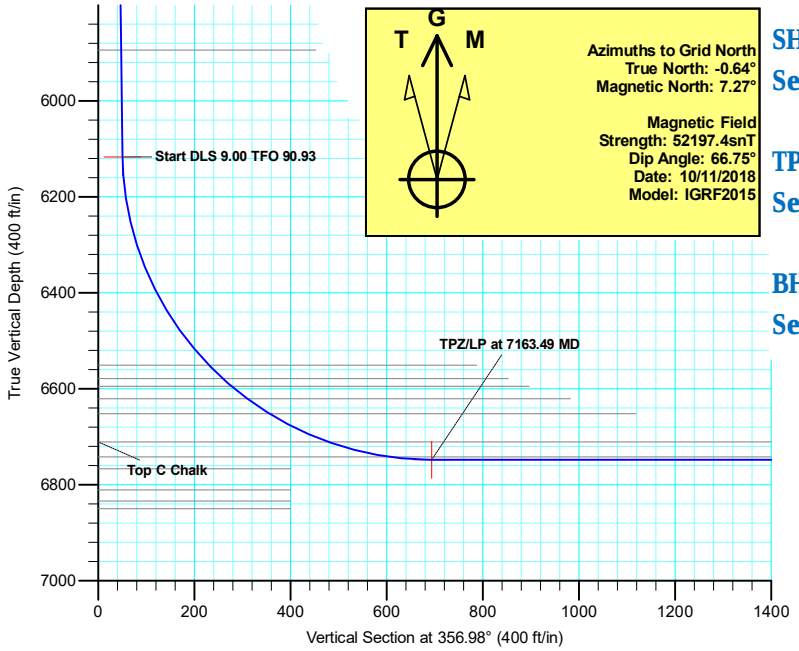
SECTION DETAILS

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	2000.00	0.00	0.00	2000.00	0.00	0.00	0.00	0.00	0.00	
3	2435.93	8.72	271.85	2434.25	1.07	-33.09	2.00	271.85	2.81	
4	6161.90	8.72	271.85	6117.16	19.26	-597.58	0.00	0.00	50.76	
5	7163.49	90.00	2.79	6748.00	659.83	-663.21	9.00	90.93	693.90	Guttersen State C36-775-TPZ
6	7466.74	90.00	359.76	6748.00	962.98	-656.47	1.00	-90.00	996.26	Guttersen State C36-775-BHL
7	10800.00	90.00	359.76	6748.00	4296.20	-670.58	0.00	0.00	4325.60	
8	10925.00	92.50	359.76	6745.27	4421.16	-671.11	2.00	0.00	4450.41	Guttersen State C36-775-BHL
9	12125.00	92.50	359.76	6692.93	5620.01	-676.18	0.00	0.00	5647.86	
10	12375.00	87.50	359.76	6692.93	5869.93	-677.24	2.00	180.00	5897.48	Guttersen State C36-775-BHL
11	13575.00	87.50	359.76	6745.27	7068.78	-682.31	0.00	0.00	7094.93	
12	13700.00	90.00	359.76	6748.00	7193.74	-682.84	2.00	0.00	7219.74	
13	19932.31	90.00	359.76	6748.00	13425.99	-709.22	0.00	0.00	13444.71	Guttersen State C36-775-BHL

WELL DETAILS: Guttersen State C36-775

Ground Level: 4746.00

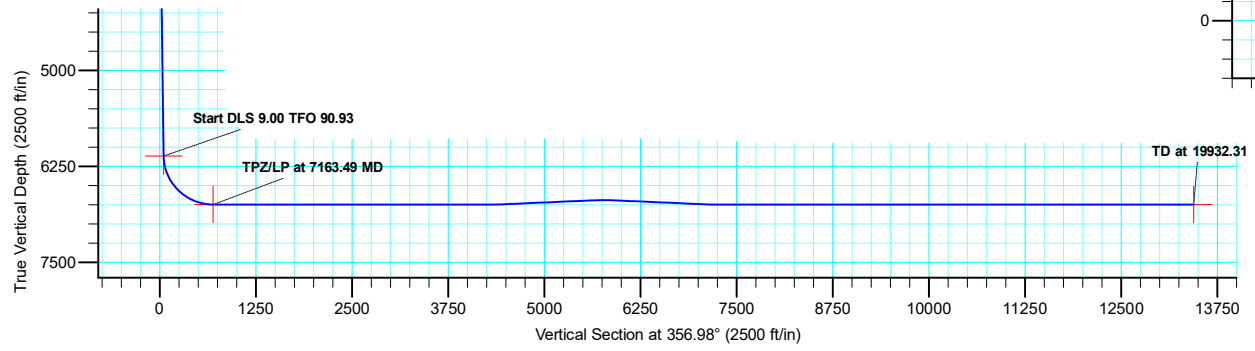
	Northing	Easting	Latitude	Longitude
0.00	0.00 1339287.70	3278274.87	40.2604490	-104.5028770

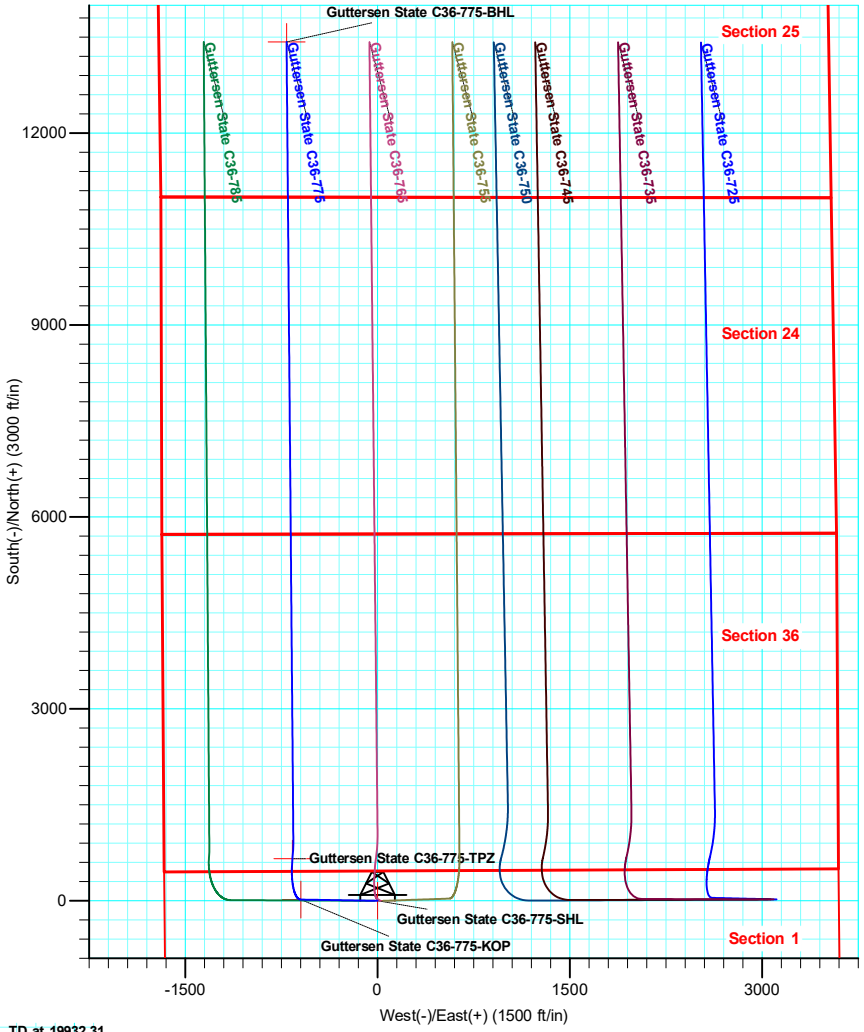


SHL: 466' FNL, 1662' FWL, Sec.1

TPZ: 200' FSL, 1001' FWL, Sec.36

BHL: 2426' FSL, 997' FWL, Sec.24





Plan: Plan #1 (Guttersen State C36-775/Wellbore #1)

Created By: Chad Stich Date: 10:56, October 12 2018

Checked: _____ Date: _____

Reviewed: _____ Date: _____

Approved: _____ Date: _____

Northern Region - DJ Basin

Mustang
D Section 01
Guttersen State C36-775

Wellbore #1

Plan: Plan #1

Standard Planning Report

12 October, 2018

Database:	EDMP	**Local Co-ordinate Reference:**	Well Guttersen State C36-775
Company:	Northern Region - DJ Basin	**TVD Reference:**	KB @ 4776.00ft
Project:	Mustang	**MD Reference:**	KB @ 4776.00ft
Site:	D Section 01	**North Reference:**	Grid
Well:	Guttersen State C36-775	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

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 State C36-775

Well Position	**+N/-S**	3,002.72 ft	**Northing:**	1,339,287.70 usft	**Latitude:**	40.2604490
	+E/-W	1,091.97 ft	**Easting:**	3,278,274.87 usft	**Longitude:**	-104.5028770
Position Uncertainty		0.00 ft	**Wellhead Elevation:**		**Ground Level:**	4,746.00 ft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	10/11/2018	7.92	66.75	52,197.35330577

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	356.98

Plan Sections

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,435.93	8.72	271.85	2,434.25	1.07	-33.09	2.00	2.00	0.00	271.85	
6,161.90	8.72	271.85	6,117.16	19.26	-597.58	0.00	0.00	0.00	0.00	
7,163.49	90.00	2.79	6,748.00	659.83	-663.21	9.00	8.12	9.08	90.93	Guttersen State C36-
7,466.74	90.00	359.76	6,748.00	962.98	-656.47	1.00	0.00	-1.00	-90.00	Guttersen State C36-
10,800.00	90.00	359.76	6,748.00	4,296.21	-670.58	0.00	0.00	0.00	0.00	
10,925.00	92.50	359.76	6,745.27	4,421.16	-671.11	2.00	2.00	0.00	0.00	Guttersen State C36-
12,125.00	92.50	359.76	6,692.93	5,620.01	-676.18	0.00	0.00	0.00	0.00	
12,375.00	87.50	359.76	6,692.93	5,869.93	-677.24	2.00	-2.00	0.00	180.00	Guttersen State C36-
13,575.00	87.50	359.76	6,745.27	7,068.78	-682.31	0.00	0.00	0.00	0.00	
13,700.00	90.00	359.76	6,748.00	7,193.74	-682.84	2.00	2.00	0.00	0.00	
19,932.31	90.00	359.76	6,748.00	13,425.99	-709.22	0.00	0.00	0.00	0.00	Guttersen State C36-

Database:	EDMP	**Local Co-ordinate Reference:**	Well Guttersen State C36-775
Company:	Northern Region - DJ Basin	**TVD Reference:**	KB @ 4776.00ft
Project:	Mustang	**MD Reference:**	KB @ 4776.00ft
Site:	D Section 01	**North Reference:**	Grid
Well:	Guttersen State C36-775	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

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
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	271.85	2,099.98	0.06	-1.74	0.15	2.00	2.00	0.00
2,200.00	4.00	271.85	2,199.84	0.22	-6.97	0.59	2.00	2.00	0.00
2,300.00	6.00	271.85	2,299.45	0.51	-15.69	1.33	2.00	2.00	0.00
2,400.00	8.00	271.85	2,398.70	0.90	-27.87	2.37	2.00	2.00	0.00
2,435.93	8.72	271.85	2,434.25	1.07	-33.09	2.81	2.00	2.00	0.00
2,500.00	8.72	271.85	2,497.58	1.38	-42.79	3.63	0.00	0.00	0.00
2,600.00	8.72	271.85	2,596.42	1.87	-57.94	4.92	0.00	0.00	0.00
2,700.00	8.72	271.85	2,695.27	2.36	-73.09	6.21	0.00	0.00	0.00
2,800.00	8.72	271.85	2,794.11	2.84	-88.24	7.50	0.00	0.00	0.00
2,900.00	8.72	271.85	2,892.96	3.33	-103.39	8.78	0.00	0.00	0.00
3,000.00	8.72	271.85	2,991.80	3.82	-118.54	10.07	0.00	0.00	0.00
3,100.00	8.72	271.85	3,090.65	4.31	-133.69	11.36	0.00	0.00	0.00
3,200.00	8.72	271.85	3,189.49	4.80	-148.85	12.64	0.00	0.00	0.00
3,300.00	8.72	271.85	3,288.34	5.29	-164.00	13.93	0.00	0.00	0.00
3,400.00	8.72	271.85	3,387.18	5.77	-179.15	15.22	0.00	0.00	0.00
3,500.00	8.72	271.85	3,486.02	6.26	-194.30	16.50	0.00	0.00	0.00
3,600.00	8.72	271.85	3,584.87	6.75	-209.45	17.79	0.00	0.00	0.00
3,700.00	8.72	271.85	3,683.71	7.24	-224.60	19.08	0.00	0.00	0.00
3,800.00	8.72	271.85	3,782.56	7.73	-239.75	20.36	0.00	0.00	0.00
3,900.00	8.72	271.85	3,881.40	8.22	-254.90	21.65	0.00	0.00	0.00
4,000.00	8.72	271.85	3,980.25	8.70	-270.05	22.94	0.00	0.00	0.00
4,100.00	8.72	271.85	4,079.09	9.19	-285.20	24.22	0.00	0.00	0.00
4,200.00	8.72	271.85	4,177.94	9.68	-300.35	25.51	0.00	0.00	0.00
4,300.00	8.72	271.85	4,276.78	10.17	-315.50	26.80	0.00	0.00	0.00
4,400.00	8.72	271.85	4,375.62	10.66	-330.65	28.09	0.00	0.00	0.00
4,500.00	8.72	271.85	4,474.47	11.15	-345.80	29.37	0.00	0.00	0.00
4,600.00	8.72	271.85	4,573.31	11.63	-360.95	30.66	0.00	0.00	0.00
4,700.00	8.72	271.85	4,672.16	12.12	-376.10	31.95	0.00	0.00	0.00
4,800.00	8.72	271.85	4,771.00	12.61	-391.25	33.23	0.00	0.00	0.00
4,900.00	8.72	271.85	4,869.85	13.10	-406.40	34.52	0.00	0.00	0.00
5,000.00	8.72	271.85	4,968.69	13.59	-421.55	35.81	0.00	0.00	0.00
5,100.00	8.72	271.85	5,067.54	14.08	-436.70	37.09	0.00	0.00	0.00
5,200.00	8.72	271.85	5,166.38	14.56	-451.85	38.38	0.00	0.00	0.00

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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	8.72	271.85	5,265.22	15.05	-467.00	39.67	0.00	0.00	0.00
5,400.00	8.72	271.85	5,364.07	15.54	-482.15	40.95	0.00	0.00	0.00
5,500.00	8.72	271.85	5,462.91	16.03	-497.30	42.24	0.00	0.00	0.00
5,600.00	8.72	271.85	5,561.76	16.52	-512.45	43.53	0.00	0.00	0.00
5,700.00	8.72	271.85	5,660.60	17.01	-527.60	44.81	0.00	0.00	0.00
5,800.00	8.72	271.85	5,759.45	17.49	-542.75	46.10	0.00	0.00	0.00
5,900.00	8.72	271.85	5,858.29	17.98	-557.90	47.39	0.00	0.00	0.00
6,000.00	8.72	271.85	5,957.14	18.47	-573.05	48.67	0.00	0.00	0.00
6,100.00	8.72	271.85	6,055.98	18.96	-588.20	49.96	0.00	0.00	0.00
6,161.90	8.72	271.85	6,117.16	19.26	-597.58	50.76	0.00	0.00	0.00
6,200.00	9.31	293.54	6,154.81	20.59	-603.30	52.38	9.00	1.56	56.93
6,250.00	11.67	314.85	6,203.98	25.77	-610.59	57.94	9.00	4.71	42.62
6,300.00	15.03	327.95	6,252.64	34.83	-617.62	67.37	9.00	6.71	26.22
6,350.00	18.86	336.11	6,300.47	47.72	-624.34	80.59	9.00	7.66	16.32
6,400.00	22.93	341.53	6,347.17	64.36	-630.69	97.54	9.00	8.14	10.84
6,450.00	27.12	345.37	6,392.47	84.63	-636.66	118.10	9.00	8.40	7.68
6,500.00	31.40	348.24	6,436.08	108.42	-642.20	142.15	9.00	8.55	5.74
6,550.00	35.73	350.48	6,477.74	135.59	-647.27	169.54	9.00	8.65	4.48
6,600.00	40.09	352.29	6,517.18	165.95	-651.84	200.11	9.00	8.72	3.62
6,650.00	44.47	353.80	6,554.17	199.34	-655.89	233.66	9.00	8.77	3.02
6,700.00	48.87	355.10	6,588.47	235.53	-659.40	269.99	9.00	8.80	2.58
6,750.00	53.29	356.22	6,619.87	274.31	-662.33	308.87	9.00	8.83	2.26
6,800.00	57.71	357.23	6,648.19	315.44	-664.67	350.06	9.00	8.85	2.01
6,850.00	62.14	358.14	6,673.24	358.66	-666.41	393.31	9.00	8.86	1.82
6,900.00	66.58	358.98	6,694.87	403.71	-667.53	438.36	9.00	8.87	1.68
6,950.00	71.02	359.77	6,712.95	450.31	-668.04	484.92	9.00	8.88	1.57
7,000.00	75.46	0.51	6,727.36	498.17	-667.92	532.71	9.00	8.89	1.49
7,050.00	79.91	1.23	6,738.03	547.00	-667.18	581.44	9.00	8.89	1.43
7,100.00	84.35	1.92	6,744.87	596.50	-665.81	630.79	9.00	8.89	1.39
7,150.00	88.80	2.61	6,747.86	646.36	-663.84	680.48	9.00	8.90	1.37
7,163.49	90.00	2.79	6,748.00	659.83	-663.21	693.90	9.00	8.90	1.36
7,200.00	90.00	2.42	6,748.00	696.31	-661.55	730.24	1.00	0.00	-1.00
7,300.00	90.00	1.42	6,748.00	796.25	-658.19	829.86	1.00	0.00	-1.00
7,400.00	90.00	0.42	6,748.00	896.24	-656.57	929.62	1.00	0.00	-1.00
7,466.74	90.00	359.76	6,748.00	962.98	-656.47	996.26	1.00	0.00	-1.00
7,500.00	90.00	359.76	6,748.00	996.23	-656.61	1,029.48	0.00	0.00	0.00
7,600.00	90.00	359.76	6,748.00	1,096.23	-657.03	1,129.37	0.00	0.00	0.00
7,700.00	90.00	359.76	6,748.00	1,196.23	-657.46	1,229.25	0.00	0.00	0.00
7,800.00	90.00	359.76	6,748.00	1,296.23	-657.88	1,329.13	0.00	0.00	0.00
7,900.00	90.00	359.76	6,748.00	1,396.23	-658.30	1,429.01	0.00	0.00	0.00
8,000.00	90.00	359.76	6,748.00	1,496.23	-658.73	1,528.90	0.00	0.00	0.00
8,100.00	90.00	359.76	6,748.00	1,596.23	-659.15	1,628.78	0.00	0.00	0.00
8,200.00	90.00	359.76	6,748.00	1,696.23	-659.57	1,728.66	0.00	0.00	0.00
8,300.00	90.00	359.76	6,748.00	1,796.23	-660.00	1,828.54	0.00	0.00	0.00
8,400.00	90.00	359.76	6,748.00	1,896.23	-660.42	1,928.42	0.00	0.00	0.00
8,500.00	90.00	359.76	6,748.00	1,996.23	-660.84	2,028.31	0.00	0.00	0.00
8,600.00	90.00	359.76	6,748.00	2,096.22	-661.27	2,128.19	0.00	0.00	0.00
8,700.00	90.00	359.76	6,748.00	2,196.22	-661.69	2,228.07	0.00	0.00	0.00
8,800.00	90.00	359.76	6,748.00	2,296.22	-662.11	2,327.95	0.00	0.00	0.00
8,900.00	90.00	359.76	6,748.00	2,396.22	-662.53	2,427.84	0.00	0.00	0.00
9,000.00	90.00	359.76	6,748.00	2,496.22	-662.96	2,527.72	0.00	0.00	0.00
9,100.00	90.00	359.76	6,748.00	2,596.22	-663.38	2,627.60	0.00	0.00	0.00
9,200.00	90.00	359.76	6,748.00	2,696.22	-663.80	2,727.48	0.00	0.00	0.00
9,300.00	90.00	359.76	6,748.00	2,796.22	-664.23	2,827.36	0.00	0.00	0.00

Database:	EDMP	**Local Co-ordinate Reference:**	Well Guttersen State C36-775
Company:	Northern Region - DJ Basin	**TVD Reference:**	KB @ 4776.00ft
Project:	Mustang	**MD Reference:**	KB @ 4776.00ft
Site:	D Section 01	**North Reference:**	Grid
Well:	Guttersen State C36-775	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

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	359.76	6,748.00	2,896.22	-664.65	2,927.25	0.00	0.00	0.00
9,500.00	90.00	359.76	6,748.00	2,996.22	-665.07	3,027.13	0.00	0.00	0.00
9,600.00	90.00	359.76	6,748.00	3,096.22	-665.50	3,127.01	0.00	0.00	0.00
9,700.00	90.00	359.76	6,748.00	3,196.21	-665.92	3,226.89	0.00	0.00	0.00
9,800.00	90.00	359.76	6,748.00	3,296.21	-666.34	3,326.78	0.00	0.00	0.00
9,900.00	90.00	359.76	6,748.00	3,396.21	-666.77	3,426.66	0.00	0.00	0.00
10,000.00	90.00	359.76	6,748.00	3,496.21	-667.19	3,526.54	0.00	0.00	0.00
10,100.00	90.00	359.76	6,748.00	3,596.21	-667.61	3,626.42	0.00	0.00	0.00
10,200.00	90.00	359.76	6,748.00	3,696.21	-668.04	3,726.30	0.00	0.00	0.00
10,300.00	90.00	359.76	6,748.00	3,796.21	-668.46	3,826.19	0.00	0.00	0.00
10,400.00	90.00	359.76	6,748.00	3,896.21	-668.88	3,926.07	0.00	0.00	0.00
10,500.00	90.00	359.76	6,748.00	3,996.21	-669.31	4,025.95	0.00	0.00	0.00
10,600.00	90.00	359.76	6,748.00	4,096.21	-669.73	4,125.83	0.00	0.00	0.00
10,700.00	90.00	359.76	6,748.00	4,196.21	-670.15	4,225.71	0.00	0.00	0.00
10,800.00	90.00	359.76	6,748.00	4,296.21	-670.58	4,325.60	0.00	0.00	0.00
10,900.00	92.00	359.76	6,746.25	4,396.18	-671.00	4,425.46	2.00	2.00	0.00
10,925.00	92.50	359.76	6,745.27	4,421.16	-671.11	4,450.41	2.00	2.00	0.00
11,000.00	92.50	359.76	6,742.00	4,496.09	-671.42	4,525.25	0.00	0.00	0.00
11,100.00	92.50	359.76	6,737.64	4,596.00	-671.85	4,625.04	0.00	0.00	0.00
11,200.00	92.50	359.76	6,733.28	4,695.90	-672.27	4,724.82	0.00	0.00	0.00
11,300.00	92.50	359.76	6,728.92	4,795.80	-672.69	4,824.61	0.00	0.00	0.00
11,400.00	92.50	359.76	6,724.55	4,895.71	-673.11	4,924.40	0.00	0.00	0.00
11,500.00	92.50	359.76	6,720.19	4,995.61	-673.54	5,024.19	0.00	0.00	0.00
11,600.00	92.50	359.76	6,715.83	5,095.52	-673.96	5,123.97	0.00	0.00	0.00
11,700.00	92.50	359.76	6,711.47	5,195.42	-674.38	5,223.76	0.00	0.00	0.00
11,800.00	92.50	359.76	6,707.11	5,295.32	-674.81	5,323.55	0.00	0.00	0.00
11,900.00	92.50	359.76	6,702.74	5,395.23	-675.23	5,423.33	0.00	0.00	0.00
12,000.00	92.50	359.76	6,698.38	5,495.13	-675.65	5,523.12	0.00	0.00	0.00
12,100.00	92.50	359.76	6,694.02	5,595.04	-676.08	5,622.91	0.00	0.00	0.00
12,125.00	92.50	359.76	6,692.93	5,620.01	-676.18	5,647.86	0.00	0.00	0.00
12,200.00	91.00	359.76	6,690.64	5,694.97	-676.50	5,722.73	2.00	-2.00	0.00
12,300.00	89.00	359.76	6,690.64	5,794.97	-676.92	5,822.61	2.00	-2.00	0.00
12,375.00	87.50	359.76	6,692.93	5,869.93	-677.24	5,897.48	2.00	-2.00	0.00
12,400.00	87.50	359.76	6,694.02	5,894.91	-677.34	5,922.43	0.00	0.00	0.00
12,500.00	87.50	359.76	6,698.38	5,994.81	-677.77	6,022.22	0.00	0.00	0.00
12,600.00	87.50	359.76	6,702.74	6,094.71	-678.19	6,122.00	0.00	0.00	0.00
12,700.00	87.50	359.76	6,707.11	6,194.62	-678.61	6,221.79	0.00	0.00	0.00
12,800.00	87.50	359.76	6,711.47	6,294.52	-679.04	6,321.58	0.00	0.00	0.00
12,900.00	87.50	359.76	6,715.83	6,394.43	-679.46	6,421.36	0.00	0.00	0.00
13,000.00	87.50	359.76	6,720.19	6,494.33	-679.88	6,521.15	0.00	0.00	0.00
13,100.00	87.50	359.76	6,724.55	6,594.23	-680.30	6,620.94	0.00	0.00	0.00
13,200.00	87.50	359.76	6,728.92	6,694.14	-680.73	6,720.73	0.00	0.00	0.00
13,300.00	87.50	359.76	6,733.28	6,794.04	-681.15	6,820.51	0.00	0.00	0.00
13,400.00	87.50	359.76	6,737.64	6,893.95	-681.57	6,920.30	0.00	0.00	0.00
13,500.00	87.50	359.76	6,742.00	6,993.85	-682.00	7,020.09	0.00	0.00	0.00
13,575.00	87.50	359.76	6,745.27	7,068.78	-682.31	7,094.93	0.00	0.00	0.00
13,600.00	88.00	359.76	6,746.25	7,093.76	-682.42	7,119.88	2.00	2.00	0.00
13,700.00	90.00	359.76	6,748.00	7,193.74	-682.84	7,219.74	2.00	2.00	0.00
13,800.00	90.00	359.76	6,748.00	7,293.74	-683.27	7,319.62	0.00	0.00	0.00
13,900.00	90.00	359.76	6,748.00	7,393.73	-683.69	7,419.51	0.00	0.00	0.00
14,000.00	90.00	359.76	6,748.00	7,493.73	-684.11	7,519.39	0.00	0.00	0.00
14,100.00	90.00	359.76	6,748.00	7,593.73	-684.54	7,619.27	0.00	0.00	0.00
14,200.00	90.00	359.76	6,748.00	7,693.73	-684.96	7,719.15	0.00	0.00	0.00
14,300.00	90.00	359.76	6,748.00	7,793.73	-685.38	7,819.03	0.00	0.00	0.00

Database:	EDMP	**Local Co-ordinate Reference:**	Well Guttersen State C36-775
Company:	Northern Region - DJ Basin	**TVD Reference:**	KB @ 4776.00ft
Project:	Mustang	**MD Reference:**	KB @ 4776.00ft
Site:	D Section 01	**North Reference:**	Grid
Well:	Guttersen State C36-775	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

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)
14,400.00	90.00	359.76	6,748.00	7,893.73	-685.81	7,918.92	0.00	0.00	0.00
14,500.00	90.00	359.76	6,748.00	7,993.73	-686.23	8,018.80	0.00	0.00	0.00
14,600.00	90.00	359.76	6,748.00	8,093.73	-686.65	8,118.68	0.00	0.00	0.00
14,700.00	90.00	359.76	6,748.00	8,193.73	-687.07	8,218.56	0.00	0.00	0.00
14,800.00	90.00	359.76	6,748.00	8,293.73	-687.50	8,318.45	0.00	0.00	0.00
14,900.00	90.00	359.76	6,748.00	8,393.73	-687.92	8,418.33	0.00	0.00	0.00
15,000.00	90.00	359.76	6,748.00	8,493.72	-688.34	8,518.21	0.00	0.00	0.00
15,100.00	90.00	359.76	6,748.00	8,593.72	-688.77	8,618.09	0.00	0.00	0.00
15,200.00	90.00	359.76	6,748.00	8,693.72	-689.19	8,717.97	0.00	0.00	0.00
15,300.00	90.00	359.76	6,748.00	8,793.72	-689.61	8,817.86	0.00	0.00	0.00
15,400.00	90.00	359.76	6,748.00	8,893.72	-690.04	8,917.74	0.00	0.00	0.00
15,500.00	90.00	359.76	6,748.00	8,993.72	-690.46	9,017.62	0.00	0.00	0.00
15,600.00	90.00	359.76	6,748.00	9,093.72	-690.88	9,117.50	0.00	0.00	0.00
15,700.00	90.00	359.76	6,748.00	9,193.72	-691.31	9,217.39	0.00	0.00	0.00
15,800.00	90.00	359.76	6,748.00	9,293.72	-691.73	9,317.27	0.00	0.00	0.00
15,900.00	90.00	359.76	6,748.00	9,393.72	-692.15	9,417.15	0.00	0.00	0.00
16,000.00	90.00	359.76	6,748.00	9,493.72	-692.58	9,517.03	0.00	0.00	0.00
16,100.00	90.00	359.76	6,748.00	9,593.71	-693.00	9,616.91	0.00	0.00	0.00
16,200.00	90.00	359.76	6,748.00	9,693.71	-693.42	9,716.80	0.00	0.00	0.00
16,300.00	90.00	359.76	6,748.00	9,793.71	-693.85	9,816.68	0.00	0.00	0.00
16,400.00	90.00	359.76	6,748.00	9,893.71	-694.27	9,916.56	0.00	0.00	0.00
16,500.00	90.00	359.76	6,748.00	9,993.71	-694.69	10,016.44	0.00	0.00	0.00
16,600.00	90.00	359.76	6,748.00	10,093.71	-695.12	10,116.32	0.00	0.00	0.00
16,700.00	90.00	359.76	6,748.00	10,193.71	-695.54	10,216.21	0.00	0.00	0.00
16,800.00	90.00	359.76	6,748.00	10,293.71	-695.96	10,316.09	0.00	0.00	0.00
16,900.00	90.00	359.76	6,748.00	10,393.71	-696.39	10,415.97	0.00	0.00	0.00
17,000.00	90.00	359.76	6,748.00	10,493.71	-696.81	10,515.85	0.00	0.00	0.00
17,100.00	90.00	359.76	6,748.00	10,593.71	-697.23	10,615.74	0.00	0.00	0.00
17,200.00	90.00	359.76	6,748.00	10,693.70	-697.66	10,715.62	0.00	0.00	0.00
17,300.00	90.00	359.76	6,748.00	10,793.70	-698.08	10,815.50	0.00	0.00	0.00
17,400.00	90.00	359.76	6,748.00	10,893.70	-698.50	10,915.38	0.00	0.00	0.00
17,500.00	90.00	359.76	6,748.00	10,993.70	-698.93	11,015.26	0.00	0.00	0.00
17,600.00	90.00	359.76	6,748.00	11,093.70	-699.35	11,115.15	0.00	0.00	0.00
17,700.00	90.00	359.76	6,748.00	11,193.70	-699.77	11,215.03	0.00	0.00	0.00
17,800.00	90.00	359.76	6,748.00	11,293.70	-700.20	11,314.91	0.00	0.00	0.00
17,900.00	90.00	359.76	6,748.00	11,393.70	-700.62	11,414.79	0.00	0.00	0.00
18,000.00	90.00	359.76	6,748.00	11,493.70	-701.04	11,514.68	0.00	0.00	0.00
18,100.00	90.00	359.76	6,748.00	11,593.70	-701.47	11,614.56	0.00	0.00	0.00
18,200.00	90.00	359.76	6,748.00	11,693.70	-701.89	11,714.44	0.00	0.00	0.00
18,300.00	90.00	359.76	6,748.00	11,793.70	-702.31	11,814.32	0.00	0.00	0.00
18,400.00	90.00	359.76	6,748.00	11,893.69	-702.74	11,914.20	0.00	0.00	0.00
18,500.00	90.00	359.76	6,748.00	11,993.69	-703.16	12,014.09	0.00	0.00	0.00
18,600.00	90.00	359.76	6,748.00	12,093.69	-703.58	12,113.97	0.00	0.00	0.00
18,700.00	90.00	359.76	6,748.00	12,193.69	-704.01	12,213.85	0.00	0.00	0.00
18,800.00	90.00	359.76	6,748.00	12,293.69	-704.43	12,313.73	0.00	0.00	0.00
18,900.00	90.00	359.76	6,748.00	12,393.69	-704.85	12,413.62	0.00	0.00	0.00
19,000.00	90.00	359.76	6,748.00	12,493.69	-705.28	12,513.50	0.00	0.00	0.00
19,100.00	90.00	359.76	6,748.00	12,593.69	-705.70	12,613.38	0.00	0.00	0.00
19,200.00	90.00	359.76	6,748.00	12,693.69	-706.12	12,713.26	0.00	0.00	0.00
19,300.00	90.00	359.76	6,748.00	12,793.69	-706.55	12,813.14	0.00	0.00	0.00
19,400.00	90.00	359.76	6,748.00	12,893.69	-706.97	12,913.03	0.00	0.00	0.00
19,500.00	90.00	359.76	6,748.00	12,993.68	-707.39	13,012.91	0.00	0.00	0.00
19,600.00	90.00	359.76	6,748.00	13,093.68	-707.82	13,112.79	0.00	0.00	0.00
19,700.00	90.00	359.76	6,748.00	13,193.68	-708.24	13,212.67	0.00	0.00	0.00

Database:	EDMP	**Local Co-ordinate Reference:**	Well Guttersen State C36-775
Company:	Northern Region - DJ Basin	**TVD Reference:**	KB @ 4776.00ft
Project:	Mustang	**MD Reference:**	KB @ 4776.00ft
Site:	D Section 01	**North Reference:**	Grid
Well:	Guttersen State C36-775	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

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)
19,800.00	90.00	359.76	6,748.00	13,293.68	-708.66	13,312.56	0.00	0.00	0.00
19,900.00	90.00	359.76	6,748.00	13,393.68	-709.09	13,412.44	0.00	0.00	0.00
19,932.31	90.00	359.76	6,748.00	13,425.99	-709.22	13,444.71	0.00	0.00	0.00

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Guttersen State C36-77! - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	1,339,287.70	3,278,274.87	40.2604490	-104.5028770
Guttersen State C36-77! - plan hits target center - Point	0.00	0.00	6,117.17	19.26	-597.58	1,339,306.96	3,277,677.29	40.2605203	-104.5050173
Guttersen State C36-77! - plan hits target center - Point	0.00	0.00	6,748.00	13,425.99	-709.22	1,352,713.66	3,277,565.65	40.2973239	-104.5048782
Guttersen State C36-77! - plan hits target center - Point	0.00	0.00	6,748.00	659.83	-663.21	1,339,947.53	3,277,611.66	40.2622806	-104.5052267

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
337.00	337.00	Pierre			
611.00	611.00	Upper Pierre Aquifer Top			
1,545.00	1,545.00	Upper Pierre Aquifer Base			
2,670.39	2,666.00	Parkman			
3,985.59	3,966.00	Sussex			
4,833.38	4,804.00	Shannon			
5,936.13	5,894.00	Teepee Buttes			
6,645.58	6,551.00	Sharon Springs			
6,685.78	6,579.00	Top A Chalk			
6,710.02	6,595.00	Top A Marl			
6,751.89	6,621.00	Top B Chalk			
6,807.20	6,652.00	Top B Marl			
6,944.09	6,711.00	Top C Chalk			
7,075.50	6,742.00	Top C Marl			

Database:	EDMP	**Local Co-ordinate Reference:**	Well Guttersen State C36-775
Company:	Northern Region - DJ Basin	**TVD Reference:**	KB @ 4776.00ft
Project:	Mustang	**MD Reference:**	KB @ 4776.00ft
Site:	D Section 01	**North Reference:**	Grid
Well:	Guttersen State C36-775	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
2,000.00	2,000.00	0.00	0.00	Start Build 2.00
6,161.90	6,117.17	19.26	-597.58	Start DLS 9.00 TFO 90.93
7,163.49	6,748.00	659.84	-663.21	TPZ/LP at 7163.49 MD
19,932.31	6,748.00	13,425.99	-709.22	TD at 19932.31

Northern Region - DJ Basin

Mustang
D Section 01
Guttersen State C36-775

Wellbore #1
Plan #1

Anticollision Summary Report

12 October, 2018

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Guttersen State C36-775
Project:	Mustang	**TVD Reference:**	KB @ 4776.00ft
Reference Site:	D Section 01	**MD Reference:**	KB @ 4776.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Guttersen State C36-775	**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:	MD Interval 100.00ft	**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	19,932.31	Plan #1 (Wellbore #1)	2_MWD+IFR1+MS	A008Mb: IFR dec & multi-station analysis

Summary

Site Name / Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
C Section 24						
Elise State C24-08 (TA) - Wellbore #1 - No Surveys	19,932.31	6,669.00	3,795.19	3,418.93	10.087	CC, ES, SF
Elise State C24-11 (PR) - Wellbore #1 - No Surveys	19,596.34	6,665.00	1,126.00	751.50	3.007	CC
Elise State C24-11 (PR) - Wellbore #1 - No Surveys	19,600.00	6,665.00	1,126.00	751.49	3.007	ES, SF
Elise State C24-18 (SI) - Wellbore #1 - No Surveys	19,932.31	6,649.00	2,241.06	1,895.18	6.479	CC, ES, SF
Elise State C24-19 (SI) - Wellbore #1 - Gyro Surveys	19,932.31	6,663.86	1,530.94	1,466.39	23.716	CC, ES, SF
Elise State C24-20 (PR) - Wellbore #1 - No Surveys	19,932.31	6,685.00	390.09	39.54	1.113	Level 2, CC, ES, SF
Elise State C24-21 (SI) - Wellbore #1 - No Surveys	19,932.31	6,662.00	1,747.85	1,371.80	4.648	CC, ES, SF
Elise State C24-22 (PR) - Wellbore #1 - No Surveys	19,932.31	6,680.00	2,988.41	2,610.77	7.913	CC, ES, SF
Elise State C24-23 (PR) - Wellbore #1 - No Surveys	18,811.17	6,710.00	2,914.03	2,544.02	7.875	CC, ES
Elise State C24-23 (PR) - Wellbore #1 - No Surveys	18,900.00	6,710.00	2,915.38	2,544.78	7.867	SF
Elise State C24-24 (SI) - Wellbore #1 - No Surveys	18,797.38	6,682.00	1,481.15	1,112.62	4.019	CC
Elise State C24-24 (SI) - Wellbore #1 - No Surveys	18,800.00	6,682.00	1,481.15	1,112.61	4.019	ES, SF
Spike ST GWS C24-05 (PR) - Wellbore #1 - Gyro Survey	19,932.31	6,661.33	918.62	849.54	13.296	CC, ES, SF
Spike ST GWS C24-07 (SI) - Wellbore #1 - Gyro Surveys	19,932.31	6,692.03	2,541.12	2,409.73	19.339	CC, ES, SF
Spike ST GWS C24-13 (PA) - Wellbore #1 - Gyro Survey	18,199.52	6,670.02	360.22	238.29	2.954	CC
Spike ST GWS C24-13 (PA) - Wellbore #1 - Gyro Survey	18,200.00	6,670.02	360.22	238.28	2.954	ES, SF
Spike ST GWS C24-14 (SI) - Wellbore #1 - Gyro Surveys	18,154.60	6,696.73	871.61	749.97	7.165	CC, ES, SF
Spike ST GWS C24-15 (PR) - Wellbore #1 - Gyro Survey	18,284.84	6,686.43	2,146.78	2,024.14	17.506	CC
Spike ST GWS C24-15 (PR) - Wellbore #1 - Gyro Survey	18,300.00	6,686.75	2,146.83	2,024.10	17.491	ES
Spike ST GWS C24-15 (PR) - Wellbore #1 - Gyro Survey	18,400.00	6,688.81	2,149.86	2,026.57	17.437	SF
Spike ST GWS C24-16 (SI) - Wellbore #1 - Gyro Surveys	18,187.65	6,643.56	3,541.64	3,420.07	29.132	CC
Spike ST GWS C24-16 (SI) - Wellbore #1 - Gyro Surveys	18,200.00	6,644.09	3,541.67	3,420.00	29.111	ES
Spike ST GWS C24-16 (SI) - Wellbore #1 - Gyro Surveys	18,600.00	6,661.35	3,565.52	3,441.50	28.750	SF
Spike State GWS C24-01 (PA) - Wellbore #1 - No Survey	19,932.31	6,669.00	4,151.66	3,787.68	11.406	CC, ES, SF
Spike State GWS C24-02 (SI) - Wellbore #1 - No Survey	19,932.31	6,659.00	3,130.49	2,779.43	8.917	CC, ES, SF
Spike State GWS C24-03 (SI) - Wellbore #1 - No Survey	19,932.31	6,631.00	2,352.67	2,032.71	7.353	CC, ES, SF
Spike State GWS C24-04 (SI) - Wellbore #1 - No Survey	19,932.31	6,629.00	2,162.55	1,865.04	7.269	CC, ES, SF
Spike State GWS C24-06 (PA) - Wellbore #1 - No Survey	19,932.31	6,653.00	1,306.91	953.16	3.694	CC, ES, SF
Spike State GWS C24-09 (SI) - Wellbore #1 - No Survey	19,380.07	6,687.00	3,406.79	3,033.14	9.118	CC
Spike State GWS C24-09 (SI) - Wellbore #1 - No Survey	19,400.00	6,687.00	3,406.85	3,033.06	9.114	ES
Spike State GWS C24-09 (SI) - Wellbore #1 - No Survey	19,600.00	6,687.00	3,413.88	3,038.85	9.103	SF
Spike State GWS C24-10 (PR) - Wellbore #1 - No Surve	19,473.27	6,672.00	2,270.54	1,896.75	6.074	CC
Spike State GWS C24-10 (PR) - Wellbore #1 - No Surve	19,500.00	6,672.00	2,270.70	1,896.73	6.072	ES, SF
Spike State GWS C24-11J (PA) - Wellbore #1 - No Surve	18,825.56	6,706.00	305.72	-64.25	0.826	Level 1, CC, ES, SF
Spike State GWS C24-12 (SI) - Wellbore #1 - No Survey	19,495.56	6,677.00	259.65	-114.52	0.694	Level 1, CC
Spike State GWS C24-12 (SI) - Wellbore #1 - No Survey	19,500.00	6,677.00	259.69	-114.55	0.694	Level 1, ES, SF
Spike State GWS C24-8J (PA) - Wellbore #1 - No Survey	19,932.31	6,649.00	3,243.45	2,877.10	8.853	CC, ES, 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 State C36-775
Project:	Mustang	**TVD Reference:**	KB @ 4776.00ft
Reference Site:	D Section 01	**MD Reference:**	KB @ 4776.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Guttersen State C36-775	**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 24						
State C24-28 (PR) - Wellbore #1 - No Surveys	19,932.31	6,630.00	3,132.95	2,802.49	9.481	CC, ES, SF
State C24-99HZ - Wellbore #1 - Original Drilling	19,000.00	19,000.00	2,123.08	1,842.76	7.574	SF
State C24-99HZ - Wellbore #1 - Original Drilling	19,932.31	7,111.89	1,192.48	1,129.87	19.046	CC, ES
C Section 25						
Booth 14-25 (SI) - Wellbore #1 - No Surveys	12,867.49	6,680.41	878.96	556.74	2.728	CC, ES, SF
Booth 9-25 (SI) - Wellbore #1 - No Surveys	14,210.86	6,734.00	3,586.48	3,251.92	10.720	CC, ES
Booth 9-25 (SI) - Wellbore #1 - No Surveys	14,400.00	6,734.00	3,591.46	3,255.67	10.695	SF
Booth C 25-19 (PR) - Wellbore #1 - No Surveys	16,283.60	6,685.00	323.80	-24.88	0.929	Level 1, CC, ES, SF
UNI UPR C 25-5 (SI) - Wellbore #1 - Gyro Surveys	15,496.66	6,669.23	424.48	323.84	4.218	CC
UNI UPR C 25-5 (SI) - Wellbore #1 - Gyro Surveys	15,500.00	6,669.30	424.49	323.81	4.216	ES, SF
UNI UPR C 25-6 (PR) - Wellbore #1 - No Surveys	15,624.21	6,687.00	944.70	843.16	9.304	CC, ES, SF
UNI-UPR C 25-3 (PR) - Wellbore #1 - Gyro Surveys	16,888.58	6,687.29	857.69	746.09	7.685	CC, ES
UNI-UPR C 25-3 (PR) - Wellbore #1 - Gyro Surveys	16,900.00	6,686.92	857.77	746.12	7.683	SF
UNI-UPRR 4-25 (PR) - Wellbore #1 - Gyro Surveys	16,780.02	6,662.97	467.61	357.02	4.228	CC, ES
UNI-UPRR 4-25 (PR) - Wellbore #1 - Gyro Surveys	16,800.00	6,663.05	468.04	357.25	4.225	SF
UPRR 66 Amoco 1 (SI) - Wellbore #1 - No Surveys	13,224.92	6,703.00	3,259.81	2,933.99	10.005	CC, ES
UPRR 66 Amoco 1 (SI) - Wellbore #1 - No Surveys	13,500.00	6,715.00	3,271.37	2,943.37	9.974	SF
UPV 25-1I4 (PA) - Wellbore #1 - Gyro Surveys	16,858.45	6,854.96	3,551.76	3,439.79	31.719	CC
UPV 25-1I4 (PA) - Wellbore #1 - Gyro Surveys	16,900.00	6,854.77	3,552.01	3,439.74	31.639	ES
UPV 25-1I4 (PA) - Wellbore #1 - Gyro Surveys	17,300.00	6,852.97	3,579.10	3,464.59	31.255	SF
UPV 25-2I4 (PR) - Wellbore #1 - Gyro Surveys	17,079.98	6,722.92	2,128.32	2,015.10	18.797	CC
UPV 25-2I4 (PR) - Wellbore #1 - Gyro Surveys	17,100.00	6,723.05	2,128.42	2,015.06	18.776	ES
UPV 25-2I4 (PR) - Wellbore #1 - Gyro Surveys	17,200.00	6,723.68	2,131.71	2,017.80	18.715	SF
UPV 25-7I4 (PR) - Wellbore #1 - No Surveys	15,855.82	6,733.00	2,789.96	2,442.66	8.033	CC, ES
UPV 25-7I4 (PR) - Wellbore #1 - No Surveys	16,000.00	6,733.00	2,793.68	2,445.48	8.023	SF
UPV 25-8I4 (PA) - Wellbore #1 - Gyro Surveys	15,545.71	6,600.00	3,850.25	3,749.82	38.337	CC, ES
UPV 25-8I4 (PA) - Wellbore #1 - Gyro Surveys	16,200.00	6,600.00	3,905.45	3,801.36	37.522	SF

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Guttersen State C36-775
Project:	Mustang	**TVD Reference:**	KB @ 4776.00ft
Reference Site:	D Section 01	**MD Reference:**	KB @ 4776.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Guttersen State C36-775	**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						
Ava State C36-18 (SI) - Wellbore #1 - No Surveys	10,959.23	6,704.04	1,675.34	1,365.76	5.412	CC, ES
Ava State C36-18 (SI) - Wellbore #1 - No Surveys	11,000.00	6,702.00	1,675.84	1,366.12	5.411	SF
Ava State C36-20 (PR) - Wellbore #1 - No Surveys	9,407.02	6,702.00	293.23	-6.38	0.979	Level 1, CC, ES, SF
Ava State C36-21 (SI) - Wellbore #1 - No Surveys	9,712.53	6,703.00	1,519.77	1,218.32	5.042	CC, ES, SF
Ava State C36-22 (SI) - Wellbore #1 - No Surveys	9,555.11	6,724.00	2,851.15	2,549.79	9.461	CC, ES
Ava State C36-22 (SI) - Wellbore #1 - No Surveys	9,700.00	6,724.00	2,854.83	2,552.72	9.450	SF
Ava State C36-24 (PR) - Wellbore #1 - No Surveys	8,247.67	6,713.00	1,670.47	1,376.21	5.677	CC, ES
Ava State C36-24 (PR) - Wellbore #1 - No Surveys	8,300.00	6,713.00	1,671.29	1,376.85	5.676	SF
Ava State C36-31 (PR) - Wellbore #1 - No Surveys	10,838.36	6,687.74	853.60	545.50	2.771	CC, ES, SF
Booth CC31-68-1HN (PR) - Original Drilling - Original Dri	11,282.39	6,128.00	4,206.40	4,140.00	63.348	CC
Booth CC31-68-1HN (PR) - Original Drilling - Original Dri	11,300.00	6,128.00	4,206.44	4,139.93	63.243	ES
Booth CC31-68-1HN (PR) - Original Drilling - Original Dri	12,300.00	6,128.00	4,328.55	4,256.77	60.303	SF
Booth State C36-69HN (PR) - Original Drilling - Original D	12,159.52	10,439.71	51.61	-21.88	0.702	Level 1, CC
Booth State C36-69HN (PR) - Original Drilling - Original D	12,200.00	10,439.51	65.68	-38.15	0.633	Level 1, ES, SF
Booth State CC30-79HN (PR) - Original Drilling - Orignal	16,943.82	11,026.00	4,305.95	4,129.79	24.443	CC
Booth State CC30-79HN (PR) - Original Drilling - Orignal	17,000.00	11,026.00	4,306.32	4,129.71	24.384	ES
Booth State CC30-79HN (PR) - Original Drilling - Orignal	17,400.00	11,026.00	4,330.05	4,151.05	24.191	SF
Booth State CC31-69HN (PR) - Original Drilling - Origina	12,200.00	6,089.27	4,472.46	4,401.68	63.180	CC, ES
Booth State CC31-69HN (PR) - Original Drilling - Origina	13,400.00	6,128.00	4,644.89	4,567.07	59.687	SF
State 36-04I4 (PR) - Wellbore #1 - No Surveys	11,010.98	6,689.52	61.85	-247.51	0.200	Level 1, CC, ES, SF
State 36-07I4 (SI) - Wellbore #1 - No Surveys	10,231.27	6,716.00	2,135.05	1,829.84	6.995	CC, ES
State 36-07I4 (SI) - Wellbore #1 - No Surveys	10,300.00	6,716.00	2,136.15	1,830.58	6.991	SF
State 36-10I4 (SI) - Wellbore #1 - No Surveys	8,944.89	6,712.00	2,077.17	1,779.69	6.982	CC, ES
State 36-10I4 (SI) - Wellbore #1 - No Surveys	9,000.00	6,712.00	2,077.90	1,780.17	6.979	SF
State 36-11I4 (PR) - Wellbore #1 - No Surveys	8,753.42	6,701.00	962.82	666.74	3.252	CC, ES, SF
State 36-12I4 (PR) - Wellbore #1 - No Surveys	8,897.86	6,716.00	523.37	226.19	1.761	CC
State 36-12I4 (PR) - Wellbore #1 - No Surveys	8,900.00	6,716.00	523.38	226.18	1.761	ES, SF
State 36-14I4 (PR) - Wellbore #1 - No Surveys	7,448.22	6,703.00	969.50	678.26	3.329	CC, ES, SF
State 36-15I4 (PR) - Wellbore #1 - No Surveys	2,000.00	1,955.00	2,447.64	2,364.50	29.441	CC
State 36-15I4 (PR) - Wellbore #1 - No Surveys	8,000.00	6,703.00	2,597.48	2,304.58	8.868	ES
State 36-15I4 (PR) - Wellbore #1 - No Surveys	8,100.00	6,703.00	2,599.91	2,306.67	8.866	SF
State 36-16I4 (PR) - Wellbore #1 - No Surveys	2,000.00	2,002.00	2,879.54	2,794.53	33.870	CC
State 36-16I4 (PR) - Wellbore #1 - No Surveys	2,100.00	2,102.02	2,881.17	2,791.80	32.240	ES
State 36-16I4 (PR) - Wellbore #1 - No Surveys	7,600.00	6,746.00	3,371.72	3,078.39	11.495	SF
State 36-2I4 (SI) - Wellbore #1 - No Surveys	11,445.94	6,678.55	2,279.93	1,967.95	7.308	CC, ES
State 36-2I4 (SI) - Wellbore #1 - No Surveys	11,500.00	6,676.19	2,280.57	1,968.36	7.305	SF
State 36-3I4 (SI) - Wellbore #1 - No Surveys	11,472.51	6,667.39	982.23	670.50	3.151	CC, ES, SF
State 36-6I4 (PR) - Wellbore #1 - No Surveys	10,463.53	6,690.00	975.36	669.68	3.191	CC, ES, SF
State 36-8I4 (SI) - Wellbore #1 - No Surveys	10,471.57	6,735.00	3,604.20	3,296.67	11.720	CC
State 36-8I4 (SI) - Wellbore #1 - No Surveys	10,500.00	6,735.00	3,604.32	3,296.61	11.714	ES
State 36-8I4 (SI) - Wellbore #1 - No Surveys	10,700.00	6,735.00	3,611.44	3,302.57	11.692	SF
State 36-9I4 (PR) - Wellbore #1 - No Surveys	8,761.51	6,743.00	3,392.31	3,094.51	11.391	CC, ES
State 36-9I4 (PR) - Wellbore #1 - No Surveys	8,900.00	6,743.00	3,395.14	3,096.71	11.377	SF
State B14-36 (PA) - Wellbore #1 - No Surveys	8,015.25	6,710.00	93.03	-200.21	0.317	Level 1, CC, ES, SF
State B41-36 (SI) - Wellbore #1 - No Surveys	11,206.55	6,710.99	3,280.86	2,969.28	10.530	CC, ES
State B41-36 (SI) - Wellbore #1 - No Surveys	11,400.00	6,702.55	3,286.55	2,974.12	10.519	SF
State C36-01 (SI) - Wellbore #1 - No Surveys	11,770.23	6,686.40	3,784.41	3,469.78	12.028	CC
State C36-01 (SI) - Wellbore #1 - No Surveys	11,800.00	6,685.11	3,784.53	3,469.75	12.023	ES
State C36-01 (SI) - Wellbore #1 - No Surveys	12,000.00	6,676.38	3,791.37	3,475.68	12.010	SF
State C36-04 (PR) - Wellbore #1 - No Surveys	11,608.41	6,664.46	545.04	232.46	1.744	CC, ES, SF
State C36-13 (SI) - Wellbore #1 - No Surveys	7,443.81	6,725.00	549.57	257.46	1.881	CC, ES, SF
State C36-15 (PR) - Wellbore #1 - No Surveys	2,000.00	1,976.00	1,715.14	1,631.16	20.424	CC
State C36-15 (PR) - Wellbore #1 - No Surveys	2,200.00	2,175.84	1,720.83	1,628.16	18.571	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 State C36-775
Project:	Mustang	**TVD Reference:**	KB @ 4776.00ft
Reference Site:	D Section 01	**MD Reference:**	KB @ 4776.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Guttersen State C36-775	**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 C36-15 (PR) - Wellbore #1 - No Surveys	7,455.04	6,724.00	2,084.95	1,792.85	7.138	SF
State C36-32D (SI) - Wellbore #1 - As Drilled	9,527.38	6,888.31	954.96	892.86	15.376	CC, ES
State C36-32D (SI) - Wellbore #1 - As Drilled	9,700.00	6,889.56	970.44	906.56	15.192	SF
State C36-33D (SI) - Wellbore #1 - Original Drilling	8,267.27	6,784.20	934.33	883.21	18.275	CC, ES
State C36-33D (SI) - Wellbore #1 - Original Drilling	8,300.00	6,784.05	934.91	883.67	18.249	SF
State C36-99HZ (PR) - Wellbore #1 - As Drilled	8,500.00	6,781.16	194.83	157.81	5.263	SF
State C36-99HZ (PR) - Wellbore #1 - As Drilled	8,600.00	6,777.15	165.80	135.78	5.522	ES
State C36-99HZ (PR) - Wellbore #1 - As Drilled	8,602.45	6,777.05	165.79	135.80	5.528	CC
State D01-30D (SI) - Wellbore #1 - Original Drilling	6,800.00	7,023.32	1,066.08	1,004.69	17.367	SF
State D01-30D (SI) - Wellbore #1 - Original Drilling	6,887.74	7,065.48	1,062.24	1,001.17	17.392	CC, ES

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Guttersen State C36-775
Project:	Mustang	**TVD Reference:**	KB @ 4776.00ft
Reference Site:	D Section 01	**MD Reference:**	KB @ 4776.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Guttersen State C36-775	**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	2,000.00	1,969.00	357.60	273.91	4.273	CC
Abbey D 1-3 (PR) - Wellbore #1 - No Surveys	2,100.00	2,068.98	359.12	271.07	4.079	ES
Abbey D 1-3 (PR) - Wellbore #1 - No Surveys	6,200.00	6,123.81	930.93	665.96	3.513	SF
Abbey D 1-4 (PR) - Wellbore #1 - No Surveys	6,308.69	6,218.02	470.52	201.44	1.749	CC, ES
Abbey D 1-4 (PR) - Wellbore #1 - No Surveys	6,400.00	6,304.17	475.13	202.28	1.741	SF
Abbey D 1-5 (PR) - Wellbore #1 - No Surveys	6,200.00	6,109.81	1,631.36	1,366.79	6.166	CC, ES
Abbey D 1-5 (PR) - Wellbore #1 - No Surveys	6,400.00	6,302.17	1,666.14	1,393.16	6.103	SF
Abbey D 1-6 (PR) - Wellbore #1 - No Surveys	2,000.00	1,985.00	1,658.26	1,573.93	19.662	CC
Abbey D 1-6 (PR) - Wellbore #1 - No Surveys	2,600.00	2,581.42	1,673.92	1,563.63	15.178	ES
Abbey D 1-6 (PR) - Wellbore #1 - No Surveys	6,300.00	6,237.64	1,923.79	1,653.68	7.122	SF
Abbey D 1-7JI (SI) - Wellbore #1 - No Surveys	2,000.00	1,981.00	2,209.36	2,125.19	26.247	CC
Abbey D 1-7JI (SI) - Wellbore #1 - No Surveys	2,200.00	2,180.84	2,214.63	2,121.77	23.848	ES
Abbey D 1-7JI (SI) - Wellbore #1 - No Surveys	6,500.00	6,417.08	2,776.70	2,498.85	9.994	SF
Abbey D01-08J1 - Abbey D01-08J1 OH - As-Drilled	1,872.96	1,866.13	3,215.83	3,203.00	250.586	CC
Abbey D01-08J1 - Abbey D01-08J1 OH - As-Drilled	2,000.00	1,977.57	3,216.25	3,202.57	235.150	ES
Abbey D01-08J1 - Abbey D01-08J1 OH - As-Drilled	6,700.00	6,509.47	3,884.65	3,838.46	84.094	SF
Abbey D01-08J1 (PR) - Wellbore #1 - No Surveys	2,000.00	2,009.00	3,214.56	3,129.26	37.687	CC
Abbey D01-08J1 (PR) - Wellbore #1 - No Surveys	2,100.00	2,109.02	3,216.18	3,126.53	35.876	ES
Abbey D01-08J1 (PR) - Wellbore #1 - No Surveys	6,700.00	6,579.47	3,913.27	3,628.43	13.739	SF
Abbey D01-18 (SI) - Wellbore #1 - No Surveys	2,000.00	1,974.00	1,224.66	1,140.76	14.597	CC
Abbey D01-18 (SI) - Wellbore #1 - No Surveys	2,200.00	2,173.84	1,229.76	1,137.18	13.283	ES
Abbey D01-18 (SI) - Wellbore #1 - No Surveys	6,400.00	6,321.17	1,762.44	1,488.77	6.440	SF
Abbey D01-19 (TA) - Wellbore #1 - No Surveys	3,941.27	3,905.80	1,141.36	973.25	6.789	CC
Abbey D01-19 (TA) - Wellbore #1 - No Surveys	6,100.00	6,027.98	1,187.34	926.34	4.549	ES
Abbey D01-19 (TA) - Wellbore #1 - No Surveys	6,300.00	6,224.64	1,210.18	940.56	4.489	SF
Abbey D01-23 (PR) - Wellbore #1 - No Surveys	2,000.00	2,024.00	4,146.98	4,061.08	48.279	CC
Abbey D01-23 (PR) - Wellbore #1 - No Surveys	2,200.00	2,223.84	4,151.11	4,056.53	43.888	ES
Abbey D01-23 (PR) - Wellbore #1 - No Surveys	6,600.00	6,541.18	4,673.70	4,390.53	16.505	SF
Abbey D01-27 (SI) - Wellbore #1 - No Surveys	2,000.00	1,986.00	2,238.84	2,154.46	26.534	CC
Abbey D01-27 (SI) - Wellbore #1 - No Surveys	2,100.00	2,085.98	2,240.56	2,151.84	25.253	ES
Abbey D01-27 (SI) - Wellbore #1 - No Surveys	7,100.00	6,730.87	2,910.36	2,618.69	9.978	SF
Abbey D01-28 (SI) - Wellbore #1 - No Surveys	2,000.00	1,968.00	1,135.52	1,051.86	13.574	CC
Abbey D01-28 (SI) - Wellbore #1 - No Surveys	2,100.00	2,067.98	1,137.23	1,049.23	12.922	ES
Abbey D01-28 (SI) - Wellbore #1 - No Surveys	6,900.00	6,662.87	1,799.88	1,511.30	6.237	SF
Abbey D01-29 (SI) - Wellbore #1 - No Surveys	4,626.42	4,570.42	283.47	86.25	1.437	Level 3, CC
Abbey D01-29 (SI) - Wellbore #1 - No Surveys	6,750.80	6,608.65	307.21	21.18	1.074	Level 2, ES, SF
Abbey D01-32D - Wellbore #1 - Wellbore #1 - As Drilled	361.02	354.06	1,861.63	1,859.57	903.424	CC
Abbey D01-32D - Wellbore #1 - Wellbore #1 - As Drilled	800.00	782.09	1,863.11	1,858.00	364.640	ES
Abbey D01-32D - Wellbore #1 - Wellbore #1 - As Drilled	6,500.00	6,585.60	2,387.40	2,341.09	51.555	SF
Guttersen D01-31D (PR) - Guttersen D01-31D OH - As-D	6,307.90	6,396.86	1,440.37	1,391.25	29.327	CC, ES
Guttersen D01-31D (PR) - Guttersen D01-31D OH - As-D	6,500.00	6,563.60	1,461.71	1,411.39	29.045	SF
Guttersen D12-715 - Wellbore #1 - Plan #1	2,000.00	2,016.00	3,140.97	3,127.04	225.479	CC, ES
Guttersen D12-715 - Wellbore #1 - Plan #1	6,700.00	7,220.00	3,928.59	3,879.52	80.061	SF
Guttersen D12-725 - Wellbore #1 - Plan #1	2,000.00	2,016.00	3,118.39	3,104.46	223.858	CC, ES
Guttersen D12-725 - Wellbore #1 - Plan #1	6,500.00	7,302.19	3,269.55	3,220.53	66.697	SF
Guttersen D12-735 - Wellbore #1 - Plan #1	6,435.52	7,539.66	2,630.02	2,579.90	52.478	CC, ES
Guttersen D12-735 - Wellbore #1 - Plan #1	6,500.00	7,509.60	2,630.45	2,580.28	52.428	SF
Guttersen D12-745 - Wellbore #1 - Plan #1	6,500.00	7,686.92	1,988.10	1,936.35	38.418	SF
Guttersen D12-745 - Wellbore #1 - Plan #1	6,564.28	7,651.38	1,987.59	1,935.88	38.441	CC, ES
Guttersen D12-750 - Wellbore #1 - Plan #1	6,700.00	7,764.98	1,679.38	1,626.12	31.534	SF
Guttersen D12-750 - Wellbore #1 - Plan #1	6,838.52	7,689.92	1,676.85	1,623.83	31.626	CC, ES
Guttersen D12-755 - Wellbore #1 - Plan #1	2,000.00	2,001.00	156.45	142.58	11.275	CC
Guttersen D12-755 - Wellbore #1 - Plan #1	2,100.00	2,101.02	156.91	142.33	10.758	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 State C36-775
Project:	Mustang	**TVD Reference:**	KB @ 4776.00ft
Reference Site:	D Section 01	**MD Reference:**	KB @ 4776.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Guttersen State C36-775	**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 D12-755 - Wellbore #1 - Plan #1	2,300.00	2,293.29	162.76	146.80	10.200	SF
Guttersen D12-765 - Wellbore #1 - Plan #1	2,000.00	2,001.00	151.67	137.80	10.930	CC
Guttersen D12-765 - Wellbore #1 - Plan #1	2,100.00	2,101.02	151.89	137.30	10.414	ES
Guttersen D12-765 - Wellbore #1 - Plan #1	2,600.00	2,595.42	168.59	150.50	9.317	SF
Guttersen D12-770 - Wellbore #1 - Plan #1	2,166.68	2,165.58	150.00	134.96	9.970	CC
Guttersen D12-770 - Wellbore #1 - Plan #1	2,300.00	2,301.55	150.39	134.40	9.403	ES
Guttersen D12-770 - Wellbore #1 - Plan #1	7,100.00	6,956.17	379.44	330.00	7.675	SF
Guttersen D12-775 - Wellbore #1 - Plan #1	6,818.84	7,083.05	50.13	0.83	1.017	Level 2, CC, ES, SF
Guttersen D12-785 - Wellbore #1 - Plan #1	2,000.00	1,999.00	156.54	142.67	11.287	CC, ES
Guttersen D12-785 - Wellbore #1 - Plan #1	2,400.00	2,381.86	169.06	152.51	10.216	SF
Guttersen State C36-725 - Wellbore #1 - Plan #1	2,000.00	2,016.00	3,113.77	3,099.84	223.527	CC
Guttersen State C36-725 - Wellbore #1 - Plan #1	19,932.31	19,866.28	3,232.84	3,008.21	14.392	ES, SF
Guttersen State C36-735 - Wellbore #1 - Plan #1	6,169.90	6,724.37	2,585.30	2,539.06	55.914	CC
Guttersen State C36-735 - Wellbore #1 - Plan #1	19,932.31	20,021.33	2,586.26	2,361.35	11.499	ES, SF
Guttersen State C36-745 - Wellbore #1 - Plan #1	19,918.92	20,241.03	1,939.81	1,714.69	8.617	CC, ES
Guttersen State C36-745 - Wellbore #1 - Plan #1	19,932.31	20,241.03	1,939.85	1,714.72	8.616	SF
Guttersen State C36-750 - Wellbore #1 - Plan #1	19,919.88	20,475.07	1,618.51	1,391.69	7.136	CC, ES, SF
Guttersen State C36-755 - Wellbore #1 - Plan #1	2,000.00	2,000.00	44.93	31.06	3.239	CC, ES, SF
Guttersen State C36-765 - Wellbore #1 - Plan #1	2,000.00	2,000.00	22.61	8.74	1.630	CC, ES, SF
Guttersen State C36-785 - Wellbore #1 - Plan #1	2,404.32	2,401.16	22.41	5.89	1.356	Level 3, CC, ES
Guttersen State C36-785 - Wellbore #1 - Plan #1	2,500.00	2,496.09	23.02	5.91	1.345	Level 3, SF
HSR-Guttersen 11-1 (PR) - Wellbore #1 - No Surveys	2,000.00	2,002.00	2,814.81	2,729.79	33.109	CC
HSR-Guttersen 11-1 (PR) - Wellbore #1 - No Surveys	5,100.00	5,065.54	2,909.18	2,690.40	13.297	ES
HSR-Guttersen 11-1 (PR) - Wellbore #1 - No Surveys	6,400.00	6,345.17	3,012.62	2,737.84	10.964	SF
HSR-Guttersen 12-1 (PR) - Wellbore #1 - No Surveys	6,200.00	6,102.81	2,873.44	2,609.11	10.871	CC, ES
HSR-Guttersen 12-1 (PR) - Wellbore #1 - No Surveys	6,400.00	6,304.83	2,913.05	2,639.92	10.666	SF
HSR-Guttersen 14-1 (SI) - Wellbore #1 - No Surveys	2,000.00	1,978.00	4,153.12	4,069.07	49.409	CC
HSR-Guttersen 14-1 (SI) - Wellbore #1 - No Surveys	6,100.00	6,033.98	4,255.32	3,994.08	16.288	ES
HSR-Guttersen 14-1 (SI) - Wellbore #1 - No Surveys	6,600.00	6,504.82	4,412.50	4,130.73	15.660	SF
HSR-Guttersen 15-1 (SI) - Wellbore #1 - Wellbore #1	2,000.00	2,016.00	4,683.13	4,597.55	54.724	CC
HSR-Guttersen 15-1 (SI) - Wellbore #1 - Wellbore #1	2,300.00	2,315.45	4,689.65	4,591.06	47.565	ES
HSR-Guttersen 15-1 (SI) - Wellbore #1 - Wellbore #1	6,600.00	6,533.18	5,115.66	4,832.77	18.084	SF
HSR-Guttersen 16-1 (SI) - Wellbore #1 - No Surveys	2,000.00	2,030.00	5,328.06	5,241.93	61.856	CC
HSR-Guttersen 16-1 (SI) - Wellbore #1 - No Surveys	2,200.00	2,229.84	5,332.34	5,237.52	56.234	ES
HSR-Guttersen 16-1 (SI) - Wellbore #1 - No Surveys	6,700.00	6,618.47	5,918.97	5,632.47	20.659	SF
Keisha White D01-01 - Wellbore #1 - Wellbore #1 - As D	843.20	841.23	2,942.48	2,936.95	531.867	CC
Keisha White D01-01 - Wellbore #1 - Wellbore #1 - As D	2,000.00	1,986.22	2,946.20	2,932.53	215.553	ES
Keisha White D01-01 - Wellbore #1 - Wellbore #1 - As D	7,100.00	6,737.52	3,626.04	3,578.27	75.917	SF
Keisha White D01-07 (PR) - Wellbore #1 - No Surveys	2,000.00	1,983.00	2,728.48	2,644.23	32.383	CC
Keisha White D01-07 (PR) - Wellbore #1 - No Surveys	2,200.00	2,182.84	2,732.83	2,639.89	29.403	ES
Keisha White D01-07 (PR) - Wellbore #1 - No Surveys	6,500.00	6,419.08	3,230.39	2,952.41	11.621	SF
Keisha White D01-08 (PR) - Wellbore #1 - No Surveys	2,000.00	2,000.00	3,645.08	3,560.15	42.915	CC
Keisha White D01-08 (PR) - Wellbore #1 - No Surveys	2,200.00	2,200.16	3,650.69	3,557.05	38.988	ES
Keisha White D01-08 (PR) - Wellbore #1 - No Surveys	6,700.00	6,588.47	4,313.88	4,028.63	15.123	SF
UPV 1-2J4 (PR) - Wellbore #1 - No Surveys	2,000.00	1,983.00	2,030.16	1,945.90	24.095	CC
UPV 1-2J4 (PR) - Wellbore #1 - No Surveys	2,100.00	2,082.98	2,031.86	1,943.25	22.932	ES
UPV 1-2J4 (PR) - Wellbore #1 - No Surveys	6,700.00	6,571.47	2,728.36	2,443.88	9.591	SF
Woody D01-09 - Wellbore #1 - Wellbore #1 - As Drilled	2,058.73	2,155.44	4,318.58	4,304.11	298.349	CC
Woody D01-09 - Wellbore #1 - Wellbore #1 - As Drilled	2,100.00	2,195.90	4,318.81	4,304.04	292.582	ES
Woody D01-09 - Wellbore #1 - Wellbore #1 - As Drilled	6,600.00	6,571.10	4,880.12	4,833.87	105.519	SF
Woody D01-10 (PR) - Wellbore #1 - No Surveys	2,000.00	2,016.00	3,130.54	3,044.96	36.582	CC
Woody D01-10 (PR) - Wellbore #1 - No Surveys	2,300.00	2,315.45	3,138.25	3,039.65	31.830	ES
Woody D01-10 (PR) - Wellbore #1 - No Surveys	6,500.00	6,452.08	3,560.86	3,281.52	12.747	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 State C36-775
Project:	Mustang	**TVD Reference:**	KB @ 4776.00ft
Reference Site:	D Section 01	**MD Reference:**	KB @ 4776.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Guttersen State C36-775	**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

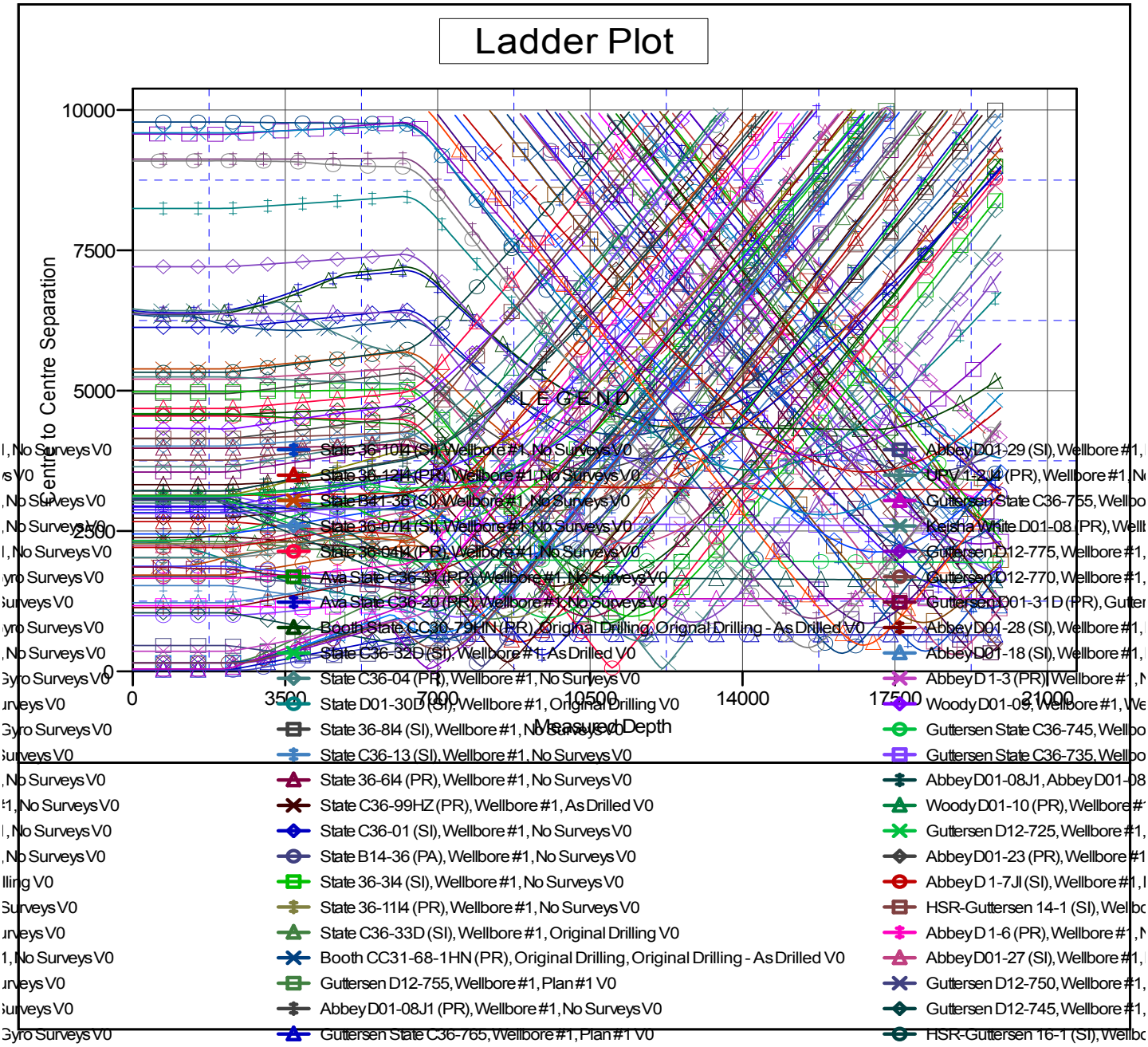
CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Guttersen State C36-775
Project:	Mustang	**TVD Reference:**	KB @ 4776.00ft
Reference Site:	D Section 01	**MD Reference:**	KB @ 4776.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Guttersen State C36-775	**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 @ 4776.00ft	Coordinates are relative to: Guttersen State C36-775
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°



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

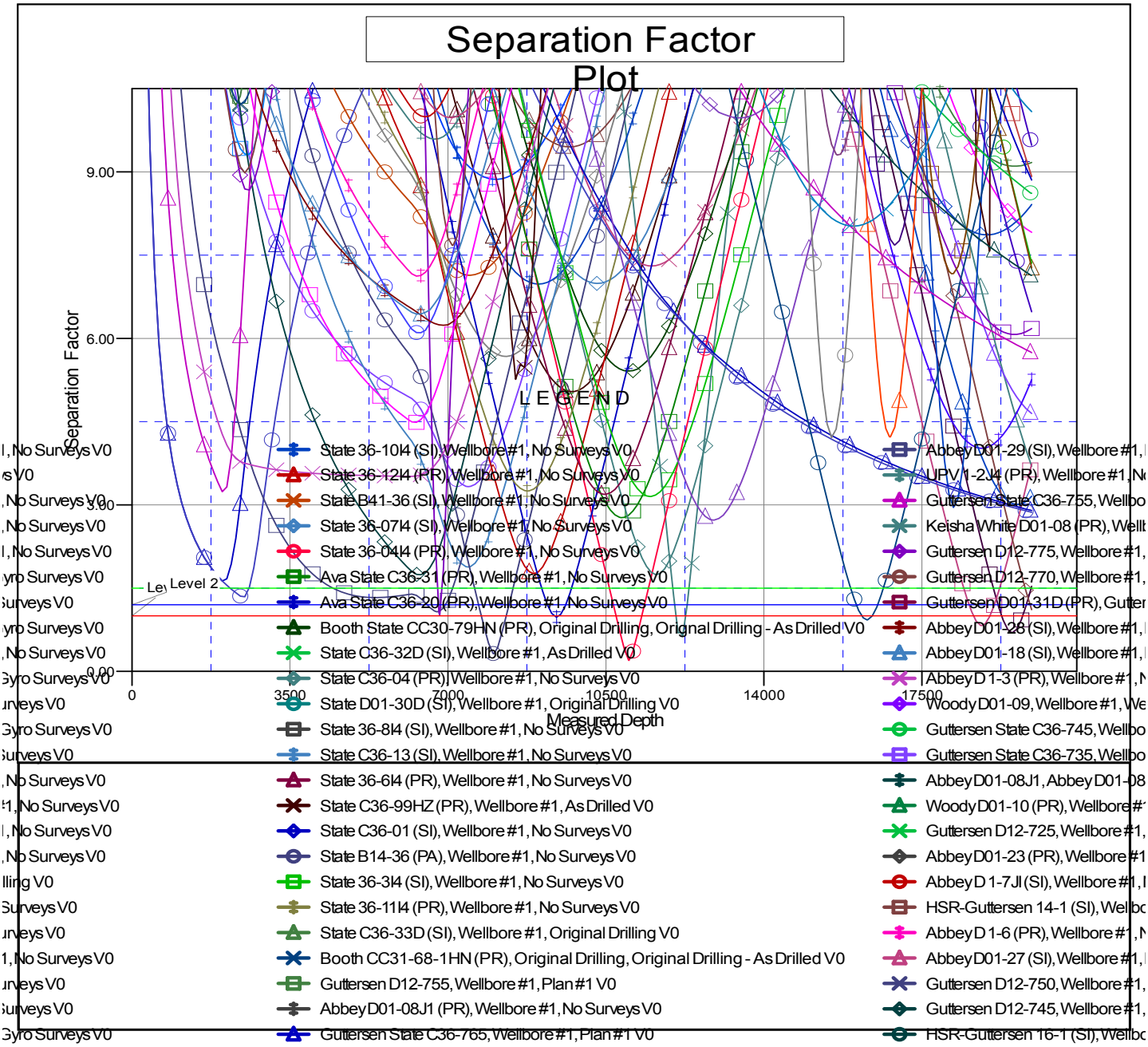
Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Guttersen State C36-775
Project:	Mustang	**TVD Reference:**	KB @ 4776.00ft
Reference Site:	D Section 01	**MD Reference:**	KB @ 4776.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Guttersen State C36-775	**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 @ 4776.00ft
Offset Depths are relative to Offset Datum
Central Meridian is -105.5000000

Coordinates are relative to: Guttersen State C36-775
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.64°



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