Project: Mustang
Site: D Section 21
Well: Vogler State D21-740
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

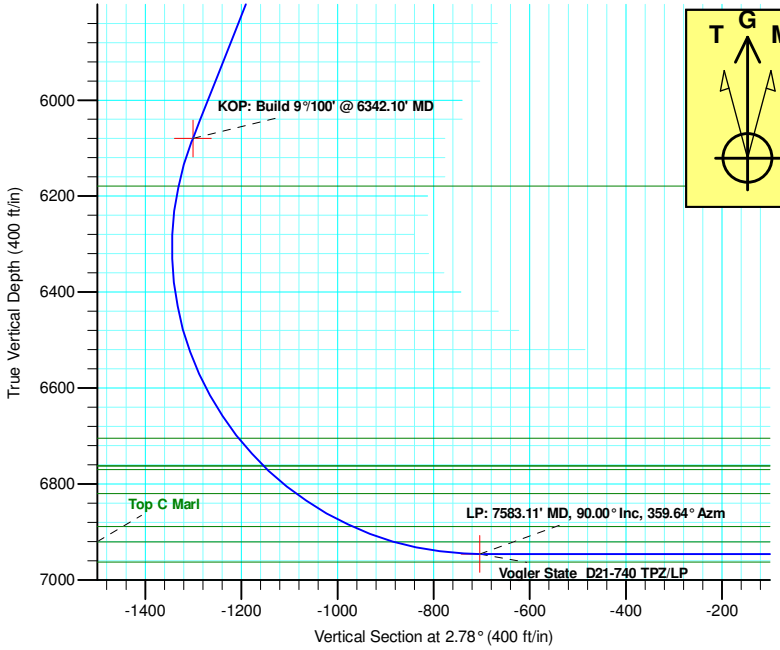
SECTION DETAILS

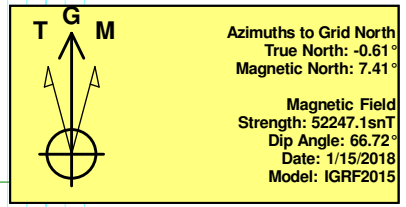
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	2200.00	0.00	0.00	2200.00	0.00	0.00	0.00	0.00	0.00
3	3333.83	22.68	163.11	3304.46	-211.91	64.33	2.00	163.11	-208.55
4	6342.10	22.68	163.11	6080.18	-1321.68	401.23	0.00	0.00	-1300.68
5	7583.11	90.00	359.64	6946.00	-729.51	500.44	9.00	-162.17	-704.40
6	10626.87	90.00	359.64	6946.00	2314.19	481.38	0.00	0.00	2334.80
7	10635.48	90.00	359.81	6946.00	2322.80	481.34	2.00	90.00	2343.40
8	17755.47	90.00	359.81	6946.00	9442.75	458.18	0.00	0.00	9453.86

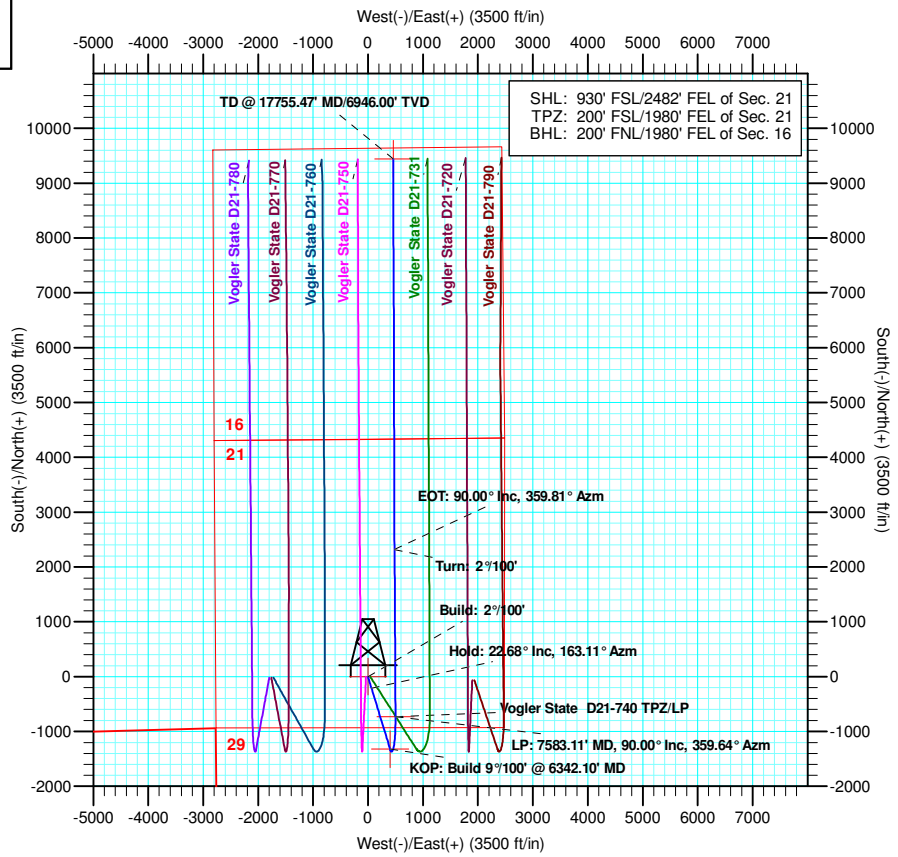
WELL DETAILS: Vogler State D21-740

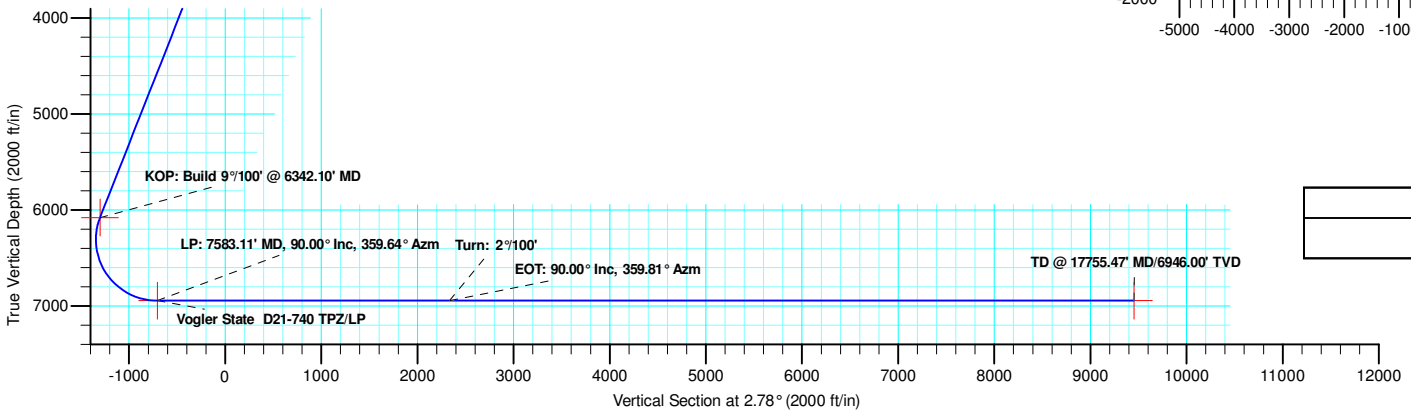
Ground Level: 4825.00

+N/-S	+E/-W	Northing	Easting	Latittude	Longitude
0.00	0.00	1319376.86	3263719.10	40.2062323	-104.5557893









Plan: Plan 1 (Vogler State D21-740/Wellbore #1)

Created By: Keith Noack Date: 14:43, August 07 2018

Northern Region - DJ Basin

Mustang
D Section 21
Vogler State D21-740

Wellbore #1

Plan: Plan 1

Standard Planning Report

07 August, 2018

Database:	EDMP	**Local Co-ordinate Reference:**	Well Vogler State D21-740
Company:	Northern Region - DJ Basin	**TVD Reference:**	Well @ 4855.00ft
Project:	Mustang	**MD Reference:**	Well @ 4855.00ft
Site:	D Section 21	**North Reference:**	Grid
Well:	Vogler State D21-740	**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 21

Site Position:		**Northing:**	1,323,041.88 usft	**Latitude:**	40.2163540
From:	Lat/Long	**Easting:**	3,261,613.48 usft	**Longitude:**	-104.5631890
Position Uncertainty:	0.00 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	0.61 °

Well Vogler State D21-740

Well Position	**+N/-S**	-3,665.03 ft	**Northing:**	1,319,376.86 usft	**Latitude:**	40.2062324
	+E/-W	2,105.63 ft	**Easting:**	3,263,719.10 usft	**Longitude:**	-104.5557893
Position Uncertainty		0.00 ft	**Wellhead Elevation:**		**Ground Level:**	4,825.00 ft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	1/15/2018	8.02	66.72	52,247.09034624

Design Plan 1

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0.00

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	2.78

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	
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,333.83	22.68	163.11	3,304.46	-211.91	64.33	2.00	2.00	0.00	163.11	
6,342.10	22.68	163.11	6,080.18	-1,321.68	401.23	0.00	0.00	0.00	0.00	
7,583.12	90.00	359.64	6,946.00	-729.51	500.44	9.00	5.42	-13.17	-162.17	Vogler State D21-7
10,626.87	90.00	359.64	6,946.00	2,314.19	481.38	0.00	0.00	0.00	0.00	Vogler State D21-7
10,635.48	90.00	359.81	6,946.00	2,322.80	481.34	2.00	0.00	2.00	90.00	Vogler State D21-7
17,755.47	90.00	359.81	6,946.00	9,442.75	458.18	0.00	0.00	0.00	0.00	Vogler State D21-7

Database:	EDMP	**Local Co-ordinate Reference:**	Well Vogler State D21-740
Company:	Northern Region - DJ Basin	**TVD Reference:**	Well @ 4855.00ft
Project:	Mustang	**MD Reference:**	Well @ 4855.00ft
Site:	D Section 21	**North Reference:**	Grid
Well:	Vogler State D21-740	**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
652.00	0.00	0.00	652.00	0.00	0.00	0.00	0.00	0.00	0.00
Pierre									
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
787.00	0.00	0.00	787.00	0.00	0.00	0.00	0.00	0.00	0.00
Upper Pierre Aquifer Top									
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
1,654.00	0.00	0.00	1,654.00	0.00	0.00	0.00	0.00	0.00	0.00
Upper Pierre Aquifer Base									
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
Build: 2°/100'									
2,300.00	2.00	163.11	2,299.98	-1.67	0.51	-1.64	2.00	2.00	0.00
2,400.00	4.00	163.11	2,399.84	-6.68	2.03	-6.57	2.00	2.00	0.00
2,500.00	6.00	163.11	2,499.45	-15.02	4.56	-14.78	2.00	2.00	0.00
2,600.00	8.00	163.11	2,598.70	-26.68	8.10	-26.25	2.00	2.00	0.00
2,700.00	10.00	163.11	2,697.47	-41.65	12.64	-40.98	2.00	2.00	0.00
2,800.00	12.00	163.11	2,795.62	-59.90	18.18	-58.95	2.00	2.00	0.00
2,900.00	14.00	163.11	2,893.06	-81.43	24.72	-80.13	2.00	2.00	0.00
3,000.00	16.00	163.11	2,989.64	-106.19	32.24	-104.50	2.00	2.00	0.00
3,100.00	18.00	163.11	3,085.27	-134.17	40.73	-132.04	2.00	2.00	0.00
3,200.00	20.00	163.11	3,179.82	-165.32	50.19	-162.69	2.00	2.00	0.00
3,300.00	22.00	163.11	3,273.17	-199.61	60.60	-196.44	2.00	2.00	0.00
3,333.83	22.68	163.11	3,304.46	-211.91	64.33	-208.55	2.00	2.00	0.00
Hold: 22.68° Inc, 163.11° Azm									
3,400.00	22.68	163.11	3,365.51	-236.32	71.74	-232.57	0.00	0.00	0.00
3,500.00	22.68	163.11	3,457.78	-273.21	82.94	-268.87	0.00	0.00	0.00
3,600.00	22.68	163.11	3,550.05	-310.10	94.14	-305.18	0.00	0.00	0.00
3,700.00	22.68	163.11	3,642.32	-346.99	105.34	-341.48	0.00	0.00	0.00
3,800.00	22.68	163.11	3,734.59	-383.88	116.54	-377.79	0.00	0.00	0.00
3,900.00	22.68	163.11	3,826.86	-420.77	127.74	-414.09	0.00	0.00	0.00
3,952.17	22.68	163.11	3,875.00	-440.02	133.58	-433.03	0.00	0.00	0.00
Parkman									
4,000.00	22.68	163.11	3,919.13	-457.67	138.93	-450.39	0.00	0.00	0.00
4,100.00	22.68	163.11	4,011.40	-494.56	150.13	-486.70	0.00	0.00	0.00

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Project:	Mustang	**MD Reference:**	Well @ 4855.00ft
Site:	D Section 21	**North Reference:**	Grid
Well:	Vogler State D21-740	**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)
4,200.00	22.68	163.11	4,103.67	-531.45	161.33	-523.00	0.00	0.00	0.00
4,204.69	22.68	163.11	4,108.00	-533.18	161.86	-524.71	0.00	0.00	0.00
Sussex									
4,300.00	22.68	163.11	4,195.94	-568.34	172.53	-559.31	0.00	0.00	0.00
4,400.00	22.68	163.11	4,288.21	-605.23	183.73	-595.61	0.00	0.00	0.00
4,500.00	22.68	163.11	4,380.48	-642.12	194.93	-631.92	0.00	0.00	0.00
4,600.00	22.68	163.11	4,472.75	-679.01	206.13	-668.22	0.00	0.00	0.00
4,700.00	22.68	163.11	4,565.02	-715.90	217.33	-704.53	0.00	0.00	0.00
4,800.00	22.68	163.11	4,657.29	-752.79	228.53	-740.83	0.00	0.00	0.00
4,900.00	22.68	163.11	4,749.56	-789.68	239.73	-777.13	0.00	0.00	0.00
5,000.00	22.68	163.11	4,841.83	-826.57	250.92	-813.44	0.00	0.00	0.00
5,100.00	22.68	163.11	4,934.10	-863.46	262.12	-849.74	0.00	0.00	0.00
5,200.00	22.68	163.11	5,026.37	-900.35	273.32	-886.05	0.00	0.00	0.00
5,234.28	22.68	163.11	5,058.00	-913.00	277.16	-898.49	0.00	0.00	0.00
Shannon									
5,300.00	22.68	163.11	5,118.64	-937.24	284.52	-922.35	0.00	0.00	0.00
5,400.00	22.68	163.11	5,210.91	-974.13	295.72	-958.66	0.00	0.00	0.00
5,500.00	22.68	163.11	5,303.18	-1,011.02	306.92	-994.96	0.00	0.00	0.00
5,600.00	22.68	163.11	5,395.44	-1,047.91	318.12	-1,031.27	0.00	0.00	0.00
5,700.00	22.68	163.11	5,487.71	-1,084.81	329.32	-1,067.57	0.00	0.00	0.00
5,800.00	22.68	163.11	5,579.98	-1,121.70	340.52	-1,103.88	0.00	0.00	0.00
5,900.00	22.68	163.11	5,672.25	-1,158.59	351.71	-1,140.18	0.00	0.00	0.00
6,000.00	22.68	163.11	5,764.52	-1,195.48	362.91	-1,176.48	0.00	0.00	0.00
6,100.00	22.68	163.11	5,856.79	-1,232.37	374.11	-1,212.79	0.00	0.00	0.00
6,200.00	22.68	163.11	5,949.06	-1,269.26	385.31	-1,249.09	0.00	0.00	0.00
6,300.00	22.68	163.11	6,041.33	-1,306.15	396.51	-1,285.40	0.00	0.00	0.00
6,342.10	22.68	163.11	6,080.18	-1,321.68	401.23	-1,300.68	0.00	0.00	0.00
KOP: Build 9°/100' @ 6342.10' MD									
6,350.00	22.00	162.53	6,087.48	-1,324.55	402.11	-1,303.50	9.00	-8.55	-7.36
6,400.00	17.78	157.89	6,134.49	-1,340.57	407.80	-1,319.23	9.00	-8.43	-9.28
6,446.28	14.03	151.24	6,179.00	-1,352.04	413.16	-1,330.43	9.00	-8.11	-14.36
Teepee Buttes									
6,450.00	13.74	150.56	6,182.61	-1,352.82	413.60	-1,331.18	9.00	-7.84	-18.45
6,500.00	10.08	137.69	6,231.53	-1,361.23	419.46	-1,339.30	9.00	-7.32	-25.74
6,550.00	7.40	113.44	6,280.96	-1,365.75	425.37	-1,343.53	9.00	-5.36	-48.49
6,600.00	6.95	76.97	6,330.60	-1,366.35	431.27	-1,343.84	9.00	-0.91	-72.94
6,650.00	9.06	47.86	6,380.13	-1,363.03	437.14	-1,340.24	9.00	4.22	-58.22
6,700.00	12.49	32.08	6,429.25	-1,355.80	442.93	-1,332.74	9.00	6.87	-31.56
6,750.00	16.45	23.39	6,477.66	-1,344.71	448.62	-1,321.39	9.00	7.91	-17.39
6,800.00	20.62	18.06	6,525.06	-1,329.84	454.16	-1,306.27	9.00	8.35	-10.66
6,850.00	24.90	14.48	6,571.16	-1,311.27	459.52	-1,287.46	9.00	8.57	-7.16
6,900.00	29.25	11.90	6,615.67	-1,289.11	464.67	-1,265.08	9.00	8.69	-5.16
6,950.00	33.63	9.94	6,658.32	-1,263.51	469.58	-1,239.26	9.00	8.77	-3.92
7,000.00	38.04	8.38	6,698.84	-1,234.61	474.22	-1,210.18	9.00	8.81	-3.11
7,007.86	38.73	8.16	6,705.00	-1,229.79	474.92	-1,205.32	9.00	8.84	-2.76
Sharon Springs									
7,050.00	42.46	7.10	6,737.00	-1,202.61	478.55	-1,178.00	9.00	8.85	-2.51
7,084.77	45.55	6.34	6,762.00	-1,178.62	481.38	-1,153.91	9.00	8.87	-2.20
Top A Chalk									
7,086.20	45.67	6.31	6,763.00	-1,177.61	481.49	-1,152.89	9.00	8.88	-2.08
Top A Marl									
7,096.30	46.57	6.10	6,770.00	-1,170.37	482.28	-1,145.62	9.00	8.88	-2.04
Top B Chalk									

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Project:	Mustang	**MD Reference:**	Well @ 4855.00ft
Site:	D Section 21	**North Reference:**	Grid
Well:	Vogler State D21-740	**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)
7,100.00	46.90	6.03	6,772.54	-1,167.69	482.56	-1,142.93	9.00	8.88	-2.00
7,150.00	51.34	5.10	6,805.26	-1,130.07	486.21	-1,105.18	9.00	8.89	-1.86
7,174.18	53.49	4.69	6,820.00	-1,110.98	487.85	-1,086.03	9.00	8.90	-1.69
Top B Marl									
7,200.00	55.79	4.28	6,834.94	-1,089.99	489.49	-1,064.98	9.00	8.91	-1.60
7,250.00	60.25	3.54	6,861.41	-1,047.68	492.37	-1,022.59	9.00	8.91	-1.48
7,300.00	64.71	2.86	6,884.51	-1,003.42	494.84	-978.26	9.00	8.92	-1.35
7,310.70	65.67	2.72	6,889.00	-993.72	495.32	-968.55	9.00	8.92	-1.29
Top C Chalk									
7,350.00	69.17	2.23	6,904.09	-957.47	496.88	-932.27	9.00	8.93	-1.25
7,400.00	73.64	1.64	6,920.03	-910.12	498.48	-884.90	9.00	8.93	-1.18
7,403.48	73.95	1.60	6,921.00	-906.78	498.58	-881.55	9.00	8.93	-1.15
Top C Marl									
7,450.00	78.10	1.08	6,932.23	-861.66	499.63	-836.44	9.00	8.93	-1.13
7,500.00	82.57	0.53	6,940.62	-812.39	500.32	-787.19	9.00	8.94	-1.09
7,550.00	87.04	359.99	6,945.15	-762.61	500.54	-737.45	9.00	8.94	-1.07
7,583.12	90.00	359.64	6,946.00	-729.51	500.44	-704.40	9.00	8.94	-1.06
LP: 7583.11' MD, 90.00° Inc, 359.64° Azm									
7,600.00	90.00	359.64	6,946.00	-712.62	500.33	-687.54	0.00	0.00	0.00
7,700.00	90.00	359.64	6,946.00	-612.62	499.71	-587.69	0.00	0.00	0.00
7,800.00	90.00	359.64	6,946.00	-512.63	499.08	-487.84	0.00	0.00	0.00
7,900.00	90.00	359.64	6,946.00	-412.63	498.45	-387.99	0.00	0.00	0.00
8,000.00	90.00	359.64	6,946.00	-312.63	497.83	-288.14	0.00	0.00	0.00
8,100.00	90.00	359.64	6,946.00	-212.63	497.20	-188.29	0.00	0.00	0.00
8,200.00	90.00	359.64	6,946.00	-112.63	496.57	-88.44	0.00	0.00	0.00
8,300.00	90.00	359.64	6,946.00	-12.64	495.95	11.41	0.00	0.00	0.00
8,400.00	90.00	359.64	6,946.00	87.36	495.32	111.26	0.00	0.00	0.00
8,500.00	90.00	359.64	6,946.00	187.36	494.70	211.11	0.00	0.00	0.00
8,600.00	90.00	359.64	6,946.00	287.36	494.07	310.96	0.00	0.00	0.00
8,700.00	90.00	359.64	6,946.00	387.36	493.44	410.82	0.00	0.00	0.00
8,800.00	90.00	359.64	6,946.00	487.35	492.82	510.67	0.00	0.00	0.00
8,900.00	90.00	359.64	6,946.00	587.35	492.19	610.52	0.00	0.00	0.00
9,000.00	90.00	359.64	6,946.00	687.35	491.57	710.37	0.00	0.00	0.00
9,100.00	90.00	359.64	6,946.00	787.35	490.94	810.22	0.00	0.00	0.00
9,200.00	90.00	359.64	6,946.00	887.35	490.31	910.07	0.00	0.00	0.00
9,300.00	90.00	359.64	6,946.00	987.34	489.69	1,009.92	0.00	0.00	0.00
9,400.00	90.00	359.64	6,946.00	1,087.34	489.06	1,109.77	0.00	0.00	0.00
9,500.00	90.00	359.64	6,946.00	1,187.34	488.44	1,209.62	0.00	0.00	0.00
9,600.00	90.00	359.64	6,946.00	1,287.34	487.81	1,309.47	0.00	0.00	0.00
9,700.00	90.00	359.64	6,946.00	1,387.34	487.18	1,409.32	0.00	0.00	0.00
9,800.00	90.00	359.64	6,946.00	1,487.33	486.56	1,509.17	0.00	0.00	0.00
9,900.00	90.00	359.64	6,946.00	1,587.33	485.93	1,609.02	0.00	0.00	0.00
10,000.00	90.00	359.64	6,946.00	1,687.33	485.31	1,708.87	0.00	0.00	0.00
10,100.00	90.00	359.64	6,946.00	1,787.33	484.68	1,808.72	0.00	0.00	0.00
10,200.00	90.00	359.64	6,946.00	1,887.33	484.05	1,908.57	0.00	0.00	0.00
10,300.00	90.00	359.64	6,946.00	1,987.32	483.43	2,008.42	0.00	0.00	0.00
10,400.00	90.00	359.64	6,946.00	2,087.32	482.80	2,108.27	0.00	0.00	0.00
10,500.00	90.00	359.64	6,946.00	2,187.32	482.17	2,208.12	0.00	0.00	0.00
10,600.00	90.00	359.64	6,946.00	2,287.32	481.55	2,307.97	0.00	0.00	0.00
10,626.87	90.00	359.64	6,946.00	2,314.19	481.38	2,334.80	0.00	0.00	0.00
Turn: 2°/100'									
10,635.48	90.00	359.81	6,946.00	2,322.80	481.34	2,343.40	2.00	0.00	2.00
EOT: 90.00° Inc, 359.81° Azm									

Database:	EDMP	**Local Co-ordinate Reference:**	Well Vogler State D21-740
Company:	Northern Region - DJ Basin	**TVD Reference:**	Well @ 4855.00ft
Project:	Mustang	**MD Reference:**	Well @ 4855.00ft
Site:	D Section 21	**North Reference:**	Grid
Well:	Vogler State D21-740	**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)
10,700.00	90.00	359.81	6,946.00	2,387.32	481.13	2,407.83	0.00	0.00	0.00
10,800.00	90.00	359.81	6,946.00	2,487.32	480.80	2,507.70	0.00	0.00	0.00
10,900.00	90.00	359.81	6,946.00	2,587.32	480.48	2,607.56	0.00	0.00	0.00
11,000.00	90.00	359.81	6,946.00	2,687.32	480.15	2,707.43	0.00	0.00	0.00
11,100.00	90.00	359.81	6,946.00	2,787.32	479.83	2,807.29	0.00	0.00	0.00
11,200.00	90.00	359.81	6,946.00	2,887.31	479.50	2,907.16	0.00	0.00	0.00
11,300.00	90.00	359.81	6,946.00	2,987.31	479.18	3,007.03	0.00	0.00	0.00
11,400.00	90.00	359.81	6,946.00	3,087.31	478.85	3,106.89	0.00	0.00	0.00
11,500.00	90.00	359.81	6,946.00	3,187.31	478.53	3,206.76	0.00	0.00	0.00
11,600.00	90.00	359.81	6,946.00	3,287.31	478.20	3,306.63	0.00	0.00	0.00
11,700.00	90.00	359.81	6,946.00	3,387.31	477.88	3,406.49	0.00	0.00	0.00
11,800.00	90.00	359.81	6,946.00	3,487.31	477.55	3,506.36	0.00	0.00	0.00
11,900.00	90.00	359.81	6,946.00	3,587.31	477.23	3,606.22	0.00	0.00	0.00
12,000.00	90.00	359.81	6,946.00	3,687.31	476.90	3,706.09	0.00	0.00	0.00
12,100.00	90.00	359.81	6,946.00	3,787.31	476.58	3,805.96	0.00	0.00	0.00
12,200.00	90.00	359.81	6,946.00	3,887.31	476.25	3,905.82	0.00	0.00	0.00
12,300.00	90.00	359.81	6,946.00	3,987.31	475.92	4,005.69	0.00	0.00	0.00
12,400.00	90.00	359.81	6,946.00	4,087.31	475.60	4,105.56	0.00	0.00	0.00
12,500.00	90.00	359.81	6,946.00	4,187.31	475.27	4,205.42	0.00	0.00	0.00
12,600.00	90.00	359.81	6,946.00	4,287.31	474.95	4,305.29	0.00	0.00	0.00
12,700.00	90.00	359.81	6,946.00	4,387.31	474.62	4,405.15	0.00	0.00	0.00
12,800.00	90.00	359.81	6,946.00	4,487.31	474.30	4,505.02	0.00	0.00	0.00
12,900.00	90.00	359.81	6,946.00	4,587.31	473.97	4,604.89	0.00	0.00	0.00
13,000.00	90.00	359.81	6,946.00	4,687.31	473.65	4,704.75	0.00	0.00	0.00
13,100.00	90.00	359.81	6,946.00	4,787.30	473.32	4,804.62	0.00	0.00	0.00
13,200.00	90.00	359.81	6,946.00	4,887.30	473.00	4,904.48	0.00	0.00	0.00
13,300.00	90.00	359.81	6,946.00	4,987.30	472.67	5,004.35	0.00	0.00	0.00
13,400.00	90.00	359.81	6,946.00	5,087.30	472.35	5,104.22	0.00	0.00	0.00
13,500.00	90.00	359.81	6,946.00	5,187.30	472.02	5,204.08	0.00	0.00	0.00
13,600.00	90.00	359.81	6,946.00	5,287.30	471.70	5,303.95	0.00	0.00	0.00
13,700.00	90.00	359.81	6,946.00	5,387.30	471.37	5,403.82	0.00	0.00	0.00
13,800.00	90.00	359.81	6,946.00	5,487.30	471.04	5,503.68	0.00	0.00	0.00
13,900.00	90.00	359.81	6,946.00	5,587.30	470.72	5,603.55	0.00	0.00	0.00
14,000.00	90.00	359.81	6,946.00	5,687.30	470.39	5,703.41	0.00	0.00	0.00
14,100.00	90.00	359.81	6,946.00	5,787.30	470.07	5,803.28	0.00	0.00	0.00
14,200.00	90.00	359.81	6,946.00	5,887.30	469.74	5,903.15	0.00	0.00	0.00
14,300.00	90.00	359.81	6,946.00	5,987.30	469.42	6,003.01	0.00	0.00	0.00
14,400.00	90.00	359.81	6,946.00	6,087.30	469.09	6,102.88	0.00	0.00	0.00
14,500.00	90.00	359.81	6,946.00	6,187.30	468.77	6,202.75	0.00	0.00	0.00
14,600.00	90.00	359.81	6,946.00	6,287.30	468.44	6,302.61	0.00	0.00	0.00
14,700.00	90.00	359.81	6,946.00	6,387.30	468.12	6,402.48	0.00	0.00	0.00
14,800.00	90.00	359.81	6,946.00	6,487.30	467.79	6,502.34	0.00	0.00	0.00
14,900.00	90.00	359.81	6,946.00	6,587.30	467.47	6,602.21	0.00	0.00	0.00
15,000.00	90.00	359.81	6,946.00	6,687.29	467.14	6,702.08	0.00	0.00	0.00
15,100.00	90.00	359.81	6,946.00	6,787.29	466.82	6,801.94	0.00	0.00	0.00
15,200.00	90.00	359.81	6,946.00	6,887.29	466.49	6,901.81	0.00	0.00	0.00
15,300.00	90.00	359.81	6,946.00	6,987.29	466.16	7,001.67	0.00	0.00	0.00
15,400.00	90.00	359.81	6,946.00	7,087.29	465.84	7,101.54	0.00	0.00	0.00
15,500.00	90.00	359.81	6,946.00	7,187.29	465.51	7,201.41	0.00	0.00	0.00
15,600.00	90.00	359.81	6,946.00	7,287.29	465.19	7,301.27	0.00	0.00	0.00
15,700.00	90.00	359.81	6,946.00	7,387.29	464.86	7,401.14	0.00	0.00	0.00
15,800.00	90.00	359.81	6,946.00	7,487.29	464.54	7,501.01	0.00	0.00	0.00
15,900.00	90.00	359.81	6,946.00	7,587.29	464.21	7,600.87	0.00	0.00	0.00
16,000.00	90.00	359.81	6,946.00	7,687.29	463.89	7,700.74	0.00	0.00	0.00

Database:	EDMP	**Local Co-ordinate Reference:**	Well Vogler State D21-740
Company:	Northern Region - DJ Basin	**TVD Reference:**	Well @ 4855.00ft
Project:	Mustang	**MD Reference:**	Well @ 4855.00ft
Site:	D Section 21	**North Reference:**	Grid
Well:	Vogler State D21-740	**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)
16,100.00	90.00	359.81	6,946.00	7,787.29	463.56	7,800.60	0.00	0.00	0.00
16,200.00	90.00	359.81	6,946.00	7,887.29	463.24	7,900.47	0.00	0.00	0.00
16,300.00	90.00	359.81	6,946.00	7,987.29	462.91	8,000.34	0.00	0.00	0.00
16,400.00	90.00	359.81	6,946.00	8,087.29	462.59	8,100.20	0.00	0.00	0.00
16,500.00	90.00	359.81	6,946.00	8,187.29	462.26	8,200.07	0.00	0.00	0.00
16,600.00	90.00	359.81	6,946.00	8,287.29	461.94	8,299.94	0.00	0.00	0.00
16,700.00	90.00	359.81	6,946.00	8,387.29	461.61	8,399.80	0.00	0.00	0.00
16,800.00	90.00	359.81	6,946.00	8,487.29	461.28	8,499.67	0.00	0.00	0.00
16,900.00	90.00	359.81	6,946.00	8,587.28	460.96	8,599.53	0.00	0.00	0.00
17,000.00	90.00	359.81	6,946.00	8,687.28	460.63	8,699.40	0.00	0.00	0.00
17,100.00	90.00	359.81	6,946.00	8,787.28	460.31	8,799.27	0.00	0.00	0.00
17,200.00	90.00	359.81	6,946.00	8,887.28	459.98	8,899.13	0.00	0.00	0.00
17,300.00	90.00	359.81	6,946.00	8,987.28	459.66	8,999.00	0.00	0.00	0.00
17,400.00	90.00	359.81	6,946.00	9,087.28	459.33	9,098.87	0.00	0.00	0.00
17,500.00	90.00	359.81	6,946.00	9,187.28	459.01	9,198.73	0.00	0.00	0.00
17,600.00	90.00	359.81	6,946.00	9,287.28	458.68	9,298.60	0.00	0.00	0.00
17,700.00	90.00	359.81	6,946.00	9,387.28	458.36	9,398.46	0.00	0.00	0.00
17,755.47	90.00	359.81	6,946.00	9,442.75	458.18	9,453.86	0.00	0.00	0.00
TD @ 17755.47' MD/6946.00' TVD									

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
Vogler State D21-740 - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	1,319,376.86	3,263,719.10	40.2062324	-104.5557893
Vogler State D21-740 - plan hits target center - Point	0.00	0.00	6,080.18	-1,321.68	401.23	1,318,055.18	3,264,120.32	40.2025927	-104.5544033
Vogler State D21-740 - plan hits target center - Point	0.00	0.00	6,946.00	9,442.75	458.18	1,328,819.59	3,264,177.27	40.2321388	-104.5537882
Vogler State D21-74(- plan hits target center - Point	0.00	0.00	6,946.00	-729.51	500.44	1,318,647.35	3,264,219.53	40.2042153	-104.5540255

Database:	EDMP	**Local Co-ordinate Reference:**	Well Vogler State D21-740
Company:	Northern Region - DJ Basin	**TVD Reference:**	Well @ 4855.00ft
Project:	Mustang	**MD Reference:**	Well @ 4855.00ft
Site:	D Section 21	**North Reference:**	Grid
Well:	Vogler State D21-740	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan 1		

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
652.00	652.00	Pierre			
787.00	787.00	Upper Pierre Aquifer Top			
1,654.00	1,654.00	Upper Pierre Aquifer Base			
3,952.17	3,875.00	Parkman			
4,204.69	4,108.00	Sussex			
5,234.28	5,058.00	Shannon			
6,446.28	6,179.00	Teepee Buttes			
7,007.86	6,705.00	Sharon Springs			
7,084.77	6,762.00	Top A Chalk			
7,086.20	6,763.00	Top A Marl			
7,096.30	6,770.00	Top B Chalk			
7,174.18	6,820.00	Top B Marl			
7,310.70	6,889.00	Top C Chalk			
7,403.48	6,921.00	Top C Marl			

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
2,200.00	2,200.00	0.00	0.00	Build: 2°/100'
3,333.83	3,304.46	-211.91	64.33	Hold: 22.68° Inc, 163.11° Azm
6,342.10	6,080.18	-1,321.68	401.23	KOP: Build 9°/100' @ 6342.10' MD
7,583.12	6,946.00	-729.51	500.44	LP: 7583.11' MD, 90.00° Inc, 359.64° Azm
10,626.87	6,946.00	2,314.19	481.38	Turn: 2°/100'
10,635.48	6,946.00	2,322.80	481.34	EOT: 90.00° Inc, 359.81° Azm
17,755.47	6,946.00	9,442.75	458.18	TD @ 17755.47' MD/6946.00' TVD

Northern Region - DJ Basin

Mustang
D Section 21
Vogler State D21-740

Wellbore #1
Plan 1

Anticollision Summary Report

01 August, 2018

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Vogler State D21-740
Project:	Mustang	**TVD Reference:**	Well @ 4855.00ft
Reference Site:	D Section 21	**MD Reference:**	Well @ 4855.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Vogler State D21-740	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDMP
Reference Design:	Plan 1	**Offset TVD Reference:**	Offset Datum

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

Survey Tool Program **Date** 8/1/2018

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	17,755.07	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
D Section 16						
Diggen State D16-23 (SI) - Wellbore #1 - Gyro Surveys	14,006.72	6,873.74	671.21	587.99	8.066	CC, ES, SF
Diggin State D 16-07 (SI) - Wellbore #1 - No Surveys	15,884.19	6,869.00	90.49	-120.90	0.428	Level 1, CC, ES, SF
Diggin State D 16-19J (PR) - Wellbore #1 - No Surveys	16,574.97	6,828.00	2,002.13	1,786.23	9.273	CC
Diggin State D 16-19J (PR) - Wellbore #1 - No Surveys	16,600.00	6,828.00	2,002.29	1,786.22	9.267	ES
Diggin State D 16-19J (PR) - Wellbore #1 - No Surveys	16,700.00	6,828.00	2,006.03	1,789.37	9.259	SF
Diggin State D16-13 (PR) - Wellbore #1 - Gyro Surveys	13,363.87	6,860.70	2,672.09	2,593.13	33.843	CC, ES
Diggin State D16-13 (PR) - Wellbore #1 - Gyro Surveys	13,800.00	6,857.88	2,707.44	2,626.11	33.289	SF
Guttersen ST D 15-32 (SI) - Wellbore #1 - Gyro Surveys	15,234.51	6,878.84	1,889.78	1,796.89	20.343	CC, ES
Guttersen ST D 15-32 (SI) - Wellbore #1 - Gyro Surveys	15,400.00	6,878.17	1,897.02	1,802.99	20.176	SF
Guttersen ST D 16-21 (SI) - Wellbore #1 - Gyro Surveys	15,207.87	6,861.69	588.99	496.33	6.356	CC, ES, SF
Guttersen ST D 16-22D (SI) - Wellbore #1 - MWD Surve	15,380.29	6,971.27	596.37	500.24	6.204	CC, ES
Guttersen ST D 16-22D (SI) - Wellbore #1 - MWD Surve	15,400.00	6,971.34	596.70	500.28	6.189	SF
Guttersen ST D 16-33 (SI) - Wellbore #1 - No Surveys	14,110.48	6,843.00	3,253.24	3,055.76	16.474	CC, ES
Guttersen ST D 16-33 (SI) - Wellbore #1 - No Surveys	14,400.00	6,843.00	3,266.10	3,066.77	16.386	SF
Guttersen State D 15-31 (PR) - Wellbore #1 - Gyro Surve	16,936.71	6,866.68	1,813.90	1,708.02	17.131	CC, ES
Guttersen State D 15-31 (PR) - Wellbore #1 - Gyro Surve	17,100.00	6,866.55	1,821.23	1,714.27	17.027	SF
Guttersen State D 15-33 (SI) - Wellbore #1 - Gyro Survey	14,004.84	6,864.73	1,968.43	1,884.77	23.528	CC, ES
Guttersen State D 15-33 (SI) - Wellbore #1 - Gyro Survey	14,200.00	6,862.26	1,978.08	1,893.12	23.281	SF
Guttersen State D 16-15X (PR) - Wellbore #1 - Gyro Sur	13,457.25	6,889.73	36.38	-43.33	0.456	Level 1, CC, ES, SF
Guttersen State D 16-18 (SI) - Wellbore #1 - No Surveys	16,734.12	6,843.00	674.21	456.78	3.101	CC, ES, SF
Guttersen State D 16-20 (SI) - Wellbore #1 - Gyro Survey	15,266.25	6,823.14	1,967.86	1,874.96	21.183	CC, ES
Guttersen State D 16-20 (SI) - Wellbore #1 - Gyro Survey	15,400.00	6,822.72	1,972.40	1,878.69	21.048	SF
Guttersen State D 16-24 (SI) - Wellbore #1 - Gyro Survey	14,093.62	6,886.74	623.76	539.34	7.389	CC
Guttersen State D 16-24 (SI) - Wellbore #1 - Gyro Survey	14,100.00	6,886.71	623.79	539.34	7.386	ES, SF
Guttersen State D 16-27 (PR) - Wellbore #1 - No Survey	17,742.63	6,839.00	621.68	396.45	2.760	CC, ES
Guttersen State D 16-27 (PR) - Wellbore #1 - No Survey	17,755.07	6,839.00	621.80	396.47	2.759	SF
Guttersen State D 16-31 (PR) - Wellbore #1 - No Survey	16,609.25	6,839.00	3,093.58	2,877.19	14.297	CC, ES
Guttersen State D 16-31 (PR) - Wellbore #1 - No Survey	16,900.00	6,839.00	3,107.21	2,889.00	14.239	SF
Guttersen State D 16-32D (SI) - Wellbore #1 - MWD Sur	15,413.17	7,035.10	3,186.31	3,084.23	31.215	CC, ES
Guttersen State D 16-32D (SI) - Wellbore #1 - MWD Sur	15,800.00	7,035.42	3,209.71	3,105.40	30.772	SF
Guttersen State D16-63-1HN - Original Drilling - Original	13,625.61	8,499.25	32.19	-39.13	0.451	Level 1, CC, ES, SF
Guttersen State D16-65-1HN - Original Drilling - Original	14,950.65	8,496.21	35.94	-45.63	0.441	Level 1, CC, ES, SF
Spike ST GWS D 16-01 (SI) - Wellbore #1 - Gyro Survey	17,432.19	6,860.09	1,357.24	1,247.52	12.371	CC, ES
Spike ST GWS D 16-01 (SI) - Wellbore #1 - Gyro Survey	17,500.00	6,860.49	1,358.93	1,248.72	12.331	SF
Spike ST GWS D 16-02 (P&A) - Wellbore #1 - Gyro Surv	17,379.55	6,847.82	141.47	14.54	1.115	Level 2, CC, ES, SF
Spike ST GWS D 16-03 (PR) - Wellbore #1 - No Surveys	17,304.96	6,837.00	1,317.83	1,096.07	5.943	CC, ES, SF
Spike ST GWS D 16-04 (SI) - Wellbore #1 - No Surveys	17,291.73	6,832.00	2,624.45	2,402.89	11.845	CC

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 Vogler State D21-740
Project:	Mustang	**TVD Reference:**	Well @ 4855.00ft
Reference Site:	D Section 21	**MD Reference:**	Well @ 4855.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Vogler State D21-740	**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 16						
Spike ST GWS D 16-04 (SI) - Wellbore #1 - No Surveys	17,300.00	6,832.00	2,624.46	2,402.85	11.842	ES
Spike ST GWS D 16-04 (SI) - Wellbore #1 - No Surveys	17,500.00	6,832.00	2,632.70	2,409.86	11.814	SF
Spike ST GWS D 16-05 (PR) - Wellbore #1 - Gyro Surve	15,934.70	6,839.14	2,668.83	2,570.87	27.245	CC, ES
Spike ST GWS D 16-05 (PR) - Wellbore #1 - Gyro Surve	16,200.00	6,838.80	2,681.99	2,582.43	26.939	SF
Spike ST GWS D 16-06 (SI) - Wellbore #1 - No Surveys	15,982.64	6,845.00	1,308.09	1,096.43	6.180	CC, ES
Spike ST GWS D 16-06 (SI) - Wellbore #1 - No Surveys	16,000.00	6,845.00	1,308.21	1,096.43	6.177	SF
Spike ST GWS D 16-08 (PR) - Wellbore #1 - Gyro Surve	15,945.20	6,885.00	1,512.06	1,413.89	15.403	CC, ES
Spike ST GWS D 16-08 (PR) - Wellbore #1 - Gyro Surve	16,100.00	6,883.60	1,519.96	1,420.83	15.332	SF
Spike ST GWS D 16-12 (PA) - Wellbore #1 - Gyro Surve	14,819.85	6,865.10	2,767.39	2,677.67	30.844	CC, ES
Spike ST GWS D 16-12 (PA) - Wellbore #1 - Gyro Surve	15,200.00	6,861.26	2,793.38	2,701.49	30.402	SF
Spike ST GWS D 16-14 (SI) - Wellbore #1 - No Surveys	13,112.51	6,878.00	1,236.69	1,045.78	6.478	CC, ES, SF
Spike ST GWS D 16-16 (SI) - Wellbore #1 - No Surveys	13,324.76	6,877.00	1,347.68	1,155.26	7.004	CC, ES
Spike ST GWS D 16-16 (SI) - Wellbore #1 - No Surveys	13,400.00	6,877.00	1,349.77	1,156.83	6.996	SF
Spike State D 16-10 (SI) - Wellbore #1 - Gyro Surveys	14,683.53	6,864.11	30.99	-57.71	0.349	Level 1, CC, ES, SF
Spike State D 16-11 (SI) - Wellbore #1 - Gyro Surveys	14,752.02	6,873.86	1,245.44	1,156.17	13.952	CC, ES
Spike State D 16-11 (SI) - Wellbore #1 - Gyro Surveys	14,800.00	6,873.72	1,246.36	1,156.82	13.920	SF
Spike State D 16-9 (SI) - Wellbore #1 - Gyro Surveys	14,626.73	6,855.12	1,354.35	1,266.09	15.345	CC, ES
Spike State D 16-9 (SI) - Wellbore #1 - Gyro Surveys	14,700.00	6,855.35	1,356.33	1,267.54	15.275	SF
Spike State D16-15 (P&A) - Wellbore #1 - Wellbore #1	13,377.28	6,885.13	37.22	-52.86	0.413	Level 1, CC, ES, SF
Spike State D16-99HZ - Original Drilling - Original Drilling	14,286.78	8,458.32	132.75	56.11	1.732	CC
Spike State D16-99HZ - Original Drilling - Original Drilling	14,300.00	8,456.36	133.39	55.60	1.715	ES, SF
Spike State GWS D 16-7J (PR) - Wellbore #1 - No Surve	16,733.05	6,862.00	654.88	437.07	3.007	CC, ES, SF
Spike State GWS D16-13J (PR) - Wellbore #1 - Gyro Su	13,942.59	6,866.13	2,037.67	1,954.48	24.493	CC, ES
Spike State GWS D16-13J (PR) - Wellbore #1 - Gyro Su	14,200.00	6,864.86	2,053.87	1,969.31	24.291	SF

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Vogler State D21-740
Project:	Mustang	**TVD Reference:**	Well @ 4855.00ft
Reference Site:	D Section 21	**MD Reference:**	Well @ 4855.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Vogler State D21-740	**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 21						
Casey Blue D 21-11 (PR) - Wellbore #1 - No Surveys	9,462.13	6,905.00	1,294.29	1,125.13	7.651	CC, ES
Casey Blue D 21-11 (PR) - Wellbore #1 - No Surveys	9,500.00	6,905.00	1,294.85	1,125.54	7.648	SF
Casey Blue D21-13 (PR) - Wellbore #1 - Gyro Surveys	100.00	29.89	2,138.27	2,138.10	10,000.000	CC
Casey Blue D21-13 (PR) - Wellbore #1 - Gyro Surveys	1,900.00	1,815.96	2,145.72	2,132.97	168.171	ES
Casey Blue D21-13 (PR) - Wellbore #1 - Gyro Surveys	8,300.00	6,924.65	2,641.51	2,590.30	51.580	SF
Casey Blue D21-14 (SI) - Wellbore #1 - Gyro Surveys	377.54	336.54	742.22	740.10	349.631	CC
Casey Blue D21-14 (SI) - Wellbore #1 - Gyro Surveys	2,900.00	2,857.12	748.51	728.73	37.851	ES
Casey Blue D21-14 (SI) - Wellbore #1 - Gyro Surveys	8,100.00	6,915.17	1,153.81	1,103.33	22.856	SF
Casey Blue D21-3J (PR) - Wellbore #1 - Gyro Surveys	1,558.52	1,507.54	1,987.49	1,977.04	190.140	CC
Casey Blue D21-3J (PR) - Wellbore #1 - Gyro Surveys	2,220.13	2,177.63	1,988.06	1,972.91	131.183	ES
Casey Blue D21-3J (PR) - Wellbore #1 - Gyro Surveys	9,400.00	6,923.10	2,329.53	2,275.18	42.867	SF
Guttersen 21-31 (SI) - Wellbore #1 - Gyro Surveys	11,984.26	6,884.24	59.04	-10.39	0.850	Level 1, CC, ES, SF
Guttersen 21-42 (SI) - Wellbore #1 - Gyro Surveys	10,666.24	6,903.71	1,368.88	1,307.72	22.381	CC, ES
Guttersen 21-42 (SI) - Wellbore #1 - Gyro Surveys	10,800.00	6,903.98	1,375.40	1,313.49	22.218	SF
Guttersen 32-21 (PR) - Wellbore #1 - No Surveys	10,626.33	6,909.00	21.65	-153.53	0.124	Level 1, CC
Guttersen 32-21 (PR) - Wellbore #1 - No Surveys	10,626.46	6,909.00	21.65	-153.54	0.124	Level 1, ES, SF
Guttersen 33-21 (PR) - Wellbore #1 - Gyro Surveys	9,450.16	6,912.85	83.96	29.00	1.528	CC, ES, SF
Guttersen 34-21 (PR) - Wellbore #1 - Gyro Surveys	8,159.15	6,911.67	106.48	55.43	2.086	CC, ES, SF
Guttersen 41-21 (PR) - Wellbore #1 - Gyro Surveys	12,041.03	6,895.18	1,388.54	1,318.70	19.881	CC, ES
Guttersen 41-21 (PR) - Wellbore #1 - Gyro Surveys	12,200.00	6,894.69	1,397.61	1,326.81	19.740	SF
Guttersen 43-21 (PR) - Wellbore #1 - Gyro Surveys	9,302.96	6,920.37	1,199.37	1,145.04	22.076	CC, ES
Guttersen 43-21 (PR) - Wellbore #1 - Gyro Surveys	9,400.00	6,920.15	1,203.29	1,148.57	21.993	SF
Guttersen D21-32D (SI) - Wellbore #1 - MWD Surveys	100.00	60.86	1,223.36	1,223.12	5,203.690	CC, ES
Guttersen D21-32D (SI) - Wellbore #1 - MWD Surveys	11,000.00	7,292.78	3,366.29	3,290.04	44.151	SF
Guttersen USX D21-17 (PR) - Wellbore #1 - No Surveys	11,374.81	6,893.00	728.28	548.87	4.059	CC, ES
Guttersen USX D21-17 (PR) - Wellbore #1 - No Surveys	11,400.00	6,893.00	728.71	549.14	4.058	SF
Guttersen USX D21-20D (PR) - Wellbore #1 - MWD Surv	666.70	631.93	1,152.94	1,148.80	278.530	CC
Guttersen USX D21-20D (PR) - Wellbore #1 - MWD Surv	700.00	657.56	1,153.05	1,148.70	265.093	ES
Guttersen USX D21-20D (PR) - Wellbore #1 - MWD Surv	10,200.00	7,086.50	1,965.88	1,899.74	29.723	SF
Guttersen USX D21-21D (SI) - Wellbore #1 - MWD Surve	9,885.55	7,131.10	753.29	688.60	11.644	CC, ES, SF
Guttersen USX D21-24D (PR) - Wellbore #1 - MWD Surv	8,707.29	7,004.16	744.19	690.93	13.973	CC, ES, SF
Guttersen USX D21-25 (PR) - Wellbore #1 - MWD Surve	100.00	65.66	1,178.41	1,178.17	4,845.179	CC
Guttersen USX D21-25 (PR) - Wellbore #1 - MWD Surve	2,000.00	1,956.00	1,182.15	1,168.43	86.164	ES
Guttersen USX D21-25 (PR) - Wellbore #1 - MWD Surve	8,900.00	6,925.29	1,527.69	1,474.50	28.717	SF
Guttersen USX D21-27D (PR) - Wellbore #1 - MWD Surv	12,589.75	7,052.37	700.25	619.18	8.637	CC, ES
Guttersen USX D21-27D (PR) - Wellbore #1 - MWD Surv	12,600.00	7,052.40	700.33	619.18	8.630	SF
Guttersen USX D21-28D (PR) - Wellbore #1 - MWD Surv	12,585.71	7,241.40	537.29	454.99	6.528	CC
Guttersen USX D21-28D (PR) - Wellbore #1 - MWD Surv	12,600.00	7,241.41	537.48	454.76	6.497	ES
Guttersen USX D21-28D (PR) - Wellbore #1 - MWD Surv	12,700.00	7,241.49	549.32	464.55	6.481	SF
Guttersen USX D21-33D (SI) - Wellbore #1 - MWD Surve	100.00	64.13	1,200.71	1,200.47	4,992.082	CC
Guttersen USX D21-33D (SI) - Wellbore #1 - MWD Surve	600.00	556.52	1,203.39	1,199.69	324.836	ES
Guttersen USX D21-33D (SI) - Wellbore #1 - MWD Surve	9,800.00	7,058.61	3,378.04	3,318.94	57.153	SF
Guttersen USX D22-30D (PR) - Wellbore #1 - MWD Surv	12,580.72	7,183.91	1,966.30	1,884.32	23.985	CC
Guttersen USX D22-30D (PR) - Wellbore #1 - MWD Surv	12,600.00	7,183.98	1,966.40	1,884.16	23.912	ES
Guttersen USX D22-30D (PR) - Wellbore #1 - MWD Surv	13,000.00	7,185.35	2,010.50	1,923.95	23.227	SF
Gutterson 18-21 (SI) - Wellbore #1 - Gyro Surveys	11,456.46	6,920.76	1,755.15	1,689.58	26.767	CC, ES
Gutterson 18-21 (SI) - Wellbore #1 - Gyro Surveys	11,700.00	6,920.96	1,771.96	1,705.22	26.547	SF
HSR Guttersen B 5-21 (PR) - Wellbore #1 - Gyro Survey	10,687.66	6,900.51	2,570.05	2,509.59	42.510	CC
HSR Guttersen B 5-21 (PR) - Wellbore #1 - Gyro Survey	10,700.00	6,900.45	2,570.08	2,509.55	42.462	ES
HSR Guttersen B 5-21 (PR) - Wellbore #1 - Gyro Survey	11,100.00	6,898.53	2,602.92	2,540.41	41.642	SF
HSR Gutterson 4-21 (PR) - Wellbore #1 - Gyro Surveys	11,904.25	6,927.02	2,640.49	2,571.71	38.393	CC, ES
HSR Gutterson 4-21 (PR) - Wellbore #1 - Gyro Surveys	12,300.00	6,930.59	2,669.98	2,599.05	37.644	SF
HSR-Guttersen 3-21 (SI) - Wellbore #1 - Gyro Surveys	11,884.29	6,969.96	1,167.30	1,097.30	16.674	CC, 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 Vogler State D21-740
Project:	Mustang	**TVD Reference:**	Well @ 4855.00ft
Reference Site:	D Section 21	**MD Reference:**	Well @ 4855.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Vogler State D21-740	**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 21						
HSR-Guttersen 3-21 (SI) - Wellbore #1 - Gyro Surveys	12,000.00	6,964.69	1,173.01	1,102.57	16.653	SF
HSR-Guttersen 6-21 (SI) - Wellbore #1 - Gyro Surveys	10,685.14	6,895.66	1,232.05	1,171.00	20.182	CC, ES
HSR-Guttersen 6-21 (SI) - Wellbore #1 - Gyro Surveys	10,800.00	6,896.50	1,237.39	1,175.82	20.097	SF
Two E Ranch 1-21C (SI) - Wellbore #1 - Gyro Surveys	8,718.08	6,907.98	936.65	884.34	17.908	CC, ES
Two E Ranch 1-21C (SI) - Wellbore #1 - Gyro Surveys	8,800.00	6,907.43	940.22	887.69	17.899	SF
Vogler State D21-720 - Wellbore #1 - Plan 1	17,755.07	17,671.50	1,320.14	1,142.76	7.443	CC, ES, SF
Vogler State D21-731 - Wellbore #1 - Plan 1	2,434.09	2,433.69	36.46	19.55	2.156	CC, ES
Vogler State D21-731 - Wellbore #1 - Plan 1	2,500.00	2,499.23	36.96	19.61	2.130	SF
Vogler State D21-750 - Wellbore #1 - Plan 1	2,000.00	1,999.00	37.00	23.13	2.668	CC
Vogler State D21-750 - Wellbore #1 - Plan 1	2,100.00	2,098.90	37.13	22.56	2.549	ES
Vogler State D21-750 - Wellbore #1 - Plan 1	2,200.00	2,198.55	37.98	22.73	2.491	SF
Vogler State D21-760 - Wellbore #1 - Plan 1	10,626.78	10,673.87	1,270.93	1,196.98	17.185	CC
Vogler State D21-760 - Wellbore #1 - Plan 1	17,300.00	17,347.06	1,290.25	1,120.52	7.602	ES
Vogler State D21-760 - Wellbore #1 - Plan 1	17,755.07	17,751.27	1,305.82	1,129.63	7.411	SF
Vogler State D21-770 - Wellbore #1 - Plan 1	2,200.00	2,167.00	1,760.90	1,745.72	115.937	CC
Vogler State D21-770 - Wellbore #1 - Plan 1	2,400.00	2,387.23	1,761.91	1,745.32	106.202	ES
Vogler State D21-770 - Wellbore #1 - Plan 1	17,755.07	17,600.43	1,968.56	1,791.99	11.149	SF
Vogler State D21-780 - Wellbore #1 - Plan 1	2,004.91	1,969.91	1,797.90	1,784.12	130.448	CC
Vogler State D21-780 - Wellbore #1 - Plan 1	2,100.00	2,058.05	1,798.03	1,783.60	124.617	ES
Vogler State D21-780 - Wellbore #1 - Plan 1	17,755.07	17,653.67	2,626.61	2,449.72	14.849	SF
Vogler State D21-790 - Wellbore #1 - Plan 1	3,654.54	3,425.52	1,903.50	1,879.12	78.092	CC
Vogler State D21-790 - Wellbore #1 - Plan 1	17,755.07	17,618.56	1,973.75	1,796.27	11.121	ES, SF
Vogler State D33-711 - Wellbore #1 - Plan 1	7,350.00	7,062.87	1,886.82	1,835.01	36.412	SF
Vogler State D33-711 - Wellbore #1 - Plan 1	7,582.71	6,875.09	1,878.32	1,827.06	36.642	ES
Vogler State D33-711 - Wellbore #1 - Plan 1	7,597.32	6,864.53	1,878.30	1,827.08	36.670	CC
Vogler State D33-718 - Wellbore #1 - Plan 1	7,350.00	7,143.52	1,431.26	1,379.51	27.656	SF
Vogler State D33-718 - Wellbore #1 - Plan 1	7,434.86	7,077.36	1,429.83	1,378.23	27.711	CC, ES
Vogler State D33-728 - Wellbore #1 - Plan 1	2,270.57	2,278.04	152.27	136.50	9.656	CC
Vogler State D33-728 - Wellbore #1 - Plan 1	2,300.00	2,307.68	152.39	136.42	9.542	ES
Vogler State D33-728 - Wellbore #1 - Plan 1	2,500.00	2,508.03	159.36	142.05	9.207	SF
Vogler State D33-738 - Wellbore #1 - Plan 1	7,208.59	7,250.06	118.84	66.27	2.260	CC, ES, SF
Vogler State D33-752 - Wellbore #1 - Plan 1	2,200.00	2,204.00	154.41	139.09	10.078	CC, ES
Vogler State D33-752 - Wellbore #1 - Plan 1	2,400.00	2,404.06	161.38	144.67	9.661	SF
Vogler State D33-759 - Wellbore #1 - Plan 1	7,050.00	7,486.41	1,177.31	1,123.47	21.867	SF
Vogler State D33-759 - Wellbore #1 - Plan 1	7,123.23	7,434.30	1,176.23	1,122.47	21.881	CC, ES
Vogler State D33-769 - Wellbore #1 - Plan 1	3,043.08	3,210.99	1,765.09	1,743.67	82.423	CC
Vogler State D33-769 - Wellbore #1 - Plan 1	3,100.00	3,267.50	1,765.32	1,743.52	80.967	ES
Vogler State D33-769 - Wellbore #1 - Plan 1	7,031.32	7,417.69	1,833.38	1,780.70	34.802	SF
Vogler State D33-779 - Wellbore #1 - Plan 1	2,000.00	1,971.00	1,803.86	1,790.09	131.010	CC
Vogler State D33-779 - Wellbore #1 - Plan 1	2,100.00	2,062.93	1,804.02	1,789.58	124.888	ES
Vogler State D33-779 - Wellbore #1 - Plan 1	7,000.00	7,420.39	2,490.19	2,437.74	47.479	SF

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Vogler State D21-740
Project:	Mustang	**TVD Reference:**	Well @ 4855.00ft
Reference Site:	D Section 21	**MD Reference:**	Well @ 4855.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Vogler State D21-740	**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 28						
O'SH D 28-7 (P&A) - Wellbore #1 - No Surveys	6,587.01	6,273.10	1,532.36	1,383.18	10.272	CC
O'SH D 28-7 (P&A) - Wellbore #1 - No Surveys	6,600.00	6,286.00	1,532.49	1,383.01	10.252	ES
O'SH D 28-7 (P&A) - Wellbore #1 - No Surveys	6,750.00	6,433.04	1,553.21	1,400.38	10.163	SF
Spike ST GWS D 28-12 (SI) - Wellbore #1 - Gyro Surve	6,510.27	6,174.68	3,919.85	3,874.07	85.629	CC, ES
Spike ST GWS D 28-12 (SI) - Wellbore #1 - Gyro Surve	6,950.00	6,597.17	4,028.59	3,980.27	83.388	SF
Guttersen D State 28-29D (PR) - Wellbore #1 - MWD Su	4,750.38	4,781.62	1,694.03	1,659.04	48.414	CC
Guttersen D State 28-29D (PR) - Wellbore #1 - MWD Su	4,800.00	4,816.09	1,694.30	1,658.93	47.895	ES
Guttersen D State 28-29D (PR) - Wellbore #1 - MWD Su	7,410.89	6,954.36	1,912.88	1,861.43	37.183	SF
Guttersen D State 28-30D - Wellbore #1 - Guttersen D S	850.85	810.63	2,483.85	2,479.61	585.232	CC
Guttersen D State 28-30D - Wellbore #1 - Guttersen D S	1,100.00	1,030.16	2,484.61	2,478.55	410.196	ES
Guttersen D State 28-30D - Wellbore #1 - Guttersen D S	7,200.00	7,200.00	3,356.30	3,304.95	65.363	SF
Guttersen State D28-18D (PR) - Wellbore #1 - MWD Sur	6,513.28	6,270.46	1,015.15	965.24	20.340	CC, ES
Guttersen State D28-18D (PR) - Wellbore #1 - MWD Sur	6,600.00	6,354.90	1,019.41	968.93	20.196	SF
Guttersen State D28-21D (SI) - Wellbore #1 - MWD Surv	6,570.11	6,359.23	2,135.19	2,088.51	45.746	CC, ES
Guttersen State D28-21D (SI) - Wellbore #1 - MWD Surv	6,750.00	6,548.06	2,159.21	2,111.39	45.157	SF
Guttersen State D28-24D (SI) - Wellbore #1 - MWD Surv	6,566.82	6,344.43	3,636.93	3,589.04	75.931	CC, ES
Guttersen State D28-24D (SI) - Wellbore #1 - MWD Surv	6,800.00	6,534.73	3,679.08	3,629.85	74.739	SF
Guttersen State D28-28D (PR) - Wellbore #1 - MWD Sur	4,712.60	4,617.62	466.62	430.90	13.062	CC, ES
Guttersen State D28-28D (PR) - Wellbore #1 - MWD Sur	4,900.00	4,765.51	478.38	440.80	12.731	SF
Guttersen State D28-79HN - Wellbore #1 - Actual	6,726.69	11,086.00	3,151.80	3,043.14	29.006	CC
Guttersen State D28-79HN - Wellbore #1 - Actual	6,750.00	11,086.00	3,151.90	3,043.11	28.972	ES
Guttersen State D28-79HN - Wellbore #1 - Actual	6,950.00	11,086.00	3,161.23	3,051.64	28.844	SF
HSR Guttersen State 10-28 (SI) - Wellbore #1 - Gyro Su	6,563.05	6,164.93	2,815.87	2,770.68	62.316	CC, ES
HSR Guttersen State 10-28 (SI) - Wellbore #1 - Gyro Su	6,800.00	6,401.83	2,860.57	2,813.93	61.332	SF
HSR Guttersen State 15-28 (SI) - Wellbore #1 - Gyro Su	6,575.59	6,176.13	4,441.86	4,396.69	98.328	CC, ES
HSR Guttersen State 15-28 (SI) - Wellbore #1 - Gyro Su	6,950.00	6,950.00	4,550.31	4,501.61	93.436	SF
HSR Guttersen State 7-28 (PR) - Wellbore #1 - Gyro Sur	6,571.28	6,233.86	1,480.74	1,435.33	32.608	CC, ES
HSR Guttersen State 7-28 (PR) - Wellbore #1 - Gyro Sur	6,700.00	6,364.91	1,493.73	1,447.50	32.306	SF
O'SH D 28-1 (SI) - Wellbore #1 - Gyro Surveys	6,720.96	6,424.11	1,215.29	1,168.30	25.858	CC, ES
O'SH D 28-1 (SI) - Wellbore #1 - Gyro Surveys	6,850.00	6,545.64	1,222.40	1,174.72	25.642	SF
O'SH D 28-2 (SI) - Wellbore #1 - Gyro Surveys	6,621.17	6,313.89	215.41	169.72	4.715	CC, ES
O'SH D 28-2 (SI) - Wellbore #1 - Gyro Surveys	6,650.00	6,342.45	216.03	170.17	4.710	SF
O'SH D 28-8 (SI) - Wellbore #1 - Gyro Surveys	6,625.78	6,273.49	2,130.20	2,084.29	46.396	CC, ES
O'SH D 28-8 (SI) - Wellbore #1 - Gyro Surveys	6,850.00	6,506.07	2,159.73	2,112.53	45.751	SF
Spike ST GWS D 28-03 (PR) - Wellbore #1 - Gyro Surve	5,767.87	5,484.17	1,087.85	1,037.13	21.448	CC
Spike ST GWS D 28-03 (PR) - Wellbore #1 - Gyro Surve	5,800.00	5,513.72	1,087.92	1,036.83	21.296	ES
Spike ST GWS D 28-03 (PR) - Wellbore #1 - Gyro Surve	6,900.00	6,547.63	1,179.67	1,116.63	18.712	SF
Spike ST GWS D 28-4 (SI) - Wellbore #1 - Gyro Surveys	4,776.64	4,585.10	2,421.62	2,388.55	73.229	CC
Spike ST GWS D 28-4 (SI) - Wellbore #1 - Gyro Surveys	4,800.00	4,603.03	2,421.65	2,388.42	72.874	ES
Spike ST GWS D 28-4 (SI) - Wellbore #1 - Gyro Surveys	7,400.00	6,944.59	2,629.78	2,579.34	52.136	SF
Spike State D 28-13 (SI) - Wellbore #1 - Gyro Surveys	6,555.89	6,366.45	5,048.70	5,002.44	109.155	CC, ES
Spike State D 28-13 (SI) - Wellbore #1 - Gyro Surveys	6,900.00	6,600.00	5,129.72	5,081.76	106.959	SF
Spike State D28-05 (PR) - Wellbore #1 - Gyro Surveys	6,451.07	6,152.10	2,988.23	2,942.46	65.284	CC, ES
Spike State D28-05 (PR) - Wellbore #1 - Gyro Surveys	6,850.00	6,615.59	3,041.61	2,993.09	62.684	SF
Spike State D28-06 (SI) - Wellbore #1 - Gyro Surveys	6,543.64	6,245.70	1,702.20	1,656.28	37.068	CC
Spike State D28-06 (SI) - Wellbore #1 - Gyro Surveys	6,550.00	6,251.50	1,702.23	1,656.26	37.032	ES
Spike State D28-06 (SI) - Wellbore #1 - Gyro Surveys	6,700.00	6,413.32	1,717.84	1,670.88	36.581	SF
Spike State D28-11 (SI) - Wellbore #1 - Gyro Surveys	6,548.13	6,200.00	2,875.46	2,829.93	63.145	CC
Spike State D28-11 (SI) - Wellbore #1 - Gyro Surveys	6,550.00	6,200.00	2,875.47	2,829.92	63.133	ES
Spike State D28-11 (SI) - Wellbore #1 - Gyro Surveys	6,750.00	6,353.01	2,906.68	2,859.98	62.241	SF
Spike State GWS D 28-14 (P&A) - Wellbore #1 - Gyro Su	6,553.61	6,156.10	4,505.40	4,460.14	99.540	CC, ES
Spike State GWS D 28-14 (P&A) - Wellbore #1 - Gyro Su	6,850.00	6,435.20	4,571.14	4,524.16	97.298	SF

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

Noble Energy, Inc.

Anticollision Summary Report

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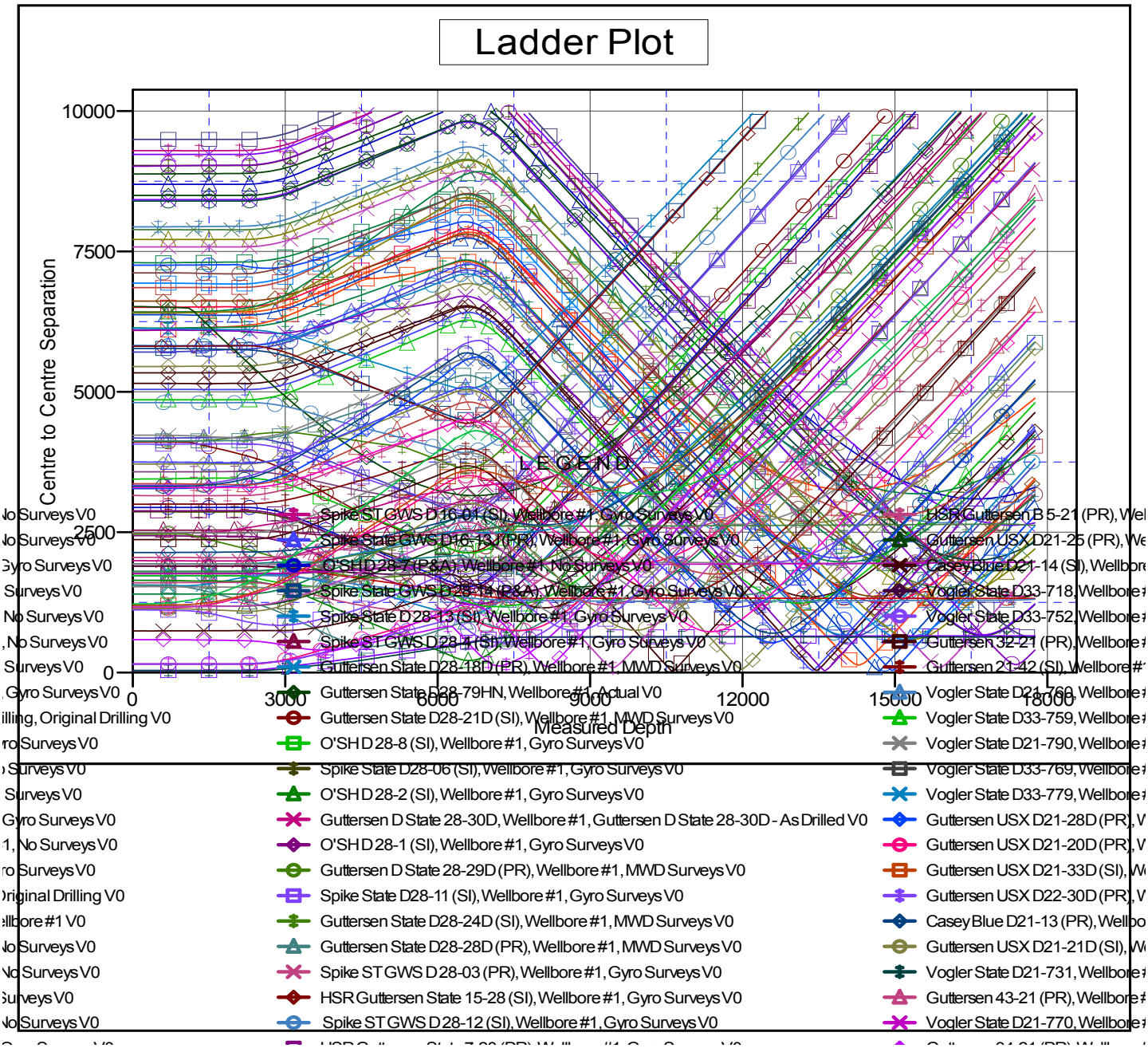
Reference Site:	D Section 21	**MD Reference:**	Well @ 4855.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Vogler State D21-740	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDMP
Reference Design:	Plan 1	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to Well @ 4855.00ft	Coordinates are relative to: Vogler State D21-740
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: 0.61°



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Offset Depths are relative to Offset Datum	Coordinate System is US State Plane 1983, Colorado Northern Zone
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