Project: Mustang
Site: CC Section 31
Well: Booth DD06-785
Wellbore: Wellbore #1
Design: APD-Rev 0

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

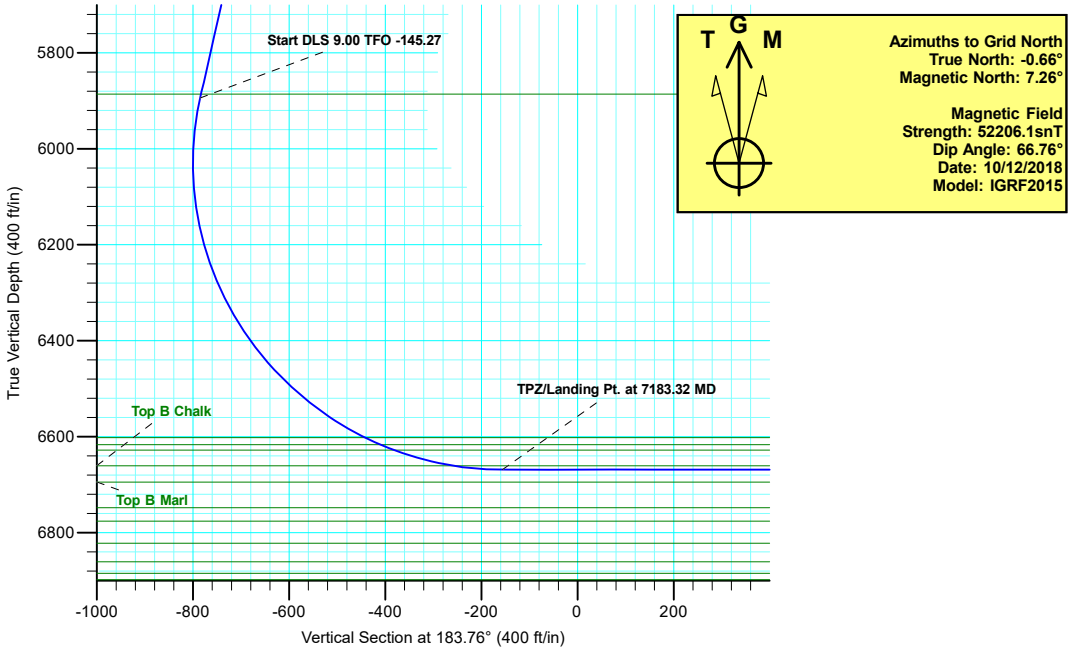
SECTION DETAILS

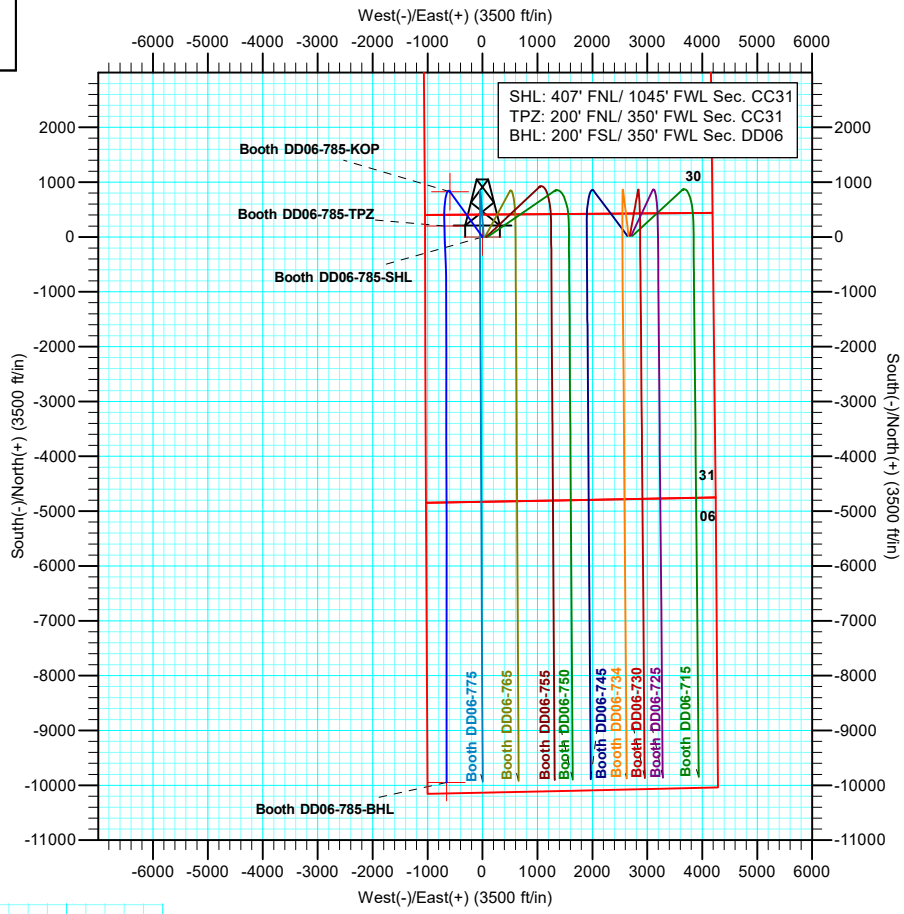
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	2000.00	0.00	0.00	2000.00	0.00	0.00	0.00	0.00	0.00
3	2812.49	16.25	324.35	2801.64	93.00	-66.70	2.00	324.35	-88.43
4	6033.65	16.25	324.35	5894.12	825.48	-591.99	0.00	0.00	-784.87
5	7183.32	90.00	178.00	6669.00	202.38	-695.44	9.00	-145.27	-156.33
6	8183.32	90.00	178.00	6669.00	-797.01	-660.54	0.00	0.00	838.62
7	8282.04	89.86	179.97	6669.12	-895.71	-658.79	2.00	94.21	936.99
8	17333.94	89.86	179.97	6692.00	-9947.58	-653.90	0.00	0.00	9969.04

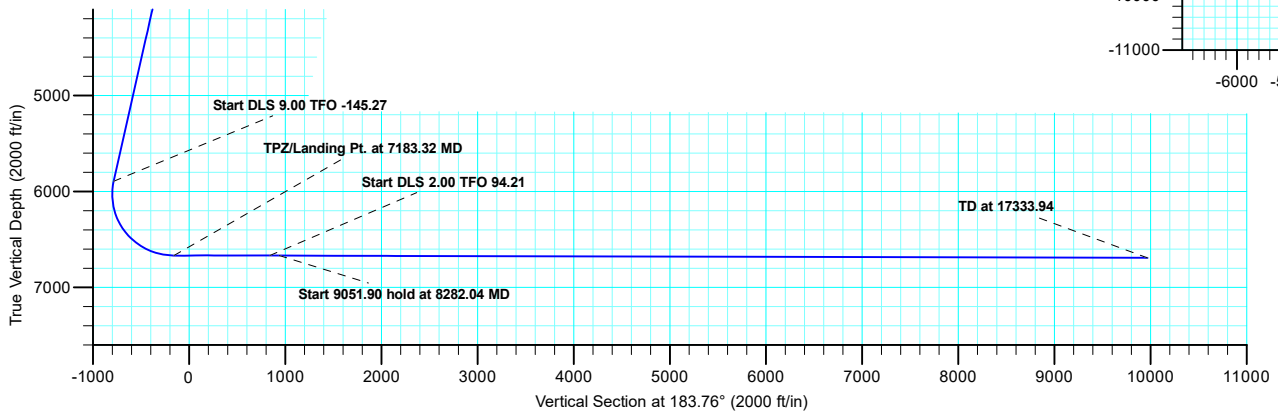
WELL DETAILS: Booth DD06-785

Ground Level: 4776.00

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1344633.96	3282901.81	40.2749800	-104.4860800	







Plan: APD-Rev 0 (Booth DD06-785/Wellbore #1)

Created By: Shelly C. Peterkin Date: 10:28, October 15 2018

Northern Region - DJ Basin

Mustang
CC Section 31
Booth DD06-785

Wellbore #1

Plan: APD-Rev 0

Standard Planning Report

15 October, 2018

Database:	EDMP	**Local Co-ordinate Reference:**	Well Booth DD06-785
Company:	Northern Region - DJ Basin	**TVD Reference:**	KB @ 4806.00ft
Project:	Mustang	**MD Reference:**	KB @ 4806.00ft
Site:	CC Section 31	**North Reference:**	Grid
Well:	Booth DD06-785	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	APD-Rev 0		

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 CC Section 31

Site Position:		**Northing:**	1,340,296.58 usft	**Latitude:**	40.2630390
From:	Map	**Easting:**	3,284,024.52 usft	**Longitude:**	-104.4822350
Position Uncertainty:	0.00 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	0.66 °

Well Booth DD06-785

Well Position	**+N/-S**	4,337.38 ft	**Northing:**	1,344,633.96 usft	**Latitude:**	40.2749800
	+E/-W	-1,122.70 ft	**Easting:**	3,282,901.81 usft	**Longitude:**	-104.4860800
Position Uncertainty		0.00 ft	**Wellhead Elevation:**		**Ground Level:**	4,776.00 ft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	10/12/2018	7.91	66.76	52,206.06818044

Design APD-Rev 0

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	183.76

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	
2,812.49	16.25	324.35	2,801.64	93.00	-66.70	2.00	2.00	0.00	324.35	
6,033.65	16.25	324.35	5,894.12	825.48	-591.99	0.00	0.00	0.00	0.00	
7,183.32	90.00	178.00	6,669.00	202.38	-695.44	9.00	6.41	-12.73	-145.27	Booth DD06-785-TPZ
8,183.32	90.00	178.00	6,669.00	-797.01	-660.54	0.00	0.00	0.00	0.00	
8,282.04	89.86	179.97	6,669.12	-895.71	-658.79	2.00	-0.15	1.99	94.21	
17,333.94	89.86	179.97	6,692.00	-9,947.58	-653.90	0.00	0.00	0.00	0.00	Booth DD06-785-BHL

Database:	EDMP	**Local Co-ordinate Reference:**	Well Booth DD06-785
Company:	Northern Region - DJ Basin	**TVD Reference:**	KB @ 4806.00ft
Project:	Mustang	**MD Reference:**	KB @ 4806.00ft
Site:	CC Section 31	**North Reference:**	Grid
Well:	Booth DD06-785	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	APD-Rev 0		

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
456.00	0.00	0.00	456.00	0.00	0.00	0.00	0.00	0.00	0.00
Pierre									
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
722.00	0.00	0.00	722.00	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
1,642.00	0.00	0.00	1,642.00	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
Start Build 2.00									
2,100.00	2.00	324.35	2,099.98	1.42	-1.02	-1.35	2.00	2.00	0.00
2,200.00	4.00	324.35	2,199.84	5.67	-4.07	-5.39	2.00	2.00	0.00
2,300.00	6.00	324.35	2,299.45	12.75	-9.15	-12.13	2.00	2.00	0.00
2,400.00	8.00	324.35	2,398.70	22.66	-16.25	-21.54	2.00	2.00	0.00
2,500.00	10.00	324.35	2,497.47	35.37	-25.36	-33.63	2.00	2.00	0.00
2,600.00	12.00	324.35	2,595.62	50.87	-36.48	-48.37	2.00	2.00	0.00
2,700.00	14.00	324.35	2,693.06	69.15	-49.59	-65.75	2.00	2.00	0.00
2,800.00	16.00	324.35	2,789.64	90.18	-64.67	-85.75	2.00	2.00	0.00
2,812.49	16.25	324.35	2,801.64	93.00	-66.70	-88.43	2.00	2.00	0.00
Start 3221.16 hold at 2812.49 MD									
2,900.00	16.25	324.35	2,885.66	112.90	-80.97	-107.35	0.00	0.00	0.00
3,000.00	16.25	324.35	2,981.66	135.64	-97.27	-128.97	0.00	0.00	0.00
3,100.00	16.25	324.35	3,077.67	158.38	-113.58	-150.59	0.00	0.00	0.00
3,200.00	16.25	324.35	3,173.67	181.12	-129.89	-172.21	0.00	0.00	0.00
3,300.00	16.25	324.35	3,269.68	203.86	-146.20	-193.83	0.00	0.00	0.00
3,400.00	16.25	324.35	3,365.68	226.60	-162.50	-215.45	0.00	0.00	0.00
3,500.00	16.25	324.35	3,461.69	249.34	-178.81	-237.07	0.00	0.00	0.00
3,600.00	16.25	324.35	3,557.69	272.08	-195.12	-258.69	0.00	0.00	0.00
3,700.00	16.25	324.35	3,653.70	294.82	-211.43	-280.31	0.00	0.00	0.00
3,762.81	16.25	324.35	3,714.00	309.10	-221.67	-293.90	0.00	0.00	0.00
Parkman									
3,800.00	16.25	324.35	3,749.70	317.56	-227.73	-301.94	0.00	0.00	0.00
3,900.00	16.25	324.35	3,845.71	340.30	-244.04	-323.56	0.00	0.00	0.00
4,000.00	16.25	324.35	3,941.71	363.04	-260.35	-345.18	0.00	0.00	0.00
4,100.00	16.25	324.35	4,037.72	385.78	-276.66	-366.80	0.00	0.00	0.00

Database:	EDMP	**Local Co-ordinate Reference:**	Well Booth DD06-785
Company:	Northern Region - DJ Basin	**TVD Reference:**	KB @ 4806.00ft
Project:	Mustang	**MD Reference:**	KB @ 4806.00ft
Site:	CC Section 31	**North Reference:**	Grid
Well:	Booth DD06-785	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	APD-Rev 0		

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	16.25	324.35	4,133.72	408.51	-292.96	-388.42	0.00	0.00	0.00
4,300.00	16.25	324.35	4,229.73	431.25	-309.27	-410.04	0.00	0.00	0.00
4,400.00	16.25	324.35	4,325.73	453.99	-325.58	-431.66	0.00	0.00	0.00
4,401.32	16.25	324.35	4,327.00	454.29	-325.79	-431.95	0.00	0.00	0.00
Sussex									
4,500.00	16.25	324.35	4,421.74	476.73	-341.89	-453.28	0.00	0.00	0.00
4,600.00	16.25	324.35	4,517.74	499.47	-358.19	-474.90	0.00	0.00	0.00
4,700.00	16.25	324.35	4,613.75	522.21	-374.50	-496.52	0.00	0.00	0.00
4,800.00	16.25	324.35	4,709.75	544.95	-390.81	-518.14	0.00	0.00	0.00
4,900.00	16.25	324.35	4,805.76	567.69	-407.12	-539.76	0.00	0.00	0.00
5,000.00	16.25	324.35	4,901.76	590.43	-423.42	-561.39	0.00	0.00	0.00
5,053.37	16.25	324.35	4,953.00	602.57	-432.13	-572.92	0.00	0.00	0.00
Shannon									
5,100.00	16.25	324.35	4,997.77	613.17	-439.73	-583.01	0.00	0.00	0.00
5,200.00	16.25	324.35	5,093.77	635.91	-456.04	-604.63	0.00	0.00	0.00
5,300.00	16.25	324.35	5,189.78	658.65	-472.35	-626.25	0.00	0.00	0.00
5,400.00	16.25	324.35	5,285.78	681.39	-488.65	-647.87	0.00	0.00	0.00
5,500.00	16.25	324.35	5,381.79	704.13	-504.96	-669.49	0.00	0.00	0.00
5,600.00	16.25	324.35	5,477.79	726.87	-521.27	-691.11	0.00	0.00	0.00
5,700.00	16.25	324.35	5,573.80	749.61	-537.58	-712.73	0.00	0.00	0.00
5,800.00	16.25	324.35	5,669.80	772.35	-553.88	-734.35	0.00	0.00	0.00
5,900.00	16.25	324.35	5,765.81	795.09	-570.19	-755.97	0.00	0.00	0.00
6,000.00	16.25	324.35	5,861.81	817.82	-586.50	-777.59	0.00	0.00	0.00
6,025.19	16.25	324.35	5,886.00	823.55	-590.61	-783.04	0.00	0.00	0.00
Teepee Buttes									
6,033.65	16.25	324.35	5,894.12	825.48	-591.99	-784.87	0.00	0.00	0.00
Start DLS 9.00 TFO -145.27									
6,050.00	15.06	321.13	5,909.86	828.99	-594.65	-788.20	9.00	-7.26	-19.74
6,100.00	11.83	307.55	5,958.50	837.18	-602.80	-795.83	9.00	-6.47	-27.16
6,150.00	9.65	286.19	6,007.64	841.47	-610.89	-799.59	9.00	-4.36	-42.71
6,200.00	9.29	258.67	6,056.98	841.84	-618.88	-799.44	9.00	-0.71	-55.05
6,250.00	10.95	234.60	6,106.23	838.30	-626.71	-795.39	9.00	3.31	-48.13
6,300.00	13.91	218.70	6,155.06	830.85	-634.34	-787.46	9.00	5.92	-31.80
6,350.00	17.53	208.75	6,203.19	819.56	-641.72	-775.70	9.00	7.24	-19.90
6,400.00	21.47	202.24	6,250.32	804.48	-648.81	-760.19	9.00	7.89	-13.03
6,450.00	25.60	197.70	6,296.16	785.71	-655.56	-741.01	9.00	8.24	-9.07
6,500.00	29.82	194.36	6,340.41	763.36	-661.93	-718.30	9.00	8.45	-6.67
6,550.00	34.11	191.79	6,382.82	737.58	-667.89	-692.18	9.00	8.58	-5.14
6,600.00	38.45	189.74	6,423.12	708.52	-673.38	-662.82	9.00	8.67	-4.11
6,650.00	42.81	188.04	6,461.06	676.36	-678.39	-630.41	9.00	8.73	-3.39
6,700.00	47.19	186.60	6,496.41	641.30	-682.88	-595.13	9.00	8.77	-2.88
6,750.00	51.59	185.36	6,528.95	603.56	-686.82	-557.21	9.00	8.80	-2.49
6,800.00	56.00	184.25	6,558.47	563.36	-690.19	-516.88	9.00	8.82	-2.21
6,850.00	60.42	183.26	6,584.80	520.96	-692.96	-474.39	9.00	8.84	-1.99
6,886.69	63.67	182.58	6,602.00	488.60	-694.61	-441.99	9.00	8.85	-1.84
Sharon Springs									
6,900.00	64.85	182.35	6,607.78	476.62	-695.13	-430.00	9.00	8.86	-1.77
6,922.53	66.85	181.96	6,617.00	456.08	-695.90	-409.45	9.00	8.86	-1.72
Top A Chalk									
6,950.00	69.28	181.50	6,627.26	430.61	-696.67	-383.99	9.00	8.87	-1.67
6,952.10	69.47	181.47	6,628.00	428.65	-696.72	-382.02	9.00	8.87	-1.64
Top A Marl									
7,000.00	73.72	180.70	6,643.12	383.22	-697.57	-336.64	9.00	8.87	-1.59

Database:	EDMP	**Local Co-ordinate Reference:**	Well Booth DD06-785
Company:	Northern Region - DJ Basin	**TVD Reference:**	KB @ 4806.00ft
Project:	Mustang	**MD Reference:**	KB @ 4806.00ft
Site:	CC Section 31	**North Reference:**	Grid
Well:	Booth DD06-785	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	APD-Rev 0		

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)
7,050.00	78.16	179.94	6,655.27	334.73	-697.84	-288.24	9.00	8.88	-1.53
7,081.64	80.97	179.47	6,661.00	303.62	-697.68	-257.20	9.00	8.88	-1.48
Top B Chalk									
7,100.00	82.60	179.20	6,663.62	285.45	-697.47	-239.08	9.00	8.88	-1.46
7,150.00	87.04	178.48	6,668.14	235.67	-696.46	-189.48	9.00	8.88	-1.45
7,183.32	90.00	178.00	6,669.00	202.38	-695.44	-156.33	9.00	8.88	-1.44
TPZ/Landing Pt. at 7183.32 MD									
7,200.00	90.00	178.00	6,669.00	185.72	-694.86	-139.74	0.00	0.00	0.00
7,300.00	90.00	178.00	6,669.00	85.78	-691.37	-40.24	0.00	0.00	0.00
7,400.00	90.00	178.00	6,669.00	-14.16	-687.88	59.25	0.00	0.00	0.00
7,500.00	90.00	178.00	6,669.00	-114.10	-684.39	158.75	0.00	0.00	0.00
7,600.00	90.00	178.00	6,669.00	-214.04	-680.90	258.24	0.00	0.00	0.00
7,700.00	90.00	178.00	6,669.00	-313.98	-677.41	357.74	0.00	0.00	0.00
7,800.00	90.00	178.00	6,669.00	-413.92	-673.92	457.23	0.00	0.00	0.00
7,900.00	90.00	178.00	6,669.00	-513.86	-670.43	556.73	0.00	0.00	0.00
8,000.00	90.00	178.00	6,669.00	-613.80	-666.94	656.22	0.00	0.00	0.00
8,100.00	90.00	178.00	6,669.00	-713.74	-663.45	755.72	0.00	0.00	0.00
8,183.32	90.00	178.00	6,669.00	-797.01	-660.54	838.62	0.00	0.00	0.00
Start DLS 2.00 TFO 94.21									
8,200.00	89.98	178.33	6,669.00	-813.68	-660.01	855.22	2.00	-0.15	1.99
8,282.04	89.86	179.97	6,669.12	-895.71	-658.79	936.99	2.00	-0.15	1.99
Start 9051.90 hold at 8282.04 MD									
8,300.00	89.86	179.97	6,669.17	-913.66	-658.78	954.91	0.00	0.00	0.00
8,400.00	89.86	179.97	6,669.42	-1,013.66	-658.73	1,054.69	0.00	0.00	0.00
8,500.00	89.86	179.97	6,669.68	-1,113.66	-658.67	1,154.47	0.00	0.00	0.00
8,600.00	89.86	179.97	6,669.93	-1,213.66	-658.62	1,254.25	0.00	0.00	0.00
8,700.00	89.86	179.97	6,670.18	-1,313.66	-658.57	1,354.03	0.00	0.00	0.00
8,800.00	89.86	179.97	6,670.43	-1,413.66	-658.51	1,453.81	0.00	0.00	0.00
8,900.00	89.86	179.97	6,670.69	-1,513.66	-658.46	1,553.59	0.00	0.00	0.00
9,000.00	89.86	179.97	6,670.94	-1,613.66	-658.40	1,653.37	0.00	0.00	0.00
9,100.00	89.86	179.97	6,671.19	-1,713.66	-658.35	1,753.15	0.00	0.00	0.00
9,200.00	89.86	179.97	6,671.44	-1,813.66	-658.30	1,852.94	0.00	0.00	0.00
9,300.00	89.86	179.97	6,671.70	-1,913.66	-658.24	1,952.72	0.00	0.00	0.00
9,400.00	89.86	179.97	6,671.95	-2,013.66	-658.19	2,052.50	0.00	0.00	0.00
9,500.00	89.86	179.97	6,672.20	-2,113.66	-658.13	2,152.28	0.00	0.00	0.00
9,600.00	89.86	179.97	6,672.46	-2,213.66	-658.08	2,252.06	0.00	0.00	0.00
9,700.00	89.86	179.97	6,672.71	-2,313.66	-658.03	2,351.84	0.00	0.00	0.00
9,800.00	89.86	179.97	6,672.96	-2,413.66	-657.97	2,451.62	0.00	0.00	0.00
9,900.00	89.86	179.97	6,673.21	-2,513.66	-657.92	2,551.40	0.00	0.00	0.00
10,000.00	89.86	179.97	6,673.47	-2,613.66	-657.86	2,651.18	0.00	0.00	0.00
10,100.00	89.86	179.97	6,673.72	-2,713.66	-657.81	2,750.96	0.00	0.00	0.00
10,200.00	89.86	179.97	6,673.97	-2,813.66	-657.76	2,850.74	0.00	0.00	0.00
10,300.00	89.86	179.97	6,674.22	-2,913.66	-657.70	2,950.52	0.00	0.00	0.00
10,400.00	89.86	179.97	6,674.48	-3,013.66	-657.65	3,050.30	0.00	0.00	0.00
10,500.00	89.86	179.97	6,674.73	-3,113.66	-657.59	3,150.09	0.00	0.00	0.00
10,600.00	89.86	179.97	6,674.98	-3,213.66	-657.54	3,249.87	0.00	0.00	0.00
10,700.00	89.86	179.97	6,675.24	-3,313.66	-657.49	3,349.65	0.00	0.00	0.00
10,800.00	89.86	179.97	6,675.49	-3,413.66	-657.43	3,449.43	0.00	0.00	0.00
10,900.00	89.86	179.97	6,675.74	-3,513.66	-657.38	3,549.21	0.00	0.00	0.00
11,000.00	89.86	179.97	6,675.99	-3,613.66	-657.32	3,648.99	0.00	0.00	0.00
11,100.00	89.86	179.97	6,676.25	-3,713.66	-657.27	3,748.77	0.00	0.00	0.00
11,200.00	89.86	179.97	6,676.50	-3,813.66	-657.21	3,848.55	0.00	0.00	0.00
11,300.00	89.86	179.97	6,676.75	-3,913.65	-657.16	3,948.33	0.00	0.00	0.00

Database:	EDMP	**Local Co-ordinate Reference:**	Well Booth DD06-785
Company:	Northern Region - DJ Basin	**TVD Reference:**	KB @ 4806.00ft
Project:	Mustang	**MD Reference:**	KB @ 4806.00ft
Site:	CC Section 31	**North Reference:**	Grid
Well:	Booth DD06-785	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	APD-Rev 0		

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)
11,400.00	89.86	179.97	6,677.00	-4,013.65	-657.11	4,048.11	0.00	0.00	0.00
11,500.00	89.86	179.97	6,677.26	-4,113.65	-657.05	4,147.89	0.00	0.00	0.00
11,600.00	89.86	179.97	6,677.51	-4,213.65	-657.00	4,247.67	0.00	0.00	0.00
11,700.00	89.86	179.97	6,677.76	-4,313.65	-656.94	4,347.45	0.00	0.00	0.00
11,800.00	89.86	179.97	6,678.02	-4,413.65	-656.89	4,447.24	0.00	0.00	0.00
11,900.00	89.86	179.97	6,678.27	-4,513.65	-656.84	4,547.02	0.00	0.00	0.00
12,000.00	89.86	179.97	6,678.52	-4,613.65	-656.78	4,646.80	0.00	0.00	0.00
12,100.00	89.86	179.97	6,678.77	-4,713.65	-656.73	4,746.58	0.00	0.00	0.00
12,200.00	89.86	179.97	6,679.03	-4,813.65	-656.67	4,846.36	0.00	0.00	0.00
12,300.00	89.86	179.97	6,679.28	-4,913.65	-656.62	4,946.14	0.00	0.00	0.00
12,400.00	89.86	179.97	6,679.53	-5,013.65	-656.57	5,045.92	0.00	0.00	0.00
12,500.00	89.86	179.97	6,679.78	-5,113.65	-656.51	5,145.70	0.00	0.00	0.00
12,600.00	89.86	179.97	6,680.04	-5,213.65	-656.46	5,245.48	0.00	0.00	0.00
12,700.00	89.86	179.97	6,680.29	-5,313.65	-656.40	5,345.26	0.00	0.00	0.00
12,800.00	89.86	179.97	6,680.54	-5,413.65	-656.35	5,445.04	0.00	0.00	0.00
12,900.00	89.86	179.97	6,680.80	-5,513.65	-656.30	5,544.82	0.00	0.00	0.00
13,000.00	89.86	179.97	6,681.05	-5,613.65	-656.24	5,644.60	0.00	0.00	0.00
13,100.00	89.86	179.97	6,681.30	-5,713.65	-656.19	5,744.39	0.00	0.00	0.00
13,200.00	89.86	179.97	6,681.55	-5,813.65	-656.13	5,844.17	0.00	0.00	0.00
13,300.00	89.86	179.97	6,681.81	-5,913.65	-656.08	5,943.95	0.00	0.00	0.00
13,400.00	89.86	179.97	6,682.06	-6,013.65	-656.03	6,043.73	0.00	0.00	0.00
13,500.00	89.86	179.97	6,682.31	-6,113.65	-655.97	6,143.51	0.00	0.00	0.00
13,600.00	89.86	179.97	6,682.56	-6,213.65	-655.92	6,243.29	0.00	0.00	0.00
13,700.00	89.86	179.97	6,682.82	-6,313.65	-655.86	6,343.07	0.00	0.00	0.00
13,800.00	89.86	179.97	6,683.07	-6,413.65	-655.81	6,442.85	0.00	0.00	0.00
13,900.00	89.86	179.97	6,683.32	-6,513.65	-655.76	6,542.63	0.00	0.00	0.00
14,000.00	89.86	179.97	6,683.57	-6,613.65	-655.70	6,642.41	0.00	0.00	0.00
14,100.00	89.86	179.97	6,683.83	-6,713.65	-655.65	6,742.19	0.00	0.00	0.00
14,200.00	89.86	179.97	6,684.08	-6,813.65	-655.59	6,841.97	0.00	0.00	0.00
14,300.00	89.86	179.97	6,684.33	-6,913.64	-655.54	6,941.75	0.00	0.00	0.00
14,400.00	89.86	179.97	6,684.59	-7,013.64	-655.49	7,041.54	0.00	0.00	0.00
14,500.00	89.86	179.97	6,684.84	-7,113.64	-655.43	7,141.32	0.00	0.00	0.00
14,600.00	89.86	179.97	6,685.09	-7,213.64	-655.38	7,241.10	0.00	0.00	0.00
14,700.00	89.86	179.97	6,685.34	-7,313.64	-655.32	7,340.88	0.00	0.00	0.00
14,800.00	89.86	179.97	6,685.60	-7,413.64	-655.27	7,440.66	0.00	0.00	0.00
14,900.00	89.86	179.97	6,685.85	-7,513.64	-655.22	7,540.44	0.00	0.00	0.00
15,000.00	89.86	179.97	6,686.10	-7,613.64	-655.16	7,640.22	0.00	0.00	0.00
15,100.00	89.86	179.97	6,686.35	-7,713.64	-655.11	7,740.00	0.00	0.00	0.00
15,200.00	89.86	179.97	6,686.61	-7,813.64	-655.05	7,839.78	0.00	0.00	0.00
15,300.00	89.86	179.97	6,686.86	-7,913.64	-655.00	7,939.56	0.00	0.00	0.00
15,400.00	89.86	179.97	6,687.11	-8,013.64	-654.95	8,039.34	0.00	0.00	0.00
15,500.00	89.86	179.97	6,687.37	-8,113.64	-654.89	8,139.12	0.00	0.00	0.00
15,600.00	89.86	179.97	6,687.62	-8,213.64	-654.84	8,238.90	0.00	0.00	0.00
15,700.00	89.86	179.97	6,687.87	-8,313.64	-654.78	8,338.69	0.00	0.00	0.00
15,800.00	89.86	179.97	6,688.12	-8,413.64	-654.73	8,438.47	0.00	0.00	0.00
15,900.00	89.86	179.97	6,688.38	-8,513.64	-654.67	8,538.25	0.00	0.00	0.00
16,000.00	89.86	179.97	6,688.63	-8,613.64	-654.62	8,638.03	0.00	0.00	0.00
16,100.00	89.86	179.97	6,688.88	-8,713.64	-654.57	8,737.81	0.00	0.00	0.00
16,200.00	89.86	179.97	6,689.13	-8,813.64	-654.51	8,837.59	0.00	0.00	0.00
16,300.00	89.86	179.97	6,689.39	-8,913.64	-654.46	8,937.37	0.00	0.00	0.00
16,400.00	89.86	179.97	6,689.64	-9,013.64	-654.40	9,037.15	0.00	0.00	0.00
16,500.00	89.86	179.97	6,689.89	-9,113.64	-654.35	9,136.93	0.00	0.00	0.00
16,600.00	89.86	179.97	6,690.15	-9,213.64	-654.30	9,236.71	0.00	0.00	0.00
16,700.00	89.86	179.97	6,690.40	-9,313.64	-654.24	9,336.49	0.00	0.00	0.00

Database:	EDMP	**Local Co-ordinate Reference:**	Well Booth DD06-785
Company:	Northern Region - DJ Basin	**TVD Reference:**	KB @ 4806.00ft
Project:	Mustang	**MD Reference:**	KB @ 4806.00ft
Site:	CC Section 31	**North Reference:**	Grid
Well:	Booth DD06-785	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	APD-Rev 0		

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)
16,800.00	89.86	179.97	6,690.65	-9,413.64	-654.19	9,436.27	0.00	0.00	0.00
16,900.00	89.86	179.97	6,690.90	-9,513.64	-654.13	9,536.05	0.00	0.00	0.00
17,000.00	89.86	179.97	6,691.16	-9,613.64	-654.08	9,635.84	0.00	0.00	0.00
17,100.00	89.86	179.97	6,691.41	-9,713.64	-654.03	9,735.62	0.00	0.00	0.00
17,200.00	89.86	179.97	6,691.66	-9,813.64	-653.97	9,835.40	0.00	0.00	0.00
17,300.00	89.86	179.97	6,691.91	-9,913.63	-653.92	9,935.18	0.00	0.00	0.00
17,333.94	89.86	179.97	6,692.00	-9,947.58	-653.90	9,969.04	0.00	0.00	0.00
TD at 17333.94									

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
Booth DD06-785-SHL - plan hits target center - Point	0.00	0.01	0.00	0.00	0.00	1,344,633.96	3,282,901.81	40.2749800	-104.4860800
Booth DD06-785-KOP - plan hits target center - Point	0.00	0.00	5,894.12	825.48	-591.99	1,345,459.43	3,282,309.83	40.2772644	-104.4881677
Booth DD06-785-TPZ - plan hits target center - Point	0.00	0.00	6,669.00	202.38	-695.44	1,344,836.34	3,282,206.37	40.2755573	-104.4885639
Booth DD06-785-BHL - plan hits target center - Point	0.00	0.00	6,692.00	-9,947.58	-653.90	1,334,686.40	3,282,247.91	40.2476953	-104.4888299

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
456.00	456.00	Pierre			
722.00	722.00	Upper Pierre Aquifer Top			
1,642.00	1,642.00	Upper Pierre Aquifer Base			
3,762.81	3,714.00	Parkman			
4,401.32	4,327.00	Sussex			
5,053.37	4,953.00	Shannon			
6,025.19	5,886.00	Teepee Buttes			
6,886.69	6,602.00	Sharon Springs			
6,922.53	6,617.00	Top A Chalk			
6,952.10	6,628.00	Top A Marl			
7,081.64	6,661.00	Top B Chalk			

Database:	EDMP	**Local Co-ordinate Reference:**	Well Booth DD06-785
Company:	Northern Region - DJ Basin	**TVD Reference:**	KB @ 4806.00ft
Project:	Mustang	**MD Reference:**	KB @ 4806.00ft
Site:	CC Section 31	**North Reference:**	Grid
Well:	Booth DD06-785	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	APD-Rev 0		

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
2,812.49	2,801.64	93.00	-66.70	Start 3221.16 hold at 2812.49 MD
6,033.65	5,894.12	825.48	-591.99	Start DLS 9.00 TFO -145.27
7,183.32	6,669.00	202.38	-695.44	TPZ/Landing Pt. at 7183.32 MD
8,183.32	6,669.00	-797.01	-660.54	Start DLS 2.00 TFO 94.21
8,282.04	6,669.12	-895.71	-658.79	Start 9051.90 hold at 8282.04 MD
17,333.94	6,692.00	-9,947.58	-653.90	TD at 17333.94

Northern Region - DJ Basin

Mustang
CC Section 31
Booth DD06-785

Wellbore #1
APD-Rev 0

Anticollision Summary Report

15 October, 2018

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Booth DD06-785
Project:	Mustang	**TVD Reference:**	KB @ 4806.00ft
Reference Site:	CC Section 31	**MD Reference:**	KB @ 4806.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Booth DD06-785	**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:	APD-Rev 0	**Offset TVD Reference:**	Offset Datum

Reference	APD-Rev 0		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	**Error Model:**	ISCWSA
Depth Range:	Unlimited	**Scan Method:**	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 10,000.00 ft	**Error Surface:**	Pedal Curve
Warning Levels Evaluated at:	2.00 **Sigma**	**Casing Method:**	Not applied

Survey Tool Program **Date** 10/15/2018

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	17,333.94	APD-Rev 0 (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 36						
Ava State C36-18 (SI) - Wellbore #1 - No Surveys	8,166.69	6,601.00	2,963.56	2,675.63	10.293	CC
Ava State C36-18 (SI) - Wellbore #1 - No Surveys	8,183.32	6,601.00	2,963.61	2,675.63	10.291	ES
Ava State C36-18 (SI) - Wellbore #1 - No Surveys	8,400.00	6,600.58	2,966.99	2,678.26	10.276	SF
Ava State C36-20 (PR) - Wellbore #1 - No Surveys	9,825.79	6,606.97	4,340.45	4,044.82	14.682	CC, ES
Ava State C36-20 (PR) - Wellbore #1 - No Surveys	10,200.00	6,606.03	4,356.55	4,058.67	14.625	SF
Ava State C36-21 (SI) - Wellbore #1 - No Surveys	9,515.74	6,602.76	3,115.04	2,821.29	10.604	CC, ES
Ava State C36-21 (SI) - Wellbore #1 - No Surveys	9,700.00	6,602.29	3,120.49	2,825.67	10.585	SF
Ava State C36-22 (SI) - Wellbore #1 - No Surveys	9,668.25	6,618.63	1,783.10	1,487.88	6.040	CC, ES
Ava State C36-22 (SI) - Wellbore #1 - No Surveys	9,700.00	6,618.71	1,783.38	1,487.96	6.037	SF
Ava State C36-24 (PR) - Wellbore #1 - No Surveys	10,980.05	6,610.94	2,958.94	2,656.03	9.768	CC
Ava State C36-24 (PR) - Wellbore #1 - No Surveys	11,000.00	6,610.99	2,959.00	2,655.95	9.764	ES
Ava State C36-24 (PR) - Wellbore #1 - No Surveys	11,200.00	6,611.50	2,967.10	2,662.61	9.745	SF
Ava State C36-31 (PR) - Wellbore #1 - No Surveys	8,398.68	6,579.42	5,492.56	5,204.72	19.082	CC
Ava State C36-31 (PR) - Wellbore #1 - No Surveys	8,400.00	6,579.42	5,492.56	5,204.72	19.082	ES
Ava State C36-31 (PR) - Wellbore #1 - No Surveys	8,900.00	6,580.69	5,515.39	5,225.43	19.021	SF
Booth CC31-68-1HN (PR) - Original Drilling - Original Dri	8,000.00	6,949.51	66.35	24.12	1.571	SF
Booth CC31-68-1HN (PR) - Original Drilling - Original Dri	8,048.37	6,956.15	45.81	17.58	1.623	CC, ES
Booth State C36-69HN (PR) - Original Drilling - Original D	6,900.00	6,275.20	716.64	675.69	17.498	SF
Booth State C36-69HN (PR) - Original Drilling - Original D	6,918.17	6,279.22	716.52	675.57	17.498	CC, ES
Booth State CC30-79HN (PR) - Original Drilling - Orignal	6,663.43	6,523.57	290.91	244.46	6.263	CC, ES, SF
Booth State CC31-69HN (PR) - Original Drilling - Origina	6,950.00	6,643.82	125.96	85.50	3.113	SF
Booth State CC31-69HN (PR) - Original Drilling - Origina	7,000.00	6,649.99	110.21	75.49	3.174	ES
Booth State CC31-69HN (PR) - Original Drilling - Origina	7,019.56	6,651.90	108.74	75.63	3.284	CC
State 36-04I4 (PR) - Wellbore #1 - No Surveys	8,065.53	6,587.00	4,574.71	4,287.63	15.935	CC, ES
State 36-04I4 (PR) - Wellbore #1 - No Surveys	8,500.00	6,587.68	4,586.14	4,297.56	15.892	SF
State 36-07I4 (SI) - Wellbore #1 - No Surveys	8,994.74	6,608.93	2,501.69	2,210.26	8.584	CC
State 36-07I4 (SI) - Wellbore #1 - No Surveys	9,000.00	6,608.94	2,501.69	2,210.24	8.584	ES
State 36-07I4 (SI) - Wellbore #1 - No Surveys	9,100.00	6,609.19	2,503.90	2,211.92	8.576	SF
State 36-10I4 (SI) - Wellbore #1 - No Surveys	10,281.33	6,608.18	2,554.81	2,256.46	8.563	CC
State 36-10I4 (SI) - Wellbore #1 - No Surveys	10,300.00	6,608.22	2,554.88	2,256.40	8.560	ES
State 36-10I4 (SI) - Wellbore #1 - No Surveys	10,400.00	6,608.48	2,557.57	2,258.40	8.549	SF
State 36-11I4 (PR) - Wellbore #1 - No Surveys	10,476.91	6,602.33	3,668.45	3,369.12	12.256	CC
State 36-11I4 (PR) - Wellbore #1 - No Surveys	10,500.00	6,602.27	3,668.52	3,369.04	12.250	ES
State 36-11I4 (PR) - Wellbore #1 - No Surveys	10,800.00	6,601.51	3,682.65	3,381.20	12.216	SF
State 36-12I4 (PR) - Wellbore #1 - No Surveys	10,337.96	6,612.32	5,155.17	4,856.52	17.262	CC
State 36-12I4 (PR) - Wellbore #1 - No Surveys	10,400.00	6,612.48	5,155.54	4,856.48	17.239	ES
State 36-12I4 (PR) - Wellbore #1 - No Surveys	10,900.00	6,613.74	5,185.71	4,883.35	17.151	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 Booth DD06-785
Project:	Mustang	**TVD Reference:**	KB @ 4806.00ft
Reference Site:	CC Section 31	**MD Reference:**	KB @ 4806.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Booth DD06-785	**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:	APD-Rev 0	**Offset TVD Reference:**	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
C Section 36						
State 36-14I4 (PR) - Wellbore #1 - No Surveys	11,787.93	6,602.98	3,656.91	3,348.82	11.870	CC
State 36-14I4 (PR) - Wellbore #1 - No Surveys	11,800.00	6,603.02	3,656.93	3,348.75	11.866	ES
State 36-14I4 (PR) - Wellbore #1 - No Surveys	12,100.00	6,603.77	3,670.20	3,359.80	11.824	SF
State 36-15I4 (PR) - Wellbore #1 - No Surveys	11,237.46	6,601.59	2,031.01	1,726.76	6.675	CC, ES
State 36-15I4 (PR) - Wellbore #1 - No Surveys	11,300.00	6,601.75	2,031.97	1,727.24	6.668	SF
State 36-16I4 (PR) - Wellbore #1 - No Surveys	11,764.65	6,645.93	1,257.83	948.18	4.062	CC, ES
State 36-16I4 (PR) - Wellbore #1 - No Surveys	11,800.00	6,646.02	1,258.32	948.38	4.060	SF
State 36-2I4 (SI) - Wellbore #1 - No Surveys	7,699.22	6,605.00	2,344.34	2,057.38	8.169	CC
State 36-2I4 (SI) - Wellbore #1 - No Surveys	7,700.00	6,605.00	2,344.34	2,057.37	8.169	ES, SF
State 36-3I4 (SI) - Wellbore #1 - No Surveys	7,632.89	6,585.00	3,640.62	3,354.56	12.727	CC, ES
State 36-3I4 (SI) - Wellbore #1 - No Surveys	7,700.00	6,585.00	3,641.24	3,355.06	12.724	SF
State 36-6I4 (PR) - Wellbore #1 - No Surveys	8,766.76	6,582.35	3,662.22	3,372.86	12.656	CC
State 36-6I4 (PR) - Wellbore #1 - No Surveys	8,800.00	6,582.43	3,662.37	3,372.86	12.650	ES
State 36-6I4 (PR) - Wellbore #1 - No Surveys	9,000.00	6,582.94	3,669.64	3,379.16	12.633	SF
State 36-8I4 (SI) - Wellbore #1 - No Surveys	8,749.01	6,627.30	1,033.43	742.34	3.550	CC, ES, SF
State 36-9I4 (PR) - Wellbore #1 - No Surveys	10,459.85	6,639.63	1,239.01	938.29	4.120	CC, ES
State 36-9I4 (PR) - Wellbore #1 - No Surveys	10,500.00	6,639.73	1,239.66	938.63	4.118	SF
State B14-36 (PA) - Wellbore #1 - No Surveys	11,218.97	6,608.55	4,721.57	4,417.17	15.511	CC, ES
State B14-36 (PA) - Wellbore #1 - No Surveys	11,700.00	6,609.76	4,746.01	4,438.19	15.418	SF
State B41-36 (SI) - Wellbore #1 - No Surveys	7,968.96	6,617.00	1,351.22	1,063.19	4.691	CC, ES
State B41-36 (SI) - Wellbore #1 - No Surveys	8,000.00	6,617.00	1,351.58	1,063.45	4.691	SF
State C36-01 (SI) - Wellbore #1 - No Surveys	7,421.53	6,617.00	830.63	543.58	2.894	CC, ES, SF
State C36-04 (PR) - Wellbore #1 - No Surveys	7,450.34	6,588.00	5,163.00	4,877.08	18.057	CC, ES
State C36-04 (PR) - Wellbore #1 - No Surveys	7,600.00	6,588.00	5,165.17	4,879.04	18.052	SF
State C36-13 (SI) - Wellbore #1 - No Surveys	11,788.50	6,624.99	5,175.99	4,867.02	16.752	CC
State C36-13 (SI) - Wellbore #1 - No Surveys	11,800.00	6,625.02	5,176.00	4,866.94	16.748	ES
State C36-13 (SI) - Wellbore #1 - No Surveys	12,400.00	6,626.53	5,211.98	4,898.58	16.630	SF
State C36-15 (PR) - Wellbore #1 - No Surveys	11,782.14	6,623.97	2,541.45	2,232.57	8.228	CC
State C36-15 (PR) - Wellbore #1 - No Surveys	11,800.00	6,624.02	2,541.51	2,232.49	8.224	ES
State C36-15 (PR) - Wellbore #1 - No Surveys	11,900.00	6,624.27	2,544.18	2,234.38	8.212	SF
State C36-32D (SI) - Wellbore #1 - As Drilled	9,710.68	6,811.21	5,589.55	5,529.23	92.655	CC, ES
State C36-32D (SI) - Wellbore #1 - As Drilled	11,800.00	6,802.22	5,967.27	5,896.79	84.674	SF
State C36-33D (SI) - Wellbore #1 - Original Drilling	10,969.88	6,724.07	5,564.53	5,501.03	87.628	CC
State C36-33D (SI) - Wellbore #1 - Original Drilling	11,000.00	6,724.31	5,564.61	5,500.89	87.327	ES
State C36-33D (SI) - Wellbore #1 - Original Drilling	13,200.00	6,741.94	5,994.76	5,916.94	77.038	SF
State C36-99HZ (PR) - Wellbore #1 - As Drilled	10,800.00	10,537.02	841.95	779.10	13.396	ES
State C36-99HZ (PR) - Wellbore #1 - As Drilled	10,811.84	10,537.02	841.87	779.33	13.461	CC
State C36-99HZ (PR) - Wellbore #1 - As Drilled	11,400.00	10,537.02	1,026.98	923.80	9.954	SF
State D01-30D (SI) - Wellbore #1 - Original Drilling	12,363.85	7,063.39	5,699.77	5,612.48	65.297	CC
State D01-30D (SI) - Wellbore #1 - Original Drilling	12,400.00	7,063.27	5,699.88	5,612.26	65.054	ES
State D01-30D (SI) - Wellbore #1 - Original Drilling	14,200.00	7,057.70	5,988.22	5,887.48	59.442	SF

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Booth DD06-785
Project:	Mustang	**TVD Reference:**	KB @ 4806.00ft
Reference Site:	CC Section 31	**MD Reference:**	KB @ 4806.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Booth DD06-785	**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:	APD-Rev 0	**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 Section 30						
JIGGER STATE CC #30-01(PR) - JIGGER STATE CC #3	6,078.20	5,852.21	6,093.01	5,953.53	43.684	CC
JIGGER STATE CC #30-01(PR) - JIGGER STATE CC #3	6,100.00	5,873.50	6,093.27	5,953.28	43.526	ES
JIGGER STATE CC #30-01(PR) - JIGGER STATE CC #3	6,700.00	6,411.41	6,289.87	6,137.69	41.331	SF
SPIKE ST GWS #CC 30-03(PA) - SPIKE ST GWS #CC 3	6,145.26	5,953.96	4,424.28	4,282.52	31.208	CC
SPIKE ST GWS #CC 30-03(PA) - SPIKE ST GWS #CC 3	6,150.00	5,958.64	4,424.30	4,282.42	31.184	ES
SPIKE ST GWS #CC 30-03(PA) - SPIKE ST GWS #CC 3	6,550.00	6,333.82	4,540.99	4,390.59	30.194	SF
SPIKE ST GWS #CC 30-04(PA) - SPIKE ST GWS #CC 3	6,186.23	6,062.73	4,289.51	4,253.08	117.769	CC, ES
SPIKE ST GWS #CC 30-04(PA) - SPIKE ST GWS #CC 3	6,400.00	6,271.65	4,324.92	4,287.83	116.615	SF
SPIKE ST GWS #CC 30-05(PA) - SPIKE ST GWS #CC 3	6,173.99	5,990.31	2,850.33	2,707.82	20.001	CC
SPIKE ST GWS #CC 30-05(PA) - SPIKE ST GWS #CC 3	6,200.00	6,015.98	2,850.86	2,707.74	19.920	ES
SPIKE ST GWS #CC 30-05(PA) - SPIKE ST GWS #CC 3	6,450.00	6,255.16	2,909.23	2,760.66	19.582	SF
SPIKE ST GWS #CC 30-06(SI) - SPIKE ST GWS #CC 30	6,127.70	5,933.67	3,225.26	3,083.94	22.823	CC
SPIKE ST GWS #CC 30-06(SI) - SPIKE ST GWS #CC 30	6,150.00	5,955.64	3,225.61	3,083.77	22.741	ES
SPIKE ST GWS #CC 30-06(SI) - SPIKE ST GWS #CC 30	6,450.00	6,244.16	3,295.57	3,147.12	22.200	SF
SPIKE ST GWS #CC 30-08(PR) - SPIKE ST GWS #CC 3	6,034.30	5,833.74	5,018.80	4,879.91	36.135	CC
SPIKE ST GWS #CC 30-08(PR) - SPIKE ST GWS #CC 3	6,050.00	5,848.86	5,018.91	4,879.65	36.041	ES
SPIKE ST GWS #CC 30-08(PR) - SPIKE ST GWS #CC 3	6,700.00	6,435.41	5,201.09	5,048.44	34.072	SF
SPIKE ST GWS #CC 30-09(SI) - SPIKE ST GWS #CC 30	2,000.00	1,969.00	4,222.94	4,176.62	91.175	CC
SPIKE ST GWS #CC 30-09(SI) - SPIKE ST GWS #CC 30	3,400.00	3,334.68	4,235.95	4,157.28	53.850	ES
SPIKE ST GWS #CC 30-09(SI) - SPIKE ST GWS #CC 30	6,750.00	6,497.95	4,529.39	4,375.47	29.428	SF
SPIKE ST GWS #CC 30-10(SI) - SPIKE ST GWS #CC 30	4,875.61	4,774.34	3,144.29	3,031.15	27.792	CC
SPIKE ST GWS #CC 30-10(SI) - SPIKE ST GWS #CC 30	5,800.00	5,661.80	3,154.91	3,020.42	23.457	ES
SPIKE ST GWS #CC 30-10(SI) - SPIKE ST GWS #CC 30	6,550.00	6,374.82	3,270.69	3,119.51	21.634	SF
SPIKE ST GWS #CC 30-12(PR) - SPIKE ST GWS #CC 3	6,175.72	6,016.01	1,520.76	1,377.74	10.633	CC
SPIKE ST GWS #CC 30-12(PR) - SPIKE ST GWS #CC 3	6,200.00	6,039.98	1,521.23	1,377.64	10.594	ES
SPIKE ST GWS #CC 30-12(PR) - SPIKE ST GWS #CC 3	6,300.00	6,138.06	1,532.94	1,387.07	10.509	SF
SPIKE ST GWS #CC 30-14(PR) - SPIKE ST GWS #CC 3	3,633.96	3,561.29	1,361.84	1,277.75	16.196	CC
SPIKE ST GWS #CC 30-14(PR) - SPIKE ST GWS #CC 3	4,000.00	3,912.71	1,365.68	1,273.19	14.765	ES
SPIKE ST GWS #CC 30-14(PR) - SPIKE ST GWS #CC 3	6,500.00	6,311.41	1,598.32	1,448.63	10.678	SF
SPIKE ST GWS #CC 30-15(SI) - SPIKE ST GWS #CC 30	2,000.00	1,986.00	2,381.70	2,335.05	51.048	CC
SPIKE ST GWS #CC 30-15(SI) - SPIKE ST GWS #CC 30	2,400.00	2,384.70	2,385.97	2,329.92	42.570	ES
SPIKE ST GWS #CC 30-15(SI) - SPIKE ST GWS #CC 30	6,850.00	6,570.80	2,868.32	2,712.89	18.454	SF
SPIKE ST GWS #CC 30-16(SI) - SPIKE ST GWS #CC 30	2,000.00	1,985.00	3,618.56	3,571.92	77.591	CC
SPIKE ST GWS #CC 30-16(SI) - SPIKE ST GWS #CC 30	2,200.00	2,184.84	3,620.74	3,569.40	70.520	ES
SPIKE ST GWS #CC 30-16(SI) - SPIKE ST GWS #CC 30	7,000.00	6,628.12	4,208.16	4,051.46	26.856	SF
SPIKE ST GWS CC #30-07(SI) - SPIKE ST GWS CC #30	6,076.91	5,899.96	4,074.70	3,934.27	29.016	CC
SPIKE ST GWS CC #30-07(SI) - SPIKE ST GWS CC #30	6,100.00	5,922.50	4,075.00	3,934.03	28.907	ES
SPIKE ST GWS CC #30-07(SI) - SPIKE ST GWS CC #30	6,600.00	6,387.12	4,216.29	4,064.73	27.818	SF
Spike State #CC30-19(SI) - Spike State #CC30-19 - No S	6,153.24	5,950.83	3,608.75	3,467.03	25.464	CC, ES
Spike State #CC30-19(SI) - Spike State #CC30-19 - No S	6,500.00	6,280.41	3,697.29	3,548.06	24.776	SF
Spike State #CC30-24(PR) - Spike State #CC30-24 - We	1,082.23	1,068.26	3,342.51	3,337.07	613.993	CC
Spike State #CC30-24(PR) - Spike State #CC30-24 - We	2,100.00	2,074.12	3,346.55	3,335.36	299.205	ES
Spike State #CC30-24(PR) - Spike State #CC30-24 - We	6,650.00	6,345.18	3,702.40	3,667.44	105.908	SF
Spike State #CC30-24(SI) - Spike State #CC30-24 - No S	4,692.62	4,593.66	2,229.52	2,120.71	20.490	CC
Spike State #CC30-24(SI) - Spike State #CC30-24 - No S	5,400.00	5,272.78	2,238.28	2,113.15	17.887	ES
Spike State #CC30-24(SI) - Spike State #CC30-24 - No S	6,450.00	6,283.16	2,335.48	2,186.36	15.662	SF
SPIKE STATE CC #30-11J(PA) - SPIKE STATE CC #30-1	6,079.81	5,914.78	1,668.40	1,527.66	11.855	CC
SPIKE STATE CC #30-11J(PA) - SPIKE STATE CC #30-1	6,100.00	5,934.50	1,668.63	1,527.42	11.817	ES
SPIKE STATE CC #30-11J(PA) - SPIKE STATE CC #30-1	6,300.00	6,131.06	1,695.18	1,549.38	11.627	SF
SPIKE STATE CC #30-13(PR) - SPIKE STATE CC #30-1	6,082.23	5,911.14	272.48	131.80	1.937	CC
SPIKE STATE CC #30-13(PR) - SPIKE STATE CC #30-1	6,100.00	5,928.50	272.69	131.59	1.933	ES, SF
Spike State CC #30-18(SI) - Spike State CC #30-18 - No	6,117.23	5,923.39	4,116.72	3,975.64	29.181	CC
Spike State CC #30-18(SI) - Spike State CC #30-18 - No	6,150.00	5,955.64	4,117.43	3,975.59	29.028	ES

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Booth DD06-785
Project:	Mustang	**TVD Reference:**	KB @ 4806.00ft
Reference Site:	CC Section 31	**MD Reference:**	KB @ 4806.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Booth DD06-785	**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:	APD-Rev 0	**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 Section 30						
Spike State CC #30-18(SI) - Spike State CC #30-18 - No	6,550.00	6,330.82	4,235.82	4,085.45	28.170	SF
SPIKE STATE CC #30-20(PR) - SPIKE STATE CC #30-2	6,131.19	5,948.12	2,335.85	2,194.23	16.494	CC
SPIKE STATE CC #30-20(PR) - SPIKE STATE CC #30-2	6,150.00	5,966.64	2,336.10	2,194.04	16.445	ES
SPIKE STATE CC #30-20(PR) - SPIKE STATE CC #30-2	6,400.00	6,209.32	2,385.82	2,238.18	16.160	SF
SPIKE STATE CC #30-21(PR) - SPIKE STATE CC #30-2	6,078.18	5,908.20	2,629.70	2,489.10	18.703	CC
SPIKE STATE CC #30-21(PR) - SPIKE STATE CC #30-2	6,100.00	5,929.50	2,629.97	2,488.86	18.638	ES
SPIKE STATE CC #30-21(PR) - SPIKE STATE CC #30-2	6,450.00	6,267.16	2,703.66	2,554.77	18.158	SF
SPIKE STATE CC #30-22(SI) - SPIKE STATE CC #30-22	5,315.10	5,162.28	4,174.51	4,144.87	140.830	CC
SPIKE STATE CC #30-22(SI) - SPIKE STATE CC #30-22	5,400.00	5,217.42	4,174.88	4,144.79	138.747	ES
SPIKE STATE CC #30-22(SI) - SPIKE STATE CC #30-22	6,500.00	6,145.79	4,296.73	4,261.34	121.402	SF
SPIKE STATE CC #30-IJ(PR) - SPIKE STATE CC #30-IJ	6,066.91	5,775.32	4,997.57	4,965.06	153.718	CC, ES
SPIKE STATE CC #30-IJ(PR) - SPIKE STATE CC #30-IJ	6,500.00	6,168.78	5,098.16	5,063.78	148.313	SF
SPIKE STATE GWS CC #30-02(PR) - SPIKE STATE GW	6,109.17	5,903.48	5,012.91	4,872.27	35.642	CC, ES
SPIKE STATE GWS CC #30-02(PR) - SPIKE STATE GW	6,600.00	6,359.12	5,159.06	5,008.05	34.163	SF

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Booth DD06-785
Project:	Mustang	**TVD Reference:**	KB @ 4806.00ft
Reference Site:	CC Section 31	**MD Reference:**	KB @ 4806.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Booth DD06-785	**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:	APD-Rev 0	**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 Section 31						
BOOTH 11-31U (SI) - BOOTH #11-31U - No Surveys	7,644.75	6,633.00	294.48	137.15	1.872	CC, ES, SF
Booth 12-31U (SI) - Wellbore #1 - No Surveys	8,920.59	6,654.74	310.42	17.50	1.060	Level 2, CC, ES, SF
BOOTH 21-31U (SI) - BOOTH #21-31U - No Surveys	2,000.00	1,994.00	939.11	892.29	20.059	CC
BOOTH 21-31U (SI) - BOOTH #21-31U - No Surveys	2,100.00	2,093.98	940.44	891.27	19.125	ES
BOOTH 21-31U (SI) - BOOTH #21-31U - No Surveys	7,700.00	6,663.00	1,589.01	1,430.99	10.056	SF
Booth 22-31U (SI) - Wellbore #1 - No Surveys	8,855.66	6,654.57	1,587.80	1,295.17	5.426	CC, ES
Booth 22-31U (SI) - Wellbore #1 - No Surveys	8,900.00	6,654.69	1,588.42	1,295.63	5.425	SF
BOOTH 31-31 (SI) - BOOTH #31-31 - No Surveys	2,000.00	1,979.00	2,237.59	2,191.07	48.103	CC
BOOTH 31-31 (SI) - BOOTH #31-31 - No Surveys	2,100.00	2,078.98	2,238.74	2,189.87	45.808	ES
BOOTH 31-31 (SI) - BOOTH #31-31 - No Surveys	7,800.00	6,648.00	2,906.78	2,748.88	18.409	SF
BOOTH 31-AU (SI) - BOOTH #31-AU - No Surveys	8,327.71	6,643.24	892.77	733.48	5.605	CC, ES, SF
Booth 31DU (SI) - Wellbore #1 - No Surveys	10,870.48	6,679.67	3,563.39	3,258.45	11.686	CC
Booth 31DU (SI) - Wellbore #1 - No Surveys	10,900.00	6,679.74	3,563.51	3,258.40	11.679	ES
Booth 31DU (SI) - Wellbore #1 - No Surveys	11,100.00	6,680.25	3,570.77	3,264.50	11.659	SF
Booth 32-31 (SI) - Wellbore #1 - No Surveys	2,000.00	1,989.00	2,428.44	2,343.95	28.740	CC
Booth 32-31 (SI) - Wellbore #1 - No Surveys	2,100.00	2,088.98	2,430.08	2,341.23	27.350	ES
Booth 32-31 (SI) - Wellbore #1 - No Surveys	8,800.00	6,659.43	2,674.38	2,381.82	9.141	SF
Booth 33-31U (SI) - Wellbore #1 - No Surveys	10,218.30	6,678.02	2,905.97	2,605.20	9.662	CC, ES
Booth 33-31U (SI) - Wellbore #1 - No Surveys	10,400.00	6,678.48	2,911.64	2,609.92	9.650	SF
Booth 34-31U (SI) - Wellbore #1 - No Surveys	11,556.79	6,701.40	2,772.75	2,462.33	8.932	CC, ES
Booth 34-31U (SI) - Wellbore #1 - No Surveys	11,700.00	6,701.76	2,776.45	2,465.19	8.920	SF
BOOTH 41-31 (SI) - BOOTH #41-31 - No Surveys	2,000.00	1,985.00	3,451.05	3,404.42	73.999	CC
BOOTH 41-31 (SI) - BOOTH #41-31 - No Surveys	2,100.00	2,084.98	3,452.18	3,403.19	70.464	ES
BOOTH 41-31 (SI) - BOOTH #41-31 - No Surveys	8,100.00	6,654.00	4,124.84	3,966.14	25.991	SF
Booth 42-31 (PA) - Wellbore #1 - No Surveys	2,000.00	1,989.00	3,825.77	3,741.27	45.277	CC
Booth 42-31 (PA) - Wellbore #1 - No Surveys	2,100.00	2,088.98	3,827.24	3,738.39	43.074	ES
Booth 42-31 (PA) - Wellbore #1 - No Surveys	9,100.00	6,660.19	4,213.15	3,919.30	14.338	SF
Booth 43-31U (SI) - Wellbore #1 - No Surveys	10,203.71	6,677.98	4,231.40	3,930.73	14.073	CC, ES
Booth 43-31U (SI) - Wellbore #1 - No Surveys	10,500.00	6,678.73	4,241.77	3,939.44	14.030	SF
Booth 44-31U (SI) - Wellbore #1 - No Surveys	11,507.94	6,708.72	4,231.85	3,921.47	13.635	CC, ES
Booth 44-31U (SI) - Wellbore #1 - No Surveys	11,800.00	6,707.99	4,241.91	3,929.78	13.590	SF
Booth CC31-13 (PR) - Wellbore #1 - No Surveys	11,535.36	6,689.35	400.27	90.48	1.292	Level 3, CC, ES, SF
Booth CC31-17D (SI) - Booth #CC31-17D - Wellbore #1 -	100.00	76.85	2,278.49	2,278.27	10,000.000	CC
Booth CC31-17D (SI) - Booth #CC31-17D - Wellbore #1 -	200.00	164.44	2,278.76	2,277.99	2,949.436	ES
Booth CC31-17D (SI) - Booth #CC31-17D - Wellbore #1 -	9,400.00	6,761.66	3,743.92	3,696.10	78.304	SF
Booth DD06-715 - Wellbore #1 - APD-Rev 0	1,911.24	1,925.24	2,728.88	2,715.60	205.385	CC
Booth DD06-715 - Wellbore #1 - APD-Rev 0	2,000.00	2,000.00	2,728.92	2,715.05	196.711	ES
Booth DD06-715 - Wellbore #1 - APD-Rev 0	17,333.94	17,396.06	4,591.85	4,416.25	26.150	SF
Booth DD06-725 - Wellbore #1 - APD-Rev 0	1,911.69	1,924.69	2,703.77	2,690.48	203.501	CC
Booth DD06-725 - Wellbore #1 - APD-Rev 0	2,000.00	2,009.22	2,703.78	2,689.87	194.436	ES
Booth DD06-725 - Wellbore #1 - APD-Rev 0	17,333.94	17,222.12	3,936.33	3,760.81	22.428	SF
Booth DD06-730 - Wellbore #1 - APD-Rev 0	1,911.69	1,924.69	2,681.45	2,668.16	201.821	CC
Booth DD06-730 - Wellbore #1 - APD-Rev 0	2,000.00	2,011.10	2,681.45	2,667.54	192.737	ES
Booth DD06-730 - Wellbore #1 - APD-Rev 0	17,333.94	17,391.85	3,610.28	3,434.47	20.536	SF
Booth DD06-734 - Wellbore #1 - APD-Rev 0	2,003.38	2,017.18	2,659.12	2,645.18	190.669	CC, ES
Booth DD06-734 - Wellbore #1 - APD-Rev 0	17,333.94	17,315.22	3,280.00	3,104.29	18.667	SF
Booth DD06-745 - Wellbore #1 - APD-Rev 0	8,262.59	8,254.86	2,562.57	2,510.30	49.032	CC
Booth DD06-745 - Wellbore #1 - APD-Rev 0	17,300.00	17,292.04	2,623.83	2,448.48	14.964	ES
Booth DD06-745 - Wellbore #1 - APD-Rev 0	17,333.94	17,287.37	2,624.34	2,448.88	14.956	SF
Booth DD06-750 - Wellbore #1 - APD-Rev 0	2,000.00	2,000.00	89.29	75.41	6.436	CC, ES
Booth DD06-750 - Wellbore #1 - APD-Rev 0	2,100.00	2,097.42	91.70	77.13	6.294	SF
Booth DD06-755 - Wellbore #1 - APD-Rev 0	2,000.00	2,000.00	66.97	53.09	4.827	CC, ES
Booth DD06-755 - Wellbore #1 - APD-Rev 0	2,100.00	2,098.26	69.23	54.65	4.750	SF

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Booth DD06-785
Project:	Mustang	**TVD Reference:**	KB @ 4806.00ft
Reference Site:	CC Section 31	**MD Reference:**	KB @ 4806.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Booth DD06-785	**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:	APD-Rev 0	**Offset TVD Reference:**	Offset Datum

Summary

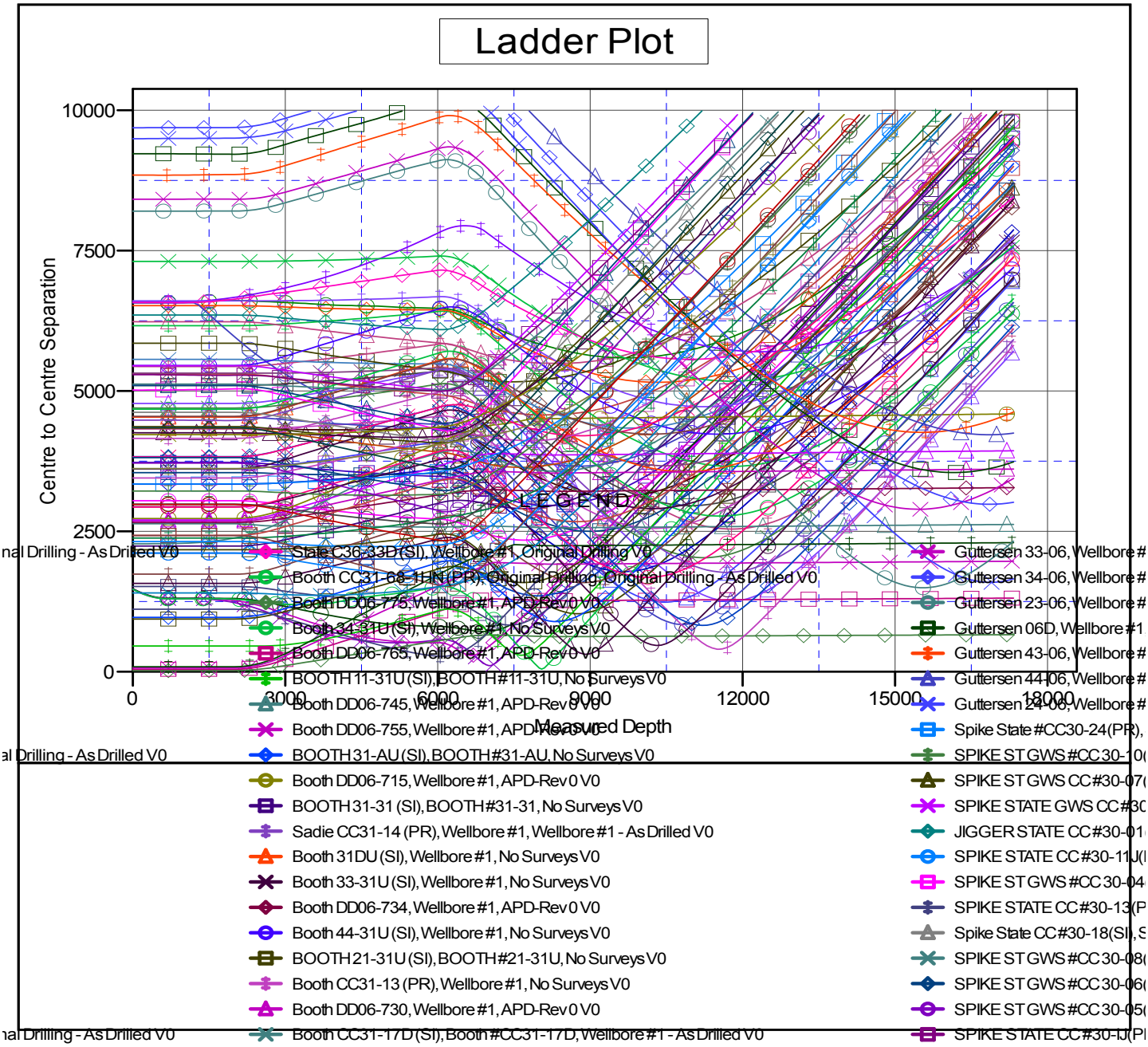
Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
CC Section 31						
Booth DD06-765 - Wellbore #1 - APD-Rev 0	2,000.00	2,001.00	44.64	30.77	3.217	CC, ES
Booth DD06-765 - Wellbore #1 - APD-Rev 0	2,100.00	2,100.20	46.51	31.92	3.189	SF
Booth DD06-775 - Wellbore #1 - APD-Rev 0	2,000.12	2,001.12	22.32	8.44	1.609	CC, ES
Booth DD06-775 - Wellbore #1 - APD-Rev 0	2,100.00	2,101.04	23.21	8.62	1.591	SF
Sadie CC31-11 (PR) - Wellbore #1 - No Surveys	10,137.39	6,679.81	1,679.95	1,379.60	5.593	CC, ES
Sadie CC31-11 (PR) - Wellbore #1 - No Surveys	10,200.00	6,679.97	1,681.12	1,380.47	5.592	SF
Sadie CC31-12 (PR) - Wellbore #1 - No Surveys	10,318.92	6,701.73	467.68	165.36	1.547	CC, ES, SF
Sadie CC31-14 (PR) - Wellbore #1 - Wellbore #1 - As Dri	11,689.94	6,667.12	1,769.93	1,701.77	25.966	CC
Sadie CC31-14 (PR) - Wellbore #1 - Wellbore #1 - As Dri	11,700.00	6,667.40	1,769.96	1,701.74	25.944	ES
Sadie CC31-14 (PR) - Wellbore #1 - Wellbore #1 - As Dri	11,900.00	6,672.66	1,782.34	1,713.17	25.765	SF
UPV 31-13I3 (PR) - Wellbore #1 - No Surveys	11,213.78	6,677.53	825.44	518.31	2.688	CC, ES, SF
DD Section 06						
Guttersen 06D - Wellbore #1 - Wellbore #1 - As Drilled	16,153.81	6,524.77	3,547.64	3,446.62	35.120	CC
Guttersen 06D - Wellbore #1 - Wellbore #1 - As Drilled	16,200.00	6,525.29	3,547.94	3,446.59	35.009	ES
Guttersen 06D - Wellbore #1 - Wellbore #1 - As Drilled	16,700.00	6,530.98	3,589.43	3,485.32	34.479	SF
Guttersen 23-06 - Wellbore #1 - Wellbore #1 - As Drilled	15,550.89	6,727.62	1,496.28	1,399.08	15.394	CC, ES
Guttersen 23-06 - Wellbore #1 - Wellbore #1 - As Drilled	15,600.00	6,725.88	1,497.08	1,399.62	15.361	SF
Guttersen 24-06 - Wellbore #1 - Wellbore #1 - As Drilled	16,877.94	6,707.92	1,591.63	1,483.83	14.765	CC, ES
Guttersen 24-06 - Wellbore #1 - Wellbore #1 - As Drilled	17,000.00	6,716.82	1,596.28	1,487.90	14.729	SF
Guttersen 33-06 - Wellbore #1 - Wellbore #1 - As Drilled	15,466.43	6,731.57	2,894.28	2,797.49	29.904	CC
Guttersen 33-06 - Wellbore #1 - Wellbore #1 - As Drilled	15,500.00	6,732.86	2,894.47	2,797.46	29.835	ES
Guttersen 33-06 - Wellbore #1 - Wellbore #1 - As Drilled	15,800.00	6,744.31	2,913.41	2,814.72	29.520	SF
Guttersen 34-06 - Wellbore #1 - Wellbore #1 - As Drilled	16,863.65	6,683.52	2,982.78	2,875.35	27.765	CC
Guttersen 34-06 - Wellbore #1 - Wellbore #1 - As Drilled	16,900.00	6,684.23	2,983.00	2,875.32	27.702	ES
Guttersen 34-06 - Wellbore #1 - Wellbore #1 - As Drilled	17,200.00	6,689.97	3,001.68	2,892.35	27.458	SF
Guttersen 43-06 - Wellbore #1 - Wellbore #1 - As Drilled	15,534.52	6,515.63	4,263.10	4,166.90	44.316	CC, ES
Guttersen 43-06 - Wellbore #1 - Wellbore #1 - As Drilled	16,300.00	6,526.79	4,331.27	4,230.58	43.015	SF
Guttersen 44-06 - Wellbore #1 - Wellbore #1 - As Drilled	16,843.25	6,703.88	4,221.69	4,114.31	39.316	CC
Guttersen 44-06 - Wellbore #1 - Wellbore #1 - As Drilled	16,900.00	6,703.52	4,222.07	4,114.29	39.173	ES
Guttersen 44-06 - Wellbore #1 - Wellbore #1 - As Drilled	17,333.94	6,700.75	4,250.11	4,139.72	38.502	SF

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Booth DD06-785
Project:	Mustang	**TVD Reference:**	KB @ 4806.00ft
Reference Site:	CC Section 31	**MD Reference:**	KB @ 4806.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Booth DD06-785	**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:	APD-Rev 0	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to KB @ 4806.00ft	Coordinates are relative to: Booth DD06-785
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: 0.66°



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

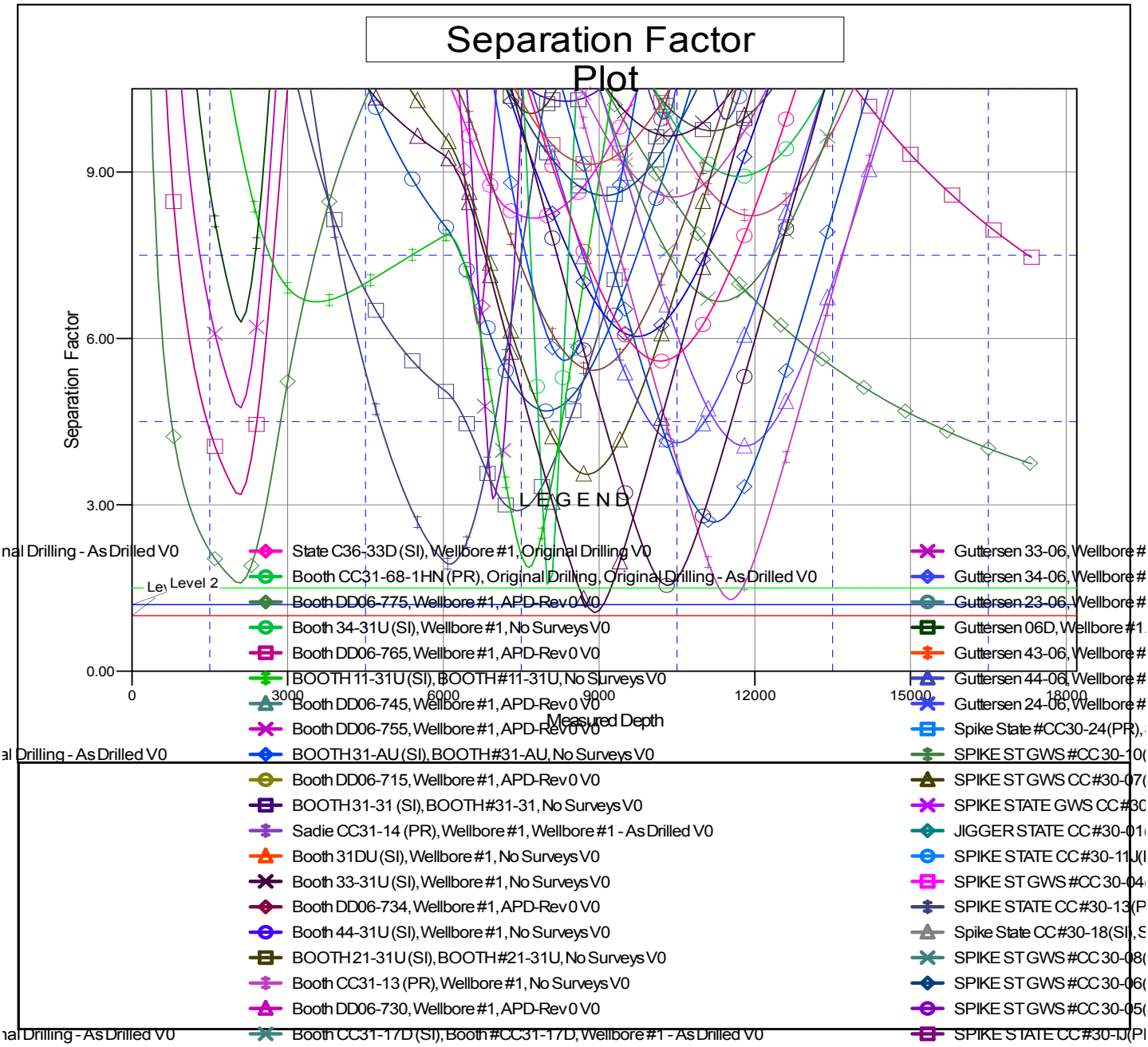
Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Booth DD06-785
Project:	Mustang	**TVD Reference:**	KB @ 4806.00ft
Reference Site:	CC Section 31	**MD Reference:**	KB @ 4806.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Booth DD06-785	**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:	APD-Rev 0	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to KB @ 4806.00ft
Offset Depths are relative to Offset Datum
Central Meridian is -105.5000000

Coordinates are relative to: Booth DD06-785
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.66°



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